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1. MCKAY'S SNOW BUNTING, Male, Summer 3. SNOW BUNTING, Female, Summer
2. SNOW BUNTING, Male, Summer 4. SNOW BUNTING, Male, Fall
5. SNOW BUNTING, Male, Spring
(One-half Natural Size)

Bird = Lore

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Vol. XV

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No. 1

The Duck Hawks of Taughannock Gorge

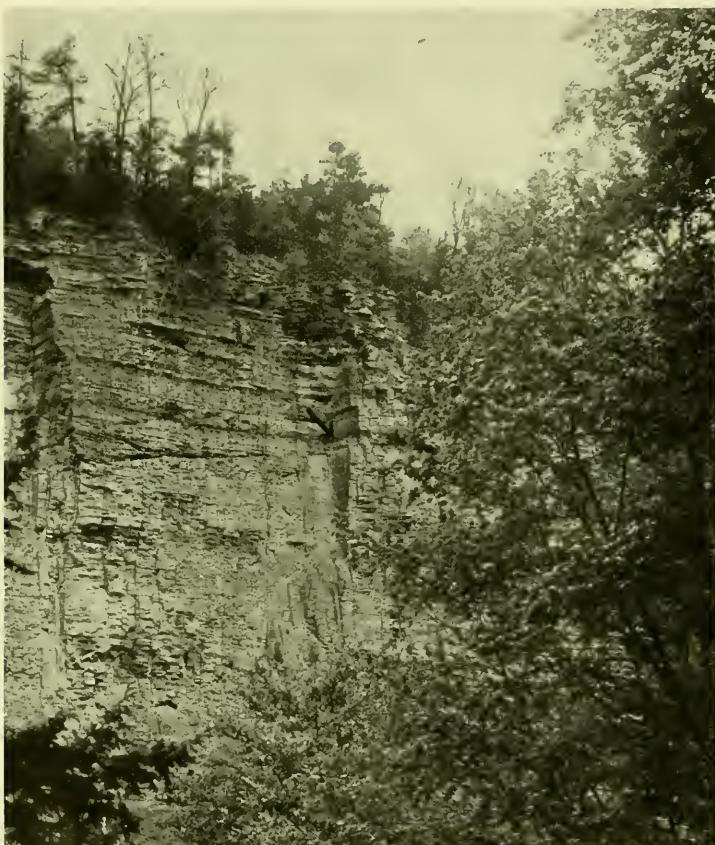
By A. A. ALLEN and H. K. KNIGHT

With photographs by H. K. Knight

WHEN the glaciers receded from central New York, they left a series of long, narrow basins that have come to be known as the 'Finger Lakes.' Before the time of the glaciers, these lakes were rivers whose waters poured into a great sea to the north. Tongues of ice, forcing their way through the stream beds, gouged them out hundreds of feet in depth, and frequently filled their tributaries with debris. When the ice receded, these tributaries were left stranded, as it were, high above the lake, and were forced to cut new channels and to drop their waters hundreds of feet to its level. Harder layers of rock capped softer ones, and prevented the formation of long, gentle slopes from the head waters to the lake. Instead, the waterfalls were preserved almost intact. The streams succeeded in cutting back but comparatively short distances toward their sources, but in so doing, formed deep, steep-sided ravines containing high falls or series of cascades. One of the deepest of these is that formed by Taughannock Creek flowing into Cayuga Lake. This gorge extends for nearly a mile, and its sides rise over 300 feet in places. At its head is a magnificent waterfall whose sheer drop is 212 feet. The gorge itself is between 200 and 300 yards wide, and is well wooded. The tree growth extends high up the talus slope footing the cliffs, which in turn rise perpendicularly over 200 feet above the tree tops. The cliffs are formed of soft shale, principally, but there are a number of harder layers which, because of their resistance to weathering, jut out in the form of ledges.

A Peregrine Falcon, following the migrating flocks of Ducks and Shore Birds, espied this cleft in the earth and chose it for his aerie. He and his descendants may have nested there for ages, but it was not until the summer of 1909 that their presence was made known to us. Then the screams of the parent birds, as they brought in the prey to the fledglings, proclaimed to Fuertes and Eaton their presence in the glen. The two following years the nest was located in an unapproachable position, a third of the way down the face of the cliff. An overhanging ledge shut off all view from above, but from the bottom of the

gorge the parent birds could be watched coming and going. In 1912, however, they chose a less impregnable position. A few hundred yards below the falls the joint planes had loosened, and an enormous block had tumbled from the cliff to the talus below. Sixty feet down the niche thus formed, on a hanging ledge that seemed ever ready to follow its predecessor, the Duck Hawks located.



ARROW INDICATES SITE OF DUCK HAWK'S NEST; CROSS, THE SPOT
FROM WHICH PHOTOGRAPHS OF IT WERE TAKEN

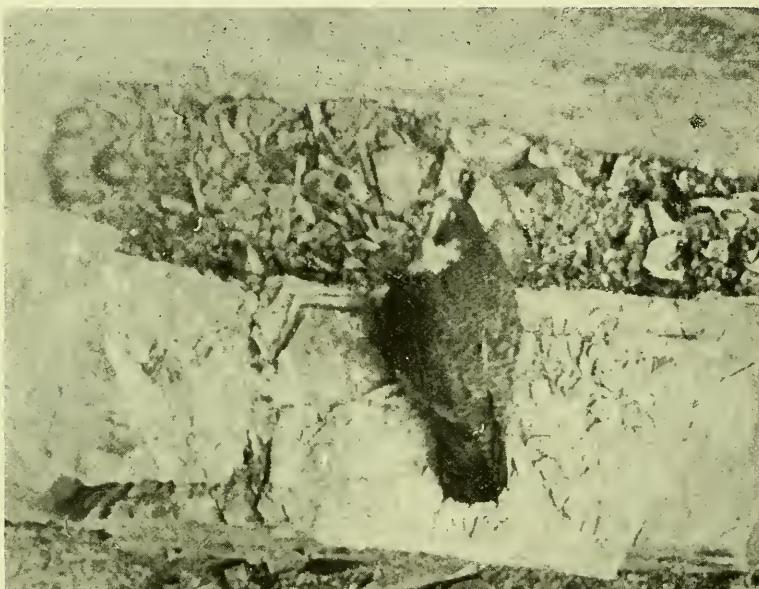
One may clamber down from one to another of the cedars that cover the steep slope ending in the precipice, and make his way to the edge of the cliff, whence he may look down and across the intervening niche to the nesting ledge.

Ten feet down the face of the cliff an old gnarled cedar still clings with its tenacious roots, and from it an even better view can be secured. It is from this that the accompanying photographs were taken. Letting oneself down a rope to this swaying tree, one could find partial shelter in its foliage and observe, unnoticed, the home life of these fiercest of Hawks. True, it was a little nerve-



THE HOME OF THE DUCK HAWK

straining to watch one's shutter-release drop for one, two, three, four, seconds beneath one and strike the cold, hard rocks of the talus, only to bound a hundred feet farther down to the boulders of the stream bed. One occasionally came to his senses with a start, after reaching far out with the camera and temporarily forgetting his position astraddle the branch, at the exciting moment when the parent sailed in with food. But one forgets everything in the excitement of that scream which announces the return of the provider. One no longer wonders why every bird in the covert crouches and freezes immovable when he hears it.



DUCK HAWK AND EGGS
Photographed by Guy A. Bailey

The spot was first visited, this spring, by Mr. Bailey on April 27. The following day the nest, if a slight depression in the accumulated shale may be so called, was visited with cameras. The female was incubating, but showed no signs of alarm when the cameras were pointed at her over the cliff at a distance of about seventy-five feet. In fact, it was with some difficulty that she was frightened from the nest, which was seen to contain four eggs; and, though driven away by the rattling of stones about her, she soon returned. A week later the spot was again visited, when the female was found to be still incubating. During the four hours that she was under observation she left the nest but once, when she was gone for about thirty minutes. The male bird of this pair, which could be distinguished by his smaller size, more prominent barring of the tail, and browner face markings, was not seen at this

time; nor was he ever so conspicuous in his solicitude for the nest or young as was the female.

The next visit was made by Mr. Knight on May 11, when it was discovered that the eggs had hatched and the young were apparently about three days old. During the four hours that the nest was observed, the female brooded, except for two short intervals, when she left for the purpose of securing food. Each time a Rough-winged Swallow was brought in from the colony that had established itself in the gorge below. The young were still weak, and were fed with great care; quite differently from the mad orgies that took place later on, as they grew older. Between ten and fifteen minutes elapsed before either Swallow was consumed. Small bits were torn from it by the



YOUNG DUCK HAWKS FEEDING. THE FEMALE PARENT AT THE RIGHT

parent, and the young permitted to pick them off from the side of her bill. On May 19 the young were still in the down, though much larger. At this time, during the four hours of observation, two more Swallows were brought in; the Hawks seeming to fancy these birds, and pursuing them with evident satisfaction. The Swallows, on the other hand, showed no great alarm when pursued, and frequently eluded the pursuer. The Falcons never struck from above, but waited until opposite the victim, when, with a quick semi-inversion of the body, they fiercely struck the Swallow from the side. At one time the Hawk was observed to strike from nearly below the victim, so that an almost complete inversion was necessary. A Meadowlark and a Goldfinch were likewise brought in at this time, and in the gorge below were many feathers of Bluebirds and Flickers. The young were evidently consuming more food than when first hatched. There were but three young in the nest at this time, one having mysteriously disappeared since the last observation.

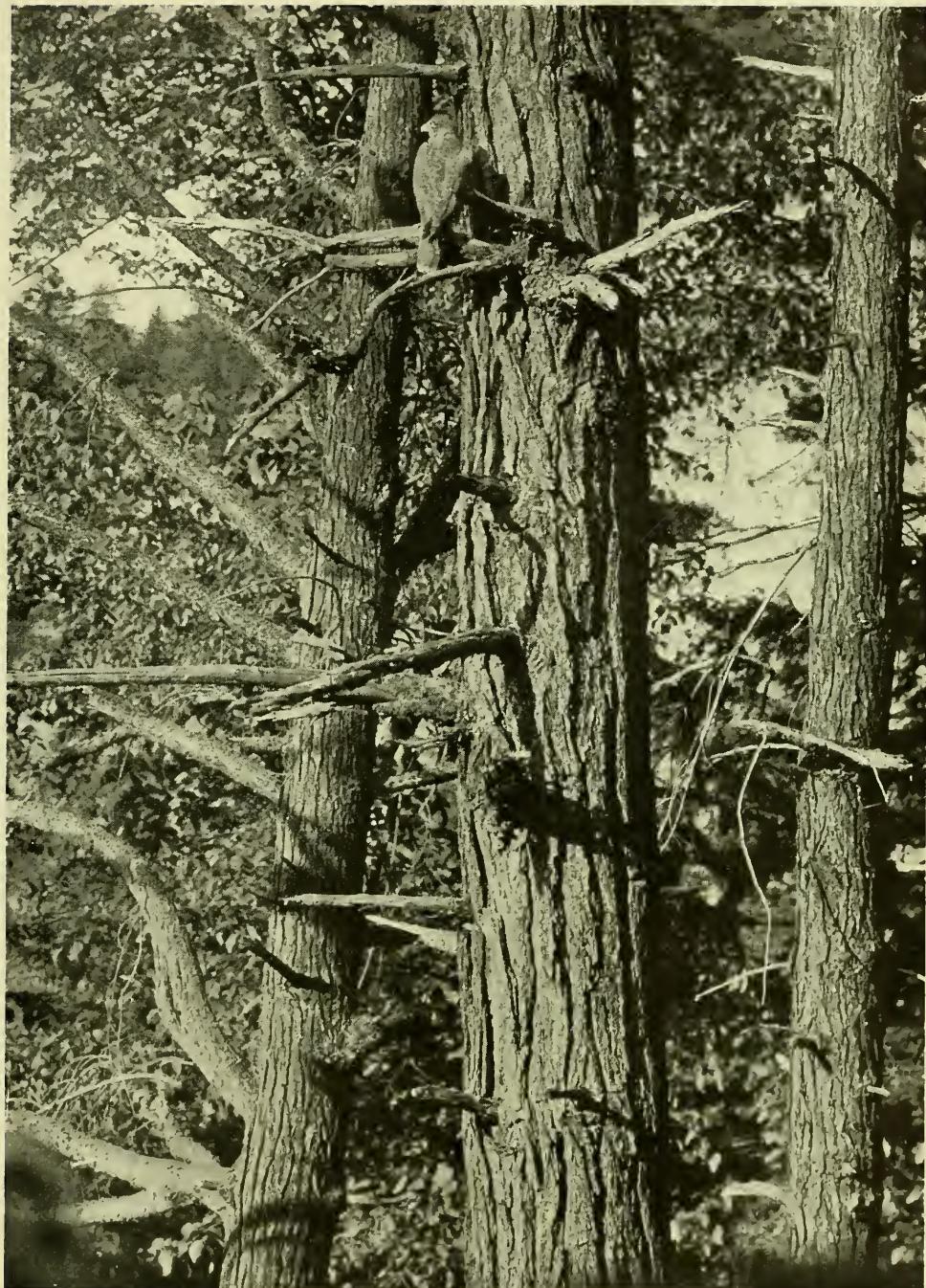
The nest was not visited again until June 9, when the young seemed nearly

ready to leave. Standing at the very edge of the ledge, they flapped their wings in exercise, as though they would like to sail across the gorge to meet their parents, and yet dared not. Their vision had become exceedingly acute, and every passing bird was watched with the keenest interest. They always saw the approaching parents long before the human eye could perceive them, and awaited them with the most intense excitement. They danced about the ledge and uttered the wild screams of their race. It seemed as though at any moment one of them might tumble from the precarious position. To add to the excitement, the parent bird never came directly to the nest, but passed by as if to tantalize her offspring. When she did come to the ledge, a wild fight ensued among the young for the possession of the game, and for a few minutes the proprietorship was undecided. Usually, however, the first one to get a hold managed to draw the prey beneath it, completely covering it and allowing the others no chance whatsoever. On this day, two pigeons were brought in, one by the female and one by the male. In carrying their prey, the old birds extended their talons straight out behind, so that the victim was frequently visible beyond the tail. After feeding the young, the adult birds usually sailed across the gorge to a favorite perch in the top of some dead hemlocks that grew on the opposite talus slope and projected above the roof of the forest. Occasionally they glided back, to observe the young before going in search of more food. They sailed silently, seldom flapping the wings except before alighting, when it was evidently more to check than to accelerate the speed or to change the direction of flight. At this time one of the young was considerably further developed than the others.

On June 16, the birds were watched for another four hours. Upon our arrival, one of the young was seen to be picking the bones of a Pigeon, and during the course of the afternoon two other Pigeons and a Meadowlark were carried to the ledge. The birds now selected were of larger size than those earlier in the season, but at all times they were species of the more open country.

On June 21, but one young remained on the ledge. The others were flying about the gorge, but toward the latter part of the afternoon returned to the nesting ledge, evidently to roost. The first young to leave was now flying about with the ease of the adults, and could be distinguished from his parents only with difficulty. He, likewise, took great interest in the Rough-winged Swallows and frequently pursued them, striking, like his parents, from the side. The previous year the young were watched taking food from the talons of the parents in mid-air. As the adult bird glided up the gorge bearing food, the young flew out to meet it, coming from below and to the side, and struck the prey from its claws even as they were now striking at the live Swallows.

The young bird that remained on the ledge, though frequently exercising its wings, seemed to be fearful of trusting itself to the air, and even when clods were tossed down, it lacked the stamina to go. Finally, however, as it perched



IMMATURE BIRD AFTER LEAVING THE NESTING LEDGE; SIXTY FEET FROM THE GROUND IN A DEAD HEMLOCK

on the brink and a stone struck too close for comfort, it jumped forth and set its wings. We were uncertain as to whether it could control its unaccustomed wings after leaving the supporting ledge, but to our surprise, when once started, it lost all timidity. Instead of sailing to the creek below, as we thought it might, it circled about the gorge, and, espying the trees in which it had so frequently watched its parents, set its wings in that direction. There it landed safely, sixty feet above the ground, on a large branch close to the trunk, and was welcomed by its parents.

Making our way to a place where one can descend the cliff by a semi-natural staircase, we crossed the gorge and scaled the talus to the foot of the tree in which the young Falcon was perching. Still exhausted by its long flight, it seemed undisturbed by our approach, nor did it become alarmed when a nearby tree was scaled and the camera pointed at it from a distance of thirty feet. Eventually, however, when sufficiently disturbed, it sailed off down the gorge as though it had been flying all its life, as undaunted and as unconcerned as this fiercest of Hawks ought to be.

During the summer months, as observed by Fuertes, the young spend most of their time in and about the gorge; but the fall migration takes them from us, and but a single pair returns the following spring.



HAIRY WOODPECKER

Photographed by Guy A. Bailey, Genesee, N. Y.

Local Decrease in Bluebirds

By WELLS W. COOKE

EARLY last summer, inquiries began to come to the Biological Survey asking what had become of the Bluebirds. Letters sent to a few correspondents brought back such uniform reports of decreased numbers that it was deemed advisable to make an extended investigation. As a result of a voluminous correspondence conducted among our migration observers, reports have been received from 115 localities, representing the United States east of the Mississippi River and also southern Canada. A few inquiries to observers living west of the Mississippi, and to others in the Gulf States, made plain the fact that no Bluebird destruction had occurred in these sections; while two-thirds of the replies from the Northwest, Michigan, Wisconsin, Minnesota and Manitoba indicated no appreciable decrease in the birds' abundance. Reassuring returns came from nearly all the eastern United States south of the Ohio and Potomac Rivers, but immediately to the northward and from the valleys of these two rivers to southern Ontario and northern New England lies the belt of country which seems to have suffered most severely. Just three-fourths of the letters from this section announce a decrease of Bluebirds. In most cases the statements are very strong. For example, "decided decrease," "very few," "much less than usual," "have not seen one this year," etc.

Several of our correspondents have made careful estimates of the numbers still left, and how they compare with former years. Northern Ohio reports are most discouraging; one says only one pair on the average for each five miles of country road traveled; another sees not more than ten individuals in some forty long tramps; and another only two birds in a two-hundred mile motor ride. Several observers who have the excellent habit of recording every bird seen are able to give exact statistics; the average of these is 61 per cent decrease; a still larger number of reports make an estimate of the decrease as 50 per cent, and this latter figure is probably not far from the truth. In other words, one-half the Bluebirds of a region more than 200 miles north and south and nearly a thousand miles east and west have failed to appear this year of 1912. Nearly all the reports affirm that it is the breeding Bluebirds that are missing. The general statement is that the birds came late, but then in such numbers as not to be noticeable by their absence, but that since the close of migration Bluebirds have been rare.

How or where the destruction occurred is not even hinted at in the whole mass of evidence. Several reports from the Gulf States say that Bluebirds were unusually common last winter, and that the extreme cold did not extend far enough south to do any damage to them in this part of the country. The section of country from which the largest shortage is reported is that just north of the birds' regular winter home; and though some individuals are to be found in mild winters throughout much of this region; yet, if all these had

been killed by the unusual cold of 1911-12, their number would hardly have been missed.

By exclusion, then, the missing Bluebirds met their fate in the district between the Potomac and Ohio Rivers and the northern boundary of the Gulf States. This is the probable winter home of the individuals that summer in the bereaved district, and it is also the region where the low temperatures of last winter were most decidedly below the normal—temperatures so low that thousands of even the native “hardy” trees and shrubs were killed back to the roots. Only one observer reports the finding of frozen or starved Bluebirds, but this is not strange, since the casualties came as the result of long-continued cold, rather than from a sudden severe storm; moreover it is a common practice of the Bluebirds to hide in cracks, crevices and tree holes against inclement weather, and these hiding-places last winter seem to have become their tombs.

The outlook for the future is not specially disheartening. The Bluebird has shown, after past disasters much worse than the present, a wonderful power of recuperation; and probably less than half a dozen favorable years will be sufficient to reëstablish their former numbers. Not all the reports are unfavorable even from the affected area; one writer from Indiana notes thirteen occupied nests on a single farm.



JUNCO

Photographed by Guy A. Bailey, Genesee, N. Y.

Notes from Labrador

By A. C. BENT

HAVING spent nearly the whole of July and August, 1912, on the north-east coast of Labrador, it seems worth while to present the following brief notes as to the status of certain birds on that coast at the present time.

I left Bay of Islands, Newfoundland, on the evening of July 3, on the steamer Solway, touched at various points on the west coast of Newfoundland and the east coast of Labrador, and arrived at Battle Harbor on July 6, where I met Mr. Donald B. MacMillan, with our assistant, Mr. J. C. Small, for a cruise along the coast in a little 25-foot power-boat, in which they had cruised all the way from Boston. Two days later I sailed in the steamer Sagona for Hopedale, leaving the others to come along in the power-boat, which was too small to carry my baggage. From Hopedale we cruised north in the power-boat as far as Cape Mugford. On the return trip I left Okak, on August 9, on the steamer Stella Maris, spent a week at Hopedale, waiting for the steamer, Sagona, and finally reached Battle Harbor on August 25.

We were much delayed and inconvenienced during the early part of the summer by drift ice. The Straits of Belle Isle were blocked with ice until the last week in June, and it was nearly the middle of July before the ice moved off the coast north of Battle Harbor. From that time on we were delayed, and prevented from visiting some of the outer islands, by frequent storms and almost continuous foggy weather; for fifteen consecutive days we had constant fog and rain with northeast winds.

I have heard that the sea birds on the Labrador coast were disappearing, but was not prepared to find them so scarce as they proved to be. They seem to have decreased very decidedly during the past few years, and, unless something can be done to protect them, many species will soon have disappeared entirely. Their nests are robbed persistently all through the summer by the resident white people, by the Eskimos, and by the large number of Newfoundland fishermen that visit the coast in the summer. The birds are also shot freely for food at all seasons of the year. On such a bleak and barren coast, where poultry cannot exist and where fresh meat or food of any kind is scarce, it is difficult to make these people refrain from indulging in what delicacies of this sort are available; but they might be educated up to the conservation of their resources for a future food supply. This could be brought about by establishing reservations or breeding sanctuaries under the protection of trustworthy wardens. Both the Newfoundland visitors and the resident population are, as a rule, law-abiding people, and the government officials who are constantly traveling up and down the coast on the mail steamers could easily enforce the laws.

Without attempting to give a complete list of all the species noted on this

coast, I want to mention a few water birds, which are of special interest as game or food birds, with brief notes as to their present status and need of protection.

1. **Loon** (*Gavia immer*). Loons were fairly common all along the coast, from the Straits of Belle Isle to Okak, and were frequently seen flying inland to the ponds where they were breeding. They are shot regularly by the Eskimos for food, and I learned, by personal experience, that they are not bad eating when properly cooked. They ought to be on the protected list, at least during the breeding season, though they are fairly well able to take care of themselves and are not in immediate danger.

2. **Red-throated Loon** (*Gavia stellata*). The same remarks would apply equally well to this species, though we saw comparatively few of them.



HOPEDALE BAY, LABRADOR

3. **Puffin** (*Fregata arctica arctica*). I saw a large breeding colony on a small island near Bradore on July 5, but I did not see a single Puffin north of the straits. Puffins formerly bred at least as far north as Davis Inlet, and Dr. Townsend saw quite a number of them all along the coast in 1906. Probably they are not all gone yet, but there cannot be many left as we did not see any.

4. **Black Guillemot** (*Cephus grylle*). I am glad to report that this species is still abundant all along the coast, though I presume it is decreasing. It is the only one of the Alcidae that is not practically exterminated. Its eggs are persistently hunted and highly prized for food. The poor birds are kept laying all summer; we found plenty of fresh eggs in August, but no young birds. I doubt if any of the birds which lay their eggs within reach of human hands ever succeed in raising a brood. Fortunately most of the birds lay their eggs

in difficult or inaccessible crevices under the rocks, where they are safe from eggers, though the natives have learned to use long-handled scoop nets to reach them. This nesting habit of the Black Guillemot has saved it so far, and may prove to be all the protection it needs.

5. **Murre** (*Uria troile troile*).

6. **Brunnich's Murre** (*Uria lomvia lomvia*). I saw a few Murres in the Straits of Belle Isle, not over half a dozen, and one near the Ragged Islands. Murres were evidently scarce in 1906, for Dr. Townsend recorded only eleven seen. I think they still breed to some extent in extreme northern Labrador, but they have certainly disappeared from most of the coast. They formerly bred near Nain. These two and the following species have suffered more than any others, as their eggs were easily gathered, could be safely transported and had a high market value. They were the first species to succumb to the ravages of the professional eggers. It is probably too late to save them.

7. **Razor-billed Auk** (*Alca torda*). I saw one bird of this species in the Straits of Belle Isle, which was perhaps a straggler from Bird Rock, and none elsewhere. Dr. Townsend saw them in considerable numbers all along the coast in 1906. I saw some eggs in Mr. Perrett's collection which were taken near Nain many years ago. It is the same old pitiful story,—they are gone.

8. **Kittiwake** (*Rissa tridactyla tridactyla*). Kittiwakes still breed abundantly on the Button Islands, north of Cape Chidley, and migrate south along the coast in August and September. I saw large flocks of old and young birds near Cape Harrison and the Ragged Islands on August 21. Probably they have not suffered much from egging.

9. **Glaucous Gull** (*Larus hyperboreus*). This species is still common all along the coast from Newfoundland northward. We saw several breeding colonies on the steep rocky cliffs, where their nests are nearly all inaccessible and safe.

10. **Great Black-backed Gull** (*Larus marinus*). This large Gull is common all along the coast, and evenly distributed, breeding in single pairs on low rocky islands outside, as well as up in the bays. There is almost always one pair of these Gulls on every island where the Eiders are breeding. The fishermen believe that if the Gull's nest is disturbed the eiders will desert the island; hence the Gulls are allowed to hatch their eggs in peace, thus enjoying a strange immunity, while the Eiders' nests are persistently robbed. The Gulls have their turn however, when the young are half grown; for the young of this and other Gulls are caught alive, taken home by the natives, and fattened in captivity for the table; fat young Gulls are considered a great delicacy.

11. **Herring Gull** (*Larus argentatus*). Although this is the commonest Gull on the coast at present, it probably needs protection more than any of the others; for its eggs and young are in demand for food, and even fully grown birds, in the gray plumages, are shot. It is not so wary as the two larger species, and it breeds in colonies where its nests are easily accessible.

12. **Red-breasted Merganser** (*Mergus serrator*). "Shell Ducks," as they are called, are still common about the heads of the bays, in the rivers, and in the lakes. They are shot regularly for food, particularly in the summer when they are molting and unfitted for flight. Probably some of their nests are robbed by the Eskimo dogs, which are not fed much during the summer and have to forage for themselves.

13. **Black Duck** (*Anas rubripes*). The same remarks will apply equally well to this species, which is still quite common, and to other ground-nesting



NESTS OF NORTHERN EIDER
Photographed by A. C. Bent

Ducks, though the other species are not common enough to be of much economic importance.

14. **Northern Eider** (*Somateria mollissima borealis*).

15. **Eider** (*Somateria dresseri*). I am dealing with these two species together because I was unable to determine the exact limits of their respective ranges, and because their cases are similar. Judging from what specimens we collected, I inferred that the Northern Eider is the common breeding species from Hopedale northward, and Prof. Cooke states that it breeds as far south as Hamilton Inlet. The Eiders always have been, and probably still are, the most important food birds on the coast of Labrador; but they are disappearing very fast, and will soon be rare or entirely gone unless stringent measures are taken

for their protection. Certain islands should be set apart as breeding sanctuaries and zealously guarded. The birds are shot at all seasons, for they make excellent food, and their nests are robbed unmercifully all through the summer. It is not too late to save them, as they are still fairly common at various points along the coast, breeding on the rocky and grassy islands, in the bays, and on some of the outer islands. We found a few small beeding colonies of both species from St. Peter's Bay south of Battle Harbor north to Port Manvers, and one large colony of Northern Eiders near Hopedale. We visited this latter colony on July 22 and found about thirty nests with eggs. I collected three sets of eggs which were nearly fresh or less than half-incubated; the colony had been cleaned out about two weeks before that, when over 150 eggs were taken. No attempt seems to have been made to educate the natives to collect the down, which might be made a profitable industry under proper management.

16. **Scoter** (*Oidemia americana*).

17. **White-winged Scoter** (*Oidemia deglandi*).

18. **Surf Scoter** (*Oidemia perspicillata*). All three species of Scoter were common or abundant in the bays along the coast, in large flocks made up largely of males. The females were probably incubating or tending broods of young on the inland ponds or rivers. The Surf Scoter was the most abundant, and the White-winged Scoter the least common of the three. During the latter part of the summer, while molting their wing feathers, many of them were incapable of or disinclined to flight and could be easily killed, though they were quite expert at diving. They are shot regularly for food, and should be protected during the summer.

19. **Canada Goose** (*Branta canadensis*). These Geese breed commonly on the inland ponds, as well as on the islands. Late in July and in August the young Geese are caught by the natives and fattened in captivity. This practice could be stopped by making suitable laws, which could easily be enforced.

The Moravian missionaries are wise and intelligent guardians of the welfare of the Eskimos, and what few white residents are now living on the coast, and they have them almost completely under their control. I believe they would be interested and successful in enforcing any laws which might be enacted to conserve for future generations the water birds of the Labrador coast, as valuable assets for its people.

I sincerely hope that something can be done to arouse the Newfoundland government to enact suitable legislation for this purpose, before it is too late.

The Migration of North American Sparrows

TWENTIETH PAPER

Compiled by Professor W. W. Cooke, Chiefly from Data in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES

(See Frontispiece)

SNOW BUNTING

The records of the Snow Bunting take us to the extreme north. The first party of white men who ever wintered on the Arctic islands, in their search for the Northwest Passage, noted the arrival of the Bunting, May 15, 1820, at Melville Island, latitude 75°. This was later than the average, for the party that spent three years on Boothia Felix, latitude 70°, saw them on April 17 of both 1830 and 1831. The various expeditions of the Franklin search, 1850-1854, record the bird's arrival, on the average, April 17 at latitude 73°, with the earliest April 10, 1854, at Camden Bay, latitude 70°. The British expedition of 1875, which wintered on the most northern land of this continent, saw the first Bunting May 13, 1876, at Floeberg Beach, latitude 82°35'; and the ill-fated Greely party, a hundred miles farther south, recorded its arrival at Fort Conger, April 14, 1882, and April 24, 1883. Even when they had retreated two hundred miles and were starving at Cape Sabine, they still kept up their bird notes, and report the arrival of the Bunting, April 13, 1884. A straggler appeared March 14, 1872, at Dr. Kane's winter quarters in Thank God Harbor, latitude 82°. Some other dates of spring arrival are: Fort Churchill, Keewatin, March 24, 1886; Carlton House, Saskatchewan, March 29, 1827; Fort Chipewyan, Alberta, average March 29, earliest March 22, 1885; Fort Simpson, Mackenzie, average March 26, earliest March 4, 1905; Forty-mile, Yukon, March 30, 1898; Kotzebue Sound, Alaska, April 19, 1899; Point Barrow, Alaska, average April 14, earliest April 9, 1882; northern Mackenzie, average April 20, earliest April 14, 1864.

SPRING MIGRATION

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Washington, D. C.....			February 22, 1905.
Philadelphia, Pa. (near).....	5	February 23	March 6, 1887
Englewood, N. J.....			February 19, 1885
New York City, N. Y. (near).....	4	March 8	March 21, 1892
Central New York.....	12	March 20	April 6, 1909
Hadlyme, Conn.....			March 18, 1896
Newport, R. I.....			March 20, 1900
Boston, Mass. (near).....	7	March 21	March 30, 1896
Barton Landing, Vt. (near).....	5	March 17	April 6, 1902
Tilton, N. H.....			April 8, 1908
Southern Maine.....	9	March 22	April 3, 1890
Scotch Lake, N. B.....	7	April 6	April 18, 1901
North River, P. E. I. (near).....	11	April 19	May 3, 1896

SPRING MIGRATION, continued

PLACE	Number of years, record	Average date of the last one seen	Latest date of the last one seen
Montreal, Canada.....	5	April 14	April 26, 1890
Quebec City, Canada.....	3	April 23	April 30, 1906
Oberlin, Ohio (near).....	4	March 12	March 16, 1908
Chicago, Ill.....	4	March 15	April 4, 1896
Detroit, Mich.....	3	March 26	March 31, 1905
Palmer, Mich.....			April 19, 1895
Southern Ontario.....	8	March 24	March 30, 1888
Ottawa, Ontario.....			April 14, 1908
Kearney, Ontario (near).....	3	April 12	April 14, 1901
Shiocton, Wis.....			April 14, 1883
Minneapolis, Minn. (near).....	4	March 20	April 7, 1887
Lincoln, Nebr.....			March 17, 1899
Huron, S. D. (near).....	3	March 9	March 13, 1890
Westhope, N. D.....			April 11, 1909
Aweme, Manitoba.....	10	May 1	May 24, 1908
Flagstaff, Alberta (near).....	3	April 27	April 30, 1909
Cheyenne, Wyo.....	2	March 13	March 19, 1889
Northern Montana.....	6	March 17	April 2, 1890
Fort Resolution, Mackenzie.....			May 23, 1860

FALL MIGRATION

PLACE	Number of years, record	Average date of fall arrival	Earliest date of fall arrival
Aweme, Manitoba.....	13	October 11	September 24, 1904
Fort Chipewyan, Alberta.....	4	October 9	October 1, 1885
Flagstaff, Alberta.....	3	October 2	October 19, 1908
Northern Montana.....	6	October 31	October 26, 1895
Okanagan, B. C.....	3	November 7	October 29, 1905
Elk River, Minn.....			October 9, 1885
Ottawa, Ontario.....	3	October 28	October 20, 1908
Palmer, Mich.....	4	October 25	October 23, 1894
Detroit, Mich.....	6	October 25	October 16, 1894
Chicago, Ill.....	5	October 31	October 26, 1907
Oberlin, Ohio (near).....	5	October 31	October 26, 1907
North River, Prince Edw. I. (near).....	6	October 20	October 9, 1896
Halifax, N. S.....	2	October 17	October 14, 1891
Scotch Lake, N. B.....	6	October 30	October 15, 1904
Montreal, Canada.....	6	November 4	October 26, 1895
Southern Maine.....	11	October 29	October 13, 1879
Boston, Mass.....	7	October 26	October 20, 1906
Granby, Conn.....			October 19, 1900
Providence, R. I. (near).....	5	November 5	October 31, 1900
Branchport, N. Y. (near).....	6	October 28	October 20, 1889
Cape May, N. J.....			November 2, 1907
Erie, Pa.....	5	October 18	October 12, 1889
Milton, Pa. (near).....	5	October 23	October 18, 1889
Southern Virginia.....	2	November 18	November 12, 1881

Notes on the Plumage of North American Sparrows

NINETEENTH PAPER

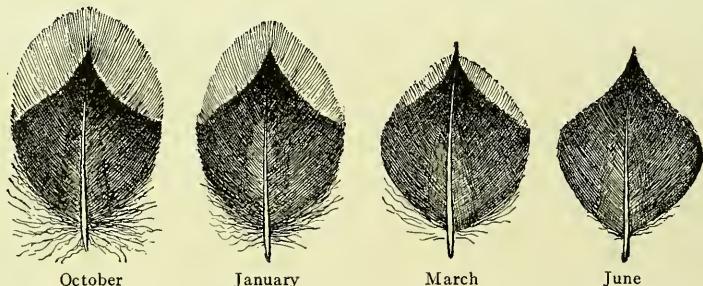
By FRANK M. CHAPMAN

(See Frontispiece)

Snow Bunting (*Plectrophenax nivalis* Figs. 2-5). The plumage changes of the Snow Bunting are most interesting, few birds presenting a more striking illustration of differences in appearance which are due solely to wear, and not to molt of the feathers.

The nestling is brownish gray, above indistinctly streaked with black in the center of the back; the breast is grayish, the belly soiled white. Even at this age, the sexes may be distinguished by the greater amount of white in the wing of the male; the primaries, as well as the secondaries, having white areas. As yet these feathers in the male are white only on their concealed basal portion; but it may be said here that as the birds grow older the amount of white increases, until in fully mature birds it occupies the basal third of the feathers.

At the postjuvenile molt, which, in Greenland, begins in the latter half of July, the body feathers are molted, the tail and wing-quills being retained,



FEATHERS FROM BACK OF SNOW BUNTING, SHOWING SEASONAL CHANGES IN FORM AND COLOR DUE TO WEARING OFF OF TIPS. (Natural size)
(From Handbook of Birds of Eastern North America)

and the bird passes into first winter plumage (Fig. 4). Males and females, immature and adult birds, now look much alike; but the male differs from the female, as in the juvenal plumage, by having more white in the wing and also by having the feathers of the crown sub-basally white. That is, in the female the crown feathers are black tipped with brown, while in the male these feathers are white with narrow black bases and sufficiently wide brown tips to completely conceal the white which is so conspicuous in breeding plumage (Fig. 2).

Aside from a little feather-growth about the head, there is no spring molt, and the change from the brown fall plumage (Fig. 4) to the black and white breeding plumage (Fig. 2) is due entirely to a wearing off of the brown tips of the winter plumage. This occurs gradually (Fig. 5), and feathers taken from

October, January, March and June specimens show how the change in color from brown to black is produced.

The female (Fig. 3) passes through the same series of changes as the male, but does not become so pronouncedly black and white, in part because her feathers are basally not so purely black and white and in part because they do not wholly lose the brownish (now faded to grayish) tips of the winter plumage. The breeding female is apparently more protectively colored than the male, though the differences between their plumages are due to an external mechanical cause rather than to an internal physiological one.

Plectrophenax hyperboreus (Fig. 1). This beautiful species, during the breeding season, is found only on Hall and St. Matthew islands in Bering Sea, migrating in numbers to the coast of Alaska.

I have not sufficient material to describe its plumage changes which, however, are probably not unlike those of the common Snow Bunting.



CARDINAL AND GROUND DOVES
Photographed by George Shiras, 3d., at Ormond, Fla.

Bird-Lore's Thirteenth Bird Census

THE main fact revealed by the Christmas Census of 1912 is the absence of truly boreal birds, and the presence of others which are wintering north of their regular limits. Thus, while Pine Grosbeaks, Redpolls, etc., are wanting, an exceptional number of Yellow-bellied Sapsuckers and Kingfishers are recorded from the Middle States. The absence of snow and the mild weather which prevailed to the day before Christmas favorably affected the food-supply of other birds which customarily winter in more southern latitudes and, as a result, many of the censuses from the Middle East contain an unusually large number of species.

First place, however, again goes to Santa Barbara, from which favored locality W. Leon Dawson and Allan Brooks send a list of no less than 103 species observed by themselves on December 26, exceeding by three species the phenomenal list of 100 species which Mr. Dawson and Stewart Edward White recorded on December 23, 1911.

In the future, we hope that when several observers send but one list they will state whether it is the combined results of individual observations in different parts of the same general locality, or whether they all covered the same ground together.

The former method is so much better designed to reveal the real number of species present than the latter that, for purposes of comparison, it is desirable to know under just what conditions a list signed by two or more persons is made.

The editor desires to acknowledge the invaluable assistance of Waldron DeWitt Miller and Charles H. Rogers in preparing the following censuses for the press. He regrets to say that, in spite of explicit directions and a long-established model, many censuses have to be rewritten, and he is correspondingly grateful to those contributors to the census whose manuscripts conform to style.—ED.

Guelph, Ontario.—Dec. 21; 8.30 A.M. to 12.50 P.M.; 1.45 to 5.30 P.M. Snowing; about five inches of snow; wind southwest, moderate; temp. 20°. Great Blue Heron, 1; Ruffed Grouse, 3; Cooper's Hawk (?), 1; Belted Kingfisher, 1; Hairy Woodpecker, 1; Crow, 2; Tree Sparrow, 19; Junco, 21; Brown Creeper, 6; White-breasted Nuthatch, 4; Chickadee, 42; Golden-crowned Kinglet, 7. Total, 12 species, 108 individuals. A Saw-whet Owl and a Red-breasted Nuthatch were seen on December 1 and a Goldfinch on December 14, 15 and 24.—E. W. CALVERT.

London, Ontario.—Dec. 21; 2.45 to 4.45 P.M. Cloudy; snowing slightly; light breeze, west; about five inches of snow; temp. 29°. Hairy Woodpecker, 1; Downy Woodpecker, 2; Crow, 1; Red-winged Blackbird, 1 (first winter record); Goldfinch, 1; Junco, 10; Northern Shrike, 1; White-breasted Nuthatch, 3; Red-breasted Nuthatch, 1; Chickadee, 6; Golden-crowned Kinglet, 2; Robin, 2. Total, 12 species, 31 individuals. Also seen within a day or two: Kingfisher, Red-shouldered Hawk, Blue Jay, Song Sparrow, Brown Creeper. An unusual number of birds seem to be staying over this winter.—C. G. WATSON, J. F. CALVERT and MELVILLE DALE.

Millbrook, Ontario.—Dec. 25; 9 A.M. to 1.30 P.M. Bright; one inch of snow; wind southerly; temp. 32°. Ruffed Grouse, 1; Downy Woodpecker, 2; Blue Jay, 3; Crow, 3; Snow Bunting, 40; Chickadee, 6. Total, 6 species, 55 individuals. Also fresh tracks of Great Blue Heron and remains of one said to have been killed by a dog about two weeks ago. December 26: Pine Grosbeak, 10; Tree Sparrow, 14.—SAM HUNTER.

Reaboro, Ontario.—Dec. 24; 9 A.M. to 12 M.; 2 to 3 P.M. Wind light, southwest; temp. 32°. Ruffed Grouse, 5; Hairy Woodpecker, 2; Snowbirds, 100; White-breasted Nuthatch, 4; Chickadee, 25. Total, 5 species, 136 individuals. Crows 7, seen on December 25.—J. F. CALVERT.

Antrim, N. H.—Dec. 26; 10.30 A.M. to 12 M. Clear; three inches of snow; wind southwest, light; temp. 38°. Ruffed Grouse, 2; Pileated Woodpecker, 1 (Dec. 23); Chickadee, 6. Total, 3 species, 9 individuals.—CHARLES H. ABBOTT.

Bennington, Vt.—Dec. 26; 10 to 11 A.M. Clear; two to four inches of snow; no wind; temp. 40°. Screech Owl, 1; Blue Jay, 4; Crow, 12; Tree Sparrow, 1; White-breasted Nuthatch, 3; Chickadee, 10; Acadian Chickadee, 1. Total, 7 species, 32 individuals.—DR. and MRS. LUCRETIUS H. ROSS, and CHARLES HITCHCOCK.

Bethel, Vt.—Dec. 20; 9 to 11 A.M.; 1.30 to 4.15 P.M. Snowstorm, which became thick in p. m. Ground bare, whitened later; brisk west wind; temp. 30° to 33°. Ruffed Grouse, 1; Downy Woodpecker, 1; Tree Sparrow, 3; Junco, 1; Brown Creeper, 2; White-breasted Nuthatch, 1; Chickadee, 13. Total, 7 species, 22 individuals.—MR. and MRS. GEO. M. MILLER.

Cabot, Vt.—9 A.M. to 3 P.M. Clear; one inch of snow; wind south, light; temp. 38°. Downy Woodpecker, 2; Pine Grosbeak, 25; Snow Bunting, 300; White-breasted Nuthatch, 4; Chickadee, 12. Total, 5 species, 343 individuals.—MRS. J. M. TEBBETTS.

Tilton, N. H.—Dec. 22; 9 A.M. to 2 P.M. Clear; ground bare; wind northwest, light; temp. 22°. American Merganser, 4; Canada Ruffed Grouse, 8; Hairy Woodpecker, 1; Downy Woodpecker, 1; Crow, 3; White-throated Sparrow, 1; Brown Creeper, 1; White-breasted Nuthatch, 3; Chickadee, 48; Golden-crowned Kinglet, 4. Total, 10 species, 74 individuals. Tree Sparrows and Northern Shrikes have also been seen within a few days.—EDWARD H. and ERNEST R. PERKINS.

Boston, Mass. (Country Club to Longwood, via Jamaica Pond).—Dec. 26; 10 A.M. to 12.30 P.M. Clear; snow about six inches deep; wind west, moderate; temp. 32°. Herring Gull, 3; Black Duck, 100 (on Jamaica Pond); Downy Woodpecker, 1; Flicker, 4; Blue Jay, 7; Crow, 18; Goldfinch, 1; White-throated Sparrow, 9; Tree Sparrow, 2; Song Sparrow (?), 1; Chickadee, 4. Total, 11 species, 150 individuals.—MISS T. R. and R. E. ROBBINS.

Boston, Mass. (Arnold Arboretum, Jamaica Pond, Charles and Riverway Parks, and the Charles River Basin).—Dec. 23; 8.30 A.M. to 2.45 P.M. Fair; ground bare; wind northwest, fresh; temp. 31° to 37°. Black-backed Gull, 1; Herring Gull, 1,500; Merganser, 6; Mallard, 3; Black Duck, 260; Baldpate, 2 (pair); Canvasback, 1 drake; Greater Scaup, 150; Lesser Scaup, 700; Golden-eye, 250; Ring-necked Pheasant, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Flicker, 5; Blue Jay, 12; Crow, 29; Purple Finch, 2; Goldfinch, 9; White-throated Sparrow, 27; Tree Sparrow, 1; Junco, 21; Song Sparrow, 6; Cedar Waxwing, 1; Brown Creeper, 2; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 2; Chickadee, 24; Golden-crowned Kinglet, 3; Robin, 1. Total, 30 species, 3,024 individuals.—HORACE W. WRIGHT and RICHARD M. MARBLE.

Bridgewater, Mass.—Dec. 23; 7.30 A.M. to 12.30 P.M. Clear; ground bare; wind north, moderate; temp. 28° to 36°. Ruffed Grouse, 3; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 3; Flicker, 3; Blue Jay, 1; Crow, 15; Purple Finch, 5; Goldfinch, 4; White-throated Sparrow, 1; Tree Sparrow, 15;

Song Sparrow, 5; Swamp Sparrow, 3; Myrtle Warbler, 1; Brown Creeper, 3; Red-breasted Nuthatch, 3; Chickadee, 20; Golden-crowned Kinglet, 5. Total, 19 species, 94 individuals.—HAROLD COPELAND and HORACE MCFARLIN.

Brookline, Mass.—Dec. 26; 9.25 A.M. to 1.50 P.M. Clear; snow on ground; wind south, light; temp. 40°. Hairy Woodpecker, 1; Downy Woodpecker, 3; Flicker, 3; Blue Jay, 5; Crow, 25; Purple Finch, 6; Goldfinch, 12; White-throated Sparrow, 5; Junco, 50; Song Sparrow, 1; Fox Sparrow, 1; Chickadee, 10. Total, 12 species, 122 individuals.—OLIVER COOLIDGE.

Cambridge, Mass. (Fresh Pond, Belmont and Arlington).—Dec. 25; 6.30 to 10.30 A.M. Snowing; ground snow-covered; strong, northeast wind; temp. 31°. Herring Gull, 25; American Merganser, 45; Mallard, 9; Black Duck, 25; Ring-necked Pheasant, 5; Sparrow Hawk, 1; Downy Woodpecker, 1; Blue Jay, 1; Crow, 3; Tree Sparrow, 12; Song Sparrow, 1; Chickadee, 2; Golden-crowned Kinglet, 1. Total, 14 species, 135 individuals.—MYLES P. BAKER and HENRY M. SPELMAN, JR.

Duxbury, Mass. (Outer beach and dunes).—Dec. 21; 8 A.M. to dark. Clear; ground bare; wind west, light; temp. 38°. Loon, 8; Kittiwake, 39; Black-backed Gull, 10; Herring Gull, 150; Red-breasted Merganser, 94; Hooded Merganser, 2; Black Duck, 1,000; Goldeneye, 135; Old-squaw, 11; Scoter, 5; White-winged Scoter, 5; Surf Scoter, 1; Downy Woodpecker, 1; Flicker, 12; Horned Lark, 84; Blue Jay, 4; Crow, 20; Meadowlark, 18; Goldfinch, 1; Snowflake, 574; Ipswich Sparrow, 19; Savannah Sparrow, 1; Tree Sparrow, 58; Junco, 4; Song Sparrow, 7; Myrtle Warbler, 11; Palm Warbler, 1; Pipit, 1; Chickadee, 5; Robin, 2. Total, 30 species, 2,283 individuals.—ARCHIE HAGAR, J. L. PETERS, BARRON BRAINERD and J. KITTREDGE, JR.

East Carver, Mass.—Dec. 24; 1 to 2 P.M. Hard snowstorm; about twelve inches of snow; very strong northeast wind; temp. 31°. Ruffed Grouse, 3; Downy Woodpecker, 2; Flicker, 1; Blue Jay, 15; Crow, 28; Purple Grackle, 1; Goldfinch, 32; Tree Sparrow, 4; Junco, 24; Song Sparrow, 1; Myrtle Warbler, 15; Brown Creeper, 2; Red-breasted Nuthatch, 8; Chickadee, 35; Golden-crowned Kinglet, 2; Robin, 1. Total, 16 species, 174 individuals.—LESTER E. PRATT.

Harvard, Mass.—9.45 A.M. to 12 M. Clear; three and one-half inches of snow; wind northwest; temp. 28°. Ruffed Grouse, 1; Ring-necked Pheasant, 3; Blue Jay, 1; Crow, 6; Tree Sparrow, 2; Junco, 7; Brown Creeper, 1; White-breasted Nuthatch, 1; Chickadee, 5. Total, 9 species, 47 individuals.—JAMES L. PETERS.

Ipswich, Mass. (Castle Hill and Ipswich Beach).—Dec. 21; 10.30 A.M. to 2.45 P.M. Clear; ground bare; wind west, light; temp. 30°. Horned Grebe, 4; Loon, 1; Kittiwake, 2; Black-backed Gull, 15; Herring Gull, 250; Red-breasted Merganser, 600; Old-squaw, 4; White-winged Scoter, 4; Canada Goose, 31; Ring-necked Pheasant, 9; Flicker, 2; Horned Lark, 37; Crow, 22; White-winged Crossbill, 1; Pine Siskin, 20; Snowflake, 40; Lapland Longspur, 2; Ipswich Sparrow, 1; Tree Sparrow, 25; Song Sparrow, 3; Junco, 1; Myrtle Warbler, 8; Red-breasted Nuthatch, 1; Chickadee, 18; Golden-crowned Kinglet, 11. Total, 25 species, 1,112 individuals.—EDMUND and LIDIAN E. BRIDGE.

Ipswich, Mass.—Dec. 25; 9 to 11.30 A.M. Clear; about six inches of snow on ground; no wind; temp. 35°. Pheasant, 5; Crow, 35; Meadowlark, 2; Tree Sparrow, 21; Chickadee, 18. Total, 5 species, 81 individuals.—JESSE H. and FRANCIS C. WADE.

Leominster, Mass.—Dec. 25; 8.30 A.M. to 4.30 P.M. Clear, four inches of new snow; wind west to southwest, light; temp. 35°. Pheasant, 2; Ruffed Grouse, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Blue Jay, 3; Crow, 7; Tree Sparrow, 50; Song Sparrow, 3; Red-breasted Nuthatch, 1. Total, 9 species, 70 individuals.—EDWIN RUSSELL DAVIS.

Marshfield, Mass.—Dec. 22; 9.15 A.M. to 5 P.M. Clear and mild; ground bare; wind westerly, light; temp. 18° at sunrise, 54° at 2 P.M. Loon, 1; Herring Gull, 200; Red-breasted Merganser, 5; Black Duck, 6; Golden-eye, 5; Old-squaw, 10; Canada Goose,

a flock heard after dark; Brant, 1; Ruffed Grouse, 2; Screech Owl, 1; Flicker, 11; Horned Lark, 3; Blue Jay, 5; Crow, 56; Starling, 42; Meadowlark, 3; Goldfinch, 2; Tree Sparrow, 8; Junco, 28; Song Sparrow, 5; Swamp Sparrow, 1; Cedar Waxwing, 72; Myrtle Warbler, 40; Brown Creeper, 1; Red-breasted Nuthatch, 2; Chickadee, 29; Golden-crowned Kinglet, 3; Robin, 50; Bluebird, 1. Total, 29 species, 593 individuals. This is probably the first large flock of Starlings to appear in eastern Massachusetts.—**J. A. HAGAR, J. L. PETERS, BARRON BRAINERD, and JOSEPH KITTREDGE, JR.**

Phillipston, Mass.—Dec. 25; 10 to 11 A.M. Snow on ground; wind west, light; temp. 20° upwards. Hairy Woodpecker, 3; Chickadee, 5. Total, 2 species, 8 individuals.—**MRS. MYRA DUNN.**

Scituate, Mass.—Dec. 23; 8.30 A.M. to 4 P.M. Clear; rather cold; ground bare; wind northerly, brisk; temp. 20° at sunrise, 40° at noon. Holboell's Grebe, 6; Horned Grebe, 1; Loon, 1; Red-throated Loon, 4; Black Guillemot, 2; Dovekie, 1; Black-backed Gull, 2; Herring Gull, 200; Red-breasted Merganser, 41; Black Duck, 50; Golden-eye, 1; Old-squaw, 3; Surf Scoter, 5; Screech Owl, 1; Downy Woodpecker, 1; Flicker, 4; Horned Lark, 1; Blue Jay, 1; Crow, 43; Meadowlark, 2; Goldfinch, 13; Tree Sparrow, 30; Field Sparrow, 1; Junco, 15; Song Sparrow, 3; Cedar Waxwing, 3; Myrtle Warbler, 54; Chickadee, 25; Robin, 13. Total, 29 species, 527 individuals.—**JOSEPH A. HAGAR.**

Watertown, Mass.—Dec. 26; 12 M. to 1 P.M. Sunny; ground snow-covered; light south wind, warm. Downy Woodpecker, 1; Flicker, 1; Blue Jay, 1; Purple Finch, 1; Goldfinch, 7; European Goldfinch, 1; Song Sparrow, 6; Chickadee, 1. Total, 8 species, 19 individuals.—**ADELAIDE STOCKWELL.**

Waban, Mass.—Dec. 29; 12 M. to 4.30 P.M. Partly cloudy; ground covered with snow; temp. 38° . Merganser, 3; Bob-white, 10; Pheasant, 9; Owl, (Barred?), 1; Downy Woodpecker, 2; Blue Jay, 3; Crow, 15; Goldfinch, 1; Tree Sparrow, 15; Junco, 20; Song Sparrow, 6; Chickadee, 4. Total, 12 species, 89 individuals. A solitary Robin was seen December 21, while the ground was still bare.—**JOHN B. MAY, M.D.**

West Roxbury, Mass.—Dec. 21; 10 to 11 A.M. Partly cloudy; ground bare; wind west, light; temp. 35° . Downy Woodpecker, 1; Blue Jay, 3; Crow, 7; Song Sparrow, 1; Junco, 7; Northern Shrike, 1; Chickadee, 3. Total, 7 species, 23 individuals.—**CHARLES E. HEIL.**

Cranston, R. I. (South Auburn and Blackmore Pond).—Dec. 25; 11.45 A.M. to 2.15 P.M. Clear; ten inches of snow; wind none; temp. 40° . Flicker, 1; Blue Jay, 13; Crow, 11; White-throated Sparrow, 3; Tree Sparrow, 62; Junco, 32; Song Sparrow, 5; Swamp Sparrow, 2; Myrtle Warbler, 2; White-breasted Nuthatch, 2; Chickadee, 11. Total, 11 species, 144 individuals.—**HARRY S. HATHAWAY.**

Gloster, R. I.—7.45 to 9 A.M. Clear; nine inches of fresh snow; wind west, light; temp. 20° . Tree Sparrow, 12; Junco, 10. Total, 2 species, 22 individuals.—**J. IRVING HILL.**

Woonsocket, R. I.—8 A.M. to 12 M. Clear; eight inches of snow on ground; wind west, very light; temp. 24° to 36° . Downy Woodpecker, 1; Blue Jay, 10; Crow, 11; Tree Sparrow, 75; Junco, 10; Song Sparrow, 2; Chickadee, 2. Total, 7 species, about 111 individuals.—**CLARENCE M. ARNOLD.**

Hartford, Conn.—10 A.M. to 12 M. Clear; ground covered with snow; no wind; temp. 32° . Hairy Woodpecker, 1; Downy Woodpecker, 4; Blue Jay, 8; Crow, 19; Starling, 34; Goldfinch, 7; Tree Sparrow, 21; Junco, 28; White-breasted Nuthatch, 3; Chickadee, 16. Total, 10 species, 141 individuals.—**CLIFFORD M. CASE.**

Hartford, Conn.—Dec. 25; 10.30 A.M. to 12.30 P.M. Clear; six inches of snow; no wind; temp. 33° . Downy Woodpecker, 1; Blue Jay, 8; Crow, 3; Starling, 36; Goldfinch, 3; Tree Sparrow, 2; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 12. Total, 9 species, 70 individuals.—**ARTHUR G. POWERS.**

New Haven, Conn. (Edgewood Park and Mitchell's Hill).—11 A.M. to 2 P.M. Clear; ground bare; light northwest wind; temp. 36°. Conditions apparently ideal, but unusually small number of birds. Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Crow, 12; Blue Jay, 1; Starling, 29; White-throated Sparrow, 6; Tree Sparrow, 60; Song Sparrow, 9; Fox Sparrow, 1; White-breasted Nuthatch, 4; Chickadee, 4. Total, 12 species, 132 individuals.—CLIFFORD H. PANGBURN.

New Haven, Conn. (Edgewood Park and Mitchell's Hill).—Dec. 25; 9.45 A.M. to 12 M. Bright sun; ground covered with ten inches of snow; no wind; temp. rising, 26° to 41°. Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Flicker, 1; Blue Jay, 5; Crow, 6; Starling, 23; Goldfinch, 3; White-throated Sparrow, 4; Tree Sparrow, 11; Junco, 2; Song Sparrow, 14; Fox Sparrow, 2; Myrtle Warbler, 2; White-breasted Nuthatch, 1; Chickadee, 2. Total, 16 species, 81 individuals.—D. B. PANGBURN.

New London, Conn.—10.15 A.M. to 4.30 P.M. Clear; snow on ground; wind southwest, light; temp. 42°. Horned Grebe, 21; Herring Gull, 62; Golden-eye, 22; Kingfisher, 1; Red-shouldered Hawk, 1; Downy Woodpecker, 2; Blue Jay, 5; Crow, 43; Meadowlark (singing), 8; Tree Sparrow, 26; Junco, 3; Song Sparrow, 8; Myrtle Warbler, 1; White-breasted Nuthatch, 1; Chickadee, 8; Robin, 1; Bluebird (singing), 5. Total, 18 species, 213 individuals.—FRANCES M. GRAVES.

South Norwalk, Conn.—Dec. 25. Pleasant, 5° above zero at seven o'clock, 40° at noon, no wind, twelve inches of snow. Black Duck, 40; Herring Gull, 50; Downy Woodpecker, 3; Horned Lark, 200; Blue Jay, 4; Crow, 20; Starling, 50; Meadowlark, 12; Goldfinch, 17; Tree Sparrow, 10; Junco, 5; Song Sparrow, 7; Northern Shrike, 1; Myrtle Warbler, 6; White-breasted Nuthatch, 1; Chickadee, 20. Total, 16 species, 446 individuals.—WILBUR F. SMITH.

Wilton, Conn.—Dec. 26; 11 A.M. to 4 P.M. Clear; seven inches of snow; still; temp. 32°. Belted Kingfisher, 1; Downy Woodpecker, 3; Crow, 3; Starling, 6; Tree Sparrow, 25; Junco, 30; Song Sparrow, 4; Brown Creeper, 2; White-breasted Nuthatch, 2; Chickadee, 7. Total, 10 species, 83 individuals. Bluebirds, 3, on December 23.—NORMAN DEW. BETTS.

Buffalo, N. Y. (Delaware Park).—Dec. 25; 11 A.M. to 1 P.M. Clear; ground barely covered with snow; wind south, brisk; temp. 34°. Herring Gull, 3; Crow, 5; White-breasted Nuthatch, 1; Chickadee, 9. Total, 4 species, 18 individuals.—MRS. GEORGE M. TURNER.

Collins, N. Y. (Hospital grounds and woods).—Dec. 25; 8.45 to 10 A.M.; 12.30 to 1 P.M. Clear; eight inches of snow; wind southwest, moderate; temp. 35°. Downy Woodpecker, 1; Horned Lark, 12; Crow, 3; Cowbird, 1 male with House Sparrows; Tree Sparrow, 2; Junco, 10; Northern Shrike, 1; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 5. Total, 10 species, 37 individuals.—ANNE E. PERKINS, M.D.

Dresden, N. Y.—Dec. 22; 9 A.M. to 4 P.M. Partly cloudy; one inch of snow; wind fairly strong, southwest; temp. 28° to 32°. Horned Grebe, 1; Herring Gull, 4; Canvasback, 2; American Golden-eye, 65; American Scaup, 40; Old-squaw, 2; Ring-necked Pheasant, 2; Ruffed Grouse, 2; Marsh Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Prairie Horned Lark, 14; Crow, 28; Tree Sparrow, 54; Junco, 7; Song Sparrow, 1; Brown Creeper, 2; White-breasted Nuthatch, 12; Chickadee, 87; Golden-crowned Kinglet, 7. Total, 20 species, 336 individuals.—B. B. FULTON.

Flushing to Jamaica, L. I. and return.—Dec. 29. Clear and quiet; snow on ground; temp. 40° to 45°. Herring Gull, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Sparrow Hawk, 1; Great Horned Owl, 1; Downy Woodpecker, 2; Flicker, 1; Crow, 15; Starling, 25; Meadowlark, 2; White-throated Sparrow, 3; Tree Sparrow, 25; Junco, 1; Song Sparrow, 10; Swamp Sparrow, 2; White-breasted Nuthatch, 1; Chickadee, 5. Total, 17 species, 101 individuals.—HOWARTH S. BOYLE.

Groton, N. Y.—Dec. 25; 1 to 3 p.m. Clear; four inches of snow; no wind; temp. 49°. Calls made at window restaurant. Hairy Woodpecker, 1; Downy Woodpecker, 3; White-breasted Nuthatch, 25; Chickadee, 85. Total, 4 species, 114 individuals. Some of the Chickadees and Nuthatches ate from my hand. Saw Yellow-bellied Sapsucker in tree close to window on December 24 and 27.—ALICE MORTON.

Hamburg, N. Y.—Dec. 24; 1.30 to 5 p.m. Cloudy; about four inches of snow; wind southwest, light; snow flurries; temp. 36°. Downy Woodpecker, 2; Red-bellied Woodpecker, 1; Crow, 14; Tree Sparrow, 2; Brown Creeper, 1; White-breasted Nuthatch, 8; Chickadee, 25. Total, 7 species, 53 individuals. The Red-bellied Woodpecker is the first I have found in this locality.—THOMAS L. BOURNE.

Long Beach, L. I., N. Y.—Dec. 22; 9.45 A.M. to 4.45 P.M. Clear; wind light, westerly, becoming brisk at 3 p.m. temp. 30° to 42°. Horned Grebe, 3; Loon, 4; Red-throated Loon, 1; Black-backed Gull, 2; Herring Gull, 5,000; Gannet, 1 adult; Black Duck, 60; Old-squaw, 300; American Scoter, 13; White-winged Scoter, 14; Rough-legged Hawk, 3; Sparrow Hawk, 1; Flicker, 1; Horned Lark, 3; Crow, 100; Starling, 11; Meadowlark, 31; Ipswich Sparrow, 14 (unusually common); Sharp-tailed Sparrow, 2; Seaside Sparrow, 4 (first winter record); White-throated Sparrow, 1; Tree Sparrow, 20; Song Sparrow, 8; Fox Sparrow, 1; Myrtle Warbler, 15; Robin, 1. Total, 26 species, 5,622 individuals. Fewer winter residents than in last four years.—LUDLOW GRISCOM, FRANCIS HARPER, and S. V. LA DOW.

Naples, N. Y.—Dec. 25; 9 A.M. to 4 P.M. Clear; ground partly covered with snow; wind south, light; temp. 30° to 36°. Holbœll's Grebe, 4; Horned Grebe, 2; Herring Gull, 6; Great Blue Heron, 1; Ruffed Grouse, 1; Ring-necked Pheasant, 7; Sparrow Hawk, 1; Hairy Woodpecker, 3; Crow, 76; Snowflake, 3; Tree Sparrow, 40; Junco, 17; Song Sparrow, 4; Northern Shrike, 2; Brown Creeper, 2; White-breasted Nuthatch, 8; Chickadee, 35. Total, 17 species, 212 individuals.—OTTO MCCREARY.

New York City—West Farms (177th Street Subway Station) to Clason Point.—Dec. 28; 2.30 to 4.30 P.M. Mostly cloudy; ground snow-covered; marshes partly frozen, running water clear; wind northwest, light to brisk; temp. 34°. Herring Gull, 22; Great Blue Heron, 1; Red-tailed Hawk, 1; Sparrow Hawk, 1; Starling, 330; Meadowlark, 1; White-throated Sparrow, 17; Tree Sparrow, 9; Field Sparrow, 1; Junco, 19; Song Sparrow, 17; White-breasted Nuthatch, 2; Chickadee, 1. Total, 13 species, 422 individuals.—GEORGE E. HIX.

New York City (Van Cortlandt Park).—Dec. 25; 2 to 3.30 P.M. Fine; ground snow-covered; wind light; temp. 40°. Bob-white, 12; Downy Woodpecker, 3; Crow, 3; Starling, 8; Tree Sparrow, 3; Junco, 20; Song Sparrow, 6; White-breasted Nuthatch, 1; Chickadee, 1. Total, 9 species, 57 individuals.—JOHN T. HACKETT.

New York City (Central Park).—Dec. 26; 3.30 to 4.30 P.M. Clear; six inches of snow; wind southwest, light; temp. 46° at 4.30 P.M. Pigeon (?) Hawk, 1; Starling, 1; Song Sparrow, 1 or 2; Cardinal, 1. Total, 4 species, 4 or 5 individuals.—JOHN DRYDEN KUSER.

Brooklyn, N. Y. (Prospect Park).—Dec. 25; 9 to 11.30 A.M. Clear; ground covered with twelve inches of snow; wind southwesterly, light; temp. 32° to 39°. Herring Gull, 3; Wood Duck, 1; Black-crowned Night Heron, 4; Downy Woodpecker, 3; Starling, 30; White-throated Sparrow, 12; Junco, 2; Song Sparrow, 3; Swamp Sparrow, 1; Fox Sparrow, 4; Brown Thrasher, 1; White-breasted Nuthatch, 2; Chickadee, 8. Total, 13 species, 74 individuals.—KATE P. and E. W. VIETOR.

Brooklyn, N. Y. (Prospect Park).—Dec. 25; 9 A.M. to 12.30 P.M. Clear; snow twelve inches deep; wind west, light; temp. 32°. Wood Duck, 1; Black-crowned Night Heron, 3; Downy Woodpecker, 6; Starling, 20; Purple (?) Grackle, 1; White-throated Sparrow, 2; Junco, 5; Song Sparrow, 4; Fox Sparrow, 7; White-breasted Nuthatch, 1; Chickadee, 12; Robin, 4. Total, 12 species, 66 individuals.—EDWARD FLEISCHER.

Brooklyn, N. Y. (Paerdegat Woods, Flatbush, Bergen Beach marshes and Man-

hattan Beach).—Dec. 26; 10 A.M. to 4 P.M. Clear; ground snow-covered except on wind-swept places; wind very light; temp. 40°. Herring Gull, 64; Sparrow Hawk, 1; Red-headed Woodpecker, 1; Horned Lark, 125; Crow, 2; Starling, 47; Meadowlark, 11; Savannah Sparrow, 2; Tree Sparrow, 10; Junco, 3; Song Sparrow, 29; Fox Sparrow, 3; Pipit, 25; Chickadee, 4. Total, 14 species, 327 individuals.—LEWIS F. BOWDISH and EDWARD FLEISCHER.

New York City (Princes Bay to Richmond Valley to Woodrow to Huguenot Park, Staten Island).—Dec. 22; 7.30 A.M. to 4.30 P.M. Clear; ground bare and frozen; wind mild to brisk southwest; temp. 32° to 45°. Herring Gull, 47; Red-breasted Merganser, 1; American Scaup, 7; Golden-eye, 1; Old-squaw, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 8; Flicker, 4; Blue Jay, 9; Crow, 60; Starling, 56; Meadowlark, 8; Goldfinch, 2; White-throated Sparrow, 2; Tree Sparrow, 71; Junco, 65; Song Sparrow, 13; Myrtle Warbler, 2; White-breasted Nuthatch, 7; Tufted Titmouse, 6; Chickadee, 5; Hermit Thrush, 3; Robin, 2; Bluebird, 2. Total, 25 species, 384 individuals.—CLINTON G. ABBOTT, LELAND WINCAPAW and HOWARD H. CLEAVES.

New York City (Princes Bay to Great Kills to New Dorp, Staten Island).—Dec. 29; 11.30 A.M. to 5.10 P.M. Clear, hazy in late P.M.; ground bare, in spots, but mostly covered with six to ten inches of snow; no wind; temp. 38° to 46°. Herring Gull, 178; American Scaup, 305; Golden-eye, 27; Marsh Hawk, 1; Red-shouldered Hawk, 4; Sparrow Hawk, 1; Barn Owl, 1; Short-eared Owl, 1; Barred Owl, 2; Hairy Woodpecker, 1; Downy Woodpecker, 7; Flicker, 1; Blue Jay, 11; Crow, 25; Starling, 307; Cowbird, 5; Red-winged Blackbird, 7; Meadowlark, 16; Tree Sparrow, 104; Junco, 30; Song Sparrow, 10; Cardinal, 1; Catbird, 1; White-breasted Nuthatch, 7; Tufted Titmouse, 8; Chickadee, 6; Bluebird, 4. Total, 27 species, 1,071 individuals.—HOWARD H. CLEAVES.

Battery, New York City, to and at The Farms, off Seabright, N. J. and back.—Dec. 28; 8.20 A.M. to 4.30 P.M. Partly cloudy; wind west, strong. Loon sp., 3; Kittiwake, 15; Herring Gull, 4,000; Black-backed Gull, 3; Bonaparte's Gull, 500; Gannet, 30 adults; Golden-eye, 2; Old-squaw, 26; White-winged Scoter, 2; Crow sp., 44; Starling, 2. Total, 11 species, about 4,624 individuals.—WM. H. WIEGMANN, W. DEW. MILLER and C. H. ROGERS.

Orient, Long Island, N. Y.—6.30 A.M. to 5 P.M. Clear; ground bare, one night's frost in ground; wind fresh northwest shifting to light south in P.M.; 25° to 31°. Horned Grebe, 9; Loon, 18; Black-backed Gull, 1; Herring Gull, 400; Red-breasted Merganser, 5; Greater Scaup, 250; Golden-eye, 45; Buffle-head, 500; Old-squaw, 140; White-winged Scoter, 58; Surf Scoter, 27; Pheasant, 1; Screech Owl, 1; Kingfisher, 1; Downy Woodpecker, 7; Flicker, 11; Horned Lark, 75; Crow, 180; Fish Crow, 1; Starling, 113; Rusty Blackbird, 7; Red-tailed Hawk, 1; Blue Jay, 1; Meadowlark, 150 (singing); Goldfinch, 3; Tree Sparrow, 65; Junco, 1; Song Sparrow, 103; Swamp Sparrow, 4; Fox Sparrow, 1; Myrtle Warbler, 180; Carolina Wren, 1; Chickadee, 20; Golden-crowned Kinglet, 14; Robin, 4. Total, 35 species, 2,408 individuals.—FRANK, HARRY and ROY LATHAM.

Otto, Cattaraugus Co., N. Y.—Dec. 23; 2 to 4 P.M. Partly cloudy; ground lightly snow-covered; wind southwest, light; temp. 28°. Ruffed Grouse, 3; Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 2; Yellow-bellied Sapsucker, 1; Blue Jay, 4; Junco, 2; White-breasted Nuthatch, 4; Chickadee, 23. Total, 9 species, 42 individuals. A flock of about 50 Canada Geese seen flying southeast on December 22.—MR. and MRS. A. S. COURTER, HELEN COURTER, WALLACE GRUBE, and ARLINE PHILLIPS.

Rochester, N. Y. (Eastman-Durand Park, Sea Breeze).—Dec. 22; 10 A.M. to 1 P.M. Clear; ground covered with light fall of snow; wind southwest, brisk; temp. 28°. Herring Gull, 9; Ring-necked Pheasant, 1; Blue Jay, 1; Crow, 11; Tree Sparrow, 2; Chickadee, 10. Total, 6 species, 34 individuals.—NETTIE SELLINGER PIERCE.

Saratoga Springs, N. Y.—Dec. 27; 9.15 to 11.45 A.M.; 2 to 3.30 P.M. Cloudy and snowing; wind northeast, light; temp. 30° to 37°. Blue Jay, 1; Crow, 192; Junco, 16;

Cedar Waxwing, 100. Total, 4 species, 309 individuals.—ELISABETH and ZADA E. HERRICK.

Saratoga Springs, N. Y.—Dec. 21; 8.30 to 9.30 A.M.; Dec. 22; 4 to 5 P.M. Cloudy; ground bare; wind west, light; temp. 28° to 30°. Downy Woodpecker, 2; Crow, 200; Cedar Waxwing, 80; Nuthatch (heard), 2; Chickadee, 10. Total, 5 species, 294 individuals.—MRS. H. M. HERRICK.

Syracuse, N. Y.—Dec. 23; 8.45 A.M. to 1.05 P.M.; 2.30 to 4.30 P.M. Cloudy; ground frozen, covered by two inches of snow; wind southwest, strong; temp. 26°. Herring Gull, 40; Sharp-shinned Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 3; Crow, 7; Song Sparrow, 1; Brown Creeper, 4; White-breasted Nuthatch, 5; Chickadee, 22. Total, 10 species, 86 individuals.—NETTIE M. SADLER.

Niagara River Shores.—Dec. 26; three and one-half hours. Clear; ground lightly snow-covered; wind south; temp. 28°. Herring Gull and Ring-billed Gull, 630 (probably more than two-thirds were Herring Gulls); Bonaparte's Gull, 17; Merganser, 17; Red-breasted Merganser, 26; Black Duck, 54; Scaup, 91; Golden-eye, 150; Bufflehead, 4; Old-squaw, 19; Downy Woodpecker, 1; Crow, 1; Tree Sparrow, 1; Junco, 3; White-breasted Nuthatch, 1. Total, 15 species, 1,015 individuals. I did not leave the shore of the river at any time, and the few land birds seen were merely incidental.—JAMES SAVAGE.

Yonkers, N. Y.—Dec. 25; 8. A.M. to 2 P.M. Herring Gull, 6; Cooper's Hawk, 1; Red-tailed Hawk, 2; Flicker, 1; Blue Jay, 4; Crow, 6; Starling, 28; Tree Sparrow, 1; Junco, 32; Song Sparrow, 27; Winter Wren, 3; White-breasted Nuthatch, 1; Chickadee, 25. Total, 13 species, 152 individuals.—G. K. NOBLE.

Beverly, N. J.—Dec. 25; 9 A.M. to 1 P.M. Eight inches of soft snow; wind light, northwest; average temp. 35°. Pied-billed Grebe, 9; Marsh Hawk, 1; Sparrow Hawk, 1; Downy Woodpecker, 6; Blue Jay, 2; Crow, 860; Fish Crow, 40; Starling, 65; Goldfinch, 2; White-throated Sparrow, 24; Tree Sparrow, 75; Junco, 88; Song Sparrow, 28; Cardinal, 6; Winter Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 1; Chickadee, 3; Golden-crowned Kinglet, 1; Robin, 20. Total, 21 species, 1,238 individuals. A fellow-observer in the same territory observed a Yellow-bellied Sapsucker.—J. FLETCHER STREET.

Camden, N. J.—Dec. 25; 11.30 A.M. to 4.30 P.M. Bright sunshine; ten inches of snow; wind south to west; temp. 36°. Herring Gull, 5; Marsh Hawk, 1; Red-tailed Hawk, 6; Sparrow Hawk, 4; Screech Owl, 2; Hairy Woodpecker, 1; Downy Woodpecker, 6; Flicker, 5; Horned Lark, 3; Crow, 10; Starling, 30; Red-winged Blackbird, 2; Meadowlark, 3; Rusty Blackbird, 6; White-throated Sparrow, 40; Tree Sparrow, 20; Field Sparrow, 2; Junco, 50; Song Sparrow, 3; Swamp Sparrow, 2; Fox Sparrow, 2; Cardinal, 8; Carolina Wren, 2; Winter Wren, 3; Brown Creeper, 1; Tufted Titmouse, 2; Robin, 3; Bluebird, 12. Total, 28 species, 234 individuals.—JULIAN K. POTTER.

Crosswicks, N. J. (up the Creek and vicinity, Mercer-Burlington County Line).—Dec. 25; 9.15 A.M. to 12.40 P.M. Clear, calm; ten inches of snow; 20° to 32°. Red-tailed Hawk, 1; Sparrow Hawk, 2; Hairy Woodpecker, 1; Downy Woodpecker, 5; Yellow-bellied Sapsucker, 1; Flicker, 2; Horned Lark sub-sp., 16; Blue Jay, 4; Crow, 12; Meadowlark, several (singing); Purple Finch, 1; White-throated Sparrow, 3 (singing); Tree Sparrow, 31; Field Sparrow, 5; Junco, 127; Song Sparrow, 34 (one sang twice); Cardinal, 3; Brown Creeper, 3; White-breasted Nuthatch, flock of 5; Tufted Tit, 1 (singing); Chickadee sp., 2; Robin, 11; Bluebird, 5. Total, 23 species, about 295 individuals. An additional species, a Winter Wren, flew into the house in the afternoon.—CHARLES H. ROGERS.

Englewood, N. J. (Overpeck Creek, Phelps Estate, Leonia, Palisades, Interstate Park).—Dec. 29; 7 A.M. to 4 P.M. Clear; ground covered with snow; wind light, west; temp. 27° to 38°. Herring Gull, 30; American Merganser, 1; Marsh Hawk, 1; Red-tailed Hawk, 3; Red-shouldered Hawk, 1; Bald Eagle, 1 (ad.); Sparrow Hawk, 2; Barred Owl,

2; Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 15; Flicker, 1; Blue Jay, 20; Crow, 21; Starling, 100; Meadowlark, 17; Red-winged Blackbird, 12; Rusty Blackbird, 10; Purple (?) Grackle, 1; Goldfinch, 13; White-throated Sparrow, 75; Tree Sparrow, 70; Field Sparrow, 1; Junco, 100; Song Sparrow, 50; Swamp Sparrow, 4; Fox Sparrow, 1; Cardinal, 1; Carolina Wren, 8; Winter Wren, 1; Brown Creeper, 2; White-breasted Nuthatch, 8; Chickadee, 30; Tufted Titmouse, 1. Total, 34 species, 604 individuals. We have never seen so many birds here in winter before. The absence of the Robin is noteworthy.—W. W. GRANT, LUDLOW GRISCOM and JOHN TREADWELL NICHOLS.

Hackettstown, N. J.—Dec. 26; 8.30 to 11.45 A.M. Clear; ten inches of snow; temp. 14°. Downy Woodpecker, 4; Blue Jay, 1; Crow, 6; Starling, 11; Meadowlark, 1; Goldfinch, 1; Tree Sparrow, 4; Junco, 1; Winter Wren, 2; White-breasted Nuthatch, 1; Chickadee, 3; Bluebird, 4. Total, 12 species, 39 individuals.—MARY PIERNON ALLEN.

Moorestown, N. J.—Dec. 25; 6.30 to 7 A.M., and 7.50 A.M. to 4.50 P.M. Clear; nine inches of snow, drifted; wind west, light; temp. 18°. Duck sp., 9; Great Blue Heron, 2; Bob-white, 2; Mourning Dove, 11; Marsh Hawk, 1; Sharp-shinned Hawk, 1; Cooper's Hawk, 4; Red-tailed Hawk, 3; Red-shouldered Hawk, 5; Sparrow Hawk, 3; Long-eared Owl, 1; Belted Kingfisher, 2; Hairy Woodpecker, 3; Downy Woodpecker, 9; Yellow-bellied Sapsucker, 1; Flicker, 4; Horned Lark, 9; Blue Jay, 7; Crow, 135; Starling, 57; Meadowlark, (singing), 35; Goldfinch, 6; White-throated Sparrow, 64; Tree Sparrow, 141; Chipping Sparrow, 1; Field Sparrow, 2; Junco, 315; Song Sparrow, (singing), 80; Swamp Sparrow, 1; Cardinal, 13; Northern Shrike, (singing), 1; Carolina Wren, 1; Winter Wren, 4; Brown Creeper, 8; White-breasted Nuthatch, 5; Red-breasted Nuthatch, 2; Tufted Titmouse, 5; Chickadee, 1; Golden-crowned Kinglet, 3; Robin, 8; Bluebird, 3. Total, 41 species, 968 individuals.—JOHN D. CARTER, M. ALBERT LINTON, WILLIAM B. EVANS, and GEORGE H. HALLETT, JR.

Morristown, N. J.—Dec. 25; 9 to 11 A.M. Clear; eighteen inches of snow; wind west, light; temp. 35° to 40°. Red-shouldered Hawk, 1; Hairy Woodpecker, 3; Downy Woodpecker, 3; Blue Jay, 20; Crow, 24; Starling, 21; Purple Finch, 3; Tree Sparrow, 26; Junco, 34; Song Sparrow, 8; White-breasted Nuthatch, 15; Tufted Titmouse, 4; Chickadee, 16. Total, 13 species, 178 individuals.—R. C. CASKEY.

Princeton, N. J.—Dec. 26; 10.30 A.M. to 1.30 P.M. Low-hanging frozen fog burning off towards noon; everything enveloped in ice-crystals which sifted to the ground as heat increased: light diffused and glaring; a foot of snow on the ground; temp. 22° to 30°; barometer 30.8 to 30.4. Pigeon Hawk, 1; Downy Woodpecker, 6; Flicker, 3; Blue Jay, 5; Crow (stragglers from a large flock heard in the distance); Starling, 4; Meadowlark, 9; Goldfinch, 2; Tree Sparrow, 15; Junco, 20; Song Sparrow, 3; Cardinal, 1 pair; White-breasted Nuthatch, 2 pairs; Chickadee, 3. Total, 14 species, 89 individuals.—HAMILTON GIBSON and TERTIUS VAN DYKE.

Newfield, N. J.—Dec. 25; 10 A.M. to 2.30 P.M. Clear; ground covered with eight inches of soft snow, which fell the day before; wind southwest, very light; temp. 30° to 36°. Cooper's Hawk (?), 1; Downy Woodpecker, 2; Blue Jay, 2; Crow, 6; Tree Sparrow, 25; Junco, 325; Song Sparrow, 3; Red-breasted Nuthatch, 3. Total, 8 species, about 367 individuals.—WM. W. FAIR.

Orange, N. J.—Dec. 27; 3 to 5 P.M. Light rain; a foot of snow on the ground; temp. 38°. Downy Woodpecker, 1; Starling, 22; Tree Sparrow, 6; Junco, 11; Song Sparrow, 2. Total, 5 species, 42 individuals.—PHILIP K. SCHUYLER.

Passaic, N. J.—Dec. 25; 1 to 3.10 P.M. Clear; eighteen inches of snow; temp. 43°. Downy Woodpecker, 2; Flicker, 1; Blue Jay, 9; Crow, 4; White-throated Sparrow, 5; Tree Sparrow, 8; White-breasted Nuthatch, 1; Chickadee, 5; Robin, 2. Total, 9 species, 37 individuals. On December 24, Starling, 7; Junco, 20.—EDWARD VEHLING, JR.

Plainfield, N. J. (to Ash Swamp).—Dec. 25; 9.30 A.M. to 6.25 P.M. Clear; about ten inches of fresh snow on ground, little wind; temp. 31°. Marsh Hawk, 1; Red-tailed

Hawk, 1; Red-shouldered Hawk, 1; Sparrow Hawk, 1; Barred Owl, 1; Hairy Woodpecker, 4; Downy Woodpecker, 9; Flicker, 1; Blue Jay, 28; Crow, 175; Fish Crow, 1; Starling, 25; Red-winged Blackbird, 1; Meadowlark, 7; Rusty Blackbird, 2; Purple Finch, 2; Goldfinch, 29; White-throated Sparrow, 10; Tree Sparrow, 100; Field Sparrow, 2; Junco, 32; Song Sparrow, 32; Swamp Sparrow, 5; Fox Sparrow, 1; Cardinal, 2; Winter Wren, 1; Brown Creeper, 2; White-breasted Nuthatch, 7; Tufted Titmouse, 6; Chickadee, 14. Total, 30 species, 503 individuals.—W. DEW. MILLER.

Scotch Plains to Berkeley Heights, N. J.—Dec. 29; 8.15 A.M. to 6.15 P.M. Clear; ground snow-covered; temp. 23°. (?) Pheasant, 1; Ruffed Grouse, 1; Sharp-shinned or Cooper's Hawk, 1; Downy Woodpecker, 9; Flicker, 3; Blue Jay, 24; Crow, 14; Starling, 153; Rusty (?) Blackbird, 1; Purple Finch, 18; Goldfinch, 3; White-throated Sparrow, 14; Tree Sparrow, 60; Field Sparrow, 1; Junco, 15; Song Sparrow, 12; Swamp Sparrow, 1; Cardinal, 5; Cedar Waxwing, 8 (flock); Myrtle Warbler, 14; White-breasted Nuthatch, 4; Chickadee, 28; Golden-crowned Kinglet, 1; Hermit Thrush, 5; Robin, 1; Bluebird, 3 (flock). Total, 26 species, 400 individuals.—STANLEY V. LA DOW and W. DEW. MILLER.

Trenton, N. J. and vicinity.—Dec. 22; 9.30 A.M. to 2 P.M. Clear; wind light, west; ground bare; temp. 28°. Red-tailed Hawk, 2; Hairy Woodpecker, 1; Downy Woodpecker, 6; Blue Jay, 5; Crow, 20; Tree Sparrow, 3; Junco, 100; Song Sparrow, 12; Swamp Sparrow, 5; Fox Sparrow, 1; Cardinal, 7; Myrtle Warbler, 6; Carolina Wren, 1; Brown Creeper, 8; White-breasted Nuthatch, 1; Tufted Titmouse, 3; Chickadee, 10; Robin, 3; Bluebird, 5. Total, 19 species, 199 individuals.—WILLIAM M. PALMER.

West Asbury Park and Wanamassa, N. J.—Dec. 26; 3 to 4.30 P.M. Clear; eight inches of snow; no wind; temp. 40°. Downy Woodpecker, 1; Blue Jay, 2; Starling, 50; White-throated Sparrow, 1; Tree Sparrow, 6; Junco, 20; Song Sparrow, 7; Fox Sparrow, 1; Myrtle Warbler, 20; Brown Creeper, 1; White-breasted Nuthatch, 1; Robin, (singing), 50. Total, 12 species, 160 individuals.—ELIZABETH BERNARD, EMMA VAN GILLUWE and PHILIP LONGSTREET.

Aspinwall, Pa.—Dec. 25; 9.30 A.M. to 2 P.M. Clear and sunny; two inches of snow; no wind; temp. 32°. Sparrow Hawk, 1; Hairy Woodpecker, 4; Downy Woodpecker, 2; Crow, 2; Tree Sparrow, 45; Junco, 65; Song Sparrow, 11; Cardinal, 8 (1 singing); Carolina Wren, 2 (1 singing); Brown Creeper, 3; White-breasted Nuthatch, 3; Tufted Titmouse, 8; Chickadee, 10. Total, 13 species, 164 individuals.—THOS. D. BURLEIGH.

Chestnut Hill, Pa. (from Wissahickon Ave. north through Cresheim Valley to City Line).—Dec. 22; 8.45 A.M. to 1.30 P.M. Clear; ground bare; wind northwest, light; temp. 38°. Sparrow Hawk, 2; Hairy Woodpecker, 1; Downy Woodpecker, 3; Flicker, 11; Crow, 18; Starling, 5; Meadowlark, 1; White-throated Sparrow, 30 (several singing); Tree Sparrow, 35 (several singing); Field Sparrow, 6; Junco, 30; Song Sparrow, 19; Cardinal, 9 (two in song); Myrtle Warbler, 3; Carolina Wren, 3 (one in song); Winter Wren, 1; Brown Creeper, 4; White-breasted Nuthatch, 4; Tufted Titmouse, 9; Chickadee, 7; Hermit Thrush, 1. Total, 21 species, 202 individuals.—GEORGE LEAR, 2ND.

Doylestown, Pa.—Dec. 24; 9 A.M. to 3.30 P.M. Morning, snowy; afternoon clear; ground covered with a foot of snow; wind north, light; temp. 28°. Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Flicker, 1; Blue Jay, 2; Crow, 11; Starling, 1; Purple Grackle, 2; Redpoll, 5; Goldfinch, 3; White-throated Sparrow, 2; Tree Sparrow, 20; Junco, 35; Song Sparrow, 8; Brown Creeper, 3; White-breasted Nuthatch, 2; Chickadee, 5; Golden-crowned Kinglet, 1; Total, 18 species, 104 individuals.—RUSSELL MASON.

Eagle Rock, Pa.—Dec. 23; 1.50 to 3.10 P.M. Cloudy; light snow; wind southwest, light; temp. 32°. Ruffed Grouse, 2; Blue Jay, 2; White-breasted Nuthatch, 2; Chickadee, 2. Total, 4 species, 8 individuals.—M. M. and G. A. MORRIS.

Easton, Pa.—9.15 to 11.20 A.M. Clear; a foot of snow; wind southwest,

light; temp. 43°. Crow, 1; Tree Sparrow, 6; Junco, 15; Song Sparrow, 2; White-breasted Nuthatch, 1; Chickadee, 2; Hermit Thrush, 1. Total, 7 species, 28 individuals.—EDWARD J. F. MARX.

Lititz, Northern Lancaster Co., Pa. (valley of Hammer Creek).—8.A.M. to 5 P.M. Clear; eight inches of snow; no wind; temp. 6° below zero at start. Bob-white, 8; Ruffed Grouse, 2; Turkey Vulture, 2; Red-tailed Hawk, 3; Sparrow Hawk, 5; Downy Woodpecker, 5; Yellow-bellied Sapsucker, 1; Flicker, 2; Horned Lark, 30; Blue Jay, 6; Crow, 5,000; Meadowlark, 14; Tree Sparrow, 95; Junco, 120; Song Sparrow, 10; Cardinal, 2; Shrike, 1; Winter Wren, 1; White-breasted Nuthatch, 3; Tufted Titmouse, 3; Chickadee, 12. Total, 21 species, 5,325 individuals.—HERBERT H. BECK, ELMER E. KAUTZ and CLAYTON RAUCK.

Norristown, Pa. (within half a mile along Stoney Creek).—Dec. 25; 10 A.M. to 12 M. Clear; snow seven inches deep; wind west and southwest, light; temp. 37°. Downy Woodpecker, 1; Blue Jay, 1; Meadowlark, 7 (2 in song); White-throated Sparrow, 7; Tree Sparrow, 7; Junco, 26; Song Sparrow, 3; Golden-crowned Kinglet, 3. Total, 8 species, 55 individuals.—ALFRED W. WRIGHT and JOHN E. OVERHOLTZER.

Philadelphia, Pa. (Fairmount Park).—Dec. 22; 10 A.M. to 3 P.M. Clear; ground bare; wind west, light; temp. 32°. Merganser, 2; Cooper's Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Flicker, 2; Crow, 14; Goldfinch, 2; White-throated Sparrow, 20; Junco, 21; Song Sparrow, 8; Cardinal, 33; Carolina Wren, 4; White-breasted Nuthatch, 1; Tufted Titmouse, 2; Chickadee, 4; Golden-crowned Kinglet, 1. Total, 16 species, 117 individuals.—DR. and MRS. WM. PEPPER.

Pittsburgh, Pa. (Homewood Cemetery).—10.45 A.M. to 12.15 P.M. Clear; ground covered with three inches of snow; no wind; temp. 36°. Downy Woodpecker, 4; Tree Sparrow, 6; Song Sparrow, 2; Cardinal, 2; White-breasted Nuthatch, 3; Tufted Titmouse, 2; Chickadee, 6. Total, 7 species, 25 individuals.—ALBERT W. HONYWILL, JR.

Reading, Pa. (over Mt. Penn to Antietam Dam).—Dec. 25; 9 A.M. to 1 P.M. Fair; ground covered with ten to twelve inches of snow; temp. 40°. Blue Jay, 2; Crow, 8; Tree Sparrow, 5; Junco, 20; Chickadee, 3. Total, 5 species, 38 individuals.—ALFRED O. and EDNA G. GROSS.

Spring, Pa.—Dec. 22; 8.30 A.M. to 1 P.M. Clear; ground bare; wind southwest, light; temp. 18° to 30°. Ruffed Grouse, 1; Hairy Woodpecker, 2; Downy Woodpecker, 1; Horned Lark, 7; Blue Jay, 2; Goldfinch, 1; Tree Sparrow, 5; Junco, 2; White-breasted Nuthatch, 2; Tufted Titmouse, 5; Chickadee, 5; Winter Wren, 1; Brown Creeper, 1; Golden-crowned Kinglet, 4. Total, 14 species, 39 individuals.—ANSEL B. MILLER.

West Chester, Pa.—Dec. 25; 10.30 A.M. to 2 P.M. Clear; ten inches of snow; very light west wind; temp. 44°. Red-tailed Hawk, 2; Sparrow Hawk, 1; Downy Woodpecker, 7; Flicker, 1; Crow, 175; Starling, 5; Meadowlark, 12; Purple Grackle, 6; Tree Sparrow, 59; Field Sparrow, 1; Junco, 45; Song Sparrow, 9; Cardinal, 6; Winter Wren, 1; Brown Creeper, 2; White-breasted Nuthatch, 2; Chickadee, 8; Robin, 1. Total, 18 species, 343 individuals.—C. E. EHINGER.

Williamsport, Pa.—Dec. 26; 7 A.M. to 3 P.M. Clear; four inches of snow; no wind; temp. 25°; distance walked, 12 miles. Sharp-shinned Hawk, 1; Downy Woodpecker, 2; Crow, 13; Tree Sparrow, 1; Junco, 42; Cedar Waxwing, 5; Red-breasted Nuthatch, 2; Black-capped Chickadee, 18. Total, 8 species, 84 individuals.—JOHN P. and CHARLES V. P. YOUNG.

Baltimore, Md. (Windsor Hills and Valley of Gwynn's Falls).—Dec. 25; 9 A.M. to 12 M. Clear; ground covered with about six inches of snow; wind northwest, very light; temp. 30° to 37°. Turkey Vulture, 5; Downy Woodpecker, 4; Red-headed Woodpecker, 4; Blue Jay, 2; Crow, 14; Goldfinch, 2; White-throated Sparrow, 23; Tree Sparrow, 2; Field Sparrow, 6; Junco, 74; Song Sparrow, 26; Cardinal, 19; Carolina Wren, 6;

Winter Wren, 2; White-breasted Nuthatch, 4; Tufted Titmouse, 2; Chickadee, 2; Bluebird, 1. Total, 18 species, 198 individuals.—JOSEPH N. ULMAN and MR. and MRS. G. CLYDE FISHER.

Kensington, Md.—Dec. 22; 11 A.M. to 1 P.M. Clear; ground bare; raw west wind; temp. 40°. Turkey Vulture, 5; Downy Woodpecker, 1; Yellow-bellied Sapsucker, 1; Blue Jay, 2; Crow, 15; Goldfinch, 10; White-throated Sparrow, 10; Tree Sparrow, 25; Junco, 100; Song Sparrow, 15; Cardinal, 4; Cedar Waxwing, 50; Myrtle Warbler, 1; Winter Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 1; Red-breasted Nuthatch, 3; Carolina Chickadee, 3; Bluebird, 4. Total, 19 species, 252 individuals.—RAYMOND W. MOORE.

Anacostia River, D. C., and Dyke, Va.—Dec. 29; 9.20 to 11.50 A.M.; 1.45 to 4 P.M. Clear and cloudy; ground half bare; calm; temp. 30° to 45°; distance, 4 miles. Great Blue Heron, 2; Turkey Vulture, 2; Cooper's Hawk, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 2; Sparrow Hawk, 1; Downy Woodpecker, 6; Flicker, 1; Phoebe, 1; Blue Jay, 5; Crow, 92; Fish Crow, 47; Purple Finch, 2; Goldfinch, 2; White-throated Sparrow, 51; Tree Sparrow, 70; Field Sparrow, 16; Junco, 110; Song Sparrow, 37; Swamp Sparrow, 2; Cardinal, 14; Cedar Waxwing, 24; Shrike, 1; Myrtle Warbler, 11; Carolina Wren, 8; Winter Wren, 2; Red-bellied Nuthatch, 3; Tufted Titmouse, 8; Carolina Chickadee, 7; Golden-crowned Kinglet, 3; Hermit Thrush, 1; Bluebird, 1. Total, 32 species, 535 individuals.—WELLS W. COOKE.

Beulahville, King William Co., Va.—Dec. 26; 11.20 A.M. to 1.20 P.M. Clear; ground partly covered with light snow; not cold. Hairy Woodpecker, 2; Downy Woodpecker, 1; Meadowlark, 2; Goldfinch, 1; White-throated Sparrow, 4; Junco, 200; Fox Sparrow, 20; Cardinal, 1; Pine Warbler, 1; Mockingbird, 1; Brown Creeper, 2; Tufted Titmouse, 4; Chickadee, 4; Kinglet sp., 15; Bluebird, 6. Total, 15 species, 264 individuals.—ELIZABETH H. RYLAND.

Lawrenceville, Va.—Dec. 25; 8.30 A.M. to 2 P.M. Perfectly clear; ground bare, no wind; temp. 35°; ideal day. Turkey Vulture, 4; Black Vulture, 6; Red-tailed Hawk, 2; Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 3; Flicker, 4; Phoebe, 1; Crow, 7; Meadowlark, 15; Purple Finch, 9; Goldfinch, 4; White-throated Sparrow, 20; Field Sparrow, 6; Song Sparrow, 18; Junco, 300; Fox Sparrow, 3; Towhee, 3; Cardinal, 7; Myrtle Warbler, 4; Pine Warbler, 1 (singing); Mockingbird, 1; Carolina Wren, 7; Winter Wren, 1; Brown Creeper, 2; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 6; Tufted Titmouse, 4; Chickadee, 7; Golden-crowned Kinglet, 3; Hermit Thrush, 1; Bluebird, 3. Total, 32 species, 458 individuals.—MERRIAM G. LEWIS.

Charleston, W. Va. (Seen or heard from windows or yard).—Dec. 26; 7.30 to 9.30 A.M., and 4.30 to 5 P.M. Clear in A.M.; cloudy with light east wind in P.M.; ten inches of snow; temp. 18°. Crow, 5; Goldfinch, 11; White-throated Sparrow, 7; Tree (?) Sparrow, 11; Junco, 9; Song Sparrow, 2; Cardinal, 1; Carolina Wren, 1; Winter Wren, 1; Red-breasted Nuthatch, 1; Tufted Titmouse, 3; Black-capped Chickadee, 5; Thrush sp., 1. Total, 13 species, 60 individuals. A Brown Creeper and a Yellow-bellied Sapsucker were seen on December 24 and a Pileated Woodpecker twice lately.—LOUISA T. and FAITH W. KEELY.

Lawrenceville, Va.—Dec. 22; 8.45 to 10.30 A.M. Dull and cloudy; ground bare; practically no wind; temp. 30°. Turkey Vulture, 1; Black Vulture, 11; Hairy Woodpecker, 1; Downy Woodpecker, 2; Crow, 4; Purple Finch, 6; Goldfinch, 3; White-throated Sparrow, 19; Junco, 160; Song Sparrow, 4; Cardinal, 3; Myrtle Warbler, 22; Mockingbird, 1; Carolina Wren, 5; Winter Wren, 1; Brown Creeper, 1; Red-breasted Nuthatch, 2; Tufted Titmouse, 5; Chickadee, 7; Hermit Thrush, 1. Total, 20 species, 275 individuals.—FLORENCE V. and MERRIAM G. LEWIS.

Lewisburg, W. Va.—Dec. 25; 2.15 to 4.53 P.M. Clear; two and one-half inches of snow, melting slightly; no wind. Turkey Vulture, 8; Cooper's Hawk, 1; Sparrow Hawk,

2; Hairy Woodpecker, 2; Downy Woodpecker, 5; Red-bellied Woodpecker, 6; Flicker, 3; Prairie Horned Lark, 19; Crow, 1; Goldfinch, 10; Tree Sparrow, 101; Field Sparrow, 1; Junco, 161; Brown Creeper, 1; White-breasted Nuthatch, 11; Tufted Titmouse, 3; Black-capped Chickadee, 1; Golden-crowned Kinglet, 5; Bluebird, 9. Total, 19 species, 350 individuals; also, fresh tracks of Bob-white and Ruffed Grouse.—CHARLES O. HANDLEY.

Long Bridge to Rosslyn, Va., Cabin John Bridge to Plummers Island, Md.—Dec. 29; 10 A.M. to 4 P.M. Clear A.M., cloudy P.M.; ground mostly covered with snow; calm; temp. 30° to 45°. Turkey Vulture, 10; Cooper's Hawk, 2; Red-shouldered Hawk, 1; Downy Woodpecker, 3; Flicker, 1; Blue Jay, 5; Crow, 148; Fish Crow, 5; Goldfinch, 27; White-throated Sparrow, 31; Tree Sparrow, 39; Junco, 159; Song Sparrow, 45; Fox Sparrow, 10; Towhee, 1; Cardinal, 21; Cedar Waxwing, 19; Migrant Shrike, 2; Carolina Wren, 6; Winter Wren, 1; Brown Creeper, 2; White-breasted Nuthatch, 3; Tufted Titmouse, 2; Carolina Chickadee, 13; Golden-crowned Kinglet, 1; Bluebird, 1. Total, 26 species, 558 individuals.—EDWARD A. PREBLE and W. L. MCATEE.

Arlington Junction to Aqueduct Bridge, Va., Cabin John Bridge to Plummers Island, Md.—Dec. 22; 10 A.M. to 6 P.M. Clear; ground bare; calm; temp. 28° to 40°. Turkey Vulture, 25; Broad-winged Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Flicker, 1; Blue Jay, 1; Crow, 255; Goldfinch, 4; White-throated Sparrow, 19; Tree Sparrow, 60; Junco, 81; Song Sparrow, 9; Cardinal, 4; Migrant Shrike, 1; Carolina Wren, 3; Brown Creeper, 3; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 1; Carolina Chickadee, 3; Golden-crowned Kinglet, 3; Bluebird, 5. Total, 22 species, 485 individuals.—E. HELLER and W. L. MCATEE.

Louisburg, N. C.—Dec. 26; 11 A.M. to 3 P.M.; 4 to 5 P.M. Slightly cloudy; ground bare; warm. Mourning Dove, 1; Turkey Vulture, 4; Red-headed Woodpecker, 2; Flicker, 3; Crow, 2; White-throated Sparrow, 15; Field Sparrow, 9; Junco, 150; Song Sparrow, 5; Cardinal, 4; Carolina Wren, 1; White-breasted Nuthatch, 2; Tufted Titmouse, 2; Chickadee, 2. Total, 14 species, 202 individuals. Two Wild Turkeys seen on December 22.—JOSEPH C. and MATTIE H. JONES.

Aiken, S. C. (Pine Ridge Camp and Aiken).—Dec. 21; 8 A.M. to 3 P.M. Clear; temp. 49° to 70°. Turkey Buzzard, 30; Red-headed Woodpecker, 3; Phœbe, 1; Blue Jay, 3; Crow, 4; Goldfinch, 1; White-throated Sparrow, 3; Chipping Sparrow, 1; Junco, 25; Song Sparrow, 1; Myrtle Warbler, 2; Brown Creeper, 1; Brown-headed Nuthatch, 6; Carolina Chickadee, 1; Robin, 1; Bluebird, 4. Total, 16 species, 87 individuals.—MRS. WILLIAM M. and W. CHARLESWORTH LEVEY.

Marion, S. C.—Dec. 20; 10.30 A.M. to 3.30 P.M. Fair; light south and southwest winds; temp. 50°. Bob-white, 18; Mourning Dove, 4; Turkey Vulture, 5; Black Vulture, 6; Florida Red-shouldered Hawk, 3; Sparrow Hawk, 2; So. Hairy Woodpecker, 2; So. Downy Woodpecker, 7; Yellow-bellied Sapsucker, 3; Red-bellied Woodpecker, 2; Southern Flicker, 10; Phœbe, 2; Blue Jay, 3; Crow, 15; Cowbird, 25; Red-winged Blackbird, 20; Meadowlark, 200; Florida Grackle, 5; Vesper Sparrow, 100; Savannah Sparrow, 75; Grasshopper Sparrow, 50; White-throated Sparrow, 150; Chipping Sparrow, 12; Field Sparrow, 200; Slate-colored Junco, 150; Song Sparrow, 200; Swamp Sparrow, 2; White-eyed Towhee, 5; Cardinal, 6; Loggerhead Shrike, 3; Myrtle Warbler, 4; Pine Warbler, 2; Florida Yellow-throat, 1; Pipit, 3; Mockingbird, 4; Brown Thrasher, 2; Carolina Wren, 12; House Wren, 5; Brown Creeper, 14; Florida White-breasted Nuthatch, 2; Brown-headed Nuthatch, 3; Tufted Titmouse, 11; Carolina Chickadee, 15; Golden-crowned Kinglet, 4; Ruby-crowned Kinglet, 5; Robin, 12; Bluebird, 7. Total, 47 species, 1,391 individuals.—E. B. WHEELER, JR.

Atlanta, Ga. (Federal Prison to Constitution, to Hapeville, to College Park, crossing the headwater bottoms of the Ocmulgee and Flint River basins). (Special mention of the private, protected feeding-grounds of T. R. Sawtell where a greater share of the

birds were seen).—Dec. 25; 7 A.M. to 3.30 P.M. Clear and cool; light, south wind; temp. 32° at 7 A.M.; warmer later; distance walked, about 18 miles. Wilson's Snipe, 13; Killdeer, 35; Bob-white, 7; Mourning Dove, 10; Turkey Vulture, 6; Black Vulture, 2; Sharp-shinned Hawk, 1; Cooper's Hawk, 2; Red-tailed Hawk, 2; Red-shouldered Hawk, 1; Broad-winged Hawk, 1; Southern Hairy Woodpecker, 10; Southern Downy Woodpecker, 6; Flicker, 24; Phoebe, 2; Blue Jay, 18; Crow, 12; Red-winged Blackbird, 12; Meadowlark, 200; Rusty Blackbird, 8; Purple Finch, 6; Goldfinch, 4; Vesper Sparrow, 50; White-throated Sparrow, 40; Chipping Sparrow, 20; Field Sparrow, 40; Junco, 80; Song Sparrow, 100; Swamp Sparrow, 50; Fox Sparrow, 4; Towhee, 20; Cardinal, 16; Cedar Waxwing, 2; Loggerhead Shrike, 6; Pine Warbler, 12; Palm Warbler, 2; Maryland Yellow-throat, 2; American Pipit, 300; Mockingbird, 3; Brown Thrasher, 1; Carolina Wren, 18; House Wren, 1; Brown Creeper, 2; Tufted Titmouse, 18; Carolina Chickadee, 20; Golden-crowned Kinglet, 15; Ruby-crowned Kinglet, 6; Hermit Thrush, 1; Robin, 1; Bluebird, 12. Total, 50 species, 1,225 individuals.—JAMES M. SANFORD.

Clearwater and Tampa to Cortez, Fla.—Dec. 25; 7 A.M. to 5 P.M. Cloudy; wind west and northwest, light; temp. average 60°. Loon, 8; Herring Gull, 19; Ring-billed Gull, 4; Laughing Gull, 2,100; Royal Tern, 226; Least Tern, 6; Black Skimmer, 2; Florida Cormorant, 350; White Pelican, 107; Brown Pelican, 3,500; Man-o'-war-bird, 27; Lesser Scaup Duck, 200; Ward's Heron, 24; American Egret, 31; Snowy Egret, 6; La. Heron, 20; Little Blue Heron, 9; Scott's Clapper Rail, 1; Least Sandpiper, 2; Semipalmated Sandpiper, 2; Willet, 61; Killdeer, 29; Turkey Vulture, 23; Black Vulture, 42; Bald Eagle, 9; Belted Kingfisher, 3; Red-bellied Woodpecker, 1; Phoebe, 2; Cardinal, 3; Loggerhead Shrike, 2; Palm Warbler, 23; Mockingbird, 6; Brown Thrasher, 1; Florida Wren, 2. Total, 34 species, 5,850 individuals.—OSCAR E. BAYNARD, W. F. BLACKMAN and HERBERT R. MILLS.

Coronado, Fla.—Dec. 25; 9 to 9.30 A.M.; 2.30 to 4.30 P.M. Cloudy; light, northeast wind; temp. 70°. Herring Gull, 3; Laughing Gull, 50; Bonaparte's Gull, 5; Caspian Tern, 25; Forster's Tern, 20; Brown Pelican, 250; Scaup, 8; Wood Ibis, 8; Great Blue Heron, 6; American Egret, 3; Little Blue Heron, 10; Louisiana Heron, 15; Green Heron, 1; Clapper Rail, 10; Black-bellied Plover, 7; Killdeer, 2; Ground Dove, 3; Black Vulture, 1; Sparrow Hawk, 2; Fish Hawk, 1; Kingfisher, 6; Yellow-bellied Sapsucker, 2; Red-bellied Woodpecker, 2; Phoebe, 1; Seaside Sparrow, 3; Cardinal, 4; Towhee, 5; Loggerhead Shrike, 1; Myrtle Warbler, 10; Maryland Yellow-throat, 2; Mockingbird, 10; Catbird, 6; Carolina Wren, 3; Long-billed Marsh Wren, 2; Blue-gray Gnatcatcher, 1. Total, 35 species, 388 individuals.—D. H. and R. H. VROOMAN and R. J. LONGSTREET.

Daytona Beach, Fla.—Dec. 23; 8 A.M. to 12.30 P.M.; 1.30 to 4.30 P.M. Clear; wind northerly, light; temp. 72°. Pied-billed Grebe, 3; Herring Gull, 4; Bonaparte's Gull, 35; Brown Pelican, 13; Hooded Merganser, 2; Ward's Heron, 1; Louisiana Heron, 1; Little Blue Heron, 56; Florida Gallinule (Im.), 1; Turnstone, 8; Ground Dove, 4; Turkey Vulture, 6; Black Vulture, 5; Bald Eagle, 2; Sparrow Hawk, 1; Belted Kingfisher, 6; Red-bellied Woodpecker, 7; Flicker, 2; Phoebe, 3; Florida Blue Jay, 1; Florida Jay, 2; Florida Crow, 9; Florida Redwing, 20; Florida Grackle, 4; White-throated Sparrow, 1; Chipping Sparrow, 1; Florida Cardinal, 12; Loggerhead Shrike, 6; Myrtle Warbler, 7; Pine Warbler, 7; Palm Warbler, 10; Florida Yellow-throat, 1; Mockingbird, 15; Catbird, 3; Carolina Wren, 2; House Wren, 2; Long-billed Marsh Wren, 1; Brown-headed Nuthatch, 25; Blue-gray Gnatcatcher, 1; Bluebird, 20. Total, 40 species, 310 individuals.—MISSES LOTTIE B. and MARTHA K. TICKENOR and SARAH F. AINSWORTH (MRS. H. A.).

DeLand, Fla. (See Groves to De Leon Spring, eight and one-half miles).—Dec. 26; 9 A.M. to 3.30 P.M. Bright and clear; light southeast wind; temp. 72° at start. Ground

Dove, 1; Turkey Vulture, 37; Sparrow Hawk, 1; Downy Woodpecker, 1; Sapsucker, 1; Pileated Woodpecker, 1; Red-headed Woodpecker, 2; Red-bellied Woodpecker, 2; Phœbe, 3; Florida Blue Jay, 22; Florida Crow, 4; Vesper Sparrow, 1; Chipping Sparrow, 3 (134, the 25th); Song Sparrow, 1; Cardinal, 9; Black and White Warbler, 1; Ovenbird, 1; Mockingbird, 10; Carolina Wren, 1; House Wren, 1; Winter Wren, 2; Tufted Titmouse, 1. Total, 22 species, 106 individuals.—MR. and MRS. I. U. MITCHELL and F. R. OSBORNE.

Palma Sola, Fla. (to Passage Key Reservation and return).—Dec. 26; all day. Clear; wind west, light; temp. 55° in A.M. to 74° in P.M. Holboell's Grebe, 35; Loon, 24; Herring Gull, 1; Laughing Gull, 135; Royal Tern, 125; Cabot's Tern, 20; Black Skimmer, 20; Florida Cormorant, 250; Brown Pelican, 200; Red-breasted Merganser, 20; Blue-winged Teal, 18; White Ibis, 3; Great Blue Heron, 50; Ward's Heron, 150; Louisiana Heron, 40; Little Blue Heron, 30; Green Heron, 2; Yellow-crowned Night Heron, 15; Least Sandpiper, 10; Semipalmed Sandpiper, 10; Sanderling, 50; Willet, 12; Black-bellied Plover, 25; Killdeer, 5; Bob-white, 20; Mourning Dove, 1; Ground Dove, 35; Turkey Vulture, 3; Cooper's Hawk, 1; Bald Eagle, 1; Duck Hawk, 1; Sparrow Hawk, 1; Florida Screech Owl, 2; Great Horned Owl, 2; Belted Kingfisher, 4; Red-cockaded Woodpecker, 5; Southern Flicker, 6; Phœbe, 2; Florida Blue Jay, 2; Florida Jay, 4; Florida Red-wing, 10; Savannah Sparrow, 12; Grasshopper Sparrow, 1; White-eyed Towhee, 25; Cardinal, 2; Loggerhead Shrike, 3; Palm Warbler, 75; Florida Yellow-throat, 2; Mockingbird, 20; Catbird, 1; Carolina Wren, 1; Bluebird, 10. Total, 51 species, 1,502 individuals. On December 23 about 20,000 Red-breasted Mergansers were seen on Tampa Bay.—CARLOS EARLE.

Punta Rassa, Fla.—Dec. 25; 9.15 to 11.15 A.M. Clear; wind light, northeast; temp. 64°. Laughing Gull, 1; Common Tern, 2; Florida Cormorant, 6; Brown Pelican, 300; Semipalmed Plover, 45; Ground Dove, 1; Turkey Vulture, 9; Little Sparrow Hawk, 1; Osprey, 2; Belted Kingfisher, 4; Red-bellied Woodpecker, 2; Flicker, 3; Phœbe, 1; Savannah Sparrow, 6; White-eyed Towhee, 3; Loggerhead Shrike, 4; Palm Warbler, 4; Yellow Palm Warbler, 8; Mockingbird, 9; Ruby-crowned Kinglet, 1; Blue-gray Gnatcatcher, 2. Total, 21 species, 414 individuals.—T. S. PALMER.

Falfurrias, Texas.—Dec. 25; 10 A.M. to 1 P.M. Slightly cloudy; wind northeast, light; temp. 44°; distance covered, 3 miles. Sandhill Crane, 2; Western Mourning Dove, 4; Turkey Vulture, 2; Marsh Hawk, 2; Cooper's Hawk, 2; Sparrow Hawk, 2; Harris's Hawk, 1; Golden-fronted Woodpecker, 7; Northern Flicker, 1; Red-shafted Flicker, 1; Phœbe, 1; Western Meadowlark, 125; Western Vesper Sparrow, 18; Savannah and Western Savannah Sparrows (both forms occurring commonly), 160; Western Grasshopper Sparrow, 20; Western Lark Sparrow, 1; Western Field Sparrow, 1; Black-throated Sparrow, 4; Lincoln's Sparrow, 7; Texas Sparrow, 1; Gray-tailed Cardinal, 11; Texas Pyrrhuloxia, 1; Lark Bunting, 10; White-rumped Shrike, 3; Small White-eyed Vireo, 1; Sennett's Thrasher, 3; Curve-billed Thrasher, 2; Texas Wren, 3; House Wren, 1; Ruby-crowned Kinglet, 6; Blue-gray Gnatcatcher, 1. Total, 32 species, 408 individuals. On the day preceding a number of Audubon's Orioles were seen in the same locality, four at one time in a single huisache tree.—AUSTIN PAUL SMITH.

Oak Vale, Miss.—9 A.M. to 12 M. Clear; ground bare; wind northwest, light; temp. 43°. Mourning Dove, 30; Sparrow Hawk, 1; Yellow-bellied Sapsucker, 2; Flicker, 1; Phœbe, 3; Blue Jay, 13; Chipping Sparrow, 2; Field Sparrow, 25; Junco, 18; Towhee, 2; Cardinal, 6; Mockingbird, 1; Brown Thrasher, 4; Wren, sp., 1; White-breasted Nuthatch, 2; Chickadee, 6. Total, 16 species, 117 individuals.—D. D. FOSTERSBERRY.

Concordia, Mo.—1 to 2.30 P.M. Clear; ground bare; wind southwest, light; temp. 36°. Bob-white, 11; Downy Woodpecker, 2; Red-headed Woodpecker, 2; Red-bellied Woodpecker, 2; Flicker, 6; Prairie Horned Lark, 60; Blue Jay, 10; Crow, 7; Goldfinch, 3; Tree Sparrow, 45; Junco, 59; Cardinal, 5; Brown Creeper, 3; White-

breasted Nuthatch, 1; Tufted Titmouse, 7; Chickadee, 8. Total, 16 species, 234 individuals. A Mourning Dove, a Meadowlark and a Loggerhead Shrike were seen on December 23.—DR. FERDINAND SCHREIMAN.

Fayette, Mo.—2.30 to 4.30 P.M. Clear; ground bare; light breeze. Hairy Woodpecker, 1; Red-bellied Woodpecker, 4; Meadowlark, 6; Tree Sparrow, 100; Junco, 150; Cardinal, 1; Carolina Wren, 1; Tufted Titmouse, 7; Chickadee, 6. Total, 9 species, 276 individuals.—F. B. ISELY.

Kansas City, Mo. (Swope Park).—Dec. 25; 11.30 A.M. to 3.30 P.M. Clear; ground bare; wind south; temp. 47°; distance, 8 miles. Canvasback Duck, 1 (male wounded); Bob-white, 2; Red-tailed Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 8; Red-bellied Woodpecker, 12; Red-headed Woodpecker, 1; Flicker, 12; Blue Jay, 23; Crow, 29; Goldfinch, 3; Tree Sparrow, 60; Junco, 100; Fox Sparrow, 3; White-throated Sparrow, 2; Northern Shrike, 1; Cardinal, 26; Cedar Waxwing, 10; Carolina Wren, 5; Red Crossbill, 20; Brown Creeper, 1; White-breasted Nuthatch, 2; Tufted Titmouse, 40; Black-capped Chickadee, 20; Golden-crowned Kinglet, 1; Bluebird, 1. Total, 26 species; 386 individuals.—MR. AND MRS. H. R. WALMSLEY.

Marshall, Mo.—Dec. 25; 10 A.M. to 2 P.M. Clear; ground bare; wind south, light; temp. 39°. Swainson's Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 6; Flicker, 5; Blue Jay, 7; Crow, 16; Goldfinch, 7; White-crowned Sparrow, 3; Tree Sparrow, 45; Field Sparrow, 10; Junco, 109; Song Sparrow, 1; Cardinal, 12; Cedar Waxwing, 10; Carolina Wren, 1; White-breasted Nuthatch, 1; Carolina Chickadee, 8. Total, 17 species, 244 individuals.—J. A. LAUGHLIN.

Maryville, Mo.—Dec. 25; 11 A.M. to 1 P.M. Clear; ground bare; wind south, light; temp. 62°. Hairy Woodpecker, 3; Downy Woodpecker, 2; Red-headed Woodpecker, 1; Red-bellied Woodpecker, 2; Flicker, 1; Blue Jay, 12; Crow, 2; Harris's Sparrow, 5; Tree Sparrow, 35; Junco, 24; Cardinal, 2; White-breasted Nuthatch, 4; Tufted Titmouse, 2; Chickadee, 21. Total, 14 species, 116 individuals.—JOHN E. CAMERON.

St. Louis, Mo. (Forest Park).—Dec. 25; A.M. Mourning Dove, 3; Downy Woodpecker, 1; Blue Jay, 5; Crow, many; Bronzed Grackle, 3; Junco, 1; Tufted Titmouse, 2, Chickadee, 6. Total, 8 species, 21 individuals, plus Crows.—AMY R. HAIGHT.

St. Louis, Mo. (Forest Park).—Dec. 22; 9.50 A.M. to 12.15 P.M. Clear; ground bare; wind west, light; temp. 32°. Bob-white, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Flicker, 2; Horned Lark, 5; Blue Jay, 15; Crow, 8; Tree Sparrow, 15; Junco, 20; Song Sparrow, 3; Towhee, 1; Cardinal, 3; Brown Creeper, 2; Tufted Titmouse, 1; Chickadee, 1; Robin, 1. Total, 17 species, 77 individuals.—H. C. WILLIAMS.

Knoxville, Tenn.—Dec. 25; 7 A.M. to 12 M. Clear; ground generally bare, with patches of snow; wind north, light; temp. 25°. Downy Woodpecker, 2; Crow, 5; Junco, 8; Cedar Waxwing, 25; Carolina Wren, 2; Bewick's Wren, 2; Nuthatch sp., 2; Tufted Titmouse, 12; Chickadee, 12; Bluebird, 4. Total, 10 species, 74 individuals.—MISS MAGNOLIA and O'C. WOODWARD.

Tazewell, Tenn.—Dec. 26; 8 A.M. to 2.30 P.M. Cloudy; snow on ground, except south hillsides; no wind; temp. 24° on starting, 37° on returning. Bob-white, 23; Mourning Dove, 61; Turkey Vulture, 1; Red-shouldered Hawk, 2; Hairy Woodpecker, 2; Downy Woodpecker, 1; Yellow-bellied Sapsucker, 1; Flicker, 6; Blue Jay, 31; Crow, 9; Meadowlark, 26; Purple Finch, 53; Vesper Sparrow, 21; White-throated Sparrow, 11; Field Sparrow, 78; Junco, 108; Song Sparrow, 29; Towhee, 3; Cardinal, 8; Myrtle Warbler, 30; Mockingbird, 4; Carolina Wren, 7; Tufted Titmouse, 4; White-breasted Nuthatch, 2; Chickadee, 6; Robin, 5; Golden-crowned Kinglet, 3; Bluebird, 8. Total, 28 species, 543 individuals.—H. Y. HUGHES.

Hammond, Ind.—Dec. 24; 10.30 A.M. to 2.30 P.M. Clear; ground bare; wind southwest, brisk; temp. 32°. Bob-white, 16; Pigeon Hawk, 1; Blue Jay, 3; Crow, 6; Goldfinch, 1. Total, 5 species, 27 individuals.—EDWIN D. HULL.

Indianapolis, Ind.—Dec. 25; 1 to 3 P.M. Clear; trace of snow in shady places; wind southwest, light; temp. 44°. Downy Woodpecker, 2; Red-headed Woodpecker, 2; Flicker, 1; Blue Jay, 1; Crow, 14; Bronzed Grackle, 37 (one partial albino); Tree Sparrow, 3; Junco, 50; Song Sparrow, 5; Towhee, 1; Cardinal, 2; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 3; Tufted Titmouse, 5; Chickadee, 11; Golden-crowned Kinglet, 3. Total, 16 species, 144 individuals.—ETTA S. WILSON.

Kokomo, Ind.—Dec. 28; 2 to 4.30 P.M. Clear; light southwest wind; traces of snow; temp. 43°. Kingfisher, 1; Crow, 5; Junco, 25; White-breasted Nuthatch, 4. Total, 4 species, 35 individuals. Winter residents are very scarce with us this year, even though the weather has been very mild. In a four-mile walk on the 26th, 3 Crows were the only signs of bird-life observed, notwithstanding it was a fairly nice day, cloudy, temp. 44°, with a slight mist at times.—B. R. RUSSELL.

Richmond, Wayne Co., Ind. (White Water River Gorge).—Dec. 26; 11 A.M. to 2 P.M. Clear; ground partly covered by snow; light west wind; temp. 38°. Red-shouldered Hawk, 1; Kingfisher, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Flicker, 6; Blue Jay, 20; Crow, 11; Rusty Blackbird, 8; Bronzed Grackle, 4; Goldfinch, 7 (1 flock); Tree Sparrow, 60; Junco, 46; Song Sparrow, 3; Towhee, 1; Cardinal, 8; Brown Creeper, 5; Chickadee, 20; Golden-crowned Kinglet, 4. Total, 18 species, 210 individuals.—P. B. and MRS. P. B. COFFIN.

Attica, Ohio.—Dec. 25; 12 M. to 4 P.M. Clear; ground covered with snow; wind south, sharp; temp. 39°. Bob-white, 6; Mourning Dove, 2; Hairy Woodpecker, 1; Downy Woodpecker, 1; Flicker, 2; Tree Sparrow, 7; White-breasted Nuthatch, 2; Tufted Titmouse, 4; Chickadee, 2. Total, 9 species, 27 individuals.—ROLLA LOZIER.

Berlin Center, Ellsworth and Ellsworth Lake, Ohio.—Dec. 22; 10.30 A.M. to 5 P.M. Fair; vanishing film of snow; ground frozen; wind strong, southwest; temp. 32°; distance walked, 7 miles. Bob-white, 15; Marsh Hawk, 1; Red-tailed Hawk, 2; Sparrow Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 7; Red-bellied Woodpecker, 2; Crow, 23; Tree Sparrow, 56; Song Sparrow, 5; Cardinal, 2; White-breasted Nuthatch, 20; Tufted Titmouse, 4; Black-capped Chickadee, 5. Total, 15 species, 146 individual.—ERNEST WATERS VICKERS.

Bourneville, Ross Co., Ohio.—2 to 4 P.M. Clear; calm; two inches of snow; temp. 40°. Mourning Dove, 2; Sparrow Hawk, 1; Downy Woodpecker, 4; Tree Sparrow, 50; Junco, 3; Song Sparrow, 5; Cardinal, 2; Carolina Wren, 4; Black-capped Chickadee, 15; Bluebird, 4. Total, 10 species, 90 individuals. Birds have been unusually scarce here this fall and winter.—MRS. MATTIE K. SHOEMAKER.

Cadiz, Ohio.—Dec. 22; 8.40 A.M. to 12.15 P.M., and 2.15 to 3 P.M. Clear; ground bare; wind moderate, southwest; temp. 15° to 36°. In woods and fields south of Cadiz in the morning, and at the Cadiz cemetery in the afternoon. Distance walked, registered by pedometer, eight miles. Red-tailed Hawk, 2; Hairy Woodpecker, 2; Downy Woodpecker, 6; Yellow-bellied Sapsucker, 1; Red-bellied Woodpecker, 7; Flicker, 2; Prairie Horned Lark, 1 (heard); Crow, 8; Tree Sparrow, 60; Junco, 60; Song Sparrow, 4; Cardinal, 6; Carolina Wren, 4 (sings); Brown Creeper, 1; White-breasted Nuthatch, 9; Red-breasted Nuthatch, 1; Tufted Titmouse, 9; Chickadee, 8; Robin, 1; Bluebird, 2. Total, 20 species, about 200 individuals.—JOHN WORLEY and HARRY B. McCONNELL.

Canfield, Ohio.—Dec. 27; 7 to 11 P.M., 12.30 to 3.30 P.M. Cloudy A.M.; snowing P.M.; ground snow-covered, two to three inches; wind northwest, strong; temp. 30°. Marsh Hawk, 9; Red-tailed Hawk, 1; Short-eared Owl, 2; Great Horned Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 4; Blue Jay, 4; Crow, 17; Goldfinch, 3; Tree Sparrow, 100; Junco, 57; Song Sparrow, 11; Cardinal, 5; Brown Creeper, 1; White-breasted Nuthatch, 18; Red-breasted Nuthatch, 8; Tufted Titmouse, 11; Black-capped Chickadee, 34; Golden-crowned Kinglet, 8. Total, 19 species, 296 individuals.—MR. and MRS. WILLIS H. WARNER.

Canton, Ohio.—Dec. 25; 7 A.M. to 3 P.M. Clear; one inch of snow, which gradually disappeared in the open; wind southwest, moderate; temp. 26° to 40° . Marsh Hawk, 1; Downy Woodpecker, 6; Blue Jay, 3; Red-winged (?) Blackbird, 1; Meadowlark, 7; Tree Sparrow, 220; Junco, 20; Song Sparrow, 46; Cardinal, 8; Brown Creeper, 2; White-breasted Nuthatch, 5; Tufted Titmouse, 3; Chickadee, 5; Robin, 1. Total, 14 species, 328 individuals.—EDWARD D. KIMES.

Canton, Ohio.—Dec. 26; 8 A.M. to 12.45 P.M. Ground bare in open, snow-covered in woods; wind light, south; temp. 28° to 40° ; distance, six miles. Downy Woodpecker, 3; Blue Jay, 3; Crow, 2; Goldfinch, 1; Tree Sparrow, 300; Junco, 200; Song Sparrow, 23; Cardinal, 11; White-breasted Nuthatch, 5; Tufted Titmouse, 4; Chickadee, 20. Total, 11 species, 572 individuals.—JAMES A. CALHOUN.

Chardon, Ohio.—Dec. 23; 7 to 10 A.M. Clear; two inches of snow; light southwest wind; temp. 22° . Ruffed Grouse, 4; Red-tailed Hawk, 1; Hairy Woodpecker, 4; Downy Woodpecker, 3; Pileated Woodpecker, 1 (first seen in this locality for several years); Red-bellied Woodpecker, 1; Flicker, 3; Blue Jay, 15; Tree Sparrow, 25; Junco, 10; Towhee, 1; Cardinal, 6; White-breasted Nuthatch, 8; Red-breasted Nuthatch, 2; Tufted Titmouse, 5; Chickadee, 30. Total, 16 species, 119 individuals.—F. E. FORD.

Cincinnati, Ohio (near).—Dec. 26; 8.30 A.M. to 1 P.M. Clear, becoming murky; patches of snow on ground; light, south wind; temp. 32° . Bob-white, 2; Hairy Woodpecker, 2; Downy Woodpecker, 6; Red-bellied Woodpecker, 3; Flicker, 11; Blue Jay, 15; Crow, 29; Goldfinch, 1; Tree Sparrow, 9; Junco, 275; Song Sparrow, 35; Cardinal, 26; Carolina Wren, 4; Brown Creeper, 8; Tufted Titmouse, 19; Carolina Chickadee, 43; Bluebird, 8; flock of unidentified strangers, 30. Total, 18 species, 526 individuals. The Crows were in one flock and were annoying what I believe was a Great Horned Owl. Although I did not see him, I heard him shriek and it answered the descriptions in the books.—HOWARD LAWLESS.

Cleveland, Ohio.—Dec. 25; 8 A.M. to 12 M. Clear; light snow; wind southwest, moderate; temp. 40° . Herring Gull, 8; Sparrow Hawk, 1; Downy Woodpecker, 1; Blue Jay, 5; Goldfinch, 5; Junco, 6; Song Sparrow, 3; Tree Sparrow, 35; Cardinal, 7; Cedar Waxwing, 3; Brown Creeper, 1; White-breasted Nuthatch, 3; Chickadee, 9; Golden-crowned Kinglet, 3. Total, 14 species, 90 individuals.—HARRY J. GINTHER.

Cleveland, Ohio.—Dec. 25; 7.30 A.M. to 4.20 P.M. Clear and bright; one to two inches of snow; wind south to southwest, brisk; temp. 30° ; distance walked, fourteen miles; one hour on shore of Lake Erie. Herring Gull, 15; Mallard, 16; Great Horned Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 5; Blue Jay, 1; Crow, 15; Cardinal, 1; Cedar Waxwing, 45; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 3; Tufted Titmouse, 4; Chickadee, 13; Golden-crowned Kinglet, 1. Total, 14 species, 125 individuals.—SHERIDAN F. WOOD.

Delaware, Ohio.—Dec. 27. Cloudy; ground snow-covered; temp. 30° ; distance covered, two miles. Downy Woodpecker, 1; Red-headed Woodpecker, 4; Flicker, 2; Blue Jay, 1; Junco, 2; Song Sparrow, 5; Cardinal, 9; Carolina Wren, 1; White-breasted Nuthatch, 1; Tufted Titmouse, 3; Chickadee, 1. Total, 11 species, 30 individuals.—H. H. HIPPLE.

Delphos, Ohio.—Dec. 24; 12.30 to 4 P.M. Clear; ground partly bare; wind west, moderate; temp 32° . Sparrow Hawk, 3; Hairy Woodpecker, 1; Downy Woodpecker, 3; Red-headed Woodpecker, 1; Flicker, 9; Horned Lark, 23; Crow, 1; Goldfinch, 2; Tree Sparrow, 35; Junco, 13; Song Sparrow, 3; Carolina Wren, 1; White-breasted Nuthatch, 8; Tufted Titmouse, 5; Golden-crowned Kinglet, 3. Total, 15 species, 111 individuals.—L. H. GRESSLEY.

East Liberty, Ohio.—Dec. 24; 10 A.M. to 2 P.M. Partly cloudy; two inches of snow; southwest wind; temp. 30° ; distance, three miles. Sharp-shinned Hawk, 1; Red-shouldered Hawk, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 10;

Red-bellied Woodpecker, 2; Flicker, 2; Horned Lark, 8; Blue Jay, 1; Crow, 13; Tree Sparrow, 14; Junco, 20; Song Sparrow, 1; Towhee, 1; Cardinal, 5; White-breasted Nuthatch, 5; Tufted Titmouse, 15; Chickadee, 3; Golden-crowned Kinglet, 1; Bluebird, 1. Total, 20 species, 106 individuals. I saw a Meadowlark on December 13; Red-breasted Nuthatches, and Brown Creepers on December 25, and Northern Shrike on December 26.

—RUSKIN S. FREER and OTTIE G. CAMPBELL.

Hillsboro, Ohio.—Dec. 26; 7:30 A.M. to 1 P.M. Clear to cloudy; ground with covering of snow; wind south, light; temp. 28° to 42°. Mourning Dove, 21; Turkey Vulture, 1; Hairy Woodpecker, 4; Downy Woosecker, 9; Red-bellied Woodpecker, 4; Flicker, 7; Blue Jay, 6; Crow, 6; Rusty Blackbird, 5; Tree Sparrow, 8; Junco, 16; Song Sparrow, 17; Cardinal, 22; Brown Creeper, 1; Tufted Titmouse, 13; Chickadee, 11; Golden-crowned Kinglet, 3. Total, 17 species, 154 individuals. Five Meadowlarks and one Red-headed Woodpecker were seen December 20.—CLARENCE A. MORROW.

Huron, Ohio.—Dec. 22; 9 A.M. to 4 P.M. Clear, then cloudy; one inch of snow on ground; wind southwest, moderate; temp. 29°. Horned Grebe, 2; Herring Gull, 4; Merganser, 7; Sparrow Hawk, 2; Blue Jay, 3; Meadowlark, 19; Rusty Blackbird, 9; Bronzed Grackle, 1; Downy Woodpecker, 4; Red-bellied Woodpecker, 1; Flicker, 6; Tree Sparrow, 65; Junco, 11; Song Sparrow, 5; Cardinal, 3; Cedar Waxwing, 22; Brown Creeper, 1; White-breasted Nuthatch, 4; Tufted Titmouse, 4; Chickadee, 5; Robin, 23; Bluebird, 9. Total, 22 species, 210 individuals.—H. G. MORSE.

Lisbon, Ohio.—Dec. 26; 1 to 4 P.M. Bright; slight covering of snow; thawing; distance walked, three miles. Red-tailed Hawk, 2; Sparrow Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 5; Tree Sparrow, 25; Junco, 20; Song Sparrow, 12; Cardinal, 12; Carolina Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 5; Tufted Titmouse, 4; Robin, 1. Total, 13 species, 91 individuals.—C. A. WHITE and ROBERT J. HOLE.

Mt. Vernon, Ohio.—Dec. 26; 9 A.M. to 2 P.M. Clear; ground bare, except an occasional skift of snow in sheltered places; ten-mile breeze from southwest; fourteen miles, roadsides, thickets, meadows, and woods; temp. 30° to 40°. Bob-white, 18; Red-tailed Hawk, 4; Hairy Woodpecker, 2; Downy Woodpecker, 13; Red-bellied Woodpecker, 4; Flicker, 20; Horned Lark, 12; Blue Jay, 8; Crow, 10; Goldfinch, 10; Tree Sparrow, 6; Junco, 50; Song Sparrow, 16; Cardinal, 8; Cedar Waxwing, 15; Carolina Wren, 2; Brown Creeper, 2; White-breasted Nuthatch, 15; Tufted Titmouse, 16; Chickadee, 12; Robin, 21; Bluebird, 24. Total, 22 species, 288 individuals.—V. A. and PAUL DEBES.

New Paris, Ohio.—Dec. 25; 8:30 to 11:30 A.M. Clear; ground partly covered with snow; brisk southwest wind; temp. 36°. Bob-white, 1; Ring-necked Pheasant, 1; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 3; Downy Woodpecker, 7; Blue Jay, 11; Crow, 54; Tree Sparrow, 3; Junco, 20; Song Sparrow, 16; Cardinal, 2; Carolina Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 1; Tufted Titmouse, 8; Chickadee, 8. Total, 19 species, 142 individuals.—W. H. WISMAN.

North Kingsville, Ohio.—8 A.M. to 4 P.M. Cloudy; snowing; ground snow-covered; wind northwest, high; temp. 33°. Herring Gull, 12; Bald Eagle, 1; Hairy Woodpecker, 1; Goldfinch, 1; Tree Sparrow, 3; Cardinal, 1; Brown Creeper, 1; White-breasted Nuthatch, 6; Red-breasted Nuthatch, 2; Chickadee, 8; Golden-crowned Kinglet, 1. Total, 11 species, 38 individuals.—HARTLEY KIRTLAND ANDERSON.

Norwalk, Ohio.—Dec. 29; 11 A.M. to 4:30 P.M. Hazy, becoming cloudy, with a trying glare; half-inch snow, thawing; wind southwest, light to brisk; temp. 40°; five-mile walk, through fields, creek valley and beech woods. Hairy Woodpecker, 3; Downy Woodpecker, 1; Flicker, 2; Blue Jay, 5; Tree Sparrow, 8; Junco, 6; Song Sparrow, 2; Cardinal, 12; Brown Creeper, 1; Nuthatch, 3; Tufted Titmouse, 35; Chickadee, 10; Robin, 6. Total, 13 species, 94 individuals. (Probably one Sparrow Hawk, but identi-

fication not certain.)—KATE L. GOODNOW, MARGARET BUTLER, BERTHA BUTLER, MARIAN W. WILDMAN.

Sidney, Ohio.—Dec. 24; 7.30 to 11.30 A.M., and 1 to 1.30 P.M. Clear; three inches of snow; slight wind from west; temp. 25° rising to 36°; three-mile walk over country road and through woods along Great Miami River. Marsh Hawk, 1; Sparrow Hawk, 1; Belted Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 8; Flicker, 2; Blue Jay, 11; Crow, 15; Cowbird, 2; Bronzed Grackle, 1; Tree Sparrow, 32; Junco, 20; Song Sparrow, 10; Towhee, 7; Cardinal, 20; Cedar Waxwing, 4; Carolina Wren, 6; White-breasted Nuthatch, 5; Tufted Titmouse, 1; Chickadee, 2.—Total, 20 species, 151 individuals.—FARIDA WILEY and MARY McCACKEN.

Steubenville, Ohio (to Bethany, W. Va.).—Dec. 26; 10 A.M. to 5 P.M. Clear to cloudy; three to four inches of snow; wind south, light; temp. about 60°; distance, sixteen miles. Screech Owl, 1; Downy Woodpecker, 5-6; Crow, 10; Tree Sparrow, 20; Junco, 30; Song Sparrow, 30; Towhee, 15-20; Cardinal, 15; Carolina Wren, 5-6; Brown Creeper, 1; White-breasted Nuthatch, 6-8; Tufted Titmouse, 10; Chickadee, 20. Total, 13 species, about 175 individuals; also, 3 unidentified Hawks. The occurrence of the Towhees is rather unusual.—KENYON ROPER

Youngstown, Ohio.—Dec. 25; 7 A.M. to 4.30 P.M. Clear; about two inches of snow; wind southwest, moderate; temp. 25° to 35°. Great Blue Heron, 1; Bob-white, 10; Ruffed Grouse, 2; Marsh Hawk, 3; Red-tailed Hawk, 1; Sparrow Hawk, 2; Saw-whet Owl, 2; Great Horned Owl, 1; Hairy Woodpecker, 5; Downy Woodpecker, 14; Red-bellied Woodpecker, 2; Blue Jay, 8; Crow, 22; Meadowlark, 4; Tree Sparrow, 75; Junco, 20; Song Sparrow, 9; Cardinal, 16; Carolina Wren, 1; Winter Wren, 1; Brown Creeper, 7; White-breasted Nuthatch, 27; Tufted Titmouse, 9; Golden-crowned Kinglet, 1; Black-capped Chickadee, 140; Robin, 4. Total, 26 species, 387 individuals. Volney Rogers, C. A. Leedy, Willis H. Warner and Robert Peden made the observations with me.—GEO. L. FORDYCE.

Chicago, Ill. (vicinity of).—9 A.M. to 3 P.M. Clear; ground nearly bare; wind south, light; temp. 42°, gradually falling as wind shifted to northwest; distance covered by car and afoot, about twenty miles. Herring Gull, 9; Ring-billed Gull, 11; Canada Goose, 25; Red-shouldered Hawk, 2; Goshawk, 1; Rough-legged Hawk, 1; Screech Owl, 1; Downy Woodpecker, 1; Blue Jay, 5; Crow, 289; Lapland Longspur, 300; Tree Sparrow, 24; White-breasted Nuthatch, 2; Chickadee, 5. Total, 14 species, 676 individuals.—H. S. PEPOON.

Havana, Ill. (Quiver Lake, Chautauqua Park and vicinity).—Dec. 25; 9 to 11.30 A.M. Clear; ground bare; wind southeast; temp. 35°. Herring Gull, 6; Red-bellied Woodpecker, 2; Blue Jay, 8; Crow, 20; Junco, 12; Cardinal, 4; Brown Creeper, 1; White-breasted Nuthatch, 4; Tufted Titmouse, 10; Chickadee, 15. Total, 10 species, 82 individuals.—BESSIE PRICE.

Highland Park, Ill.—10 A.M. to 3.15 P.M. Clear; ground bare; wind northwest, light; temp. 38°. Herring Gull, 15; American Golden-eye, 100; Blue Jay, 25; Crow, 20; Tree Sparrow, 7; Cardinal, 2. Total, 6 species, 169 individuals.—COLIN CAMPBELL SANBORN.

Moline, Ill. (On Government Island).—Dec. 23; 11 A.M. to 1 P.M. Cloudy at first then clear; ground bare; wind northwest, light; temp. 40°. Bob-white, 15; Ring-necked Pheasant, 7; Rough-legged Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 2; Red-headed Woodpecker, 3; Red-bellied Woodpecker, 1; Flicker, 2; Blue Jay, 10; Crow, 5; Goldfinch, 13; Junco, 50; Fox Sparrow, 1; Cardinal, 4; White-breasted Nuthatch, 5; Chickadee, 20; Bluebird, 1. Total, 17 species, 142 individuals.—MRS. E. J. SLOAN.

Peoria, Ill. (Prospect Heights to Illinois River through the Grand View Drive region).—Dec. 26; 10 A.M. to 4 P.M. Cloudy; ground bare; wind light, variable; temp.

34°. Herring Gull, 62; Red-breasted Merganser, flock 50; Sharp-shinned Hawk, 2; Hairy Woodpecker, 2; Downy Woodpecker, 5; Red-bellied Woodpecker, 2; Flicker, 1; Blue Jay, 10; Goldfinch, 11; Tree Sparrow, 32; Junco, 150; Song Sparrow, 2; Cardinal, 19; Brown Creeper, 1; White-breasted Nuthatch, 6; Tufted Titmouse, 12; Chickadee, 18. Total, 17 species, 385 individuals.—PROF. W. H. PACKARD, REGINALD PACKARD and JAMES H. SEDGWICK.

Peoria, Ill. (Region southeast of the river to Morton, Ill.).—Dec. 27; 12 M. to 4.30 P.M. Fair; ground bare; wind west, brisk; temp. 25°. Herring Gull, 24; Bob-white, flock 15; Sharp-shinned Hawk, 2; Hairy Woodpecker, 2; Downy Woodpecker, 5; Blue Jay, 3; Crow, 2; Tree Sparrow, 71; Junco, 300; Cardinal, 14; Winter Wren, 1; White-breasted Nuthatch, 2; Tufted Titmouse, 4; Chickadee, 9; Bluebird, 8, all apparently young ones of this year's brood. Total, 15 species, 462 individuals.—JAMES H. SEDGWICK.

Port Byron, Ill.—Dec. 25; 9 to 10 A.M., and 12.15 to 2 P.M. Clear; ground bare; wind southwest, light; temp. 32° at 9 A.M.; 45° at 12.45 P.M. Red-tailed Hawk, 1; Hairy Woodpecker, 7; Downy Woodpecker, 6; Red-headed Woodpecker, 2; Blue Jay, 10; Crow, 11; Goldfinch, 10; Tree Sparrow, 2; Junco, 15; White-breasted Nuthatch, 10; Chickadee, 27. Total, 11 species, 101 individuals.—J. J. SCHAFER.

Rantoul, Ill.—Dec. 25; 2 to 4.30 P.M. Clear, fair; ground bare; wind southwest, light; temp. 38°. Hairy Woodpecker, 1; Downy Woodpecker, 3; Red-bellied Woodpecker, 1; Flicker, 3; Prairie Horned Lark, 30; Blue Jay, 5; Crow, 8; White-throated Sparrow, 1; Tree Sparrow, 10; Chipping Sparrow, 2; Junco, 6; Song Sparrow, 2; Towhee, 1; Cardinal, 2; Brown Creeper, 4; Golden-crowned Kinglet, 2. Total, 16 species, 81 individuals.—GEORGE E. EKBLAU, W. ELMER EKBLAU and GEORGE V. WOOD.

Rock Island, Ill.—Dec. 25; 9.45 A.M. to 12.15 P.M. Bright; warm; no wind; no snow; temp. about 38°. Hairy Woodpecker, 2; Downy Woodpecker, 4; Blue Jay, 5; Crow, 7; Tree Sparrow, 2; Junco, 25; Cardinal, 3; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 2; Brown Creeper, 1; Chickadee, 8. Total, 11 species, 63 individuals.—BURTIS H. WILSON.

Urbana, Ill.—Dec. 22; 9 A.M. to 12 M., and 3 to 4 P.M. Clear; ground bare; wind southwest, light; temp. 44°. Marsh Hawk, 1; Sparrow Hawk, 1; Downy Woodpecker, 2; Blue Jay, 7; Crow, 12; Tree Sparrow, 15; Junco, 75; Song Sparrow, 3; Cardinal, 5; Brown Creeper, 4; Red-breasted Nuthatch, 2; Robin, 1. Total, 12 species, 128 individuals.—H. S. GRINDLEY and C. I. NEWLIN.

Detroit, Mich.—Dec. 25; 9.30 A.M. to 12.45 P.M. Clear; about two inches of snow; wind westerly, about 12 miles; temp. 28° to 32°; two miles across Ford Farm, Dearborn, along River Rouge and Detroit River. Herring Gull, 21; Mallard, 2; Redhead, 2; Bob-white, 20; Marsh Hawk, 1; Downy Woodpecker, 7; Blue Jay, 5; Crow, 44; Tree Sparrow, 52; Song Sparrow, 2; Cardinal, 1; White-breasted Nuthatch, 12; Red-breasted Nuthatch, 3; Chickadee, 9. Total, 14 species, 181 individuals.—JEFFERSON BUTLER.

Kalamazoo, Mich.—10 A.M. to 1 P.M. Clear to cloudy; thin snow; wind south; temp. 35°. Herring Gull, 1; Downy Woodpecker, 1; Crow, 15; Junco, 25; Cardinal, 1; White-breasted Nuthatch, 2. Total, 6 species, 45 individuals.—W. E. PRAEGER.

New Buffalo, Mich.—Dec. 26; 7.30 to 11 A.M., and 1 to 3 P.M. Clear in morning, cloudy after 10 A.M.; ground bare; moderate southwest to west wind; temp. 26° to 32°. Herring Gull, 20; Ring-billed Gull, 30; American Merganser, 12; Old-squaw, 1; Coot, 1; Hairy Woodpecker, 2; Downy Woodpecker, 3; Blue Jay, 14; Crow, 9; Goldfinch, 5; Tree Sparrow, 75; Junco, 7; Cardinal, 2; White-breasted Nuthatch, 4; Chickadee, 9. Total, 15 species, 194 individuals.—F. A. PENNINGTON.

Berlin, Wis.—Dec. 25; 8 A.M. to 4 P.M. Clear; half an inch of snow; no wind; temp. 38°. Hairy Woodpecker, 1; Downy Woodpecker, 2; Blue Jay, 2; White-breasted

Nuthatch, 2; Chickadee, 1. Total, 5 species, 8 individuals.—MRS. CHARLES W. HITCHCOCK.

Cottage Grove, Wis.—Dec. 24; 5:30 A.M. to 8:15 P.M. Clear; a trace of snow; wind south, light; temp. 30°; distance traveled, thirty miles. Mallard, 2; American Scoter, 7; Canada Goose, 27; Bob-white, 2; Prairie Chicken, 96; Marsh Hawk, 1; Red-tailed Hawk, 1; Bald Eagle, 1; Short-eared Owl, 1; Barred Owl, 1; Screech Owl, 3; Hairy Woodpecker, 5; Downy Woodpecker, 13; Yellow-bellied Sapsucker, 1; Horned Lark, 2; Prairie Horned Lark, 11; Blue Jay, 21; Crow, 35; Red-winged Blackbird, 4; Bronzed Grackle, 2; American Crossbill, 2; Goldfinch, 1; Lapland Longspur, 12; Tree Sparrow, 147; Junco, 17; Cedar Waxwing, 2; Loggerhead Shrike, 1; Brown Creeper, 1; White-breasted Nuthatch, 12; Red-breasted Nuthatch, 1; Chickadee, 22; Golden-crowned Kinglet, 2. Total, 32 species, 456 individuals.—JOHN E. MELLISH.

Elkhorn, Wis.—Dec. 26; 1 to 4 P.M. Cloudy; ground bare, except snow patches; wind northwest, light; temp. 35°. Hairy Woodpecker, 3; Downy Woodpecker, 2; Blue Jay, 1; Crow, 200; Goldfinch, 3; Tree Sparrow, 22; Cedar Waxwing, 6; Red-breasted Nuthatch, 2. Total, 8 species, 239 individuals.—SARAH FRANCIS and BETH WEST.

Elkhorn, Wis. (Lauderdale Lake and vicinity).—9 A.M. to 4:30 P.M. Clear; ground lightly covered with snow; light west wind; temp. 8°. Canada Goose, 3; Wilson's Snipe, 1; Marsh Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Flicker, 1; Prairie Horned Lark, 5; Blue Jay, 11; Crow, 21; Tree Sparrow, 105; Song Sparrow, 1; White-breasted Nuthatch, 3. Total, 12 species, 159 individuals.—MABEL BECKWITH, CONSTANCE BECKWITH, HELEN MARTIN and LULA DUNBAR.

Hartland, Wis.—Dec. 24; 8:30 A.M. to 4 P.M. Clear; ground partly covered with snow; wind southwest, light; temp. 20°. Herring Gull, 1; Ruffed Grouse, 1; Hairy Woodpecker, 1; Downy Woodpecker, 3; Blue Jay, 5; Crow, 3; Evening Grosbeak, 2; Tree Sparrow, 8; Junco, 48; Brown Creeper, 1; White-breasted Nuthatch, 5; Red-breasted Nuthatch, 1; Chickadee, 1. Total, 13 species, 80 individuals.—SUSIE L. SIMONDS.

Janesville, Wis.—Dec. 25; 10:30 A.M. to 3 P.M. Clear; some snow; light southwest wind; temp. 48° (?). Kingfisher, 1; Downy Woodpecker, 1; Blue Jay, 10; Crow 8; White-breasted Nuthatch, 1; Chickadee, 1. Total, 6 species, 22 individuals.—GEO. W. H. VOS BURGH.

La Crosse, Wis.—Dec. 25; 9 A.M. to 12 M. Clear; light snow on the ground; wind south, very slight; temp. 33°. Downy Woodpecker, 1; Blue Jay, 1; Evening Grosbeak, 13; Cedar Waxwing, 15; Brown Creeper, 1; White-breasted Nuthatch, 1; Chickadee, 5; Robin, 3. Total, 8 species, 40 individuals.—J. W. CONGDON.

Lake Geneva, Wis.—Dec. 25; 10 to 10:30 A.M. Bright sun; a dusting of snow, thawing a little; light wind. Herring Gull, 1; Blue Jay, 25; Crow, 5; White-breasted Nuthatch, 1; Chickadee, 4. Total, 5 species, 36 individuals.—EUGENIA C. GILLETTE.

Kansasville, Racine Co., Wis.—Dec. 22; 10 A.M. to 4 P.M. Sunny; two inches of snow; wind northwest, light; temp. 20°. Prairie Chicken, 25; Goshawk, 1; Screech Owl, 1; Red-headed Woodpecker, 1; Blue Jay, 1; Crow, 4; Brown Creeper, 1; White-breasted Nuthatch, 1. Total, 8 species, 35 individuals.—ERMA and CLARE WILSON.

Menomonie, Wis.—Dec. 27; 9:30 to 10:30 A.M. Sunny; six inches of snow; wind northwest, very light; temp. 30°. Duck sp., 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Blue Jay, 7; Crow, 2; Redpoll, very large flock; Brown Creeper, 2; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 1; Chickadee, 7. Total, 10 species, 27 individuals.—MRS. C. F. NILES.

Milwaukee, Wis.—Dec. 15; 11 A.M. to 2 P.M. Cloudy; ground bare; wind southwest, light; temp. 43°. Herring Gull, 57; Mallard, 4; Scaup, 35; Golden-eye, 164; Bufflehead, 3; Ruddy Duck, 3; Downy Woodpecker, 3; Blue Jay, 2; Goldfinch, 2; Chickadee, 10; White-breasted Nuthatch, 3. Total, 11 species, 286 individuals.—I. N. MITCHELL.

Prairie du Sac, Wis.—Dec. 23; 8 A.M. to 9 P.M. Ruffed Grouse, 1; Great Horned Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 7; Red-bellied Woodpecker, 1; Crow, 1; Blue Jay, 14; Junco, 4; Chickadee, 16; Brown Creeper, 2; White-breasted Nuthatch, 8; Red-breasted Nuthatch, 1. Total, 12 species, 58 individuals.—SIDNEY CONGER and LOUISE BAILEY.

Sparta, Wis.—Dec. 26; 9 A.M. to 3.30 P.M. Cloudy; two inches of snow; wind northwest; temp. 38°. Ruffed Grouse, 3; Downy Woodpecker, 2; Blue Jay, 6; Crow, 4; Evening Grosbeak, 52; Cedar Waxwing, 9; Brown Creeper, 2; Chickadee, 8. Total, 8 species, 86 individuals.—H. M. SHERWIN.

Unity, Wis.—Dec. 22; 9 A.M. to 12 M. Clear; about six inches of snow; wind west, light; temp. 15°. Ruffed Grouse, 14; Great Horned Owl, 2 (heard in evening); Hairy Woodpecker, 5; Downy Woodpecker, 1; Arctic Three-toed Woodpecker, 1; Northern Pileated Woodpecker, 2; White-breasted Nuthatch, 2; Chickadee, 7. Total, 8 species, 34 individuals.—D. C. MABBOTT.

Westfield, Wis.—Dec. 23; 1 to 3 P.M. Clear; ground covered by light snow; wind southwest; temp. 32°. Hairy Woodpecker, 1; Downy Woodpecker, 2; Blue Jay, 12; Tree Sparrow, 3; Junco, 20; White-breasted Nuthatch, 4; Chickadee, 16. Total, 7 species, 58 individuals.—PATIENCE NESBITT.

Westfield, Wis.—Dec. 22; 1 to 4.30 P.M. Clear; three inches of snow; wind west, light; temp. 14°. Bob-white, 44; Ruffed Grouse, 4; Pinnated Grouse, 18; Mourning Dove, 2; Screech Owl, 1; Downy Woodpecker, 1; Flicker, 1; Blue Jay, 5; Junco, 1; Chickadee, 8; Nuthatch, 2. Total, 11 species, 87 individuals.—AGNES E. RUSSELL.

Whitewater, Wis.—Dec. 24; 8 A.M. to 4.30 P.M. Cloudy; scant covering of snow; wind southwest, light; temp. about 36°. Downy Woodpecker, 4; Prairie Horned Lark, 3; Blue Jay, 5; Crow, 14; Redpoll, 3; Tree Sparrow, 2; Junco, 6; Song Sparrow, 1; Brown Creeper, 1; White-breasted Nuthatch, 10; Red-breasted Nuthatch, 12; Chickadee, 15; Golden-crowned Kinglet, 8. Total, 13 species, 84 individuals. Additional species December 26: Mallard, 15; Canvasback, 10; Canada Goose, 200; Coot, 20; Hairy Woodpecker, 1; Pine Grosbeak, 11.—MRS. A. B. ESTERLY and family, and MARTIN GELIAN.

Winneconne, Wis.—Dec. 25; 8 A.M. to 12 M. Clear; ground barely covered with snow; wind southwest; temp. 28°. Hairy Woodpecker, 2; Downy Woodpecker, 2; Blue Jay, 4; Crow, 12; Rusty Blackbird, 1; Brown Creeper, 1; White-breasted Nuthatch, 4; Black-capped Chickadee, 15. Total, 8 species, 41 individuals. Herring Gulls and Tree Sparrows seen nearly every day except Christmas.—HENRY P. SEVERSON.

Excelsior, Minn.—Dec. 25; 10 A.M. to 2 P.M. Clear; ten inches of snow; wind south, slight; temp. 34°. Prairie Chicken, 1; Screech Owl, 1; Tree Sparrow, 11; Downy Woodpecker, 1; White-breasted Nuthatch, 4; Blue Jay, 9. Total, 6 species, 27 individuals.—RETT E. OLSTEAD.

Minnehaha Falls and Fort Snelling, Minn.—Dec. 25; 9 A.M. to 12.30 P.M. Partly cloudy; six inches of snow; wind west, medium; temp. 21°. Red-breasted Merganser, 6; Screech Owl, 1; Downy Woodpecker, 2; Crow, 7; Blue Jay, 11; Cedar Waxwing, 3; White-breasted Nuthatch, 5; Chickadee, 9. Total, 8 species, 44 individuals.—CHARLES PHILLIPS.

Oslo, Minn.—Dec. 26; 9 to 11 A.M. Clear; ground partly snow covered; wind southwest, light; temp. 4° above zero. Prairie Hen, 1; Hairy Woodpecker, 2; Blue Jay, 1; Redpoll, 1; Robin, 1. Total, 5 species, 6 individuals.—O. A. FINSETH.

Royalton, Minn.—Dec. 28; 10 A.M. to 12 M. Clear; ground snow-covered; wind, southwest, light; temp. 15°. Hairy Woodpecker, 2; Downy Woodpecker, 1; Blue Jay, 16; Sparrow sp., 1; White-breasted Nuthatch, 1; Chickadee, 4. Total, 6 species, 25 individuals. On December 25 a lone Evening Grosbeak was seen.—HARRY B. LOGAN.

St. Peter, Minn.—Dec. 25; 9 A.M. to 1 P.M. Fair; five inches snow on level; light

south wind; temp. 36° ; five-mile tramp, wood and meadows. Barred Owl, 1; Downy Woodpecker, 2; Blue Jay, 7; Tree Sparrow, 30; White-breasted Nuthatch, 3; Chickadee, 1. Total, 6 species, 44 individuals.—HARRY JAY LADUE.

Sioux City, Iowa.—10 A.M. to 5 P.M. Clear; small patches of snow on ground in woods; wind southeast, moderate; temp. 25° at start. Red-tailed Hawk, 2; Hairy Woodpecker, 6; Downy Woodpecker, 4; Flicker, 2; Crow, 50; Tree Sparrow, 30 Junco, 25; Brown Creeper, 2; White-breasted Nuthatch, 3; Chickadee, 25. Total, 10 species, 149 individuals.—ARTHUR LINDSEY and WALTER W. BENNETT.

Wall Lake, Iowa.—Dec. 26; 3.15 to 5.30 P.M. Cloudy; ground bare; light northwest breeze; temp. 40° . Screech Owl, 1; Crow, 4; Tree Sparrow, 2; Chickadee, 1. Total, 4 species, 8 individuals. 4 Short-eared Owls, seen December 22, and small flocks of Red-winged Blackbirds, Bronzed Grackles and Prairie Chickens and a large one of Lapland Longspurs are wintering.—JOHN A. SPURRELL.

Meridian, Idaho, (irrigated farm lands).—Dec. 24; 9.20 A.M. to 4 P.M. Cloudy; one-half inch of snow; no wind; freezing all day. Bob-white (introduced), 20; Chinese Pheasant (introduced), 2; Hawk (3 species), 15; Long-eared Owl, 21; Red-shafted Flicker, 6; Magpie, 189; Red-winged Blackbird, 200; Western Meadowlark, 103; Redpoll, 91; Goldfinch, 16; White-crowned Sparrow, 250; Field (?) Sparrow, 30; Song Sparrow, 152; "Snowbird" (local name; probably a Towhee?), 75; Northern Shrike, 4; Chickadee, 1. Total, 18 species, 1,175 individuals. Downy Woodpecker, 1, December 23.—ALEX. STALKER.

Wichita, Kan. (within six miles north and west).—Dec. 27; four hours. Clear; prevailing wind, northwest, averaging 12 miles. Hairy Woodpecker, 1; Downy Woodpecker, 12; Flicker, 2; Crow, 1; Harris's Sparrow, 20; Junco, 15; Song Sparrow, 5; Cardinal, 9; Mockingbird, 1; Carolina Wren, 2; Tufted Titmouse, 3; Chickadee, 27; Bluebird, 1. Total, 13 species, 99 individuals.—AUSTIN H. LARRABEE and RICHARD H. SULLIVAN.

Omaha, Neb.—Dec. 25; 1 to 4.30 P.M. Hazy; ground bare; wind north to northeast, light; 48° , falling to 38° ; stroll west of Omaha and Florence five miles, parks and open woodland. Hairy Woodpecker, 2; Downy Woodpecker, 1; Flicker, 1; Prairie Horned Lark, 6; Pine Siskin, 1; Tree Sparrow, 200 (one flock); Junco, 4; White-breasted Nuthatch, 2; Chickadee, 9. Total, 9 species, 226 individuals.—SOLON R. TOWNE.

Colorado Springs and Manitou, Colo.—Dec. 24; 8.30 A.M. to 4 P.M. Clear; ground bare, with snow-patches on north slopes; no wind; temp. 40° . Red-shafted Flicker, 6; Magpie, 6; Woodhouse's Jay, 4; House Finch, 1; Western Tree Sparrow, 10; Pink-sided Junco, 50; Gray-headed Junco, 6; Northern Shrike, 1; American Dipper, 2; Long-tailed Chickadee, 2; Lead-colored Bush-tit, 8; Townsend's Solitaire, 1. Total, 12 species, 97 individuals.—S. GRISWOLD MORLEY.

Denver, Colo.—Dec. 25; 12 M. to 2.15 P.M. Snowing; ground with about two inches of snow; wind north, brisk; temp. 22° . Ring-necked Pheasant, 2; American Rough-legged Hawk, 1; Prairie Horned Lark, 150; House Finch, 2; Mountain Junco, 1. Total, 5 species, 156 individuals.—W. H. BERGTOLD.

Bozeman, Mont.—Dec. 24; 9.30 A.M. to 3 P.M. Clear; several inches of snow; brisk west wind; temp. 22° . Batchelder's Woodpecker, 1; Red-shafted Flicker, 2; Magpie, 19; Crow, 34; Western Tree Sparrow, 3; Bohemian Waxwing, 185; Long-tailed Chickadee, 22; Western Robin, 5. (It is unusual for the Robin to winter in this vicinity.) Total, 8 species, 271 individuals.—NELSON LUNDWELL.

Chontean, Mont.—Dec. 25; 8.15 A.M. to 12.45 P.M. Clear; ground bare; wind west, medium; temp. 16° . Mallard, 3; Golden-eye, 9; Prairie Sharp-tailed Grouse, 5; Red-shafted Flicker, 1; Magpie, 34; Redpoll, 5; Western Tree Sparrow, 10; Bohemian Waxwing, 15; Long-tailed Chickadee, 6. Total, 9 species, 88 individuals.—ARETAS A. SAUNDERS.

Santa Barbara, Cal.—Dec. 26; 6.30 A.M. to 5.45 P.M. Clear and mild; no wind; temp., min. 44°, max. 63°. Course: Mission Ridge, the Estero, Stearn's Wharf, Hope Ranch and Laguna Blanca, Goleta, La Patera, San Roque Cañon, Los Colibris. Western Grebe, 2; Horned Grebe, 2; Eared Grebe, 2; Pied-billed Grebe, 1; Loon, 1; Red-throated Loon, 3; Glaucous-winged Gull, 6; Western Gull, 200; Herring Gull, 4; California Gull, 12; Ring-billed Gull, 40; Short-billed Gull, 10; Heermann's Gull, 150; Bonaparte's Gull, 400; Royal Tern, 3; Farallon Cormorant, 40; Brandt's Cormorant, 40; California Brown Pelican, 3; Mallard, 3; Baldpate, 200; Green-winged Teal, 80; Cinnamon Teal, 20; Shoveller, 750; Pintail, 1,500; Canvasback, 60; Lesser Scaup Duck, 40; Ring-necked Duck, 15; Bufflehead, 20; White-winged Scoter, 60; Surf Scoter, 20; Ruddy Duck, 200; White-fronted Goose, 1; Bittern, 1; Great Blue Heron, 10; Black-crowned Night Heron, 3; Sora Rail, 2; Coot, 300; Red-backed Sandpiper, 7; Sanderling, 30; Black-bellied Plover, 6; Killdeer, 45; Snowy Plover, 40; Black Turnstone, 1; Valley Quail, 40; Turkey Vulture, 5; Marsh Hawk, 2; Sharp-shinned Hawk, 2; Western Redtail, 4; Golden Eagle, 1; Sparrow Hawk, 12; California Screech Owl, 2; Burrowing Owl, 2; Belted Kingfisher, 1; Willow Woodpecker, 1; California Woodpecker, 25; Red-shafted Flicker, 12; White-throated Swift, 20; Anna's Hummingbird, 10; Say's Phœbe, 40; Black Phœbe, 15; California Horned Lark, 200; California Jay, 25; San Diego Redwing, 80; Western Meadowlark, 150; Brewer's Blackbird, 100; House Finch, 2,500; Willow Goldfinch, 10; Green-backed Goldfinch, 40; Western Savannah Sparrow, 300; Bryant's Marsh Sparrow, 4; Belding's Marsh Sparrow, 40; Large-billed Marsh Sparrow, 12; Western Lark Sparrow, 12; Gambel's Sparrow, 20; Nuttall's Sparrow, 300; Golden-crowned Sparrow, 1; Rufous-crowned Sparrow, 2; San Diego Song Sparrow, 30; Lincoln's Sparrow, 6; Valdez Fox Sparrow, 1; Spurred Towhee, 15; Anthony's Brown Towhee, 60; Tree Swallow, 14; California Shrike, 28; Dusky Warbler, 2; Audubon's Warbler, 300; Tule Yellow-throat, 10; Pipit, 100; California Thrasher, 3; Western Mockingbird, 7; Rock Wren, 4; San Diego Wren, 3; Western House Wren, 4; Western Winter Wren, 1; Tule Wren, 6; Plain Titmouse, 4; Bush-Tit, 60; Pallid Wren-Tit, 30; Ruby-crowned Kinglet, 40; Western Gnatcatcher, 20; Dwarf Hermit Thrush, 80; Western Robin, 15; Western Bluebird. All large numbers estimated. Total, 103 species, 9,227 individuals.—
ALLAN BROOKS and WILLIAM LEON DAWSON.

Eugene, Ore.—Dec. 25; 10.30 A.M. to 12.30 P.M. Cloudy to sunshine; ground bare, and wet; wind none; temp. about 42°. Killdeer, 4; Chinese Pheasant, 1; Red-shafted Flicker, 2; Crow, 2; Willow (?) Goldfinch, 8; Western Meadowlark, 50; Junco sp., 100; Song Sparrow, 10; Oregon Towhee, 1; Western Winter Wren, 6; Sierra Creeper, 1; Oregon Chickadee, 10; Varied Thrush, 2; Western Bluebird, 60; Western Golden-crowned Kinglet, 120. Total, 15 species, 377 individuals.—**HARRIET W. THOMSON.**

Mulino, Ore. (Ten miles south of Oregon City).—9.25 A.M. to 4 P.M. Foggy; wind north, light; temp., max. 28°, min. 26°. Bob-white, 12; Mountain Quail, 15; Oregon Ruffed Grouse, 1; Ring-necked Pheasant, 5; Gairdner's Woodpecker, 1; Northern Red-breasted Sapsucker, 3; Red-shafted Flicker (probably includes Northwest Flicker also), 11; Steller's Jay, 1; Pine Grosbeak, heard, 1; Shufeldt's Junco, 230; Rusty Song Sparrow, 19; Oregon Towhee, 18; Seattle Wren, 6; Western Winter Wren, actual count, 60 (many more heard); California Creeper, 2; Slender-billed Nuthatch, 2; Red-breasted Nuthatch, 2; Oregon Chickadee, 6; Chestnut-backed Chickadee, 10; Western Golden-crowned Kinglet, 32; Ruby-crowned Kinglet, 3; Western Robin, 1. Total, 22 species, 440 individuals.—**ALEXANDER WALKER and ERICH J. DIETRICH.**

Corvallis, Ore. (hills northwest of town).—Dec. 26; 10 A.M. to 1 P.M. Dense fog covering valley and base of hills; a trace of snow on the hills; wind south, light; temp. 34°. Oregon Ruffed Grouse, 1; Ring-necked Pheasant, 5; Northwestern Flicker, 21; Coast Jay, 4; Crow, 5; Western Meadowlark, 6; Brewer's Blackbird, 75; Oregon Junco, 500; Rusty Song Sparrow, 6; Oregon Towhee, 1; Western Winter Wren, 10; California

Creepers, 3; Slender-billed Nuthatch, 1; Oregon Chickdee, 3; Western Golden-crowned Kinglet, 8; Western Robin, 35; Western Bluebird, 15. Total, 17 species, 700 individuals.

—A. J. STOVER.

Spokane, Wash.—Dec. 24; 10.30 A.M. to 12 M. Clear; light fall of snow; temp. 35°. Flicker, 2; Redpoll, 6; Cedar Waxwing, 50; Slender-billed Nuthatch, 5; Chickadee, 3; Robin, 1; Western Bluebird, 7. Total, 7 species, 74 individuals.—CORA B. ROBERTS.

Santa Barbara, Isle of Pines, Cuba.—Dec. 13; 8.30 A.M. to 3.30 P.M. Fair; windy; temp. 80°. Rolling country, open pine-woods except along the numerous small streams which are bordered with thick, hardwood jungles, royal and cabbage palms. One Section. Cuban Crane (*Grus nesiotes*), 4; Cuban Quail (*Colinus cubanensis*), 12; Pigeon (*Columba inornata*), 6; West Indian Mourning Dove (*Zenaidura macroura macroura*), 35; Cuban Ground Dove (*Chæmepelia passerina astavida*), 20; Southern Turkey Buzzard (*Cathartes aura aura*), 8; Cuban Sparrow Hawk (*Falco sparveroides*), 5; Caracara (*Polyborus cheriway*), 1; Cuban Pigmy Owl (*Glaucidium siju*), 1; Cuban Green Parrot (*Amazona leucocephala*), 25; Ani (*Crotophaga ani*), 50; Isle of Pines Lizard Cuckoo (*Saurothera merlini decolor*), 3; Isle of Pines Tropicbird (*Priotelus temnurus vescus*), 1; Cuban Tody (*Todus multicolor*), 1; Isle of Pines Green Woodpecker (*Xiphidiopicus percussus insulae-pinorum*), 4; Isle of Pines Red-bellied Woodpecker (*Centurus superciliaris murceus*), 2; Ricord's Emerald Hummingbird (*Riccordia ricordii ricordii*), 2; Cuban Kingbird (*Tyrannus cubensis*), 6; Cuban Crested Flycatcher (*Myiarchus sagratus*), 1; Cuban Pewee (*Contopus caribaeus*), 6; Cuban Meadowlark (*Sturnella hipponoe*), 6; Cuban Oriole (*Icterus hypomelas*), 30; Cuban Grackle (*Holoquiscalus gundlachi*), 150; Melodious Grassquit (*Tiaris canora*), 4; Yellow-faced Grassquit (*Tiaris olivacea olivacea*), 50; Isle of Pines Tanager (*Spindalis pretrei pinus*), 12; Gundlach's Vireo (*Vireo gundlachii*), 1; White-eyed Vireo (*Vireo griseus griseus*), 1; Black and White Warbler (*Mniotilla varia*), 1; Parula Warbler (*Compsophylis americana*), 6; Palm Warbler (*Dendroica palmarum palmarum*), 20; Prairie Warbler (*Dendroica discolor*), 1; Water-Thrush (*Seiurus noveboracensis*), 4; Louisiana Water-Thrush (*Seiurus motacilla*), 2; Fernandina's Warbler (*Teretistris fernandinae*), 25; American Redstart (*Setophaga ruticilla*), 4; Red-legged Thrush (*Mimocichla rubripes rubripes*), 5. Total, 37 species, 515 individuals.—A. C. READ.



Book News and Reviews

A HISTORY OF THE GAME BIRDS, WILD-FOWL AND SHORE BIRDS OF MASSACHUSETTS AND ADJACENT STATES. Including those used for food, which have disappeared since the settlement of the country, and those which are now hunted for food or sport, with observations on their former abundance and recent decrease in numbers; also the means of conserving those still in existence. By EDWARD HOWE FORBUSH, State Ornithologist of Massachusetts. Illustrated with drawings by W. T. Beecroft and the author, and photographs by Herbert K. Job and others. Issued by the Massachusetts State Board of Agriculture, 1912, 8vo, xvi + 622 pages; 37 half-tones, 108 line cuts.

This book, the contents of which is indicated by its title, is worthy to be placed with its author's preceding work on 'Useful Birds and their Protection.' The two volumes combined present a review of the Massachusetts avifauna in a manner eminently creditable alike to Mr. Forbush and to the state of which he is ornithologist.

After an historical introduction (pp. 1-35) containing a graphic pen picture of the former abundance of game birds in America, we have (Part I, pp. 39-396) more or less extended biographies, accompanied by descriptions of plumage and line-cuts, of nearly every species, of the Grebes, Loons, Ducks, Geese, Swans, Rail, Gallinules, Shore-birds, Bob-white, Grouse, and Dove.

Part II (pp. 399-494) presents a "history of the game birds, and other birds hunted for food or sport, which have been driven out of Massachusetts and adjacent states, or exterminated, since the settlement of the country." The data given here are of much historical and biological importance. The species treated are the Great Auk, Labrador Duck, Eskimo Curlew, Passenger Pigeon, Trumpeter Swan, Whooping and Sandhill Cranes, and Wild Turkey.

The one-time abundance of these birds, their gradual decrease in number, and the

causes which have led to their disappearance, are here stated at length, no less than thirty-nine pages being devoted to the Pigeon alone.

A recountal of the conditions which have led to the loss of these birds naturally leads to the practical discussion of the Conservation of Game Birds found in Part III (pp. 479-595). Here is given just the kind of information in regard to the causes of decrease and methods of attraction and protection of game birds which a state desirous of preserving its assets in game-bird life should bring to the attention of its citizens. Mr. Forbush's work therefore appeals to the ornithologist, the sportsman, and the conservationist, each of whom may turn to it for authoritative information.—F. M. C.

A HAND-LIST OF BRITISH BIRDS, WITH AN ACCOUNT OF THE DISTRIBUTION OF EACH SPECIES IN THE BRITISH ISLES AND ABROAD. By ERNEST HARTERT, F. C. JOURDAIN, N. F. TICEHURST, and H. F. WITHERBY. Witherby & Co., 326 High Holborn, London, W. C., 1912.

The fact that this volume is produced by individual effort, rather than by the British Ornithologists' Union, and the plea of its authors for a strict observance of the rules of the International Commission on Zoological Nomenclature, rather than an indiscriminate yielding to one's own "convenience, likes, and dislikes," gives the American reader cause to rejoice in the existence of the standard nomenclature which the American Ornithologists' Union supplies in its 'Check-List.' Aside from its greater authoritativeness, however, the American book contains less information concerning the species treated than the British one. The latter lists only 469 species and subspecies, or less than one-half the number contained in the American Ornithologists' Union 'Check-List,' and consequently more space can be devoted to each bird. References are given to the original description (with

type locality), to Yarrell, and Saunders, or subsequent authors, a detailed paragraph on distribution in England with data of the occurrence of the rarer species, a shorter paragraph on distribution abroad, and, in the case of migratory species, a statement of routes and times of migration.

An analytical synopsis of the species in the list according to the season or manner of their occurrence is unfortunately wanting; but it is evident that an exceptionally large number (possibly, one-third) of the 469 species recorded are of wholly accidental or extremely infrequent occurrence.

Among this number are the Yellow-billed and Black-billed Cuckoos, though most British records of the smaller North American land-birds are here considered, no doubt wisely, to have been based on escaped cage-birds. The Red-winged Blackbird has been taken more than once, but the individuals captured are believed to have escaped from captivity, "the species not being migratory;" a statement which will surprise those who eagerly await the arrival of the migratory host of Red-wings in early March!

The 'Hand-List' will, without doubt, at once take its place as the standard work of reference, and it may be particularly commended to American bird students who are so fortunate as to have in prospect a visit to Great Britain.—F. M. C.

ELEMENTARY BIOLOGY, ANIMAL AND HUMAN. By JAMES EDWARD PEABODY, A. M., and ARTHUR ELLSWORTH HUNT, Ph. B. The Macmillan Co., New York, 1912, 16mo., xiv-194-212 pages, many ills. Price, \$1.

It is astonishing what an amount of definite and directive information the authors of nature-study manuals manage to compress within volumes which are sold at prices placing them within reach of everyone. The present volume, for example, has not only a general review of the animal kingdom, but devotes some 200 pages to human biology.

Comparatively little space can, of course, be devoted to any one group of animals; but at least we are given the essential facts of its structure and economy,

and are told where the subject may be pursued further. Thus of Birds (Chap. II, pp. 62-100) we have suggestions for methods of study, sections on the skeleton, the feather, the egg and its development, nesting, classification; with examples of well-known types, migration, importance of birds to man, destruction, and conservation, with references. Surely, an, excellent introduction to a study of bird-life.—F. M. C.

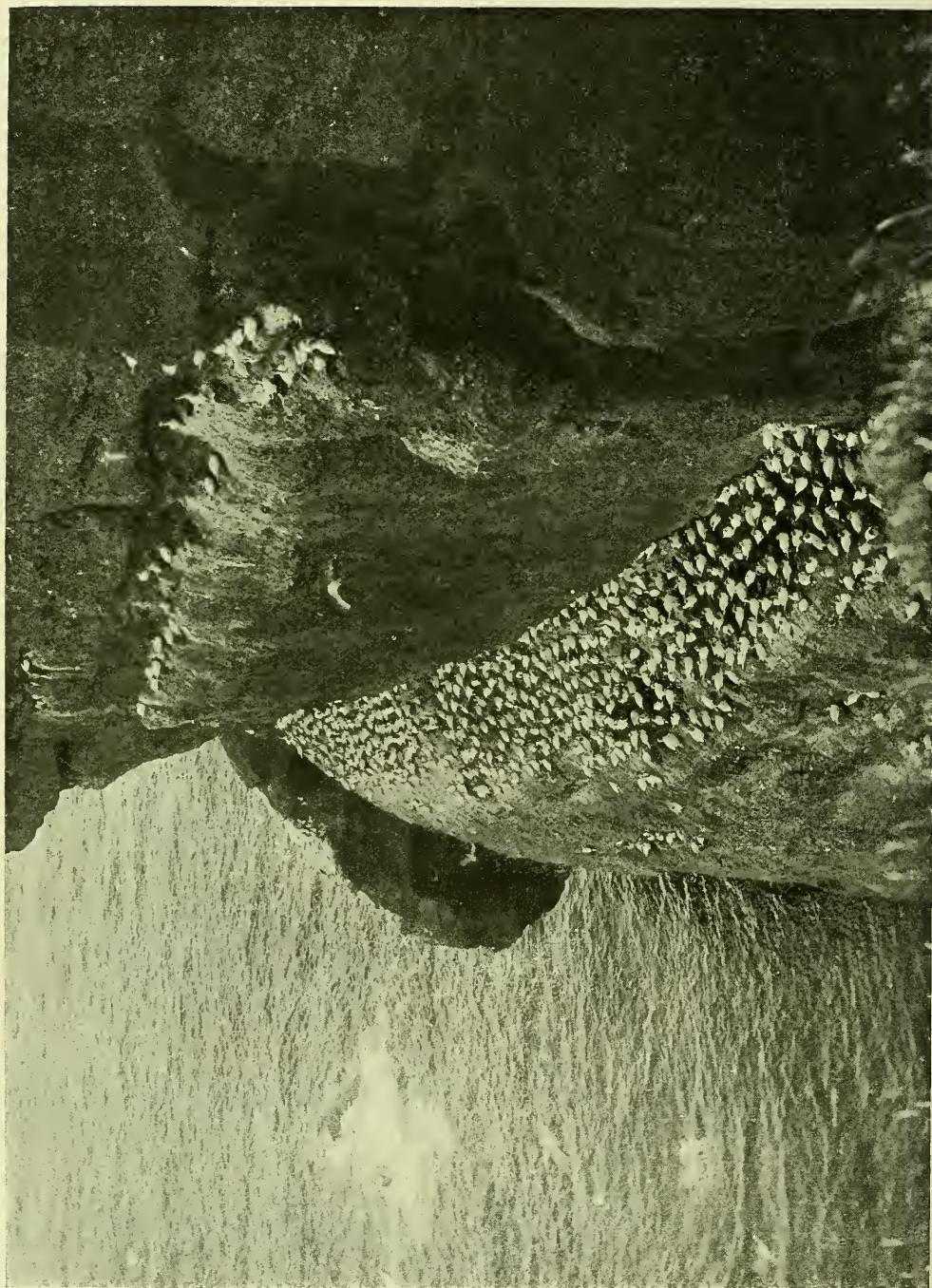
Book News

THE Massachusetts Audubon Society, in conformance with its now long-established custom, issues an attractive 'Audubon Calendar.' The six $10\frac{1}{4}$ x 8-inch colored plates contain life-size figures of the following species: Phoebe, Tree Swallow, Crested Flycatcher, Orchard Oriole, Golden-winged Warbler, and Chipping Sparrow. The accompanying text is from Hoffmann's admirable 'Guide to the Birds of New England and Eastern New York.'

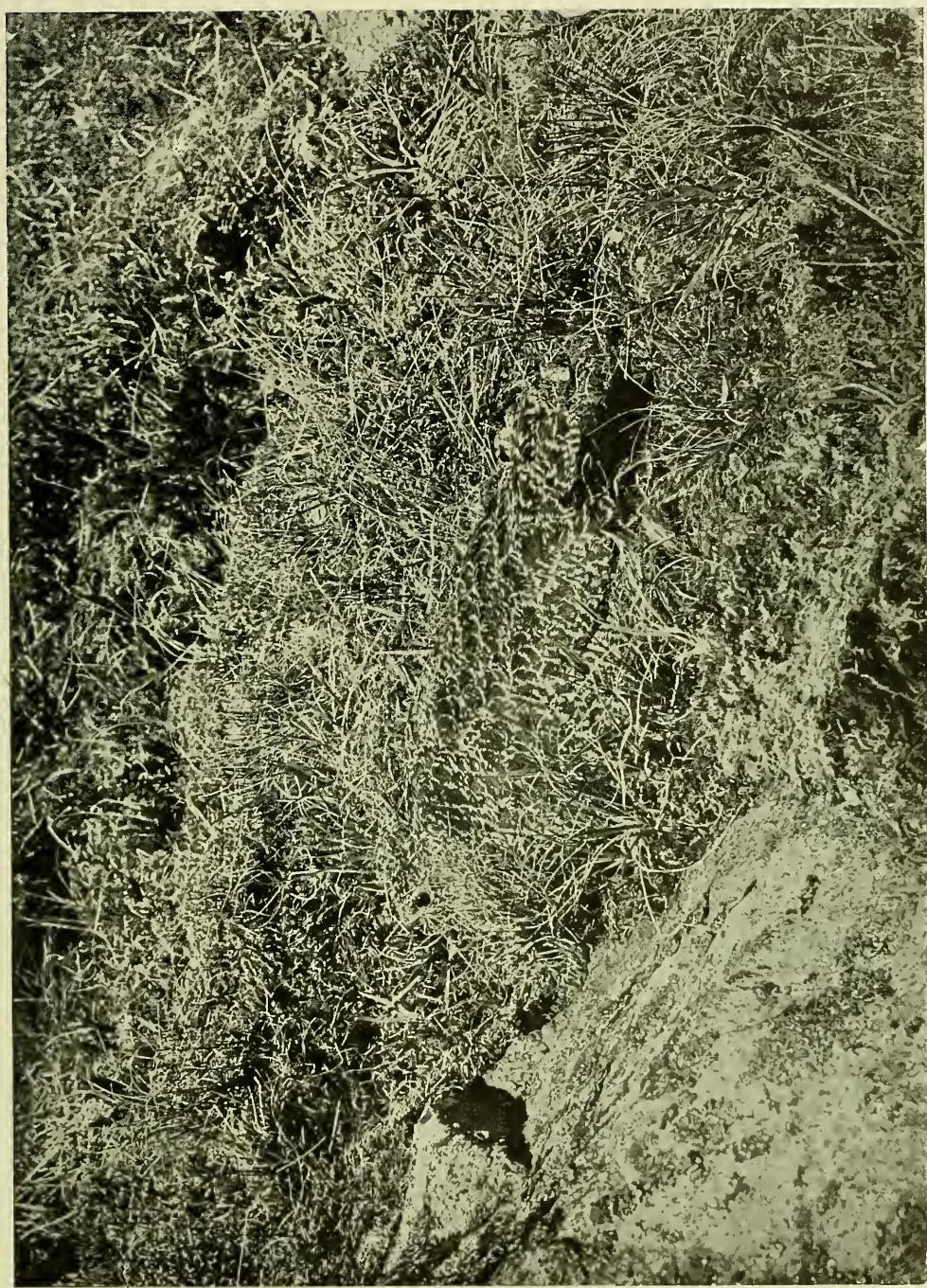
THE Annual Report of Edward Howe Forbush, State Ornithologist of Massachusetts (Fifty-ninth Annual Report of the State Board of Agriculture), as usual evidences the activity of this official in more widely diffusing a knowledge of the value of birds to the commonwealth and in arousing an increased interest in their protection.

'A Bird Almanac,' by Millicent Hinkley and Nettie M. Sadler, published by the Fine Arts Circle of the Fourth Presbyterian Church of Syracuse, N. Y., presents, in attractive form, varied and seasonable information in regard to events in the bird world for each month in the year. It is illustrated with photographs and pen-and-ink drawings.

'The Birds' Convention,' by Harriet W. Myers, issued by the Out West Magazine of Los Angeles, Cal., describes the adventures of the birds' lives as related by them in a convention they are supposed to have held. Thirty-six illustrations from nature form an attractive feature of the book.



GANNETS ON BONAVENTURE ISLAND. ILLUSTRATING A CONSPICUOUSLY COLORED SPECIES (See p. 50)
Photographed from nature by Frank M. Chapman. (From *Bird-Lore*, Vol. I, 1899.)



A SITTING PTARMIGAN, ILLUSTRATING AN INCONSPICUOUSLY COLORED SPECIES (See p. 50)
Photographed from nature by Evan Lewis. From Bird-Lore, Vol. III, 1906

Bird - Lore

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Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

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Bird-Lore's Motto:

A Bird in the Bush Is Worth Two in the Hand

THE cause of popular bird study has suffered a great loss in the death of Chester A. Reed, which occurred at Worcester, Massachusetts, on December 16, 1912. Although only thirty-six years old, Mr. Reed had already made important and unique contributions to the wider diffusion of a knowledge of birds through the volumes which he had illustrated. He was possessed of exceptional ability as a depicter of bird-life, was a tireless worker, and was making steady progress in his art, with every prospect of a productive future, when he fell a victim to pneumonia.

A writer in 'The Auk' for October, 1912, queries the value of bird photographs as scientific representations of the scenes in bird-life they record. "I take it," he writes, "that the birds in most photographs do not appear at all as they would under average conditions in their natural surroundings." And he would even have us believe that "the end and aim" of the bird photographer is to make the birds they photograph as conspicuous as possible.

Beyond question, the bird photographer does, on occasion, take undue liberties with his subject; but also, unquestionably, he has presented us with a vast amount of data of the highest scientific importance, and in most instances it requires comparatively little experience to decide whether the photographer's desire to secure a

picture has marred the scientific value of his work. In other words, it is usually possible to tell whether or not the photographer has chosen some view-point or changed the nature of a bird's surroundings in order to make it appear, from a mere pictorial standpoint, more attractive, or whether he has made a faithful record of things as they are.

A photograph of fledglings placed in a row on a twig before a white background presents them under such obviously artificial conditions that no one would think of citing such a photograph as a true record of the bird's appearance under natural conditions; but photographs of birds on their nests, whether made at a distance or nearby, usually represent them under conditions which make such photographs truly scientific records. Sometimes, it is true, the photographer makes the figure of the bird so large that but little room is left for its surroundings. Here again, however, the shortcomings of the picture are obvious and hence not misleading.

The pages of BIRD-LORE possess many photographs of birds which we believe truthfully represent them as they appear in nature; and for purposes of comparison in the present connection we reproduce two of them, one illustrating conspicuousness, the other inconspicuousness. The first shows approximately 400 Gannets nesting on a broad ledge of the red sand-stone cliffs of Bonaventure Island, about 200 feet below the photographer, and we believe it to be as faithful a rendering of the scene, as we saw it, as can be portrayed in black and white. The second, made at a distance of a few feet, represents a nesting Ptarmigan, a totally different type of bird and background, but in an equally truthful manner; and we maintain that such photographs reproduce nature with all the exactness which science requires.

ON January 8, the Editor, accompanied by Louis Agassiz Fuertes and four assistants, sailed from New York for Colombia, to be gone for several months.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the editor, at 53 Arlington Avenue, Providence, R. I.

METHODS OF WORK

The first reply to some of the inquiries made in the last issue may be found in the November number of *The Nature-Study Review*, where the following "News Note" appears: "The cities of Los Angeles and Pasadena have taken a most progressive step in the appointment of special supervisors of nature-study, school-gardening and agriculture in the elementary schools. Los Angeles has secured the services of Mr. C. F. Palmer, formerly head of the Department of Agriculture in Gardena Agricultural High School. He will act as chief supervisor. Under him there will be a half dozen special supervisors, some of whom have already been appointed. Pasadena has already appointed Miss Charlotte Hoak special supervisor in this work, and may possibly appoint another special supervisor during the year."

In Washington, D. C., the class of 1912 in Normal School No. 1, after a successful and inspiring course in real outdoor nature-study work, conceived the happy idea of leasing a plot of wild land within accessible distance to the school, although well out in the country, and erecting a small bungalow thereon for the use of nature-study classes from the school, the entire proprietorship of which is to be passed over to the school after a term of years.

Miss Mary Wheeler, the principal of one of the best known private schools for girls in the East, has recently purchased a farm of seventy-eight acres, including a comfortable house and barns in the country some five miles east of the regular school-buildings in Providence, and on this farm opportunity will be given for horticulture, agriculture, landscape-gardening, domestic science and nature-study, besides sports and outdoor recreations. "The addition of the farm to the equipment of Miss Wheeler's School has two distinct advantages: It is an answer to an increasing demand, as yet little met, for a private school in which girls can specialize in agricultural work, both theoretical and practical; and it combines the desirable features of a city and a country school."

The Hartford Bird Study Club of Connecticut has combined in its program for the coming year some of the most attractive and helpful methods of studying birds; and, moreover, it has done this in such a way that all sorts of people ought to be reached. Descriptive talks on the structure and identification of birds, stereopticon lectures dealing with particular and practical subjects, which should interest not only bird-students and teachers, but also the public

at large, field expeditions of various kinds, discussions of the legal and economic status of birds, demonstrations of winter feeding stations, visits to private ornithological collections of rare value, talks on bird-literature with an occasional social meeting interspersed, make up, in brief, the extremely well-planned schedule of this club. Two to four competent guides, or leaders, are appointed for each field trip, while the indoor meetings are carefully arranged and placed in charge of special speakers or committees. Emphasis is laid upon the benefits derived from keeping note-books, and suggestions are made as to how best to do this.

The casual reader, upon glancing through such a program, cannot fail to be impressed, first, with the variety, and second, with the excellent correlation of the matter presented. Here is a year's schedule of work containing something to everyone's taste, with the date of each lecture, meeting, field trip, or social occasion, set down in order.

In connection with the lectures offered, one point is especially valuable for Audubon societies to consider, and this is the payment of an admission fee. The Hartford Bird Study Club gives a course of five stereopticon lectures during the year, for which a season ticket is issued at the nominal price of one dollar.

It is a question which has been much discussed, whether illustrated lectures given primarily for the benefit of the public should be free. For a long time it has been the policy of the Audubon Society to offer as much as it could possibly afford to, both in the way of lectures and literature, without charge; but the opinion seems to be gaining ground that the public appreciates and patronizes what it pays for more than what is given to it gratis at least in the matter of lectures. If this is the case, it is time to profit by the suggestion, not only from the standpoint of finances, but also from that of keeping the standard of lectures high, and the reputation of all of our enterprises distinctive and attractive.

Finally, the welfare of this neighboring Bird Club is placed in the hands of various committees, which represent a variety of interests, as the following titles indicate, namely, an Executive, a Program, a Field, a Protection, a Publicity, and an Educational Committee.

It is undoubtedly true that many Bird Clubs and Audubon Societies with a membership as large, if not exceeding that of the Hartford Club, are not actively at work, simply from lack of practical methods. In bird-study, as in everything else, system is one of the chief factors insuring success.

The methods just described represent very different conditions and environments, but whether in the elementary schools of cities, normal schools, private boarding-schools, or clubs, the study of birds and nature is being more and more widely recognized and systematized. It would be helpful to all who are interested in this subject to advise the School Department of the progress of this invaluable study throughout our own and other countries.—A. H. W.

FOR TEACHERS AND PUPILS

Exercise VII: Birds' Map of America, Concluded

Correlated Studies: Geography, Spelling and Elementary Agriculture

In reviewing briefly the two preceding exercises, let us take the Snowflake, or Snow Bunting, as our guide, and try to picture some of its extensive journeys over a vast part of the northern hemisphere quite unknown to us.

Striking in appearance, first, because it is the only member of the Sparrow family [Fringillidae] with a conspicuous amount of white in its plumage, and, second, because the males and females and young differ not only in color and markings, but also with the changing seasons, as the frontispiece shows, the "White Snowbird" is known in the Alleghanian fauna only as a winter visitor, in the Canadian and most of the Hudsonian faunas as a migrant and winter resident, and in the Alaskan-Arctic and Barren Ground faunas as a summer resident.

The Snowflake is found in the northern part of both hemispheres, a fact worthy of note, which may be expressed in one long but descriptive phrase, *circumpolar in distribution*. A harbinger of cold and stormy weather in temperate latitudes, this little Bunting finds its summer home and nesting-site as far north as human beings have ever made their way. Take 83° north latitude and trace its course around the Pole, if you would discover the extreme limits of the summer haunts of this hardy bird. In northern Greenland, frigid Spitzbergen probably, and, indeed, throughout most of the land areas south to the Arctic Circle, its mossy nest may be found. The most southerly breeding-place of the Snowflake known in 1874 was on Southampton Island, where Captain Lyons chanced to see a nest on the grave of an Esquimaux child. By reading the log-books of polar explorers, you may obtain more recent records of the occurrence of this feathered traveler. In North America, the genus of Snow Buntings is represented by two subspecies and one species. The Snow Bunting which visits the United States is the most widely distributed of these, for the Pribilof Snow Bunting is restricted to the Siberian Coast of Bering Sea and the Aleutian, Shumagin, Pribilof and Commander Islands, while McKay's Snow Bunting is a summer resident on Hall and St. Matthew Islands, migrating in winter only as far as the mainland of western Alaska.

The Snow Bunting but rarely visits latitudes south of the Alleghanian fauna, and then only in seasons of severe cold and storms. It has been known to stray as far south as Florida and the Bermudas; but such wanderings from its normal range are accidental, for these places are in the warm temperate part of North America, and are seldom, if ever, frequented by species of the far north.

Leaving now the Arctic and cold temperate belts, and also the north warm temperate or so-called Transition (Alleghanian) belt, we come to the highly diversified faunas of the middle and south warm temperate parts of our continent. The line which we have already noticed divides the humid East from

the arid West throughout most of the United States near the 100th meridian, becomes more noticeable the farther south we go. We shall not expect, therefore, to find one transcontinental faunal belt sweeping from ocean to ocean, as in the northern faunas, but must now distinguish between the eastern and western parts of each faunal division. Directly south of the Transition zone the middle warm temperate belt is divided into the Carolinian fauna to the east and the Upper Sonoran to the west. Similarly, the south warm temperate belt is divided into the Louisianian fauna to the east and the Lower Sonoran to the west.

According to Dr. Merriam, the Carolinian fauna extends over the Middle States (excepting mountain areas which belong to the Transition and Boreal faunas), southeastern South Dakota, eastern Nebraska, Kansas, part of Oklahoma, nearly all of Iowa, Missouri, Illinois, Indiana, Ohio, Maryland and Delaware, a large part of West Virginia, Kentucky, Tennessee, and New Jersey, besides parts of Alabama, Georgia, North and South Carolina, Virginia, Pennsylvania, New York, Michigan, and southern Ontario. A peculiar extension of this fauna is found in a narrow arm running up the valley of the Hudson and out upon Long Island and southern Connecticut. Dovetailed into the Alleghanian fauna at so many points and so irregularly toward the north, and into the Louisianian fauna toward the south, the Carolinian area is of great interest.

West of the Mississippi River, we find the more arid Upper Sonoran fauna spreading out over a country of entirely different aspect. In eastern Montana and Wyoming, southwestern South Dakota, western Nebraska, Kansas, Oklahoma and Texas, and eastern Colorado and New Mexico, it covers great plains; while in Washington and Oregon it follows the broad valleys of the Columbia, Malheur and Harney Rivers. In California, too, we may find it along the San Joaquin and Sacramento valleys, as well as over the Snake Plains of Idaho, the Sevier and Salt Lake deserts of Utah, while traces of it are found at points in Nevada and Arizona.

The entire middle temperate belt comprising the Carolinian and Upper Sonoran areas is very rich in forms of vegetable and animal life. It is notable for the long and varied list of crops and fruits which may be successfully grown within its limits, for here warm temperate conditions are at their best, being neither too hot nor too cold.

The Ruffed Grouse, which has numerous relatives to the North and West, ranges from the Transition zone well down to the south warm temperate in the wooded districts of the eastern United States. Unlike the Snow Bunting, it is a permanent resident wherever it occurs. The Upper Sonoran area has no Ruffed Grouse except along its extreme northern border, so that we may call this species representative of eastern faunal areas in warm temperate latitudes.

The south warm temperate belt which, as we have noted, is divided into an eastern humid and western arid part, intersected by the great continental

divide and Mexican plateau region in New Mexico, and the north and eastern parts of Arizona, show an almost equally great diversity as the middle warm temperate zone. Along the southeastern Atlantic coast and Gulf States, the fertile stretches of the Louisianian fauna offer rich opportunities to the rice and cotton planters and the fruit-grower, while humid conditions extend well to the middle of Texas, giving way to arid lands in western Texas and to Carolinian, Alleghanian, and even Boreal faunal areas, crossing the plateau district and mountains, until in southwestern Arizona the great desert area of the United States is reached. It is a wonderful zone to travel through, from the rice-fields and cotton belt of the East, the extensive grazing lands of Texas, and the high altitudes of the divide, to the parched desert, and the orchards of olives, dates, figs, and lemons of the more fertile sections of the Lower Sonoran area.

South of this entire belt, occur little strips and patches of tropical fauna, first, in the Antilles and the southern tip of Florida, where the humidity makes a true tropical environment; second, along the extreme southeastern coast line of Texas; and, third, in the southern part of Lower California and the eastern coast-line of the Gulf of California; and, also, in a narrow arm extending up the valley of the lower Colorado River. These three areas are represented respectively, first, by the tropical Floridian fauna; second, by the semi-tropical Tamaulipan fauna, and, third by the St. Lucas fauna, which is also semitropical for the most part.

Coming to Mexico, we find that only its eastern and western coast-lines are in the tropical belt as far south as latitude 18°, below which, and including the boot of land known as Yucatan and all of Central America, tropical conditions prevail. Over the extensive Mexican plateau district, we find not only the Lower and Upper Sonoran faunas but also the Alleghanian and Boreal, which is due to the high altitude of this section.

And now let us see what characteristic forms of life are found in this wonderful land of plenty and paucity, and compare them with the more northern forms noted in the preceding exercise.

TABLE OF MIDDLE AND SOUTHERN WARM TEMPERATE FAUNAL AREAS

CROPS AND FRUITS (Figures denote number of kinds)	MIDDLE		SOUTHERN	
	Carolinian	Upper Sonoran	Louisianian	Lower Sonoran
Sassafras	Sagebrush	Long-leaf Pine	Creosote Bush	
Tulip tree	Greasewoods	Loblolly Pine	Mesquites	
Hackberry	Piñon	Magnolia	Acacias	
Sycamore	Juniper	Live Oak	Cactuses	
Sweet gum	Burrowing Owl	Bald Cypress	Yuccas	
Rose Magnolia	Brewer's Sparrow	Tupelo	Agaves	
Redbud	Nevada Sage Spar- row	Cane	Mockingbird	
Persimmon	Lazuli Finch	Mockingbird	Road Runner	
Short-leaf Pine	Sage Thrasher	Painted Bunting	Cactus Wren	
Opossum	Nuttall's Poor-will	Prothonotary Warb- ler	Canñon Wren	
Gray Fox	Bullock's Oriole	Red-cockaded Woodpecker	Desert Thrasher	
Fox Squirrel	Rough-winged Swallow	Chuck-will's-Widow	Hooded Oriole	

TABLE OF MIDDLE AND SOUTHERN WARM TEMPERATE FAUNAL AREAS, Continued

CROPS AND FRUITS (Figures denote number of kinds)	MIDDLE		SOUTHERN	
	Carolinian	Upper Sonoran	Louisianian	Lower Sonoran
Cardinal Grosbeak	Five-toed Kangaroo Rat		Swallow-tailed Kite	Black-throated Desert Sparrow
Carolina Wren	Pocket Mice		Mississippi Kite	Texas Nighthawk
Tufted Titmouse	Grasshopper Mice		Southern Fox Squirrel	Gambel's Quail
Blue-gray Gnatcatcher	Sage Chipmunk		Cotton Rat	Four-toed Kangaroo Rat
Summer Tanager	Sage Cottontail		Rice-field Rat	Sonoran Pocket Mice
Yellow-breasted Chat	Idaho Rabbit		Wood Rat	Long-eared Desert Fox
Chestnut Hickory-nut	Ground Squirrels (3)		Free-tailed Bat	Big-eared Bat
Hazelnut	Black-tailed Jack Rabbit		Dewberry	White-haired Bat
Walnut	Kaffir Corn		Turpentine	Cork Oak
Wheat.....	Alfalfa		Rice	Alfalfa
Oats.....		8	3	2
Corn.....		4	2	1
Barley.....	Barley	5	7	1
Rye.....	Rye			
Buckwheat.....	Buckwheat			
Apples.....	123	67	54	5
Crabapples.....	4			
Apricots.....	10	18	9	13
Cherries.....	26	22	9	1
Cranberries.....	(in cold bogs)			
Grapes.....	31	29	24	18
Peaches.....	35	37	26	15
Nectarines.....	3	2		6
Pears.....	39	26	10	19
Plums and Prunes.....	54	22	21	11
Quince.....	5	3	Chinese Quince	
Raspberries.....	Raspberries			
Strawberries.....	18	10	9	5
Peanuts.....	Peanuts	(in certain places)	Peanuts	Peanuts
Cowpeas.....	Cowpeas	Cowpeas	Cowpeas	Cowpeas
Flax.....	Flax			Flax
Hemp.....	Hemp			Hemp
Lima Beans.....	Lima Beans		Lima Beans	
Sorghum.....	Sorghum		Sorghum	Sorghum
Sugar Beet.....	Sugar Beet			
Sweet Potatoes.....	Sweet Potatoes		Sweet Potatoes	Sweet Potatoes
Tobacco.....	Tobacco		Tobacco	Tobacco
White Potatoes.....	White Potatoes			

In addition to the foregoing list, let us note that in the Upper Sonoran area, filberts, hazelnuts, European walnuts, and chestnuts thrive; in the Louisianian, tea, China-grass, jute, and above all, cotton, besides sugar-cane, castor-oil bean, pecans, almonds, pomelos, pomegranates, oranges, figs, mulberries, mandarins, loquats, lemons, kumquats, and Japanese persimmons, which are also found in the Lower Sonoran area, and finally as products mostly restricted to the Lower Sonoran, ramie, pyrethrum, opium poppy, mustard, canaigre, avocado, carob, cherimoyer, jujube, granadilla, limes, pistachio nuts, tamarinds, pineapples, olives, dates, and guavas.

Looking over this remarkable list, we can understand how so many people are interested in the agricultural resources of the lower temperate zone; for even the desert may yet be made to yield fruits and crops of great value. The list of fruits, vegetables, and plants which thrive in the Floridian area is very long, and contains many names entirely strange to those who live in the temperate zones. Some characteristic forms of life in this humid tropical area are the

royal palm, Jamaica dogwood, manchineel, mahogany, mangrove, Caracara Eagle, White-crowned Pigeon, Zenaida Dove, Quail Dove, Bahama Vireo (1), Bahama Honey-creeper, camphor, coffee, banana, pineapple, eggfruit, cashew nut, lemon, citron, lime, oranges, ramie and tobacco.

With irrigation, the arid, semitropical, St. Lucas area is developing large possibilities, but as yet the list of its products, as well as those of the Tamaulipan area in southeastern Texas, is quite incomplete.

The giant cactus, desert acacia, palo verdes and fan-leaf palm are characteristic of the former, while in the latter, the jaguar, ocelot, armadillo, some tropical cats, and many tropical birds are found.

SUGGESTIONS

Learn to spell every new name in this exercise, and look up its meaning, location and history. Make a list of the crops and fruits which thrive in your locality.

If you live in a large city, try to see as many different kinds of vegetables, nuts and fruits as possible.

FROM YOUNG OBSERVERS

In the year of 1912, when I was in the seventh grade, I became very much interested in the study of birds. My father also was interested in the subject, and so he and I made a bird-house. We thought that the birds would like to have it located in some high place, and so we put it up on one of the high peaks of our barn.

One afternoon I saw a little robin carrying an angle-worm in its mouth. It walked along the sidewalk near my home for about twenty minutes, enjoying the prospect of its lunch, I suppose. But, while doing this another Robin came up, and he evidently liked what the other one had, and, taking the liberty, he helped himself to part of it. Well, of course they would quarrel about it, and things were very exciting for a time; but, as the other one found another large worm on the sidewalk, they flew away quite contented, and I have never seen them, that I know of, from that day to this.

When I was a little girl I was not very strong, and was sick in bed a great deal of the time. There was a tree across the road from my home which had a Robin's nest in it. This little nest was occupied for three summers by a family of Robins, whom I could watch from my bed. They were quite tame for Robins with me, as I fed and watered them for a long time; but one rather cold autumnal day I saw them flying south, and, as I watched them, I wondered if they were ever coming back again, for at that time many birds were migrating south. When the fourth summer came, I watched for a long time to see if my friends were not coming back, but they did not. They had evidently located in some other place to have their home, and, strange to say, no other family has ever been there since my little friends left me.—MARIAN ENID SCHMIDT (aged 13), 7th Grade, *Chelsea, Mich.*

One day, two or three years ago, I happened to be upstairs in my grandmother's house, and saw on the window-sash outside a Robin's nest with five tiny light blue eggs in it. I watched every day, taking great care not to let the birds see me. The female took care of the nest in the hot sun.

Finally, one day about two weeks later, I happened to be looking at the nest and saw five baby Robins. They were stretching their little necks and had their mouths wide open, for they were very hungry. The mother bird was getting food for them; I watched longer, and soon she came back with some worms for her babies. The babies were very thin and did not have any feathers. I watched every day and they grew and grew, the feathers began to come out and the birds got larger and larger, and the mother bird did not stay with them all day, but she kept good watch over them, and fed them good things. My grandmother put things outdoors from the table, and the mother bird came and got them for her babies, for a week or two. Then they got large enough to leave the nest, and one day one by one they flew away, following the mother bird. They flew till I could see them no more, and the nest was left vacant for ever. Finally, one stormy, snowy night the next winter, the wind blew the nest down and it lay scattered on the ground.—GERTRUDE MAPES (aged 12), 7th grade, *Chelsea, Mich.*

One day I was playing in some bushes and I saw a brown Thrasher or a brown Thrush. It was quite a large bird and its color was brown, with two bars on the wings and white specks on the breast. They build the nest of straw, sticks, etc., and they build them on the ground under bushes.

After the nest had little birds in it, the old Thrushes began to get food of worms and insects. The little birds stayed in the nest for quite a long time, and one day I looked in the nest and the little ones were gone. This year they have not come back to build their nest there because the bushes are cut down.—GLADYS SPIEGELBERG (aged 12), 7th grade, *Chelsea, Mich.*

[These three letters, selected from the 7th grade, which will be followed in another issue by other letters from the same school, suggest first, the pleasure which young people take in watching birds; second, the quickness with which they develop the power of observation; and, third, the value of describing actual experiences in place of doing routine exercises in the school-room.

The little girl who saw the Brown Thrasher, and pictured the bird as brown all over with two white bars on the wings and white specks on the breast, will learn later on to see the white breast streaked with brown, a distinction of small importance as compared with the observation that the bird and its mate did not return to their accustomed nesting-place the following year because the bushes had been cut down.

The young observer who followed the history of the Robin's nest from the time she happened to find it until it was blown down in a winter storm made a discovery quite worth while concerning the durability and destruction of one kind of nests, besides learning at first hand several interesting facts about young birds in the nest, especially with reference to their growth; while the child who studied birds with her father and attracted them to her sick-room will hardly forget her feathered friends and her many happy experiences with them, as she grows older.

The letters from this school contain an unusual number of personal observations, and offer an excellent example of the interest which boys and girls naturally take in the outdoor life around them. Other teachers will do well to encourage their pupils to write about what they actually hear and see in nature.—A. H. W.]

HUDSONIAN CURLEW

Family—SCOLOPACIDÆ

Species—*Hudsonicus*

National Association of Audubon Societies



THE HUDSONIAN CURLEW

By A. C. BENT

The National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 62

A striking case of the survival of the fittest is seen when we compare the relative abundance of the three common species of North American Curlews today with their status fifty years ago. Whereas, at that time, the Hudsonian Curlew was the rarest of the three, it is now by far the commonest. The vast flocks of Eskimo Curlew, that formerly frequented the Labrador coast every summer or visited the New England coast at frequent intervals, have all disappeared. They were tame and unsuspecting, were easily decoyed, and were therefore slaughtered in enormous numbers on their feeding-grounds; they made a long migratory flight over the ocean from Nova Scotia to South America, where many undoubtedly perished in stormy weather.

The Long-billed Curlew, once so common all over the interior prairie regions, and even on the Atlantic coast, has gradually been driven westward

Its Success and northward, until it is now occupying a comparatively in Life restricted range. It is such a large and conspicuous species that it has been much sought after by gunners, and, as it is not particularly shy, it has succumbed to persecution; moreover the cultivation and settlement of the prairies have driven it from, or destroyed its favorite breeding-grounds. The Long-billed will probably be the next of the Curlews to disappear, perhaps within the near future. But the Hudsonian Curlew, on the other hand, has held its own, and in some sections it has apparently increased. This increase, however, is probably more apparent than real, and results from comparison with other species which are decreasing rapidly.

The reasons for the Hudsonian Curlew's success in the struggle for existence are not hard to find. Its breeding-grounds are in the far north, where it is never disturbed; it has no dangerous migration route; it does not, ordinarily, migrate in very large flocks, which are susceptible to vicissitudes of weather and great slaughter at the hands of gunners; but, above all, it is a shy, wary, wily bird, quite capable of taking care of itself and well-fitted to survive. Like the Crow, it is more than a match for its enemies. There is no bird that has been more universally persecuted than the Crow, every man's hand is against it, yet it is practically as abundant as ever.

The Hudsonian Curlew, 'Jack Curlew,' 'Short-billed Curlew,' or 'Jack,' as it is called, has often been mistaken by gunners for either of the other two species, and some confusion seems to have existed, in regard to it, among the early writers on ornithology. Wilson does not seem to have recognized this species at all, or to have confused it with the Eskimo Curlew; and Nuttall's remarks are not altogether clear on the subject. There is so much variation

in the length of the bill, at various ages, that young birds with short bills are often mistaken for Eskimo Curlew, and old birds with extra long bills are often called Long-billed Curlew, or Sickle-bills.

There are certain characters, however, by which this species may be recognized at any age. The Long-billed Curlew is much larger, the crown of its head is uniformly streaked, without any median stripe, and its axillars have no distinct bars; whereas the Hudsonian has a dusky crown with a light median stripe, and its axillars are distinctly barred with dusky. The Eskimo Curlew may readily be distinguished by its uniform dusky primaries; whereas in the Hudsonian the primaries have distinct buff spots or partial bars on the inner webs. The Bristle-thighed Curlew bears a close superficial resemblance to the Hudsonian, but its primaries are like the Eskimo Curlew's, and its general coloration above, especially on the tail, is much more rufous; the 'bristles' are not much in evidence in young birds.

The Hudsonian Curlew is widely distributed over nearly all of North America and part of South America. Its breeding range has not been fully worked out, but it is known to breed on the Barren Grounds of Range northern Mackenzie, and on the coast of Alaska from the mouth of the Yukon to Kotzebue Sound. Its principal winter range is on the Pacific coast of South America from Ecuador to southern Chile, where it is very abundant; it also winters from Lower California to the coasts of Guatemala and southern Honduras; on the Atlantic coast its winter range extends from British Guiana to the mouth of the Amazon River. Between these two ranges it migrates over all the intervening regions, where it can find suitable country, but mainly along the Pacific and Atlantic coasts; it has occurred as a straggler only, in Greenland and Bermuda.

The spring migration on the Atlantic coast reaches Florida during the latter half of March, the Carolinas about the middle of April, and Massachusetts about the middle of May. The dates vary greatly in Migration different seasons, the northward movement being very gradual and the migration period often much prolonged. On the Pacific coast, the main flight appears in southern California about the middle of March, progresses slowly northward, reaches Alaska about the middle of May, and arrives on the breeding-grounds in northern Mackenzie by the end of May.

Like most of the northern-breeding shore birds, the Hudsonian Curlew moves off its breeding-grounds as soon as the young are able to shift for themselves, and begins its summer wanderings, or starts on its southward migration, early in July. There are two main lines of flight, down the east and west coasts of the continent, as well as a more scattering flight through the central valleys and plains.

The eastward flight is from the west coast of Hudson Bay, where many birds linger through August, to the coasts of New England and southward. A

few Hudsonian Curlew migrate as far east as Labrador; the species has never been common there, but since the disappearance of the Eskimo Curlew it seems to have increased. At Nantucket, Mass., Mr. Mackay gives the earliest date of arrival as July 13, and the average as July 20; Dr. Bishop reported it as arriving on the coast of North Carolina on July 22, 1904. On the New England coast the heavy flights often occur in September, and young birds often linger until well into October. The southward movement in the fall is very deliberate, and the last of the birds do not pass through the West Indies to South America until November. As with all the shore birds, the early flights are composed almost entirely of adult birds, and the flights of young birds follow, on an average, about a month later.

The Pacific coast flights occur on corresponding dates. The early flights of adults reach California about the middle of July; and on the coast of Peru they make their appearance early in August. Young birds are common about Nome, Alaska, until the first of September, when large numbers are brought into the markets, with a few Bristle-thighed Curlew; they do not entirely disappear from California until November.

Very little seems to be known about the nesting habits of the Hudsonian Curlew. Mr. MacFarlane found them breeding on the treeless Arctic tundra

Nest near the mouth of the Anderson River, where he took several sets of eggs late in June and early in July; the nests were merely depressions in the ground lined with a few withered leaves.

Mr. J. O. Stringer described a nest which he found on the lower Mackenzie River as a pile of grass, moss and weeds on an island in the river. Mr. Joseph Grinnell reported this species as breeding in the Kowak Valley, Alaska, between June 14 and 20, 1899. The eggs vary in color from a creamy drab to a brownish buff, and are more or less heavily spotted with various shades of brown. The downy young have apparently never been described, and nothing seems to be known about the early plumage changes. Young birds in the fall can be distinguished from adults by their shorter bills and by the conspicuous buff spots on the upper parts.

The Hudsonian Curlew is more of a littoral species than either of the others, and seems to prefer to frequent and feed on the seacoast. At low tide it

Habits resorts to the recently uncovered flats and beaches, where it can pick up marine insects, worms, and small crustaceans

Mr. George H. Mackay says of its feeding habits in Massachusetts: "The Hudsonian Curlew is a tide bird, frequenting the sand flats near the edge of the water, when they become uncovered, and resorting to marshes and uplands when driven from the former by the in-coming tide. They feed on fiddler crabs, grasshoppers, and the large gray sand spiders (*Lycosa*) which live in holes in the sand among the beach grass adjacent to headlands, huckleberries, which they pick from the bushes, and beetles (*Lachnostenus*, *Scarabaeidæ*), all of which are usually mixed with coarse gravel. When a flock of

these birds is on the ground where they have been feeding, they become scattered, twenty-five or thirty birds covering fifteen or twenty yards apiece. At such times they do not appear to be particularly active, moving about in a rather slow, stately manner, although I have once in a while seen them run." On their inland resorts they prefer to frequent the shores of lakes, ponds, and marshes, but are frequently seen on the upland pastures, feeding on grasshoppers, insects, or berries.

The flight of the Hudsonian Curlew is rather slow and steady, but strong and protracted. When migrating, they usually fly high in the air in small flocks, much after the manner of Ducks and Geese. During the spring migration on the coast of South Carolina, they congregate in immense flocks, sometimes numbering several thousand, where they feed about the shores of the islands off the coast, roosting on the outer sand-bars, and flying to and from their feeding grounds in dense flocks, often close to the water. On the New England coast, they seldom fly in large flocks and are often seen flying singly, circling high in the air, and responding readily to an imitation of their whistle.

It is useless to attempt to stalk the adult birds, and they will not come to the decoys unless the blind is well concealed in the beach grass or among bushes. Young birds, on the contrary, are quite unsuspecting and will decoy well. When coming to the decoys, they set their wings and scale for a long distance, in open formation and scanning the ground carefully. Their keen eyes will detect the slightest movement or the presence of any unusual object, which will cause them to wheel or spring into the air and fly away.

Their loud whistling notes are characteristic and easily imitated. Mr. Mackay has well described them as follows: "They make two notes, one a very clear, penetrating, staccato whistle, repeated four or five times in quick succession, and which is very far-reaching. It is given when flying, also when alarmed, and on taking flight. The other consists of two low, straight whistles, or notes, when a flock is alighting. Flocks also make a rolling note, lasting as long as it would take to count six or seven. The sound is similar to that produced by a boy's lead bird-whistle filled with water. It is uttered when the birds approach, and are over a marsh or feeding-ground, at an altitude of sixty or seventy yards. I have never heard of its being made by single birds." They also have a soft musical 'Curlew' note, more often heard in the spring.





RUFFED GROUSE

Order—GALLINÆ
Genus—BONASA

Family—TETRAONIDÆ
Species—UMBELLUS

National Association of Audubon Societies

RUFFED GROUSE

By GEORGE BIRD GRINNELL

The National Association of Audubon Societies

EDUCATIONAL LEAFLET No. 63

The Ruffed Grouse is found all over north temperate North America, in situations adapted to its habits. Except by sportsmen and real woods-lovers, it is seldom seen, for its life is spent chiefly in thick woods or in the depths of swamps, or along steep, forest-clad hillsides. In thickly settled districts, where much pursued, it is very wary, walking noiselessly away out of sight if it hears an approaching step, or crouching and lying concealed if the intruder comes suddenly upon it; or when it believes itself discovered, rising from amid a cloud of dry leaves with a roar of wings whose thunder often startles even the seasoned woods-walker.

It has different names in different sections; "pheasant" in the South and parts of the West, and "partridge" in New York and New England. There are different subspecies in the Northwest, Rocky Mountains, and Canada.

The Ruffed Grouse is a hardy dweller of the North, and fears neither bitter cold nor deep snows. It loves the rough country. Flat grassy plains

Haunts have no charm for it, nor does it flourish where winters are mild and spring breezes early and genial. Dark forests of pine and hemlock, rock-strewn mountainsides, and tangled, vinegrown, alder swamps suit it best—dim, silent places where only the shy wild things come. Heats or colds do not trouble it. If for weeks the ground is covered deep with snow, the Grouse takes to the tops of the trees, feeding on the buds of apple, poplar, birch, ironwood, and willow, and comfortably pulls through seasons of scarcity until the ground is again bare, and it can resume its customary diet of berries, green leaves, fallen nuts, and the fruit of the skunk cabbage.

In the summer, the birds feed on the leaves of growing plants, on insects, grasshoppers, and crickets; and in autumn they depend largely **Food** on fruit—berries of all sorts, wild grapes, various nuts, and fallen apples, at which they like to peck.

One of the early spring signs that Ruffed Grouse are about is their drumming. It is a low, hollow murmur like distant thunder, made by the bird,

Drumming while standing on a log, stone or stump, and rapidly beating his wings. Few subjects have been more discussed by sportsmen—scientific and non-scientific—than this mysterious sound.

How is it made and why? The complete answer to the first question was given only a few years ago, when Dr. C. F. Hodge photographed a Ruffed Grouse in the act of drumming, and did this over and over again. It was then seen that, instead of doing what tradition had declared—beating his wings against a stone, a hollow log, or his breast—the Grouse, in fact, beats them only against

the air. While he performs this act, the bird throws itself into various curious and fantastic positions, which one would never expect of a Ruffed Grouse.

Obviously, the drumming is a mating call; though it is quite possible that it may also be a challenge. It is performed in autumn as well as in spring. It is said that on occasions sportsmen, by imitating the drumming sound, have caused Grouse in the woods to come to them.

The Grouse's nest is made, and she begins to lay her eggs, in May; and it is early June, or the middle of the month, before the tiny young have hatched.

Nesting When the brood leaves the nest, there may be from a dozen to twenty of the little fellows, hardly as large as one's thumb, very active on their feet, and covered with a silky, tawny down of various shades. Only by the merest accident and the greatest good fortune can one hope to see one of these little families, and to watch it undisturbed. Usually, if they have any warning, the tiny chicks squat motionless among the dead leaves on the ground, where they escape notice; while the anxious mother, pretending to be hurt and unable to fly, flutters along the ground, trying to lead the enemy to pursue her and to leave the young ones. The ruse is almost always successful. Dog, boy, and man are quite sure to be deceived, and to follow the fluttering bird, which acts as if she were sorely hurt and could be seized the next moment; but, after she has enticed the pursuer away from the point of danger, she takes wing and flies swiftly off among the tree trunks.

Once, passing quietly through some big woods, I saw, beyond a little rise only a few steps distant, a dark spot on the leaves, which I recognized as a mother Grouse with outspread wings hovering over her brood. She

Young was as much surprised as I, and, losing her presence of mind, flew at once, while from the place where she had been nesting fifteen or twenty tiny young streamed out in every direction. Most of these I at once lost sight of, but on one I kept my eye, and presently, taking two or three steps forward, picked it up from the ground. It crouched on my palm, unafraid, looking at me with a bright, soft eye. Perhaps it was a week old, for the quills of the wings were about a quarter of an inch in length. Putting it down on the leaves, we slowly withdrew to a little knoll, forty or fifty feet distant, and there listened and watched for the mother bird, which soon came creeping cautiously through the undergrowth until within a few feet of where her babies had been left. There she mounted a stump and talked to them in low notes, and there we left her, easy in mind, I hope, about the little family.

When autumn comes, and berries and seeds are ripe, and brown nuts rattle down from the chestnut trees, or the wind scatters three-cornered beech nuts

Habits in Winter among the thick leaves, the Ruffed Grouse live well and become sturdy and fat, preparing for the winter. Their feathers thicken, the hair-like covering on the legs gets long and warm, and from the side of the toes grow out little horny comb-like appendages, which perhaps

may serve in some degree as snow-shoes, supporting the birds when they walk over the deep, light snow of the woods. In the northern country, when the ground is heavily covered with snow, the Grouse are reported sometimes to dive into the light snow-drifts to spend the night, protected from the cold of the upper air by the blanket of snow above them.

I have not seen this, but it is well authenticated, and once in winter my brother, when walking through the deep snow near an alder run where a Grouse had its home, saw projecting above the snow an odd-shaped stick of wood. He paused and looked at it, declaring to himself that it looked just like a "partridge's" head and neck; and, as he said this, a Ruffed Grouse rose out of the snow and flew away.

In winter the Ruffed Grouse is very likely to seek out the sunny side of thick woods and swamps, and in the middle of the day to sit there, preening itself and enjoying the grateful warmth. In spring and summer—and even in winter—I have found fresh places where the Grouse had dug out dusting-places in the soil, precisely as domestic chickens do in warm weather.

The habits of the Ruffed Grouse vary with the locality in which it is found and the conditions of its life. In wild regions, where man is seldom seen, where the roar of firearms is not heard, and its only enemy is lynx or fox or hawk or owl, it is the most trusting of birds. If the traveler comes immediately upon it, it is likely to fly up on the low branch of a tree, and examine him with interest and curiosity. If, by chance, he should fire three or four pistol shots at it without hitting it, it does nothing more than turn its head from side to side, as if curious to discover the cause of the unusual sound. In parts of the Rocky Mountains or of Canada, a Grouse will sometimes sit on a limb, until a noose, tied to the end of a pole, is slipped over its head, or a stick thrown by a vigorous hand knocks it from its perch, or an Indian boy shoots it with a blunt arrow.

In the East, where it is constantly pursued, the bird has lost its simplicity and trustfulness. It has learned the lesson of self-protection from dog and gun. It flies at the sound of the human voice a long way off; is bold and fearless, or cautious and evasive, as the occasion demands; practises a great variety of stratagems, and is abundantly able to cope with most gunners. While birds without experience are obviously less able to protect themselves, the old stagers who have survived one or two shooting seasons possess a wisdom which often seems fairly uncanny.

Sportsmen generally believe that, from the middle of October until sharp frosts begin to chill the waters of streams and swamps, the Ruffed Grouse, like their distant cousins, the quail, wander about more or less, and are not to be found in their usual haunts. This is called the "running season" or "crazy season." Certain it is, that at this time of the year there is more or less shifting from place to place by the Grouse, who tend to desert their summer resorts and to move into places where, during the season of extreme cold, food and

shelter will be better. Movements such as this take place with many birds and mammals. We used to see such shiftings with buffalo, elk, deer and antelope, and certain other American Grouse, and there seems no doubt that they take place in the case of Ruffed Grouse and Quail. At all events, in the mild weather of the middle fall, Grouse are often found in most extraordinary and unexpected places, such as outbuildings, the trees or lawns near houses in private places, and even the middle of a mowing lot. After the first cold weather, however, the birds are likely to choose a swamp or woods, for winter quarters.

A good dog for Ruffed Grouse is exceedingly hard to find. He should have a keen nose, great caution, and the more experience the better. The scent given forth by this bird so excites the ordinary dog that he loses all idea of caution, and runs about as if demented. In his noisy racing back and forth, he alarms the Grouse, which thus has ample opportunity to lay plans to foil its pursuers. The wise old "partridge" dog acts very differently. Naturally intelligent, he understands the difficulties of his task, and his experience in the ways of many Grouse in other years causes him perfectly to comprehend the difficulties of the task required of him. He works close to the gun, and, at the faintest suggestion of the scent of a Grouse, stops and waits for his master to come up. Then cautiously and in silence he works out the scent, and satisfies himself as to what the bird has done and probably now is doing; and then he tries to be a little more cunning than the bird. Sometimes such a dog, if he finds that a Grouse is persistently running before him, will leave the trail and make a wide circle and go around beyond the bird, coming back from the point toward which it was running, with the purpose of stopping it and making it lie until the gunner comes up.

The Ruffed Grouse is so persistently shot that in the East there are now few localities where good shooting can be had. In less thickly populated districts—as portions of Maine, Vermont, New Hampshire, New

Decrease York, Michigan, and Wisconsin—Grouse are still abundant.

Even though the stock of birds in southern New England and in southern New York State has been brought down very low, extermination as yet has hardly come for any locality where covers suited to the Ruffed Grouse remain. Moreover, in many places, first underbrush and then forest have crept out into the abandoned fields, and nature is claiming her own once more. Such brushy fields, after the timber grows large enough, become admirable covers for the Grouse and, in many places, as one field is cleared another grows up to forest, and the amount of woodland remains about the same.

There is hope that in many of our thickly populated sections a few Ruffed Grouse will be found for many years, and a time will come Protection when it will no longer be fashionable to shoot Ruffed Grouse, but they will be protected and cherished as beautiful additions to an attractive landscape.

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City

WILLIAM DUTCHER, *President*
THEODORE S. PALMER, *First Vice-President* T. GILBERT PEARSON, *Secretary*
F. A. LUCAS, *Second Vice-President* JONATHAN DWIGHT, Jr., *Treasurer*

Any person, club, school, or company in sympathy with the objects of this Association may become a member, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

\$5.00 annually pays for a Sustaining Membership
\$100.00 paid at one time constitutes a Life Membership
\$1,000.00 constitutes a person a Patron
\$5,000.00 constitutes a person a Founder
\$25,000.00 constitutes a person a Benefactor

The Dommerich Fund

In the issue of BIRD-LORE for July-August, 1912, there was printed a notice of the death of L. F. Dommerich, who for many years as a member of this Association and as President of the Florida State Audubon Society had taken a deep interest in the work of wild-bird and animal conservation. It seems especially appropriate, therefore, that his children should plan to continue in a measure the good efforts of their father in this direction. These heirs, consisting of Mrs. Paula W. Seidenburg, A. L. Dommerich, L. W. Dommerich, and O. L. Dommerich, have recently made a contribution of \$5,000 to the Endowment Fund of the National Association of Audubon Societies, the income of which is to be used for the cause of bird protection in the state of Florida. Their action is indeed gratifying, and we are sure the announcement of their donation will please all those who are interested in the preservation of the sorely persecuted wild-bird life of Florida.

—T. G. P.

Feed the Birds

It is now midwinter, and the snow and ice prevailing over a large part of our country means a great hardship for the birds which are good enough to stay in such localities, and not fly away to the

South. Let everyone who can, be sure to show their appreciation of their little feathered neighbors by supplying food for them where it can be readily secured. Mr. E. H. Forbush, the New England Agent of the Association, who has had much experience with feeding birds, recently wrote:

"Such foods as we may be able to offer birds will be used by them mainly as a makeshift at times when their natural food-supply is short, and for this reason, when we begin feeding the supply must be constant during the winter months, or we shall fail to accomplish our object. The birds may desert our artificial feeding-places during fine weather; but if the supply is kept up, and in the right way, they will surely find it in inclement weather, when they most need it.

"The objection so often urged, that in feeding the birds we shall pauperize them, should have no weight, as insect-eating birds always prefer their natural food to anything that we may be able to supply them; but by feeding birds in winter we may save their lives at times when snow and ice have covered their natural food-supply.

"No one is so poor that he cannot feed the birds, for, if nothing else offers, chaff, hayseed, meat trimmings and scraps will answer every purpose. If the trimmings are all utilized in the home, it is a poor butcher who will not give the children a

few scraps or bones now and then to feed the birds. There is food enough wasted in this country every year to save from starvation ten times as many birds as winter with us."

The McLean Bill

The most far-reaching measure for wild-bird protection ever seriously considered by a legislative body in the United States is the McLean Bill for Federal Protection of Migratory Birds which is now pending in the Senate at Washington, and the Weeks bill of a similar character now on the calendar in the House.

Since George Shiras, 3d, first introduced in Congress a bill of this character, in 1904, similar attempts have followed; but all have met with the same fate, viz., death at the hands of the committees to which they were referred for consideration. The McLean Bill, however, has been favorably reported by the Senate Committees on Forest Reservations and the Protection of Game, and the Weeks bill has likewise been given endorsement by the House Committee on Agriculture.

Congress has convened, and although the session will be very short, ending on March 4, there is abundant time to advance either of these bills to a vote if the supporters of the measures will immediately become active and bestir themselves to the point of urging their Senators and Congressmen to take up the bills and pass them. The friends of bills affecting commercial enterprises never sleep, and their representatives are ever alert. The friends of wild life must be equally active if we are to hope for success. If you have not already done so, will you at once communicate with your Senators at Washington and urge them to support the "McLean Bill for Federal Protection of Migratory Birds," and write your Congressmen insisting that they give their votes to the passage of the Weeks bill.

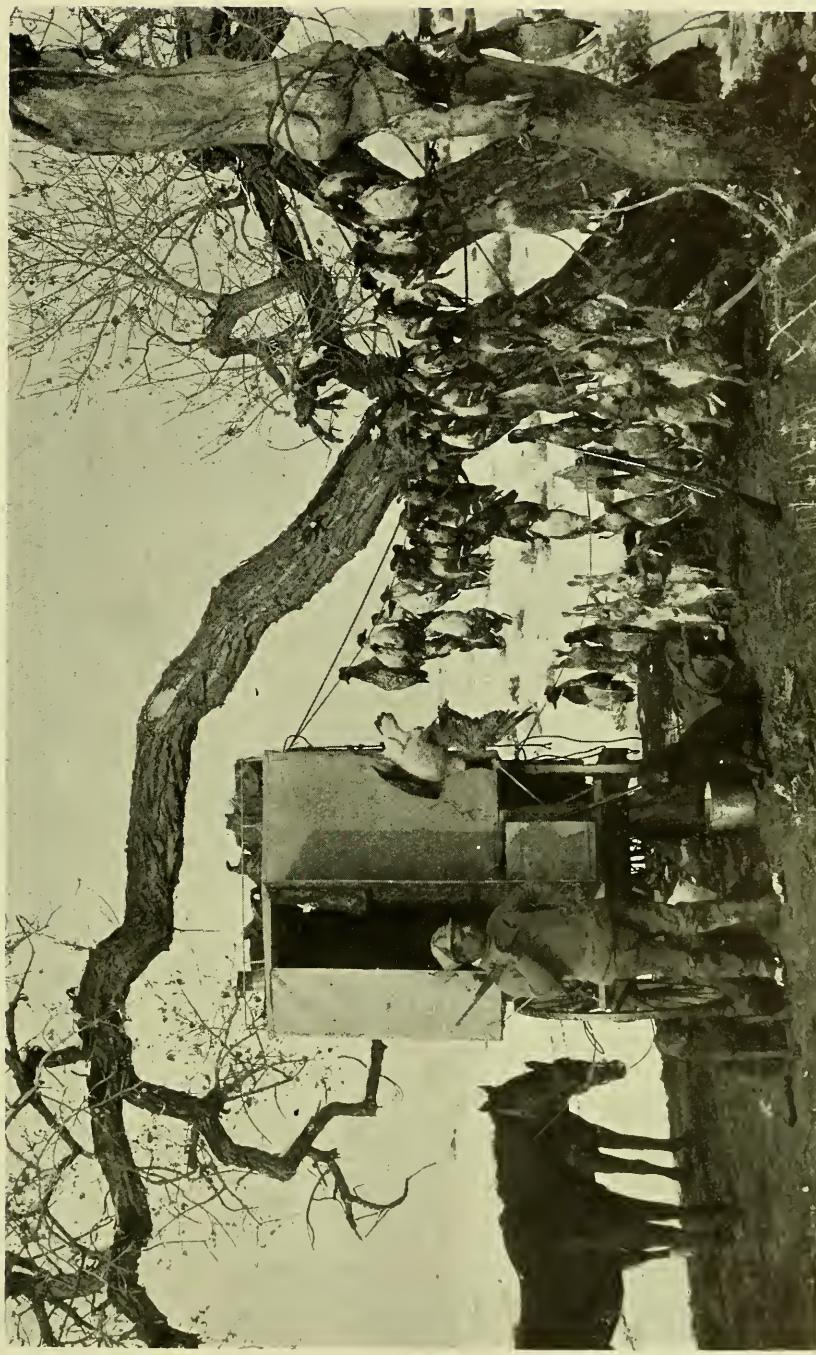
To those not familiar with the exact character of this proposed legislation, it may be stated that the plan is to delegate to the United States Department of

Agriculture the authority to make rules and regulations regarding the open and close seasons for killing migratory game birds, and also prescribe the methods by which such game may be taken and disposed of. The Department would also fix the status of what birds are "game" and what are not. Thus, in North Carolina the Robin and Towhee are both classed as game birds, while in the northern states they are protected under the Audubon Law as non-game birds. It is difficult to over-estimate the good which would result in the matter of unifying and enforcing laws for the protection of wild life if either of these bills shall at length become a law.

Contributions to the Egret Protection Fund for 1912

Previously reported in BIRD-LORE

	\$6,427 54
Anonymous.....	3 00
Ayer, C. F.....	5 00
Barclay, Emily.....	2 00
Bergfels, Mrs. Harry.....	1 00
Berry, Mrs. George T.....	1 00
Bird Lovers' Club of Brooklyn	10 00
Brooks, Mr. S.....	5 00
Butler, Mrs. Mary Howard...	2 00
Carter, Mrs. W. T.....	5 00
Cornegys, The Misses.....	5 00
Curtis, Mrs. G. S.....	5 00
Diehl, Miss Nellie F.....	1 00
Diehl, Miss Sarah M.....	1 00
Hayden, Mrs. F. V.....	1 00
Hazelton, Mr. & Mrs. Hugh..	1 00
Howe, Mrs. J. S.....	5 00
Hunt, Mr. William T.....	5 00
Jones, Miss Ella H.....	5 00
Jube, Mr. Albert J.....	1 00
Kendig, Mrs. Daniel.....	1 00
Kerr, Mrs. T. B.....	1 00
King, Mrs. I. B.....	2 00
Kuser, Mr. John Dryden....	3 00
Lewis, Miss E. L.....	2 00
Livermore, Mr. A. E.....	1 00
Lydecker, Mr. R. R.....	2 00
Mercer, Mr. Henry C.....	25 00
Miller, Mr. Geo. Macculloch.	5 00
McQuistan, Mrs. Charles....	1 00
Owen, Miss Jennie G.....	1 00
Philburt, Mr. F. H.....	1 00
Pierce, Mr. W. L.....	5 00
Platt, Mrs. Dan Fellows....	10 00
Potts, Mrs. Joseph D.....	10 00
Righter, Mr. William.....	5 00
Amount carried forward.....	\$6,566 54



ONE REASON FOR THE PASSAGE OF THE MCLEAN BILL IN CONGRESS
(Photograph taken in Colorado)

Amount brought forward	\$6,566	54
Roberts, Miss Emily B.....	2	00
Saul, Mr. Charles R.....	2	00
Savage, Mr. S. L.....	5	00
Sawtelle, Mrs. E. M.....	1	00
Sherwood, Mrs. E. C.....	2	00
Smith, Mrs. Marshall.....	1	00
Smith, Mr. Marshall E.....	1	00
"Sphinx".....	5	00
Stevenson, Miss Anna P.....	2	00
Townsend, Mr. J. H.....	10	00
Tunis, Miss Annie.....	2	00
Van Wagenen, Mrs. G. A.....	1	00
Vermilye, Miss J. T.....	2	00
Vermilye, Mrs. W. G.....	2	00
Wasson, Mr. E. A.....	1	00
Zimmerman, Dr. M. W.....	5	00

Income to October 20, 1912....\$6,610 54
Expenses as per annual report.. 5,015 28

Balance unexpended...\$1,595 26

The program for Egret protection which the National Association has undertaken for the year 1913 contains the following provisions:

1. Have introduced and push with vigor bills in the legislatures of a number of states to prohibit the sale of the plumage of wild birds.

2. Employ agents to further explore the swamps of South Carolina, Georgia, Florida, Alabama, Mississippi and Louisiana, in quest of such remnants of colonies of White Egrets as are yet undiscovered by us.

3. Employ wardens to guard the thirty Egret colonies, with their population of 5,000 birds, already located, and

4. Conduct a more extensive campaign of publicity than ever before, in order to acquaint the general public with the cruelties connected with the nefarious traffic in "aigrettes," which are the nuptial plumes of the White Egrets.

This is a large country, and a reform, the opposition to which is deep rooted in commercialism, cannot be brought about in a day. In this work we have to contend with extended moneyed interests which, vampire-like, feast and fatten on the life-blood of slaughtered birds. What do these men care if we should some day have a birdless country? In the legislative halls and in the press these people accuse the Audubon Society workers of being merely

sentimentalists, and say we are interfering with practical business. It was "practical business" that all but exterminated the American Bison for the value of the robes they wore and for the pleasure to be derived from eating jerked hump. It was "practical business" that slaughtered the Passenger Pigeons by the million and fed their bodies to hogs, which Audubon tells us were often driven many miles to the grawsome feasts. Yes, evidences of "practical business" are to be found on every hand, in the denuded beaches where the Curlew once swarmed, in the desolate barrens of the South, in the boll-weevil-infested cotton-fields, in the bare branches of the leafless elms of New England, on the lawn, in the garden, everywhere, anywhere in fact that the greed of man could gain a profit by killing birds and selling their flesh or feathers. The enactment and the enforcement of laws of the most explicit and rigid character must be secured if we are to save much of our wild life.

The Gulls and Terns, which ten or fifteen years ago had become alarmingly depleted along our coast-line because of the feather-hunters, are again common objects of beauty and attraction to all who visit our seaboard. This change has resulted because of the work of the Audubon Societies in getting laws passed to protect the birds, and by hiring men to guard them, especially when collected on these rookeries. In the same way the Egrets can be increased and brought back. Who knows but what, after a few years protection, they may not again be found breeding in New Jersey and Long Island! They once bred there.

The plume-hunters of the South know where every colony of Egrets collect in summer, and unless the Audubon wardens are on hand the birds are killed; for their plumes are today worth more than twice their weight in gold. Surely the American people will not permit this slaughter to go on longer. Already great headway has been made the past few years in Egret protection, but we cannot relax our vigilance for a moment if the nefarious

traffic in "aigrettes" is to be stamped out. To carry out the program for 1913, and do a big effective work, \$10,000 should be made available at the earliest possible moment.

As we go to press, the Egret protection fund for 1913 stands as follows:

Balance unexpended from 1912,
as per Annual Report \$1,595 26

Abbott, Miss Marie M. 3 00

Barhydt, Mrs. P. Hackley 15 00

Best, Mrs. Clermont L. 5 00

Blanchard, Sarah H. 10 00

Bowdoin, Miss Edith G. 10 00

Brown, T. Hassall. 5 00

Burgess, E. Phillips. 2 00

Busk, Fred T. 5 00

Butler, Max E. 1 00

Chase, Mrs. Alice B. 10 00

Chittenden, Mrs. S. B. 2 00

Clarke, Miss Ella Mabel. 10 00

Codman, Mrs. James M. 1 00

Colen, George Edward. 2 00

Davis, William T. 5 00

Foote, James D. 2 00

French, Daniel C. 2 00

Gary, Judge E. H. 10 00

Gould, Edwin. 100 00

Greene, Miss Caroline S. 1 00

Halsey, Mrs. Edmund D. 3 00

Hammond, Mrs. J. Henry 5 00

Hemenway, Augustus. 25 00

Hendrick, J. H. 1 00

Holbrook, Mrs. Edward. 5 00

Hutchins, Mrs. Edward W. 5 00

Jarves, Flora. 5 00

Judson, Mr. H. I. 1 00

Lasell, Miss Louisa W. 1 00

Law, Hervey. 5 00

Massachusetts S. P. C. A. 5 00

Merrill, Miss F. E. 30 00

Miller, George Macculloch. 5 00

Moore, Mrs. E. C. 1 00

Motley, Mr. James M. 5 00

Nesmith, Mary. 5 00

Osborn, Carl H. 2 00

Peoples, W. T. 2 00

Peters, Mrs. Edw. McC. 5 00

Peters, Miss Mary P. 1 00

Peters, William R. 2 00

Phelps, Mrs. Anna B. 10 00

Raht, Charles. 5 00

Rhoads, S. N. 1 00

Righter, William. 5 00

Saunders, Charles G. 1 00

Saville, Mrs. A. H. 1 00

Sears, William R. 5 00

Shepard, Mrs. Emily E. 5 00

Smith, Adelbert P. 1 00

Spalter, Mrs. F. B. 1 00

Stetson, Francis Lynde. 10 00

Amount carried forward. \$1,960 26

Amount brought forward	.....	\$1,960 26
Tapley, Alice P. ....	.....	20 00
Tapley, Mrs. Amos P. ....	.....	15 00
Thomas, Miss Emily H. ....	.....	25 00
Topliff, Miss Anna E. ....	.....	5 00
Vaillant, Mrs. G. H. ....	.....	3 00
Von Zedlitz, Mrs. Anna. ....	.....	1 00
Webster, F. G. ....	.....	10 00
White, Mrs. Grace H. ....	.....	2 00
Winslow, Isabelle. ....	.....	1 00
Winslow, Maria L. C. ....	.....	1 00

		\$2,043 26

New Members

From October 20, 1912 to January 1, 1913, the Association enrolled the following new members.

Life Members.

Bacon, Mrs. R.
Baylies, Mrs. N. E.
Van Brunt, Mrs. Charles
Westcott, Miss M. D.

Sustaining Members.

Abbott, Miss Mary Adams
Adams, Mrs. Brooks
Brown, Mrs. Thatcher
Baker, Mr. W. E.
Baber, Mr. Armitage
Barnes, Prof. H. T.
Bartlett, Mrs. Hy.
Bates, Miss Ella M.
Biddle, Miss E. W.
Blanchard, Mr. William
Burr, Miss L. W.
Butler, Mr. Allen
Cabot, Mrs. Elizabeth R.
Carter, Mrs. John W.
Clapp, Mrs. Channing
Clark, Mr. Howard L.
Colburn, Miss Nancy E.
Crockett, Dr. M. A.
Cushing, Mr. Milton L.
Cushing, Mr. William S.
Cornell, Rev. John
Davis, Mrs. Joseph E.
De Normandie, Mrs. R. L.
Foote, Mr. George L.
Foster, Mrs. A. S.
Fuller, Mr. B. A.
Goodell, Mrs. Helen E.
Gray, Miss Ellen W.
Harris, Mrs. Wm. H.
Hart, Mr. W. O.
Hastings, Mrs. Mary J.
Hildreth, Miss Emily E.
Howe, Mrs. George D.
Hyde, Mrs. Arnold S.
Jackson, Mr. Benj. M.
Jackson, Mr. C. L.
Jones, Mr. Jerome
Keith, Miss Harriet P.
Kennedy, Mr. W. M.

Sustaining Members, continued.

Kimball, Mrs. L. C.
 King, Mr. E. R.
 Kibbe, Mrs. H. C.
 Leeds, Mrs. John G.
 Macnamara, Mrs. Charles
 Martin, Mrs. John L.
 McVey, Mrs. John C.
 Motley, Mr. Thomas
 Olmsted, Mr. F. L.
 Newark Free Public Library
 Newell, Mrs. John E.
 Newman, Mrs. R. A.
 Perkins, Miss Mary R.
 Peters, Miss Amy P.
 Parker, Miss Eleanor
 Porter, Miss Alice
 Richardson, Mr. W. K.
 Robbins, Mrs. Milton
 Russell, Mrs. William A.
 Ring, Mr. C. L.
 Rowitser, Mr. Fred
 Sampson, Mr. Alden
 Simpson, Mr. John Boulton
 Smith, Mr. Walter E.
 Swinerton, Miss Lenna A.
 Symmes, Miss Amelia M.
 Schwarz, Mr. George F.
 Smith, Miss May Jewell
 St. John, Mr. Charles E.
 Talbot, Miss Mary
 Tufts, Mrs. J. A.
 Townsend, Mr. William S.
 Underwood, Mr. H. P.
 Van Norden, Mr. Charles
 Waite, Mrs. J. Gilman
 Walker, Mr. Charles C.
 Walser, Mr. Guy O.
 Wheelwright, Mrs. Andrew C.
 Wilson, Miss Lucy B.
 White, Mr. Alfred T.
 White, Mrs. Charles G.
 Whittemore, Mr. John Q. A.
 Wright, Mrs. John Gordon
 Whiting, Miss Mildred P.
 Woodward, Dr. L. F.

New Contributors

Borden, Mrs. E. L.
 Box 534, Ardmore, Pa.
 Bentley, Mrs. Sarah M.
 Brown, Mrs. B. W.
 Converse, Mr. A. D.
 Clary, Miss Ellen T.
 Cook, Mrs. Joseph
 Cooker, Rev. J. Francis
 Covell, Mrs. A. J.
 Cressy, Mrs. Nettie S.
 Daniels, Mrs. E. A.
 Dunn, Mrs. H. Almira
 Davis, Mr. R. W.
 de Pierrefen, Miss Elsa Tudor
 Flint, Mrs. Susan A.
 Folsom, Miss Jennie Darling

Forbes, Mrs. Wm. H.
 Gerry, Mrs. Martha J. H.
 Gowing, Mrs. E. H.
 Holt, Mrs. R. S.
 Hartwell, Mrs. Nora M.
 Hunnewell, Mr. H. S.
 W. H., Miss
 Hildebrand, Mrs. Charles
 Hill, Mr. William P.
 Hooker, Miss Margaret
 Jaconson, Mrs. F. C.
 Kirkbride, Mrs. T. S.
 Leighton, Miss Edith M.
 Lord, Mrs. Daniel
 MacNutt, Mrs. Anna Davis
 Mead, Mrs. Charles M.
 McIntosh, Mrs. Alice C.
 Phillips, Mr. A. V.
 Pease, Miss Harriet R.
 Potter, Miss Mabel L.
 Robbins, Mrs. Milton
 Robb, Mrs. Alexander
 Sonnedecker, Mr. T. H.
 Storer, Mrs. J. H.
 Thomas, Miss Emily Hinds
 Waterhouse, Mrs. F. A.
 Wiler, Mr. E. D.
 Wood, Mr. Allen F.
 Wood, Mrs. J. T.

Junior Audubon Classes

Fifteen thousand five hundred and seventy-four children receiving systematic instruction in the value and beauty of bird-life, is the record of the National Association's work in this direction since the opening of schools in September. Several of the State Societies are assisting in this undertaking, especially is this the case in Ohio, New Jersey, Pennsylvania, Rhode Island and Massachusetts. The entire time of four clerks in the National office is required to fill the orders and conduct the correspondence in connection with this highly important phase of the Audubon movement. It is a new thing, this idea of seriously teaching children that birds are their friends, and should be protected and encouraged to come about the home. How many of us had such instruction when we were children? Today there are beautiful and accurately colored pictures of birds to be had almost for the asking, and literature prepared by ornithologists, who write with a keen understanding of the lives of the birds they discuss, and with a sympathy of the child's

viewpoint. Philanthropic members of the Audubon Society are contributing many thousands of dollars annually, so that these pictures and this literature may be placed within the reach of all. To aid and encourage the teachers who form Audubon Classes, they are giving without cost much valuable material, including *BIRD-LORE*, which contains many suggestions and methods of instruction. It is small wonder, therefore, that this plan of junior work is meeting with such universal acceptance, and that classes continue to be reported from almost every state in the Union. The bearing of this work on the minds of the men and women of the next generation is interesting to contemplate.—

T. G. P.

From a Tennessee Audubon Worker

“Although my thermometer stood at 25 degrees this A.M., and the water in the

bird-dish outside my window was solidly frozen, the birds did not mind, but began coming to my window while it was hardly light enough for me to see the tiny objects moving about in the tray. I rise at five A.M., and put this tray out early, for well I know that the Carolina Wrens which room or roost in an old nest hung up in the balcony will be the first to arrive for breakfast. They are followed by the White-breasted Nuthatch, the Tufted Titmouse, the Chickadee, and later the Downy Woodpecker, male and female. I do not think that the Woodpeckers are on good terms with the two Nuthatches, while the Juncos confine themselves to the porch roof.

“I am reminded of Longfellow’s lines, ‘There are no birds in last year’s nest,’ when I see two Wrens flying out of the nest hanging in the balcony. Again it said that ‘Birds of a feather flock together.’ If one Nuthatch is eating and the other



COMBINATION FEEDING SHELF AND HOSPITAL FOR INJURED BIRDS
In the garden of Mrs. Harriet Myers, Los Angles, California

comes, there's a squeaking note, a presenting of bills, then one or the other flies away. However, I have seen the one remaining take a bit of peanut and feed it to the other on the tree. The Downy Woodpeckers do not eat together, the female retiring upon the approach of the male. The Tufted Titmice and the Chickadees are more sociable, but they squabble at times. Even the Juncos chase each other off the porch roof. But a full stomach maketh a glad heart. As the sun takes the chill off the air, I hear the rolling whistle of the Tufted Titmouse and the soft note of the Bluebirds calling to each other across the open.

"It seems to me that the birds are singing more this winter than usual. Yesterday I saw and heard two Cardinals, one of which was singing. As I write, two Wrens and a Nuthatch are having a battle over some cracked hickory nuts; one Wren holds the fort."—(Miss) MAGNOLIA M. WOODWARD.

General Notes

Recently there came to our attention a newspaper clipping which referred to the wholesale destruction of Penguins on Macquarie Island, Australia. These birds, it seems, are being killed for the purpose of obtaining their oil.

We at once communicated with Mr. James Buckland, the well-known English bird protectionist, with a request for information. Mr. Buckland has taken the matter up energetically with the Governor of Tasmania, of which state Macquarie Island is a part, and we expect effective action.

Mr. Buckland also writes that Mr. A. H. E. Mattingly, a prominent member of the Royal Australian Ornithologists' Union, has recently secured the seizure of a large number of plumes, importation of which is prohibited in Australia.

Executive Orders creating three new Federal Bird Reservations have recently been signed by President Taft, as follows: Chamisso Island Reservation, embracing

Chamisso Island and nearby rocky islets in Kotzebue Sound, Alaska; Pishkun Reservation, embracing all of sections 2 and 10 and parts of sections 1, 3, 9, 11, 12, and 15, township 22 north, range 7 west, Montana; and Desecheo Island Reservation, embracing Desecheo Island in Mona Passage, Porto Rico.

This brings the total number of Federal Bird Reservations up to fifty-nine, and is an eloquent commentary upon the untiring energetic activity of Mr. Frank Bond, of the District of Columbia Audubon Society, who has been largely responsible for bringing to the President's attention the desirability of establishing reservations of this character, for many years.

Among the many Audubon workers who are now laboring in behalf of Senator McLean's Bill for Federal Protection of Migratory Birds, Miss Katharine H. Stuart has been one of the most active. In addition to securing the effective coöperation of many of Virginia's most influential men, she has not failed to arouse the women of the state on the subject. The following is one of the recent resolutions adopted through her efforts:

"Resolved, That the members of the Women's Rivers and Harbors Congress use their offices with their respective Senators and Representatives, calling upon them in person or through letter, urging them to vote and work for the bill now pending before both Houses of Congress for federal control of migratory birds, known as the McLean Bill. It is Senate Bill 6597, and on the Senate Calendar it is No. 606."

The second printed annual report of the New Jersey Audubon Society is a model of its kind.

It is a good thing not only to accomplish results in state bird protection, but to present them in such attractive printed form that, by distribution throughout the state and elsewhere, the public may be informed of what is being done.

In its two years of existence, the Society has secured 10,485 members.



QUAIL HANGING BEFORE A CAFE IN GREENSBORO, NORTH CAROLINA

As long as an open market exists for game, there is small chance of preserving it

The report of the Audubon Society of North Carolina, which arrived too late for publication with the other state reports in the November-December issue of *BIRD-LORE*, shows, among other interesting results, the successful prosecution of forty-two cases for violation of the state bird and game protective statutes. The Society also published a booklet of the game laws, which was widely distributed. With the coöperation of the National Association, the warden patrol work of guarding the sea-bird colonies in Pamlico Sound was continued as heretofore. The Society has again recommended to the Legislature that a State Game Commission be established, and that the Society be relieved of the responsibility of enforcing the game laws.

A bulletin entitled "National Reservations for the Protection of Wild Life" has been recently issued by the United States Department of Agriculture. It is "Circular No. 87" of the Bureau of Biological Survey, and was prepared by Dr. T. S. Palmer. We have received many requests of late for information relative to the location and extent of the various government bird reserves. We would suggest that those interested in securing data on the subject should write for the above circular, addressing their request to Mr. Henry W. Henshaw, Chief of Bureau of Biological Survey, Washington, D. C.

The East Tennessee Audubon Society is advertising the principles for which it stands in the Knoxville papers. By the purchase of a space of twenty-five square inches, sufficient room has been secured to lay before the readers the broad platform for which the Society stands. In these advertisements special attention is called to the very great desirability of having a law in Tennessee requiring all resident hunters to pay a shooting tax of one dollar annually. This course cannot be too highly commended, for the income from a resident license law would enable the state to employ a sufficient number of wardens to secure a more rigid observance of the bird and game laws.—T. G. P.

The Audubon Plumage Law in New York and New Jersey

In September, 1911, Mrs. Helene B. McCulloch inserted a small advertisement in a New York paper offering aigrettes for sale. A state game protector and a representative from the office of the National Association of Audubon Societies visited Mrs. McCulloch's apartment in New York City and her arrest followed.

The Milliners' Association promptly took the case up and their attorneys acted as counsel for Mrs. McCulloch. On their representation postponements were had to September 7, 21, October 5, 9 and 23 in Police Court, when defendant waived examination and was held for Special Sessions. The adjournments in Special Sessions at the request of milliners' counsel were November 3, November 29, January 27, 1912, February 14, March 14, April 16, April 23, December 6, December 20, and on January 13, 1913, the case came to a trial. On that date, after more than sixteen months' association with the case, learned counsel for the Milliners' Association discovered Mrs. McCulloch was not a milliner and withdrew from the case. Defendant pleaded guilty and sentence was suspended.

The attention of the Association was recently directed to the fact that Hummingbirds' heads and wings were offered for sale in a large New York City department store. Prosecution followed, and the case was settled by the payment of a fine of \$60, and an affidavit regarding the jobbers from whom the goods had been bought was furnished.

A raid on the firm of A. Hirsh & Co., 20 West 31st Street, the jobbers, revealed a stock not only of nearly 900 heads and wings of Hummingbirds, but skins and wings of Gulls, a large quantity of Grebe plumage, Swifts, and the quills of Brown Pelicans. There was also plumage of Flamingoes and of the now rare scarlet Ibis and several species of Birds of Paradise. Action against the firm has been inaugurated.

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Curator of Birds, American Museum of Natural History

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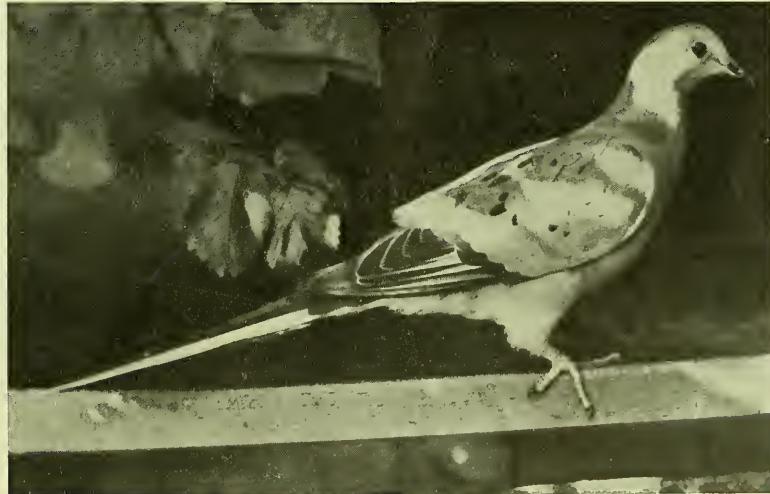
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** Manuscripts intended for publication, books, etc., for review and exchanges, should be sent to the Editor, at the American Museum of Natural History, 77th St. and 8th Ave., New York City.

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IMPORTANT NOTICE TO ALL BIRD-LORE SUBSCRIBERS

Bird-Lore is published on or near the first days of February, April, June, August, October and December. Failure to receive the copy due you should be reported not later than the 15th of the months above mentioned. We cannot undertake to supply missing numbers after the month in which they were issued.



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3. THICK-BILLED FOX SPARROW

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A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XV

MARCH—APRIL, 1913

No. 2

EDITOR'S NOTE.—The photographs of Passenger Pigeons appearing in this number of BIRD-LORE form a unique and important addition to our knowledge of the appearance in life of this beautiful and now lost species. They were made by Mr. J. G. Hubbard, who generously contributes them to BIRD-LORE, at Woods Hole, Massachusetts, in the summer of 1898, and represent birds in the aviary of Dr. C. O. Whitman which are referred to in the succeeding articles. The birds were in perfect condition, and the photographs are believed to be adequate portraits of a species which, if we except the single individual still living in the Cincinnati Zoölogical Garden, will never be photographed again.—F. M. C.

A Vanished Race

By MORITZ FISCHER

IN the memorable year of grace 1534, Jaques Cartier of St. Malo, master pilot of Francis I, king of France, entered the Gulf of St. Lawrence in search of a waterway to India for his royal patron. Coasting along the eastern shore of an extensive island, he one day landed to explore the country, and found that, to use his own words, the land was of the best temperature that it may be possible to see, and of great warmth, and that there were many Turtle Doves, Wood Pigeons, and other birds.

This casual reference to a few birds observed by the intrepid Breton near Cape Kildare on Prince Edward Island opens the marvelous and fragmentary story of a creature that ranged the unknown continent in flights of stupendous magnitude, and became known to later generations as the Passenger Pigeon.

When the great captains of the sixteenth century, of whom Cartier ranks as one of the first, discovered and explored the mainland of North America, and for more than two hundred years afterward, an unbroken forest of broad-leaved trees covered its eastern half. Fringed by evergreen wildwoods to the north, its western border, much indented by spacious grasslands or prairies, spread its verdant tents northward to the Height of Land and beyond. In this mixed forest there flourished here and there, as soil and climate favored, and indeed compelled, woods composed entirely of one species, and holding their own by shading out all other kinds. Such were the beech and oak forests of the Ohio and Mississippi Valley, those of maple and chestnut east of the

Appalachians, and the evergreen colonies, and belts of pine, hemlock, and allied species growing in the region of the Great Lakes and the basin of the St. Lawrence.

While most wild crops become available from the moment they are ripe, some plants, chiefly the shrubs, vines, and bushes cure their fruit and hold it for future delivery. The trees of mixed forests, on the other hand, with the exception of the hemlock, seed in alternate seasons, a beech-nut year following an acorn year in regular order. At all times, therefore, and in every part of its immense territory, did the forest provide enormous stores of provender readily accessible and perpetually renewed.

In this land of plenty, one of the host of creatures fed by the bounty of the forest primeval, lived the Passenger Pigeon, which, by the migration of its countless flocks and its striking habits, deeply stirred the sluggish curiosity of the first settlers. To their random notes and the later and more ample reports of our earlier travelers and naturalists we are indebted for most of the knowledge we possess of this best known and famed member of our avian fauna.

Built for speed and action, the Pigeon outstripped every bird of its size in swiftness of flight. Competent observers agree that the bird flew at the rate of a mile a minute, or 88 feet per second, a speed greater by far than that of its celebrated cousin, the Carrier Pigeon, one of which averaged fifty-two feet per second for a continuous flight of five hundred and ninety-one miles.

Destitute of natural weapons, and of a timid disposition, our bird was well protected from famine and pursuit by its swiftness. Social to an extraordinary degree, it not only nested and traveled together, as gregarious birds do at certain seasons, but it fed and slept in flocks throughout the year. So long as its wild homeland remained undisturbed, this habit proved of obvious advantage; but, with the gradual removal of the primeval forest, it became a positive detriment, preparing the way for ultimate extinction.

Since an actual study of the Passenger Pigeon in the field is no longer possible, information concerning its distribution and habits must be sought for in the records of former generations, and obtained from those yet living who knew the bird in its prime. Imperfect as this material is and difficult to procure, the recent revival of interest in its tragic fate has brought to light sufficient data to trace the life history of the race, and to fathom the causes which brought about its sudden and mysterious disappearance from the world of the living.

The habitat of the Pigeon, embracing as it did the vast native forest of eastern North America, offered the bird a choice of food and residence, definite regions thereof being occupied in proper season and in regular rotation. Even the fruits of the lowly herbs contributed to its bill of fare, and the handsome poke-weed is locally known as 'Pigeon' berry at the present day. But the bulk of its food consisted of the acorns of the numerous species of oak, the



PASSENGER PIGEON, ADULT FEMALE
Note the characteristically erect pose

seeds of beech, chestnut, maple, elm, and other hardwoods, of pine and hemlock, and of the fruits and berries of bushes and shrubs. Angleworms, snails, caterpillars, and soft-bodied insects, such as grasshoppers, helped to vary the vegetarian diet. From the frequent mineral springs and licks the bird gratified its craving for salt, a condiment eagerly sought by all grain feeders.

The winter range of the bird comprised the territory south of Mason and Dixon's line, a land well stocked with its chief food supply during the inclement seasons. In one of these natural granaries the flocks would settle down and forage until the mast within a radius of two hundred miles and over had been consumed. While feeding in concert, the rear ranks successively rose and, passing over the whole flock, alighted in front, giving every bird an equal chance. Like an enormous wheel in slow motion, the birds moved through the wood and rapidly gathered its plenteous stores; toward night the swarms would return to the roost.

The following description of such a locality is given by Faux, an English traveler who, about 1819, visited one of them in Tennessee. "The roost extends over a portion of woodland or barrens from four to six miles in circumference . . . The birds roost on the high forest trees, which they cover in the same manner as bees in swarms cover a bush, being piled one on the other from the lower to the topmost boughs which, so laden, are continually bending and falling with their crushing weight, and presenting a scene of confusion and destruction too strange to describe, and too dangerous to be approached by either man or beast. While the living birds are gone to their distant dinner, it is common for man and animals to gather up or devour the dead, thus found in cartloads."

Scattered in huge flocks throughout the hospitable south during autumn and winter, at the advent of spring the birds assembled in several stupendous hosts, which dispersed northward to find new pastures and breeding grounds. In this vernal journey, the flocks were so densely packed and followed one another so swiftly that they darkened the sky like a pall of thunderclouds, and by their impact produced the roar of an advancing storm with its attending wind.

Of the few attempts to compute the number of birds in one of the spring hosts, that of McGee who, in the sixties, frequently observed them coming up the Mississippi Valley, one of the old migration routes, probably comes nearest the truth. Assuming the cross section of an average flock to measure one hundred yards from front to rear, and fifty yards in height, he finds the same to comprise some 8,800,000 birds to the mile, or 30,000,000 for a flock extending from one woodland to another. "Such flocks passed repeatedly during the greater part of the day of chief flight at intervals of a few minutes. The aggregate number of birds must have approached one hundred and twenty millions an hour for five hours, or 600,000,000 Pigeons virtually visible from a single point in the culminating part of a single typical migration." During its pass-

age, this vast army would at times indulge in marvelous aërial displays, moving gracefully through intricate manœuvres as one body. Descending the Ohio in 1810, Wilson watched such a gymnastic feat: "The great host with its glittering undulations marked a space in the face of the heavens resembling the windings of a vast and majestic river . . . Suddenly the birds would change their direction, so that what was in column before became an immense front, straightening all its indentures until it swept the heavens in one vast and infinitely extended line. Other lesser bodies also united with each other as they happened to approach, with such ease and elegance of evolution, forming new figures and varying these as they united or separated, that I never was tired of contemplating them."

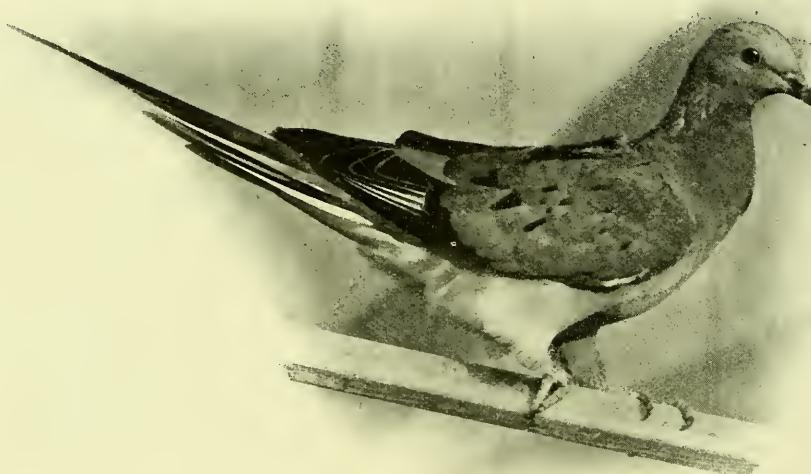
Previous to permanent settlement and for a few subsequent decades, the breeding range embraced the middle tier of states from Missouri to New York, its upper border east of the Appalachians curving sharply northward to follow the southern rim of the St. Lawrence drainage. From colonial times onward, great flights are frequently reported from this eastern section; but the bulk of the birds no doubt inhabited the western half of their habitat.

Simon Pokagon, the famous Indian chief, than whom no man knew better or loved more the O-me-me-wog of his people, writes that between 1840 and 1880 he visited many breeding places in the states of Ohio, Indiana, and Michigan that were from twenty to thirty miles long and from three to four miles wide, and that every tree in its limits was spotted with nests. A forest tract of thirty by three miles comprises ninety square miles. At fifty trees per acre, this area would contain some 2,880,000 of them. Allowing ten nests per tree, the number of adult birds present amounts to more than 57,000,000.

After the breeding season, swarms wandered about in the spacious summer range, and reveled in the delicious and inexhaustible crops of berries which ripened in rapid succession during their stay. With the coming of autumn, the flocks prepared to depart. Avoiding the spring routes for obvious reasons, they leisurely moved southward over new highways, tarrying for weeks at a time in the newly stocked granaries located within the zone of travel. During the final stages of the retreat, the vast hordes once more gathered in great flights. It was one of these which, in the fall of 1813, surprised Audubon by its magnitude. Watching the advance columns crossing the Ohio south of Louisville, he attempted to get at the number of flocks, and counted one hundred and twenty-three of them in twenty-one minutes. But so swiftly did they go by that the teller desisted. "Pigeons were passing in undiminished numbers that day, and continued to do so for three days in succession." Another observer, who for many years witnessed the return of the flights in northeastern Ohio, puts the number of birds in one of these flocks at 141,000,-000.

Among the wild enemies of the Pigeon, indeed the most dangerous of

them, was the Indian who levied upon the flocks wherever he found them. The populous roosts of the southland he invaded at night, and, firing the under-brush, killed the birds by the thousands. Large numbers were caught around the numerous licks in simple traps. But it was at the great nestings that the tribe settled down to a continuous banquet, and during which it gathered a bounteous harvest of savory produce. Some of the older historians occasionally refer to those hunting camps. Writing about 1650, Adrian Van der Douk, in his Description of the New Netherlands, says: "The Indians, when they find the breeding places of the Pigeons, frequently remove to those places with their wives and children to the number of two to three hundred in a



PASSENGER PIGEON

A characteristic attitude assumed as the bird walked through branches

company, where they live a month or more on the young Pigeons which they take after flushing them from their nests with poles or sticks." Recalling the old days, Pokagon states that they seldom killed the old birds, but made great preparations to secure their young, out of which the squaws made squab butter, and smoked and dried them for future use. As to the amount of food preserved, John Lawson, who traveled among the tribes of the Carolinas in the first decade of the eighteenth century, relates: "You may find several Indian towns of not above seventeen houses, that have more than a hundred gallons of pigeon oil or fat, they using it with pulse or bread as we do butter." Savage people, the world over, carefully protect their organic resources, and the aborigines shared this wholesome instinct of self-preservation.

A pupil of Linnaeus, Peter Kalm, whose name is perpetuated by our *Kalmia*, or sheep laurel, botanized in the forests of the Atlantic slope between 1740 and 1750. In his copious notes upon the Pigeon, he speaks of this universal

trait as shown by the natives. "While the birds are hatching their young, and while the latter are not able to fly, the savages or Indians in North America are in the habit of never shooting or killing them, nor allowing others to do so, pretending that it would be a great pity on their young, which would in that case have to starve to death."

But neither the modest tribute levied by the Indian nor the gigantic contribution exacted by the pioneers sensibly diminished the Pigeon population, which maintained its numbers until improved methods of communication and the decrease of its habitat created new and more adverse conditions. The rapid development of transportation by steam over land and water provided hunter and trapper with ample facilities for the shipment of game to the great cities. In a few years, the birds had become a marketable commodity. About 1840, professional catchers began to prey upon the unprotected flocks. By degrees they bettered the older methods of luring and taking. The chief contrivance universally employed consisted of a capacious net, which could be quickly dropped over a bed baited with salt, mud or grain, and to which the Pigeons were attracted by imitation of their call or by the voices of captive mates serving as decoys.

By 1870, the netters had much increased in numbers. The register book of pigeoners in Wisconsin lists some five hundred names of persons engaged in this unholy traffic at about that time. The business of locating, killing, and marketing the birds was now thoroughly systematized and assumed ominous proportions. Invading the winter home of the flocks, which so far had escaped their marauding expeditions, the pigeoners raided through the cold season. Tracking the birds to the breeding range, they continued their nefarious operations in the great nestings, sparing neither the brooding mates nor their young.

The unfortunately merely reminiscent accounts of some of the active participants in the forays of those days were brought together by Mershon in his valuable book of the Passenger Pigeon. With the convincing simplicity of practical men, the netters describe the remunerative business they followed, and frequently give estimates of the seasonal yield. Averaging these fairly reliable data, we find that the catch for the decade of 1866-1876 amounted to more than 10,000,000 Pigeons per year. This number represents shipments only. The birds used in the camps, those taken by farmers and Indians, and the vast numbers killed accidentally in the overcrowded rookeries probably exceeded 2,000,000 more. Excepting a negligible quantity of squabs, these 12,000,000 were brooding birds, and their death involved that of the nestlings. This annual and terrific loss suffered by the race, made irreparable by the break in the sequence of generations due to the fiendish destruction of the young, swiftly led to the inevitable end.

In the spring of 1878, the waning flocks established nestings near Petosky, in Emmet County, Michigan, to the south of this in the swampy woodlands of

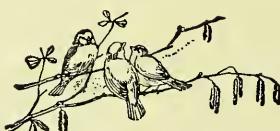
the Manistee River, and near Sheffield, in Warren County, Pennsylvania. The descriptions of these nestings by the pigeons yield sufficient data to compute their population which, counting five nests per tree, and reducing the figures given by one-third, reaches a total of some 50,000,000. It is known that the Manistee flock, protected by an almost inaccessible forest remote from transportation, escaped destruction. Not so the rookeries of Sheffield and Petosky. From these two localities there were shipped during the season, that is from April to September, some 30,000,000 birds. Thus culminated the relentless persecution of many years in a barbarous massacre where perished the last of the great flights, and which doomed the shattered and surviving remainder.

After the slaughter of 1878, the now utterly disorganized and terror-stricken flocks continued to resort to the breeding range in yet considerable numbers. In 1880, millions of birds passed over Tawas going westward, and a colony of some 10,000 bred in Benzie County. The last known nesting of importance took place near Grand Traverse in the year following. This final stronghold, some eight miles in length, probably sheltered more than 1,000,000 Pigeons. Some 20,000 birds were taken here, to be butchered within a week during a trap-shooting tournament at Coney Island, New York. Breeding flocks of a few hundred individuals appeared in later years. In the spring of 1888, large flocks and many small ones passed over Cadillac, Michigan, and departed forever from the sovereign state, which failed them in their hour of need.

Hand in hand with the extermination of the breeding hosts went that of the wintering flocks, of which no records seem to have been made. A shipment of several hundred dozens of birds, in 1893, marks their ultimate disappearance here. A pitiful remnant, some fifty in all, lingered for a few subsequent years in southwestern Missouri.

A small number of birds outlived the dissolution of the last flocks. Dispersed in couples, in bands of five or more, or as solitary individuals, these were sighted at rare intervals throughout the former breeding range during the nineties. A dozen or so bred near the headwaters of the Au Sable River in 1896. It is the last known nesting. With the beginning of the new century trustworthy records cease, and there is but little doubt that its first years witnessed the passing away of the hapless descendants of a favored race.

Down in the pleasant valley of the Ohio, amidst patriarchs of the forest primeval, lives to this day a captive and lonely daughter of her gentle tribe, and its sole relict, awaiting the final summons which comes to all that breathe.



The Passenger Pigeon: Early Historical Records, 1534-1860

By ALBERT HAZEN WRIGHT

ALMOST the only sources of ornithological knowledge of the earlier times in North America are historical annals, quaint narratives of exploration, and travelers' sketches. Our predecessors had intense interest in birds, now rare, near-extinct, or extinct. The flocking of the Passenger Pigeon, or other habits equally peculiar, were in such bold relief, and so patent, as to attract the attention of any layman, whatever his mission. Only a small part of this mass of information from the contemporaries of the Pigeon can be presented, and this résumé can consider but a few topics, which are largely clothed in the language of early observers.

Migration.—The prodigious flights of these “millions of millions of birds” have exhausted the numerical superlatives of the English tongue. “They darkened the sky like locusts;” “the hemisphere was never entirely free of them;” “all the pigeons of the world apparently passed in review;” “their incredible multitudes were like thunder-clouds in heaven;” and countless other figures, mixed and pure, have entered the history of their migrations. In the early days, the writers apologized for such marvelous stories. John Clayton, the early Virginian botanist (1688), remarked, “I am not fond of such Stories, and had suppressed the relating of it, but that I have heard the same from very many . . . the Relators being very sober Persons.” Bernaby, in 1759, felt that he must intrench himself, and asserted that “The accounts given of their numbers are almost incredible; yet they are so well attested, and opportunities of proving the truth of them so frequent, as not to admit of their being called in question.” One of the Jesuit Fathers (1656) considered this migration one of the three remarkable facts of the natural history of America. LaHontan, in 1687, wrote, “that the Bishop had been forced to excommunicate 'em oftner than once, . . .” The early colonists of New England and Maryland often thought of them as ominous presages of approaching disasters, like Indian massacres, crop failures, etc. It was an old observation in America, whether true or not, that Pigeons were quite numerous in the springs of sickly years. Several authors claimed that the Pigeons came north in the spring by a route different from that of their return in the fall. “Wild pigeons, in their passage northward, begin to appear in New England, end of February and beginning of March, but not in large numbers, because they travel more inland for the benefit of last autumn berries of several sorts in the wilderness; they return in their passage southward, in larger quantities, end of August; . . . they at that season keep toward the plantations for the benefit of their harvest” (Douglass, 1755).

Two descriptions of their flights from eyewitnesses will suffice: “A gentleman of the town of Niagara assured me (Weld, 1795) that once, as he was

embarking there on board ship for Toronto, a flight of them was observed coming from that quarter; that, as he sailed over Lake Ontario to Toronto, forty miles distant from Niagara, pigeons were seen flying overhead the whole way, in a contrary direction to that in which the ship proceeded; and



PASSENGER PIGEON, PARENT BIRD
The nearby presence of this bird's offspring induces an alert, defiant
pose when confronted by the camera.

that, on arriving at the place of his destination, the birds were still observed coming down from the north in as large bodies as had been noticed at any one time during the whole voyage; supposing, therefore, that the pigeons moved no faster than the vessel, the flight, according to this gentleman's account,

must at least have extended eighty miles. . . . It is not oftener than once in seven or eight years, perhaps, that such large flocks of these birds are seen in the country. The years in which they appear are denominated 'pigeon years.'"

In 1844, Featherstonhaugh, in an excursion through the slave states, found that, "A new and very interesting spectacle presented itself, in the incredible quantities of wild pigeons that were abroad; flocks of them many miles long came across the country, one flight succeeding to another, obscuring the daylight, and in their swift motion creating a wind, and producing a rushing and startling sound, that cataracts of the first class might be proud of. These flights of wild pigeons constitute one of the most remarkable phenomena of the western country. . . when such myriads of timid birds as the wild pigeon are on the wing, often wheeling and performing evolutions almost as complicated as pyrotechnic movements, and creating whirlwinds as they move, they present an image of the most fearful power. Our horse, Missouri, at such times, has been so cowed by them that he would stand still and tremble in his harness, whilst we ourselves were glad when their flight was directed from us."

Pigeon Roosts.—If the accounts of the migrant hosts seem incredible, surely the most fervid imagination cannot conceive the numbers at the roosts. "Their roosting places are always in the woods, and sometimes occupy a large extent of forest. When they have frequented one of these places for some



PASSENGER PIGEON

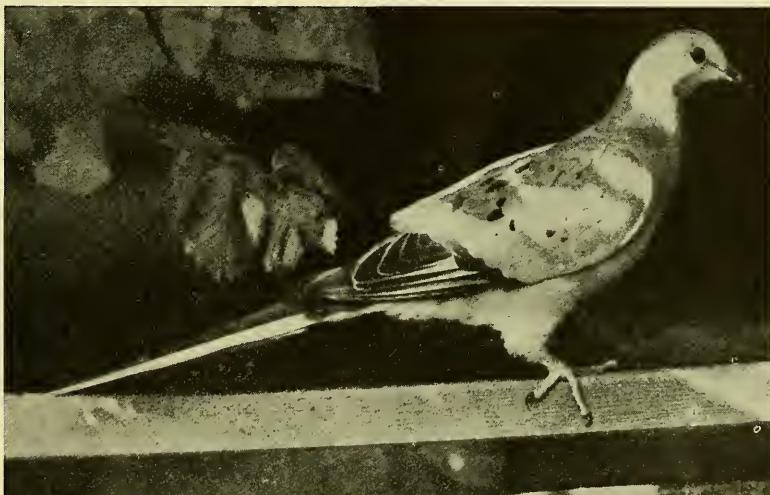
The same bird shown in the preceding picture

time, the ground is covered several inches deep with their dung; all the tender grass and underwood are destroyed; the surface is covered with large limbs of trees, broken down by the weight of the birds clustering one above another; and the trees themselves, for thousands of acres, killed as completely as if girdled with an axe. The marks of this desolation remain for many years on the spot; and numerous places can be pointed out, where, for several years afterwards, scarcely a single vegetable made its appearance" (Hinton). Of the dung, another writes (1806) that, "Under each tree and sapling, lay an astonishing quantity of dung, of which, from specimens we saw, there must have been not only hundreds, but thousands, of waggonloads. Round each resting place was a hillock raised a considerable height above the surface, although the substance had been there eighteen months when we made our observations on the place. At that time the heaps were, no doubt, greatly sunk." Faux, in 1819, describes a Pigeon roost, which "is a singular sight in the thinly settled states, particularly in Tennessee in the fall of the year, when the roost extends over either a portion of woodland or barrens, from four to six miles in circumference. The screaming noise they make, when thus roosting, is heard at a distance of six miles; and, when the beechnuts are ripe, they fly two hundred miles to dinner, in immense flocks, . . . They thus travel four hundred miles daily." About the same time, the people along the New England coast noticed that the Pigeons used to visit the marshes for mud every morning, and then fly inland long distances. In this connection, "Sketches and Eccentricities of Colonel David Crockett, 1835," has a pertinent note. "They frequently fly as much as eighty miles to feed, and return to their roost the same evening. This was proved by shooting them at their roost of a morning when their crows were empty, and then shooting them again in the evening when they returned. Their crows were then filled with rice, and it was computed that the nearest rice-field could not be within a less distance than eighty miles. . . . near a roost, from an hour before sunset until nine or ten o'clock at night, there is one continued roar, resembling that of a distant waterfall. . . . A pigeon roost in the west resembles very much a section of country over which has passed a violent hurricane."

Breeding Places.—"The breeding places [were] of greater extent than the roosts. In the western countries they [were] generally in beech-woods, and often [extended] nearly in a straight line across the country, a great way. . . . A few years ago, there was one of these breeding-places [Ky.], which was several miles in breadth, and upwards of forty miles in length. In this tract, almost every tree was furnished with nests, wherever the branches could accommodate them. The pigeons made their first appearance there about the 10th of April, and left it altogether, with their young, before the 25th of May" (Hinton). Of their former numbers in New England, in 1741, Richard Hazen made this record: "For three miles together, the pigeons' nests were so thick that five hundred might have been told on the beech trees

at one time; and, could they have been counted on the hemlocks, as well, I doubt not but five thousand, at one turn around." Certainly, this assembly of these birds, both in their migrations and during breeding, has no parallel among the feathered tribe.

Methods of Capture.—Whenever a roost was located, the Indians frequently removed to such places with their wives and children to the number of two or three hundred in a company. Here they lived a month or more on the squabs, which they pushed from the nests by means of long poles and sticks. Similarly, in later times, the whites from all parts adjacent to a roost would come with wagons, axes, cooking utensils, and beds, and would encamp at these immense nurseries. Sometimes, just before the young Pigeons could



PASSENGER PIGEON

A highly characteristic attitude. Photographed by J. G. Hubbard

fly, the settlers and Indians would cut down the trees and gather a horseload of young in a few minutes. In one case, two hundred were secured from one tree. At night, it was a universal custom to enter the roosts with fascines of pine splinters, dried canes, straw, wood, or with any torchlike material, and push old and young from the trees by means of poles. Not infrequently they took pots of sulphur, to make the birds drop in showers, as it was claimed. In some of the larger roosts, the crashing limbs made it too dangerous for man or beast to approach. In Canada, they occasionally would make ladders by the side of the tallest pines, on which the Pigeons roosted. Then, when night came, they crept softly under and fired up these ladders. "But the grand mode of taking them [in the roost] was by setting fire to the high dead grass, leaves and shrubs underneath, in a wide blazing circle, fired at different parts at the same time, so as soon to meet. Then down rushed the pigeons in im-

mense numbers and indescribable confusion, to be roasted alive, and gathered up dead next day from heaps two feet deep."

On the migrations also they suffered. Every firearm, club, or implement, was pressed into service when they appeared. Every one took a vacation. The sportsmen shot them for fun; Indians and settlers sought them as fresh food; and the planters killed them to protect his crops. If they fed on the cultivated fields, it meant famine to the early colonists; if they foraged in the wilds, they left no mast nor food for the hogs and resident wild animals. Of course, a favorite weapon of offense was the old fowling-piece, and countless are the old stories of quarries ranging from ten to one hundred and thirty-two secured at one shot. That huntsman who could not take from two hundred to four hundred in a half day was poor indeed. When the Pigeons were flying, it was an easy matter to knock down bagfuls by swinging a long pole or oar to the right and to the left. Neither was it impossible to bring them down by throwing sticks into the flocks. One writer told of a man who was enveloped in a low-flying flock. To save his eyes, he had to fall on his face until they had passed. Another asserted that when two columns, moving in opposite directions, encountered each other, many usually fell to the ground stunned. Along the New England coast, they were caught on the marshes by means of live decoys. In other parts, stuffed birds were used to attract passing flocks. Many a man boasted of ten, twenty-five, or thirty dozens of Pigeons caught in a snare at one time. One writer claimed that cuming seed or its oil was found by experience the best lure to induce the Pigeons to these nets. Particularly favorable for netting were the salt springs, at which the netters took as many as 800 to 1,500 or 1,600 at once in one net. These Pigeon traps were various in form and construction. One was made of nets 20 x 15 feet stretched on a frame. This was propped up by a pole eight feet long. When the birds entered under it, a boy or man concealed by a fence withdrew the prop with a string attached to it, and the falling net enmeshed the birds. To the nets they were also allured "by what we call *tame wild pigeons*, made blind, and fastened to a long string. His short flights and his repeated calls never fail to bring them down. Every farmer has a tame wild pigeon in a cage, at his door, all the year around, in order to be ready whenever the season comes for catching them" (Crèvecoeur, 1783).

Enemies and Mishaps.—Their enemies were legion. Wolves, foxes, and many other beasts frequented their roosts; birds of prey sought them alive or feasted on their dead bodies, both at the roosts, and over lakes. Mishaps overtook them on land and sea. On the land, storms rarely overwhelmed them. Over our Great Lakes, sometimes entire flocks were overtaken by severe tempests, forced to alight, and consequently drowned. Many times when they reached the shore safely from a hard flight, they were so fatigued as to fall an easy prey to man. For example, a whole British encampment in the Revolutionary War thus feasted for one day on Pigeons which had just flown across

Lake Champlain. Self-slaughter was another means of their destruction. The continual breaking of overladen limbs took its heavy toll of wounded and killed birds, and it was a common practice, for man and beast, to gather up and devour the dead and dying, which were found in cartloads. Occasionally, animals were said to have gone mad from feeding on their remains.

Their Uses.—All observers seemed generally agreed that they were delicate food. The Europeans preferred them for their flavor to any other Pigeons of their experience. Kalm, the Swedish savant, considered them the most palatable of any bird's flesh he had ever tasted. Throughout the country, they were proclaimed of great benefit in feeding the poor; for many weeks, they furnished an additional dish for the southern planter's table. In Canada, "during the flights . . . the lower sort of Canadians mostly subsisted on them." Another held them the exclusive food of the inhabitants of this section. During the shooting season, they were on every table. The hunters sold a part of their bag and kept the remainder. Often they fattened the live Pigeons for the market. These commanded good prices, but the dead birds sometimes sold as low as three pence per dozen, or a bushel for a pittance. In

fact, one writer frequently saw them "at the market so cheap that, for a penny, you might have as many as you could carry away; and yet, from the extreme cheapness, you must not conclude that they are but ordinary food; on the contrary,—they are excellent." These birds furnished soups and fricassees, which were usually dressed with cream sauce and small onions. In some parts, they served as luxuries on the tables of the aristocrats. In requital for the damage they did, "The farmers, besides having plenty of them for home use, and giving them to their servants, and even to their dogs and pigs, salted caskfuls of them for the winter." The traveler found little else at the inns when Pigeons were flying. The savages heaped their boards with a royal abundance of them. They could eat them fresh, dried, smoked, or any other



PASSENGER PIGEON, IMMATURE

way. On Lake Michigan, they often gathered the dead Pigeons which floated on shore, usually smoking what were not needed for immediate use. In the South, Lawson (1714) found "several Indian towns of not above seventeen houses, that had more than one hundred gallons of pigeon's oil or fat; they using it with pulse or bread as we do butter, . . ." Not infrequently in the Indian and Revolutionary wars, Pigeons helped the commissary when supplies were low. For the hardy pioneers, their feathers made better beds than did corn husks, and one writer suggested a use for their dung. He held that, with little expense, great quantities of the best saltpetre could be extracted from their ordure. It is difficult to estimate the very important role of the Pigeon in the economy of the early pioneers, yet it is striking enough to arrest the attention of all.

Their Food.—Doubtless much of their excellent flavor and delicacy was due to the nature of their food. In the North and South alike they showed a marked preference for beechnuts and acorns of all kinds. They furnished an animated sight, indeed, when digging in the snow for the latter. In the earliest days, the colonists complained because they beat down and ate up great quantities of all sorts of English grain. They could subsist on wheat, rye, oats, corn, peas, and other farm produce. Neither were they averse to garden fruits. In the summer, when the strawberries, raspberries, mulberries, and currants were ripe, they showed a particular fondness for them. They were quite partial to the seeds of red maple and American elm, wild grapes, wild peas, and pokeberry (*Phytolacca*), which was known in many parts as Pigeon-berry. Another vegetable form bore the same name. Pursh said they found the Pigeon-berries or Pigeon peas attached to roots, and they were "nothing else, than the tuberculis of a species of *Glycine*, resembling marrowfat peas very much: the Pigeons scratch them up at certain times of the year and feed upon them very greedily."

Two quotations will give interesting sidelights on their methods of feeding. A Mr. Bradbury, in 1810, "had an opportunity of observing the manner in which they feed; it affords a most singular spectacle, and is also an example of the rigid discipline maintained by gregarious animals. This species of pigeon associates in prodigious flocks: one of these flocks, when on the ground, will cover an area of several acres in extent, and so close to each other that the ground can scarcely be seen. This phalanx moves through the woods with considerable celerity, picking, as it passes along, everything that will serve for food. It is evident that the foremost ranks must be most successful, and nothing will remain for the hindermost. That all may have an equal chance, the instant that any rank becomes last, they arise, and flying over the whole flock, alight exactly ahead of the foremost. They succeed each other with so much rapidity that there is a continued stream of them in the air; and a side view of them exhibits the appearance of the segment of a large circle, moving through the woods. I observed that they cease to look for food

a considerable time before they become the last rank, but strictly adhere to their regulations, and never rise until there are none behind them." In 1758, DuPratz, when on the Mississippi River, "heard a confused noise which seemed to come along the river from a considerable distance below us. . . . How great was my surprise when I . . . observed it to proceed from a short, thick pillar on the bank of the river. When I drew still nearer to it, I perceived that it was formed by a legion of wood-pigeons, who kept continually up and down successively among the branches of an evergreen oak, in order to beat down the acorns with their wings. Every now and then some alighted, to eat the acorns which they themselves or the others had beat down; for they all acted in common, and eat in common; no avarice nor private interest appearing among them, but each labouring as much for the rest as for himself."

If only the human species would emulate this communal spirit, act in unison for bird-protection without commercial quibbling, curb its mania for bird-adornment, check excessive "sport for sport's sake," and annihilate potting for market, some of our threatened birds would reëstablish their slender hold and escape their impending extinction. In the early settlements, Pigeons, Turkeys, Paroquets, and Heath Hens were plentiful; civilization and culture came; the hills and valleys were deforested; the lowlands were cultivated; in short, the balance of nature was excessively disturbed; yet where have we collectively provided these original occupants refuge, or how have we restrained ourselves, to promote their greater increase, when they were most rapidly lessening? The conscience balm has always been, "They will be even common."

Recollections of the Passenger Pigeon in Captivity

By WALLACE CRAIG

THE Passenger Pigeon was easily kept in captivity. All species of Pigeon take more or less well to cage-life, but the Passenger Pigeon thrived and bred much more readily than some of the others. My own observations of it at close range were due to the privilege of studying in the pigeonry maintained by the late Prof. C. O. Whitman. In Chicago and in Woods Hole, Professor Whitman kept Passenger Pigeons in pens of modest dimensions, yet they bred, and would probably have maintained their numbers permanently, had it not been for in-breeding, the flock being all descended from one pair. They took readily to the nest-boxes, nesting materials, and all other artificial arrangements of the aviary. They did not become exceedingly tame, did not eat out of one's hand (so far as I saw); but, if effort had been made to tame them to this degree, who knows but it might have been successful? It is a great pity that attempts were not made earlier to breed these birds in



PASSENGER PIGEON, ADULT MALE

confinement, for it is certain that the species could have been thus saved from extinction.

As an aviary bird, it would have been a favorite, on account of its beauty and its marked individuality. Constant close association with a bird in the aviary gives one a kind of intimate acquaintance with it which can seldom, if ever, be gained by observation of wild birds. And for such study at close range the Passenger Pigeon was, and would ever have continued to be, a most interesting subject, for its strongly marked character appeared in every minute detail of its habits, postures, gestures, and voice.

In another place* I have given a somewhat technical and detailed description of certain habits observed in the captive *Ectopistes migratorius*. The great account of this species, that by Professor Whitman, remains still to be published in the monograph on Pigeons now being edited by Doctor Riddle. Here, in BIRD-LORE, I shall try to portray my clearest recollections of this magnificent bird; I shall add a few facts to those mentioned elsewhere; but I shall endeavor chiefly to convey to the minds of others something of the vivid impression made upon the minds of those who observed the Passenger Pigeon in life.

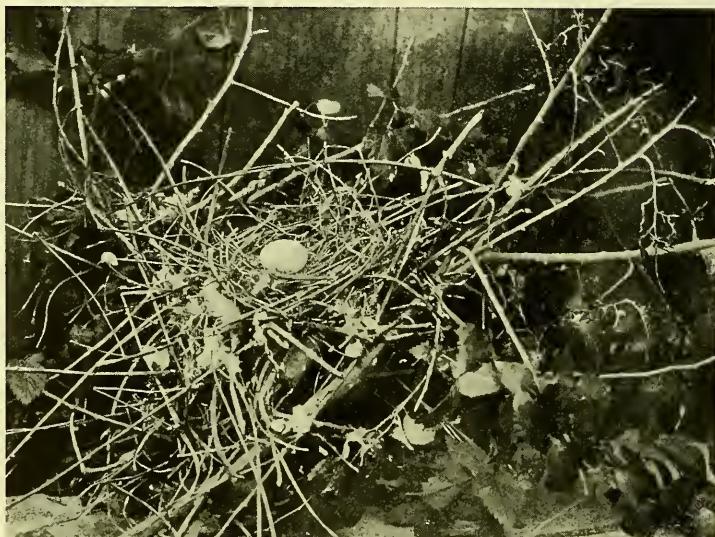
The distinctive character of the species appeared, as has been said before, in every detail of its postures and movements. Such individuality is in great part impossible to describe, though it is felt unmistakably by everyone who has lived with the birds. Better than any mere description are the accompanying photographs. In them one can see that, with its long, pointed tail, its graceful, curved neck and head, and its trim, strong body and wings, the Passenger Pigeon was truly elegant. The Ring-Dove, by contrast, seems chubby in form and gross in movement. The Passenger was quick, active, vigorous, and graceful. The elegance of form and posture which shows in these photographs was matched by an elegance of motion in every act of the birds while on the perch or on the wing.

The Passenger was preëminently a bird of flight. Accordingly, its movements on the ground were a little awkward, in contrast to its grace when on the perch or in the air. It indulged often in a grand wing exercise, standing on a high perch and flapping its wings as if flying, now slowly, now powerfully, now leaving the perch to fly up and down the aviary, returning to the perch and again commencing the wing exercise, looking about for somewhere else to fly to. This species thus loved to fly more than did most of the other Pigeons. And though not afraid of men nor properly to be called "wild," it seemed sometimes to wish to escape from the pen and fly into the very sky.

Extreme powers of flight and extreme gregariousness seem to be the two fundamental traits in the peculiar habits of this species. But as to the latter trait, I did not notice that in the aviary the Passenger Pigeons flocked to-

*The Auk, Vol. XXVIII, pp. 408-427, October, 1911.

gether more than the others, for all Pigeons are gregarious. The number of Passenger Pigeons being small, there was little opportunity for them to show their extreme flocking tendency. The old accounts tell us that in the great roosts some Pigeons alighted on the backs of those who had found perches; but this was probably only temporary and for lack of room, and I am sure the one alighted on must have resented it with angry voice and a struggle to throw the other off his back.



PASSENGER PIGEON'S NEST AND EGG

The noise made by the Pigeons in their great breeding colonies, as we are told by those who witnessed them, was deafening. Now, the Passenger Pigeon's voice was very different from the voice of any other Pigeon. It had little of the soft, cooing notes so familiar in all sorts of Doves, but showed extreme development of the hard, unmusical notes which in most Doves are subordinate to the coo. This peculiarity seems to have been an adaptation to life in such extremely populous and hence noisy communities, where soft notes could scarcely be heard, and a bird had literally to scream in order to gain a hearing.

Let us examine the bird's various notes in more detail, for they are interesting. The most characteristic utterance of the species was a voluble stream of 'talking,' which ever varied with the mood of the bird,—now rising into a loud, shrill scolding, now sinking into a soft, low clucking, and sometimes diminishing into single clucks. In addition to this voluble flow of talk, the male sometimes shouted one or two single, emphatic notes sounding like a loud *keck, keck*. All these sounds were full of meaning and expression. And

their expressiveness was greatly enhanced by the bird's movements. With the loud notes, as used in anger, he stood at full height, in his majestic way, and impressed the enemy by his bold appearance; and sometimes each loud *keck* was accompanied, quick as lightning, by a stroke of both wings, which struck the enemy if he was near enough, and powerfully frightened him if he was at a distance. On the other hand, with the soft, clucking notes, which expressed gentler feelings, even to devotion, the talking bird sidled along the perch to the bird to whom he was talking, and sometimes put his neck over her in a way which clearly showed his tender emotion. The Passenger was very quick and nimble in moving sideways along a perch, and this movement was so characteristic of his courting as to distinguish it from the courting of any other species.

Though all this chattering and kecking was so very expressive, it was never sweetly musical. The loud notes were strident, and even the faint notes were hard. The male, when courting, gave also a coo, which was musical, but so weak and faint that in my early memoranda I put it down simply as "the weak note;" and this little coo, sounding more like *keeho*, was usually given after the clucking or kecking notes, as a subordinate appendage to them. The species gave also a nest-call, as do the other Pigeons; but this,



PASSENGER PIGEON, YOUNG

like the coo, was weak and inconspicuous compared with the strong and expressive notes described above.

The female of this, as of all other Pigeons, was more quiet than the male in both voice and movement, and distinguishable from him even when motionless by a characteristic shyness in her attitude, especially in the pose of her head. So distinct was this difference between the sexes that, in looking at the

accompanying photographs (which came to BIRD-LORE without data as to sex), I have ventured to state that four of the figures are of male birds and one is an excellent illustration of the female. I have not hazarded a guess as to the sex of the other four adult figures, for they are in postures less distinctive of sex. (In the attitude of alarm, especially, the male and female become very much alike.)

The courting behavior of this species, as is evident from what has been said about voice and gestures, was very different from the courting behavior of other Pigeons and Doves. Instead of pirouetting before the female, or bowing to her, or running and jumping after her on the ground, the Passenger Pigeon sidled up to her on the perch, and pressed her very close; and if she moved a little away from him he sidled up to her again and tried to put his neck over her.

The male was very jealous of his mate. And when they had a nest he was a most truculent fellow, attacking any other bird that came into the vicinity. The scenes which resulted were often most amusing. I once saw a male Passenger Pigeon go around the edges of the pen and oust every Pigeon that was sitting alone, mostly Band-tailed Pigeons and Cushats; but he did not attack the dozen or so that were all sitting on one perch. He was not really a good fighter: he made a bold attack, but if the attacked one showed fight, *Ectopistes* generally retreated.

The defence of the nest was accompanied, as may be imagined, by a lively chatter of scolding and kecking. The Passenger was one of the most garrulous of all the Pigeons in the great aviary. This was naturally connected with the fact of his having chattering notes instead of cooing ones. For a coo is more or less formal, and it cannot be uttered in the midst of all sorts of activity. But the chatter of the Passenger Pigeon was heard on all sorts of occasions, and accompanied nearly everything he did. If he picked up a straw and carried it to the nest, he talked about it while he was searching on the ground for straws, clucked a few times as he flew up, and chattered to his mate as he gave the straw to her.

I regret to say that I can give no account of the later stages in the breeding of this bird, the hatching and rearing of young. For in the year 1903, when I began to study this species, the birds had already lost the power to hatch and rear young. This much may be said, however, that the species continued vociferous throughout a long breeding season, and in some degree throughout the year. In August, when beginning to molt, it of course became more quiet, losing especially the feeble coo and the nest-call. The grand wing exercise also became reduced, for this performance seems to have been not merely a muscular exercise but also a display. Now, some species of Pigeon when they lose their coo, become almost silent. Not so *Ectopistes*. For the kecking and scolding and chattering continued, though with not quite the same vehemence as in the breeding season, throughout the autumn and winter. This again

goes to show, as we have said, that the Passenger was one of the most garrulous of Pigeons, and would have made one of the most interesting of aviary pets.

The Last Passenger Pigeon

By E. H. FORBUSH

THE Passenger Pigeon undoubtedly was one of the greatest zoölogical wonders of the world. Formerly the most abundant gregarious species ever known in any land, ranging over the greater part of North America in innumerable hosts, apparently it has disappeared to the last bird. Many people now living have seen its vast and apparently illimitable hordes marshaled in the sky, have viewed great forest roosting-places broken by its clustering millions as by a hurricane, and have seen markets overcrowded to the sidewalks with barrels of dead birds. Those of us who have witnessed the passing of the Pigeons find it hard to believe that all the billions of individuals of this elegant species could have been wiped off the face of the earth. Nevertheless, this is just what seems to have occurred. Even Prof. C. F. Hodge, cheerful optimist that he is, after three years' search of North America, practically gives up the quest, and acknowledges that the investigation has not produced so much as a feather of the bird.

The editor of *BIRD-LORE* has asked me to write the story of the last Passenger Pigeon; but I cannot allow this opportunity to pass without giving an epitome of the causes which have brought about the extermination of the species. John Josselyn, in his "Two Voyages to New England" published in 1672, describes the vast numbers of the Pigeons and says, "But of late they are much diminished, the English taking them with nets." This seems to indicate that the extirpation of the species began within forty years after the first settlement of New England, and exhibits the net as one of the chief causes of depletion. *From soon after the first occupancy of New Engeland by the whites until about the year 1895, the netting of the Passenger Pigeon in North America never ceased.* Thousands of nets were spread all along the Atlantic seaboard. Nets were set wherever Pigeons appeared, but there were no great markets for them to supply until the nineteenth century. Early in that century, the markets were often so glutted with Pigeons that the birds could not be sold at any price. Schooners were loaded in bulk with them on the Hudson River for the New York market, and later, as cities grew up along the shores of the Great Lakes, vessels were loaded with them there; but all this slaughter had no perceptible effect on the numbers of the Pigeons in the West until railroads were built throughout the western country and great markets were established there. Then the machinery of the markets reached out for the Pigeons, and they were followed everywhere, at all seasons, by hundreds of men who made a business of netting and shooting them for the market.

Wherever the Pigeon nested, the pigeons soon found them, and destroyed most of the young in the nests and many of the adult birds as well. Every great market from St. Louis to Boston received hundreds or thousands of barrels of Pigeons practically every season. The New York market at times took one hundred barrels a day without a break in price. Often a single western town near the nesting-grounds shipped millions of Pigeons to the markets during the nesting season, as shown by the shipping records. Nesting after nesting was broken up and the young destroyed for many years until, in 1878, the Pigeons, driven by persecution from many states, concentrated largely in a few localities in Michigan, where a tremendous slaughter took place. These were the last great nesting grounds of which we have any record. Smaller nestings were known for ten years afterward, and large numbers of Pigeons were seen and killed; but after 1890 the Pigeons grew less and less in number until 1898, when the last recorded instances of their capture occurred that can now be substantiated by preserved specimens. Since that time, there are two apparently authentic instances of the capture of the Pigeon recorded, one in Ohio and the other in Wisconsin, and my investigations have revealed a few more which have been published in my 'History of the Game Birds, Wild Fowl and Shore Birds.' Mr. Otto Widmann, who kindly undertook to look into the history of the Passenger Pigeon for me in the markets of St. Louis, states that Mr. F. H. Miller of that place, a marketman who has sold and handled large quantities of Pigeons, received twelve dozen from Rogers, Arkansas, in 1902 and, later, a single bird, shipped to him from Black River in 1906. No exact dates can be given. Mr. Glover M. Allen, in his list of the 'Aves, Fauna of New England,' published by the Boston Society of Natural History in 1909, records a specimen killed at Bar Harbor, Maine, in 1904. A careful investigation leads me to believe that this is an authentic record, although I have not yet seen the specimen.

It was mounted by Mr. J. Bert Baxter, of Bangor, and was seen by Mr. Harry Merrill, who was perfectly competent to identify it. The specimen, when mounted, was returned to the man who shot it, but Mr. Baxter lost his record of the name of the owner. Mr. A. Learo, taxidermist, of Montreal, informs me that a specimen was taken by Mr. Pacificque Couture in St. Vincent, Province of Quebec, Canada, September 23, 1907. Mr. Learo states that he has returned the bird to Mr. Couture, but I have been unable to find the gentleman or learn anything more about the specimen. Therefore this may not be authentic. I have investigated other statements which have been published regarding recent alleged occurrences of the Passenger Pigeon in Canada, and find that the birds taken were Mourning Doves.

Now for the last living Passenger Pigeon of which we have any information. David Whittaker, of Milwaukee, Wisconsin, procured a pair of young birds from an Indian in northeastern Wisconsin in 1888. During the eight succeeding years, fifteen birds were bred from this pair, six males and



PASSENGER PIGEON ON NEST
The bird doubtless in some fear of the photographer

nine females. A part of this flock finally went to Professor C. O. Whitman, of Chicago University, and several individuals of it are figured in this number of *BIRD-LORE*. In 1904 Professor Whitman had ten birds, but his flock, weakened by confinement and inbreeding, gradually decreased in number. The original Whittaker flock decreased also, and in 1908 there were but seven left. All of these died but one female, which was sent to the Cincinnati Zoölogical Society. At that time the society had a male about twenty-four years of age, which has died since. The female in Cincinnati, so far as I know, is living still, and in all probability is the last Passenger Pigeon in existence.

Protected and fostered by the hand of man, she probably has outlived all the wild birds, and remains the last of a doomed race.

Many attempts have been made by gunners, marketmen, and others, to account for the disappearance of the Pigeons by attributing it to some other means than the hand of man. Stories have been published to the effect that the Pigeons migrated to South America or Australia; that they were destroyed by parasites or disease, or that they were all drowned in the Gulf of Mexico, in the Great Lakes, or in the Atlantic Ocean.

There is nothing in substantiation of these tales that would be accepted as evidence by any careful investigator. The species never was recorded from South America or Australia, and the other explanations of its disappearance are either the result of fertile imagination or rest on hearsay evidence or rumors. Undoubtedly many Pigeons periodically were confused by fog and drowned in the Great Lakes, and there are two possibly authentic stories regarding the drowning of large numbers of Pigeons at sea. None of these occurrences, however, had any permanent effect on the numbers of the Pigeons, though the destruction of the forests undoubtedly had some effect. There is evidence that large numbers of these birds went north from Michigan in 1878, and great flocks bred in Manitoba that year. As Pigeons were sometimes overwhelmed by unseasonable snow-storms in the breeding season in the United States, they must have been still more subject to them in northern Canada; and if they were driven by persecution to the far north to breed, they might have been unable to raise young during the succeeding summers. In "*Michigan Bird-Life*," Professor Walter B. Barrows gives his opinion that some such catastrophe as this was accountable for a large part of the great diminution in their numbers. This opinion is logical, though there is no direct evidence in support of it. Those who study with care the history of the extermination of the Pigeons will see, however, that all the theories that are brought forward to account for the destruction of the birds by other causes than man's agency are absolutely inadequate. There was but one cause for the diminution of the birds, which was widespread, annual, perennial, continuous, and enormously destructive—their persecution by mankind.

Every great nesting-ground known was besieged by a host of people as soon as it was discovered, many of them professional pigeoneers, armed with

all the most effective engines of slaughter known. Many times the birds were so persecuted that they finally left their young to the mercies of the pigeoneers, and even when they remained most of the young were killed and sent to the market and the adults were decimated. The average life of a Pigeon in nature is possibly not over five years. The destruction of most of the young birds for a series of years would bring about such a diminution of the species as occurred soon after 1878. One egg was the complement for each nest. Before the country was settled, while the birds were unmolested except by Indians and other natural enemies, they bred in large colonies. This, in itself, was a means of protection, and they probably doubled their numbers every year by changing their nesting places two or three times yearly, and rearing two or three young birds to each pair. Later, when all the resources of civilized man were brought to bear against them, their very gregariousness, which formerly protected them, now insured their destruction; and when at last they were driven to the far North to breed, and scattered far and wide, the death rate rapidly outran the birth rate. Wherever they settled to roost or to nest, winter or summer, spring or fall, they were followed and destroyed until, unable to raise young, they scattered over the country pursued everywhere, forming targets for millions of shot-guns, with no hope of safety save in the vast northern wilderness, where the rigors of nature forbade them to procreate. Thus they gradually succumbed to the inevitable and passed into the unknown. Were it possible to obtain an accurate record of the receipts of Pigeon shipments in the markets of the larger cities only from 1870 to 1895, the enormous numbers sold and the gradual decrease in the sales would exhibit, in the most graphic and convincing manner possible, the chief cause of the passing of the Passenger Pigeon.

While we have been wondering why the Pigeons disappeared, the markets have been reaching out for something to take their place, and we have witnessed also the rapid disappearance of the Eskimo Curlew, the Upland Plover, the Buff-breasted Sandpiper, and the Golden Plover, from the same cause. Shall we awake in time to save any of these birds, or the many others that are still menaced with extinction by this great market demand? No hope can be held out for the future of these birds until our markets are closed to the sale of native wild game.



The Migration of North American Sparrows

TWENTY-FIRST PAPER

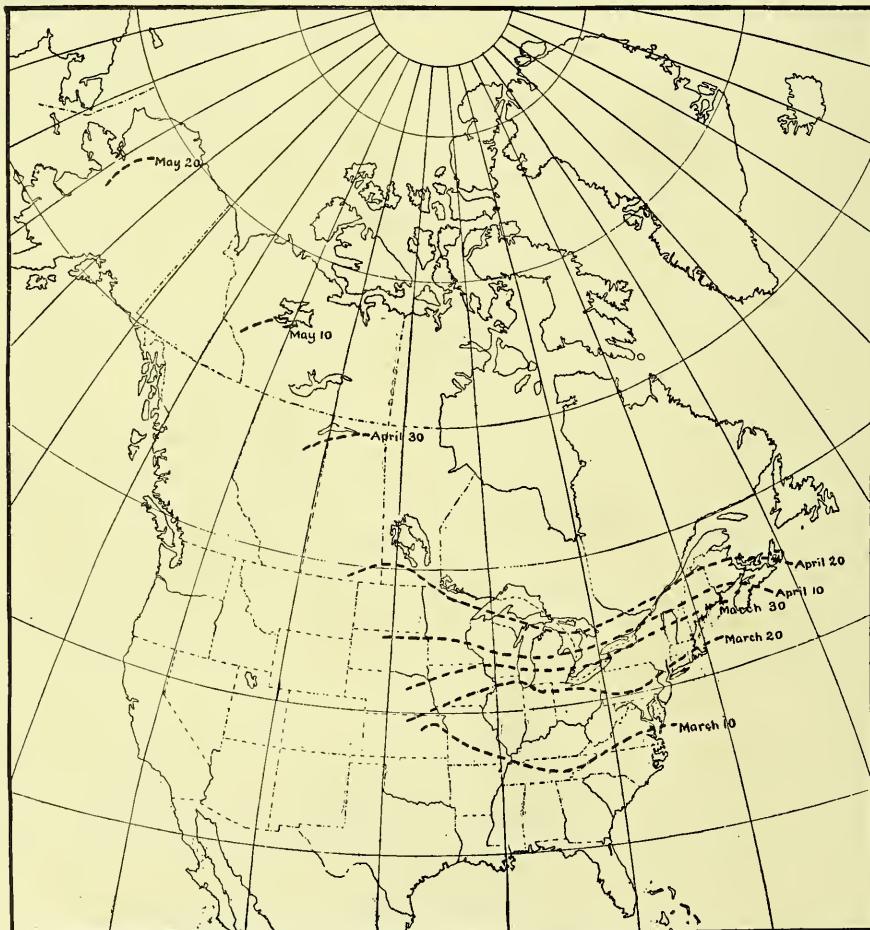
Compiled by Professor W. W. Cooke, Chiefly from Data in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES

(See Frontispiece)

FOX SPARROW

In the eastern United States, the Fox Sparrow winters from the valleys of the Potomac and Ohio Rivers to the Gulf States; it breeds throughout the larger part of Canada. The birds of the region from the Rocky Mountains to the Pacific have been separated into seven subspecies. Some of these forms, breeding from California to Colorado, are almost non-migratory, making short journeys from the mountains where they nest to the warmer valleys



ISOCHRONAL MIGRATION LINES OF THE FOX SPARROW

for the winter. Three forms, breeding in Alaska, come south in winter to California; but not enough data have as yet been secured to formulate their times of migration. Nearly all of the dates given in the following tables refer to the eastern bird, and it is particularly to be noted that this is the case with the Mackenzie records and those for Kotzebue Sound, Alaska. Note also the variations in speed of migration; forty days are occupied in the 1,000 miles from Missouri to Manitoba, and only thirty days for the 2,500 miles thence to northwestern Alaska.

SPRING MIGRATION

PLACE	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Washington, D. C.	8	March 13	rare, winter.
Englewood, N. J.	14	March 16	January 24, 1907
New Providence, N. J.	11	March 17	March 7, 1884
Morristown, N. J.	5	March 14	February 15, 1890
Jewett City, Conn.	19	March 17	March 6, 1902
Hartford, Conn.	9	March 19	March 14, 1909
Providence, R. I.	9	March 18	January 2, 1906
Beverly, Mass.	10	March 20	March 15, 1908
Taunton, Mass.	5	March 15	March 11, 1891
Durham, N. H.	3	March 22	March 16, 1898
St. Johnsbury, Vt.	3	March 30	March 27, 1903
Portland, Me.	7	March 25	March 19, 1905
St. John, N. B.	11	April 4	March 20, 1898
Scotch Lake, N. B.	4	April 18	April 14, 1905
Halifax, N. S.	5	April 8	April 2, 1894
Pictou, N. S.	8	April 17	April 9, 1889
Chatham, N. B.	5	April 20	April 14, 1899
North River, P. E. I.	4	April 20	April 18, 1889
Ottawa, Ontario	13	April 21	April 13, 1890
Quebec City, Canada			April 19, 1895
Monteer, Mo.	4	March 5	February 29, 1904
Lexington, Ky.	3	March 15	March 11, 1899
Odin, Ill.	3	March 13	February 10, 1891
Chicago, Ill.	17	March 19	March 6, 1908
Tampico, Ill.	6	March 25	March 19, 1886
Brookville, Ind.	5	March 16	March 7, 1890
Bloomington Ind.	5	March 17	February 20, 1892
Waterloo, Ind. (near)	9	March 27	February 28, 1903
Oberlin, O.	8	March 19	March 9, 1894
Southern Michigan	5	March 30	March 7, 1909
Hillsboro, Ia.	5	March 11	March 1, 1896
Keokuk, Ia.	9	March 15	February 17, 1888
Grinnell, Ia.	5	March 23	March 15, 1889
Madison, Wis.	5	March 20	March 15, 1908
Lanesboro, Minn.	11	April 3	March 25, 1889
Minneapolis, Minn.	6	April 5	April 2, 1903
Elk River, Minn.	8	April 8	March 28, 1884
White Earth, Minn.			April 14, 1882
Onaga, Kans.	5	March 7	March 1, 1891
Southeastern Nebraska	7	March 21	March 2, 1906
Northern North Dakota	6	April 20	April 10, 1910
Aweme, Manitoba	13	April 20	April 10, 1903
Anthony, Ore.			April 5, 1906
Chilliwack, B. C. (near)	3	March 23	March 18, 1889

SPRING MIGRATION, continued

PLACE	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Anaconda, Mont.....			April 11, 1910
Edmonton, Alberta (near).....	5	May 10	May 4, 1911
Fort Simpson, Mackenzie.....	3	May 6	May 5, 1861
La Pierre House, Yukon.....			May 20, 1863
Kotzebue Sound, Alaska.....			May 21, 1899

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Northern Florida.....			February 8, 1907
Mount Pleasant, S. C.....			February 14, 1899
Raleigh, N. C.....	2	March 5	March 21, 1892
Highlands, N. C.....			April 15, 1886
Lynchburg, Va.....	3	March 16	March 22, 1902
French Creek, W. Va.....	4	March 30	April 5, 1891
Washington, D. C.....	9	April 6	May 11, 1882
Erie, Pa.....	4	April 18	April 25, 1901
Englewood, N. J.....	5	April 6	April 23, 1901
Morristown, N. J.....	8	April 18	April 22, 1904
Jewett City, Conn.....	11	April 14	May 6, 1893
Hartford, Conn.....	10	April 18	April 26, 1908
Providence, R. I.....	7	April 6	April 21, 1907
Fitchburg, Mass.....	11	April 14	April 27, 1897
Beverly, Mass.....	8	April 21	April 25, 1907
Halifax, N. S.....	3	April 23	April 26, 1894
St. John, N. B.....	7	April 29	May 7, 1896
Ottawa, Ont.....	4	May 3	May 12, 1900
New Orleans, La.....			April 6, 1894
Athens, Tenn.....	3	March 13	April 1, 1905
St. Louis, Mo.....	7	April 10	April 19, 1888
Chicago, Ill.....	13	April 17	April 29, 1907
Rockford, Ill.....	5	April 17	April 24, 1887
Bloomington, Ind.....	3	April 18	April 20, 1895
Waterloo, Ind. (near).....	10	April 15	May 7, 1894
Oberlin, O.....	10	April 20	May 2, 1907
Keokuk, Ia.....	8	April 13	April 17, 1894
Grinnell, Ia.....	5	April 23	May 7, 1885
Madison, Wis.....	4	April 20	April 28, 1907
Lanesboro, Minn.....	8	April 19	May 2, 1893
San Antonio, Tex.....	2	March 20	March 25, 1891
Manhattan, Kans. (near).....	8	April 8	April 18, 1900
Southeastern Nebraska.....	3	April 11	April 14, 1900
Northern North Dakota.....	2	May 5	May 7, 1908
Aweme, Manitoba.....	5	May 5	May 19, 1907

FALL MIGRATION

PLACE	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Aweme, Manitoba.....	3	September 16	September 12, 1904
Westhope, N. D.....			September 24, 1910
Southeastern Nebraska.....	3	October 19	October 11, 1904

FALL MIGRATION, continued

PLACE	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Onaga, Kans. (near).....	8	October 14	October 7, 1905
Gainesville, Tex. (near).....	2	November 17	November 15, 1885
Elk River, Minn.			September 20, 1886
Lanesboro, Minn.	7	October 2	September 24, 1890
Hillsboro, Ia.	4	October 2	September 24, 1899
Keokuk, Ia.	8	October 13	September 29, 1896
Southern Michigan.	4	October 9	September 27, 1903
Oberlin, O.	4	October 20	October 2, 1901
Waterloo, Ind. (near).....	4	October 9	October 1, 1889
Chicago, Ill.	11	September 28	September 22, 1900
Monteer, Mo.			October 24, 1903
Lexington, Ky.			October 23, 1904
Athens, Tenn.			October 19, 1905
Helena, Ark.			November 4, 1894
St. John, N. B.	7	October 12	September 20, 1896
Scotch Lake, N. B.	6	October 18	October 12, 1903
Hebron, Me.	3	October 13	October 12, 1905
Phillips, Me.	3	October 24	October 8, 1904
Durham, N. H.			October 21, 1900
Taunton, Mass.			October 8, 1889
Providence, R. I.	3	October 21	October 15, 1904
Hartford, Conn.	3	October 23	October 15, 1887
Englewood, N. J.	4	October 19	October 15, 1887
Morristown, N. J.	6	October 22	October 17, 1907
Erie, Pa.			October 5, 1900
Washington, D. C.	8	October 21	October 3, 1906
French Creek, W. Va.			October 8, 1889
Raleigh, N. C.	8	November 14	October 17, 1893
Northern Florida.			November 13, 1905

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Kotzebue Sound, Alaska.			August 23, 1898
Great Slave Lake, Mackenzie.			September 11, 1907
Indian Head, Sask.			October 15, 1904
Aweme, Manitoba.	8	October 1-2	October 17, 1905
Onaga, Kans.	4	November 12	December 22, 1894
Lanesboro, Minn.	7	November 3	November 12, 1888
Sabula, Ia.	5	November 5	November 12, 1891
Keokuk, Ia.	6	November 14	November 20, 1894
Chicago, Ill.	6	November 6	November 25, 1906
Odin, Ill.	3	November 16	November 20, 1895
St. Louis, Mo.			December 25, 1904
Waterloo, Ind.	5	November 6	November 21, 1905
Oberlin, O.	3	November 9	November 16, 1896
North River, P. E. I.			October 24, 1890
Scotch Lake, N. B.	3	November 3	November 6, 1901
St. John, N. B.	7	November 12	November 21, 1895
Hebron, Me.	5	November 4	November 18, 1907
Lewiston, Me.			November 24, 1900
Durham, N. H.			November 13, 1897
Providence, R. I.	4	November 19	December 2, 1906
Jewett City, Conn.			November 19, 1886
Englewood, N. J.	3	November 4	November 29, 1885
New Providence, N. J.	6	November 6	November 14, 1888
Morristown, N. J.	4	November 22	December 27, 1900
Erie, Pa.			November 12, 1903
Washington, D. C.	9	November 15	rare, winter.

Notes on the Plumage of North American Sparrows

TWENTIETH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Fox Sparrow (*Passerella iliaca iliaca*, Fig. 1). The nestling Fox Sparrow is much like the adult in general appearance, but is more streaked below and the head shows no trace of gray, being of essentially the same color as the back. At the postjuvenile molt, the wing and tail-feathers are retained, the body feathers shed, and the young bird now resembles the adult.

There is apparently no marked spring molt, and the slightly grayer color of the breeding plumage is due to wear.

The Fox Sparrows, although not so widely distributed during the breeding season, are subject to even more pronounced racial variations in color than are the Song Sparrows. Eight geographical varieties have been described, the more pronounced of which are figured in the frontispiece. Their ranges are given as follows in the 1910 edition of the A.O.U. 'Check-List':

Fox Sparrow (*Passerella iliaca iliaca*).

Range.—North America. Breeds in Boreal zones from tree limit in northeastern Alaska, northern Mackenzie, central Keewatin, northern Ontario (Moose Factory), and northern Ungava, south to central Alberta, northern Manitoba, southern Keewatin, Magdalen Islands, and Newfoundland; winters from lower Ohio and Potomac valleys (occasionally farther north) to central Texas and northern Florida; casual on the coast of southern Alaska and in California.

Shumagin Fox Sparrow (*Passerella iliaca unalaschensis*).

Range.—Unalaska Island, Alaska Peninsula, and Shumagin Islands; winters south to northern California.

Thick-billed Fox Sparrow (*Passerella iliaca megarhyncha*).

Range.—Mountains of California. Breeds in Transition Zone on both slopes of the Sierra Nevada from Mt. Shasta to Mt. Whitney; winters in southwestern California; casual in Marin County.

Slate-colored Fox Sparrow (*Passerella iliaca schistacea*).

Range.—Rocky Mountain region of United States. Breeds in Transition Zone from interior of British Columbia and northwestern Montana south to the mountains of Lassen and Modoc Counties, northeastern California, to the White Mountains of eastern California, and to central Colorado; winters south to southwestern California, Arizona, and New Mexico, and east to Kansas.

Stephens' Fox Sparrow (*Passerella iliaca stephensi*).

Range.—Southern California. Breeds in the Tejon, San Gabriel, San Bernardino, and San Jacinto Mountains.

Sooty Fox Sparrow (*Passerella iliaca fuliginosa*).

Range.—Northwest coast strip. Breeds on the coast of British Columbia, Vancouver Island, and northwestern Washington; winters south along the coast to San Francisco, California.

Kadiak Fox Sparrow (*Passerella iliaca insularis*).

Range.—Alaska coast strip. Breeds on Kadiak Island and on the coast of Prince William Sound south to Cross Sound; winters along the coast to southern California.

Townsend's Fox Sparrow (*Passerella iliaca townsendi*).

Range.—Coast of southeastern Alaska. Breeds on the coast and islands from Cross Sound to Dixon Entrance; winters south to Humboldt County, California.



SCREECH OWL; GRAY CHASE

Photographed by Sheridan F. Wood, at Nottingham, Ohio, Feb., 1912

Bird-Lore's Advisory Council

WITH some slight alterations, we reprint below the names and addresses of the ornithologists forming BIRD-LORE'S 'Advisory Council,' which were first published in BIRD-LORE for February, 1900.

To those of our readers who are not familiar with the objects of the Council, we may state that it was formed for the purpose of placing students in direct communication with an authority on the bird-life of the region in which they live, to whom they might appeal for information and advice in the many difficulties which beset the isolated worker.

The success of the plan during the twelve years that it has been in operation fully equals our expectations; and from both students and members of the Council we have had very gratifying assurances of the happy results attending our efforts to bring the specialist in touch with those who appreciate the opportunity to avail themselves of his wider experience.

It is requested that all letters of inquiry to members of the Council be accompanied by a stamped and addressed envelope for use in replying.

NAMES AND ADDRESSES OF MEMBERS OF THE ADVISORY COUNCIL

UNITED STATES AND TERRITORIES

ALASKA.—Dr. C. Hart Merriam, Biological Survey, Dept. of Agr., Washington, D. C.

ARIZONA.—Herbert Brown, Tucson, Ariz.

CALIFORNIA.—Charles A. Keeler, Berkeley, Cal.

CALIFORNIA.—Walter K. Fisher, Palo Alto, Cal.

COLORADO.—Dr. W. H. Bergtold, 1460 Clayton Ave., Denver, Colo.

CONNECTICUT.—J. H. Sage, Portland, Conn.

DELAWARE.—C. J. Pennock, Kennett Square, Pa.

DISTRICT OF COLUMBIA.—Dr. C. W. Richmond, U. S. Nat'l. Mus., Washington, D. C.

FLORIDA.—Frank M. Chapman, American Museum Natural History, New York City.

FLORIDA, Western.—R. W. Williams, Jr., Tallahassee, Fla.

GEORGIA.—Dr. Eugene Murphy, Augusta, Ga.

ILLINOIS, Northern.—B. T. Gault, Glen Ellyn, Ill.

ILLINOIS, Southern.—Robert Ridgway, U. S. National Museum, Washington, D. C.

INDIANA.—A. W. Butler, State House, Indianapolis, Ind.

INDIAN TERRITORY.—Prof. W. W. Cooke, Biological Survey, Washington, D. C.

IOWA.—C. R. Keyes, Mt. Vernon, Ia.

KANSAS.—University of Kansas, Lawrence, Kan.

LOUISIANA.—Prof. George E. Beyer, Tulane University, New Orleans, La.

MAINE.—O. W. Knight, Bangor, Me.

MASSACHUSETTS.—William Brewster, Cambridge, Mass.

MICHIGAN.—Prof. W. B. Barrows, Agricultural College, Mich.

MINNESOTA.—Dr. T. S. Roberts, 1603 Fourth Avenue, South Minneapolis, Minn.

MISSISSIPPI.—Andrew Allison, Ellisville, Miss.

MISSOURI.—O. Widmann, 5105 Morgan St., St. Louis, Mo.

MONTANA.—Prof. J. M. Elrod, University of Montana, Missoula, Mont.

NEBRASKA.—Dr. R. H. Walcott, University of Nebraska, Lincoln, Neb.

NEVADA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.

NEW HAMPSHIRE.—Dr. G. M. Allen, Boston Soc. Nat. Hist., Boston.

NEW JERSEY, Northern.—Frank M. Chapman, Am. Mus. Nat. History, N. Y. City.

NEW JERSEY, Southern.—Witmer Stone, Academy Natural Sciences, Philadelphia, Pa.

NEW MEXICO.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.

NEW YORK, Eastern.—Dr. A. K. Fisher, Biological Survey, Washington, D. C.

NEW YORK, Northern.—Egbert Bagg, 191 Genesee Street, Utica, N. Y.

NEW YORK, Western.—E. H. Eaton, Hobart College, Geneva, N. Y.

NORTH DAKOTA.—Prof. O. G. Libby, University, N. D.

NORTH CAROLINA.—Prof. T. G. Pearson, 1974 Broadway, New York City.

OHIO.—Prof. Lynds Jones, Oberlin College, Oberlin, Ohio.

OKLAHOMA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.

OREGON.—W. L. Finley, Milwaukee, Ore.

PENNSYLVANIA, Eastern.—Witmer Stone, Acad. Nat. Sciences, Philadelphia, Pa.

PENNSYLVANIA, Western.—W. Clyde Todd, Carnegie Museum, Pittsburgh, Pa.

RHODE ISLAND.—H. S. Hathaway, Box 1466, Providence, R. I.

SOUTH CAROLINA.—Dr. Eugene Murphy, Augusta, Ga.

TEXAS.—H. P. Attwater, Houston, Tex.

UTAH.—Prof. Marcus E. Jones, Salt Lake City, Utah.

VERMONT.—Prof. G. H. Perkins, Burlington, Vt.

VIRGINIA.—Dr. W. C. Rives, 1723 I Street, Washington, D. C.

WASHINGTON.—Samuel F. Rathburn, Seattle, Wash.

WEST VIRGINIA.—Dr. W. C. Rives, 1723 I Street, Washington, D. C.

WISCONSIN.—H. L. Ward, Public Museum, Milwaukee, Wis.

CANADA

ALBERTA.—G. F. Dippie, Calgary, Alta.

BRITISH COLUMBIA, Western.—Francis Kermode, Provincial Museum, Victoria, B. C.

BRITISH COLUMBIA, Eastern.—Allan Brooks, Okanagan Landing, B. C.

MANITOBA.—Ernest Thompson Seton, Cos Cob, Conn.

NOVA SCOTIA.—Harry Piers, Provincial Museum, Halifax, N. S.

ONTARIO, Eastern.—James H. Fleming, 267 Rusholme Road, Toronto, Ont.

ONTARIO, Western.—W. E. Saunders, London, Ont.

QUEBEC.—E. D. Wintle, 189 St. James Street, Montreal, Canada.

MEXICO

E. W. Nelson, Biological Survey, Department of Agriculture, Washington, D. C.

WEST INDIES

C. B. Cory, Field Museum, Chicago, Ill.

GREAT BRITAIN

Clinton G. Abbott, 153 West 73d St., New York City, N. Y.

Notes from Field and Study

Bird-House Tenants

A bird-house has stood for several years on a pole in front of our "Wickiup" in the woods on the outskirts of Washington, D. C. It is a ten-room Martin house built in Jacob's best style, but so far not a Martin has deigned to occupy it, though there is a large colony only half a mile distant. I had supposed that one reason was that the Bluebirds came early and were already in possession when the Martins arrived, but this year the severe winter so sadly reduced the Bluebirds that not one appeared around the house, yet still no Martins visited the premises.

The bird-house has ten rooms, and, though each of these has in turn been occupied, there has been no time in all the years when two families were living there together. In 1911, the Bluebirds came first and dallied in the neighborhood for a month. Just as they finally began building, a pair of House Wrens appeared, which had occupied a room in the house late the previous season. An active warfare ensued that lasted for several days, and had not yet been decided when a pair of Great-crests took a hand in the scrimmage. These latter had nested for years in the woods behind the house, but this season they determined to come out into the open. They routed both Bluebird and House Wren, built in one of the rooms of the Martin, and successfully reared their family. The House Wren then retreated to a knothole in a nearby fence-post, where a Carolina Chickadee had raised a brood the previous year. The hole was so small that the Wren could not bring in even one stick, and laid the eggs on the remains of the Chickadee nest.

The young Wrens left the nest two days before the young Great-crests were ready to launch out into the world. Those two days were days of trouble for the

Great-crests. The Wrens wanted the bird-box for their second brood, and were not bashful in proclaiming the fact. Mr. Wren would alight on the bushes under the house and sing his loudest. Accepting the challenge, out would come Mrs. Great-crest and drive him off, only to find him back again as soon as she returned to her household duties. After two days she carried off her family, and within an hour the Wrens began bringing sticks. In due time they departed with their second brood, and in less than a week the Bluebirds appeared and took an apartment for their second venture.—WELLS W. COOKE, *Washington, D. C.*

A Narrow Escape

It is not often that one sees attempted murder in the broad daylight in New York City, at least within the confines of a theological seminary.

As I was crossing the quadrangle of Union Theological Seminary (at Broadway and 120th Street) on the afternoon of Oct. 28, I became aware of something swooping like an arrow toward the ground. The next instant I heard a feeble bird-cry of terror, and the sound of soft bodies striking the stone walls of the building. As I ran forward to discover what had happened, a male Sparrow Hawk, disturbed by my approach, sailed past and, mounting easily to the chapel tower, perched on one of the pinnacles and peered down to await developments.

At the base of the wall lay a Chickadee flat on his back, with bill open, gasping for breath, his black eyes shining and his heart fluttering with mortal fear. Picking him up, I soon ascertained that no bones were broken and that his chief difficulty was shock and loss of breath. Meanwhile the hawk, foiled of his prey, spread wings for other haunts and sailed disdainfully away.

The Chickadee spent the rest of the

afternoon in my room in a large box, with plenty of holes for air and with abundant food and drink. When I returned to him about dusk and opened the box, he hopped out on my finger, ruffled his feathers, and looked about. Thence he hopped to my shoulder, then to my head, and finally spread his wings and fluttered to the picture-moulding.

After seeing him fly easily about the room for several minutes, I directed him toward the open window and saw him disappear in the twilight, apparently none the worse for his narrow escape.—*TERTIUS VAN DYKE, New York City.*

Another November Black-Throated Blue Warbler

Reading the note on 'A November Black-throated Blue Warbler,' by Miss Isabel D. Martin, in the March-April 1912 number of *BIRD-LORE*, prompts me to add that I had a Black-throated Blue Warbler that very same day. It was caught by my brother in the upper hall of our home, about 11 A.M. It was a male bird in fine plumage and apparently in the best of condition. This bird was seen by a family of five, and kept in captivity until the middle of the afternoon, when I liberated it.

We had a severe wet snow-storm the night before, and perhaps it sought shelter. Could there have been a small wave of these birds at that time? It would be interesting to know if any other observations or records were made.—*GEORGE P. ELLS, Norwalk, Conn.*

Additional Notes on Montana Bobolinks

In view of the fact that the range of the Bobolink in the East is believed to be decreasing, bird-lovers generally will be gratified to know that the numbers of this rare song bird in the West are apparently increasing. This is the case in the section where I live, Gallatin Valley, Montana. In 1888-1890 Richmond and Knowlton found but one flock here, while in 1908-1909 Saunders noted

them in many places throughout the valley.

The birds were a little later than usual in coming this spring (1912). On the evening of May 28, a favoring breeze brought to my ears the tinkling melody of their song. As they fly at night in migrating, they had probably been in the meadow all day. Taking my field-glass, I went out to take a census of the flock. Walking from one side of the meadow to the other, I counted twelve birds, eleven of which were males. Assuming that every Jack has his Jill, this would mean 11 pairs—the largest flock of arrivals I have ever seen in this vicinity.

The conditions here, both natural and artificial, during the breeding season, are quite favorable for the birds. Severe storms, which might destroy the eggs or young, are not frequent; and their natural enemies—as owls, skunks, minks, weasels, and the stray house-cat—are not numerous. Then the hay harvest comes so late here that the young birds are not in much danger of being caught by the sickle, unless it should be a belated nest. A couple of days before the hay was cut this year, I visited the meadow and found the young birds strong on the wing. By the last of August the flock had started on its long southern journey.—*NELSON LUNDWALL, Bozeman, Montana.*

A Meadowlark's Unusual Nest-Site

During the summer of 1909, while target practice was being conducted by the U.S. Marine Corps at the range of the Bay State Rifle Association at Wakefield, Mass., I had occasion to observe an unusual nest-site, and the action of the parent birds through trying times.

On account of low ground on the range, it was necessary to elevate the firing point at many places. This was done by raising low mounds of earth, about three feet high, and three feet wide and many yards long, so as to accommodate a line of men. The range that these firing mounds were on was used for the skirmish run.

In conducting the skirmish practice, the men are assigned to targets. They are then formed in rear of the 600-yards firing point, each man opposite his target. At commands, the skirmish line advances and fires a prescribed number of shots at 600, 500, 400, 350, 300, and 200 yards.

At the 400-yard firing point was one of these firing mounds, on the far side of which was the nest of a Meadowlark, with the usual number of eggs. This nest was directly in line with one of the targets, so that the muzzle of the rifle of the man lying on the mound was directly over the nest, not more than two feet above it.

At first, when the firing skirmish line was about 100 yards distant, the birds would fly away; but, as the practice continued, they got more and more accustomed to the noise, and would allow the men to approach nearer and nearer before leaving the nest, to return at once when the firing ceased at that point.

As the time came for the eggs to hatch, one of the birds would remain in the nest throughout the firing, even when a gun was being discharged directly over its head and not more than two feet off. The Marines always used great care on their advance not to harm the nest, and the man who drew the target which necessitated his shooting over the nest considered himself in great good luck.

Finally the eggs hatched, and the young birds were brought up, so to speak, under fire. The daily firing of rifles directly over their heads did not disturb them in the least. The birds left when the young were old enough to look after themselves, and their disappearance was regretted by all the Marines, as they were considered the mascots of the range.—

ROBERT L. DENIG, *St. Paul, Minn.*

**Bluebirds in Dorchester County, Md.,
During 1912**

The Bluebird is a common summer and winter resident of Dorchester County. Small flocks of 8 or 10 are quite common, and were even common everywhere dur-

ing the winter of 1911-1912 until the cold snap came in the first part of January. On account of this protracted spell of cold weather, I think it is quite probable that thousands of Bluebirds perished.

The season of 1912 brought forth a very meager supply of notes regarding this species. On March 18, about 12:30 P.M., I saw a single bird, and, later in the afternoon, a pair. I had supposed at that time that the Bluebirds had migrated further south at the beginning of the cold snap, and that this was the beginning of their spring migration. As the season advanced without seeing any more and without finding any nests, my alarms increased. However, on July 14, I found a pair nesting in a hollow post quite distant from the house. Thus ended the migration and nesting period for 1912.

Later in the fall, October 30, if I remember right, I saw a pair sitting on a telephone wire. Afterward, on one or two occasions, I saw flocks of 8 or 10 flying high and going south.

The reports for 1913 seem favorable, so far. On January 19 I saw 10 birds, and on February 10 observed seven. On February 13 I saw three different flocks of five, six, and eight, respectively, all going due north. So I think that in time the Bluebirds will reestablish their former numbers, although they suffered a severe loss in the winter of 1911-12.—RALPH W. JACKSON, *Cambridge, Md.*

The Starling in Massachusetts

The first known record of the Starling (*Sturnus vulgaris*) in Bridgewater was obtained on January 16, 1913, when one of these birds was seen perching upon the spire of the Congregational Church. The next day five Starlings were seen flying about the church weather-vane.

Since then these birds have been found several times, but never more than five together. While observing them one day, I heard them give the notes of the Wood Pewee, and also a perfect imitation of the Blue Jay's cry.—HAROLD W. COPELAND, *Bridgewater, Mass.*

Book News and Reviews

THE HOME-LIFE OF THE TERNS OR SEA SWALLOWS. By W. BICKERTON. With-erby & Co., 326 High Holborn, London, W. C., 1912. 4to, 88 pages, 32 plates. Price 6s., net.

This is the fourth volume in 'The Bird-Lover's Home-Life Series.' Like two of its predecessors (the Golden Eagle by Macpherson and Osprey by Abbott), it is of especial interest for American readers, since the species of which it treats, or closely allied species, nest also in this country. They are the Sandwich and the Lesser Terns, Old World representatives respectively of our Cabot's and Least Terns, the Common, Roseate, and Arctic Terns.

In Great Britain, the author states, the Arctic Tern is the most abundant and widely distributed, "the Common Tern is also very numerous, the Lesser Tern less so, while the Sandwich Tern is decidedly rare, and the Roseate extremely so. . . ."

The author's observations, without being especially intensive, present a general and comparative review of the nesting-habits of this subject, while his photographs are admirable representations of birds which make particularly attractive marks for the bird student with a camera.

—F. M. C.

REPORT ON THE IMMIGRATIONS OF SUMMER RESIDENTS IN THE SPRING OF 1911. Also Notes on the Migratory Movements and Records Received from Lighthouses and Light-vessels during the Autumn of 1910. By the Committee appointed by the British Ornithologists' Club. Edited by W. R. OGILVIE-GRANT. Bull. Brit. Orn. Club, Vol. XXX, November, 1912. London With-erby & Co., 326 High Holborn, 8vo, 332 pages, 19 maps.

This Bulletin, like its predecessors, contains reports on the movements of the commoner migrants of England and Wales by a corps of observers acting in co-operation with a committee of the British Ornithologists' Club. In addition to

details of weather conditions and chief movements, and comments on rarer species, the report gives at length the data for some 30 species, the migrations of which, in most instances, are summarized graphically on charts.

Although southern England is ten degrees farther north than New York City, the following paragraph from the Committee's Introduction almost exactly describes the rise and fall of bird migration near that city, except that the maximum appears to have been reached in England about one week earlier:

"The spring migration commenced on the 10th of March, and continued until the 29th of May. During March the influx, though daily increasing, was very slight. The main movement seems to have begun about a month later, and during the latter half of April there were three distinct waves of migration—on the 17th and 18th, on the 23d, and on the 27th and 28th—each of increasing intensity. There was another large influx on the 5th of May, after which, with the exception of two much smaller movements on the 13th and 16th, the migration gradually subsided."—F. M. C.

The Ornithological Magazines

THE AUK.—Readers of the January issue will find an unfamiliar group of birds on the front cover, in place of the old design so long familiar to readers of The Auk.

Within the covers are many articles and items of interest to bird students and others. In 'Some More Labrador Notes' Dr. C. W. Townsend tells of a trip up the Natashquan River illustrating it with half-tones of the country. Prof. H. L. Clarke in 'Notes on the Panama Thrush-Warbler' concludes, largely on anatomical grounds, that the bird is a Tanager. Dr. R. W. Shufeldt, in 'Contributions to Avian Palaeontology,' discusses the status

of fossil Wild Turkeys with a plate showing bone fragments, and also takes up the fossil birds of the Oregon desert.

As an example of careful observations concentrated on a familiar species, we commend Dr. W. H. Bergtold's 'A study

of the House Finch.' Well-directed efforts of this sort contribute much to our general knowledge, and are within the reach of every bird student. One of the striking facts here brought out is that, in spite of great mortality among the



COMMON TERN AND NEST

From Bickerton's 'Home-Life of the Terns.' Courtesy of Witherby & Co.

young from various causes, the species as a whole thrives and increases. Probably its worst enemy is the English Sparrow which, according to our author, is held responsible for sixteen per cent of the mortality.

Among 'Eighteen Species of Birds New to the Pribilof Islands,' recorded by Prof. B. W. Evermann, four are new to the North American list. Mr. W. S. Brooks, at p. 110, also records a species new to the list, viz., the Bahama Duck (*Pæcilonetta bahamensis*).

Under the title 'An Essex County [Mass.] Ornithologist,' Dr. G. M. Allen publishes much of interest from the notebooks of the late Benj. F. Damsell, an ornithologist who for upward of thirty years hid his light under a bushel. Dr. F. Overton and Mr. F. Harper are pioneers in 'Bird Photography by the Direct Color Process,' and praise the autochrome plate and its possibilities. Miss A. R. Sherman contributes notes on the 'Carolina Avi-fauna in Northeastern Illinois.'

Mr. G. M. Mathews, in writing 'On the Generic names *Ibis* and *Egatheus*,' displaces *Ibis* in part. Another partial dislocation to shock the rank and file of ornithologists! To get to enjoy these nomenclatural niceties is much like cultivating a taste for caviar.

The controversy over concealing and protective coloration is continued by Mr. T. Barbour in 'A Different Aspect of the case of Roosevelt *vs.* Thayer.' Controversies of this sort are often good reading, but they never settle anything. See, also, Mr. F. M. Chapman's letter at p. 147.

Mr. John Sage's annual report as Secretary shows the A. O. U. to be flourishing, and the Reviews show what an immense amount of activity there is in the ornithological world. The Correspondence department covers several pages, including strictures on the 'Check List' by Dr. L. B. Bishop, and various other items of interest may be found here and in other sections.—J. D. Jr.

THE CONDOR.—The November number of 'The Condor' contains four general

articles. In a 'Study of the Eggs of the Meleagridae,' Dr. Shufeldt shows the wide variation in color and markings in the eggs of the common Wild Turkey, and refers briefly to the characters of size and markings in those of other forms. Willard contributes a description of the 'Nesting of the Rocky Mountain Nuthatch' in the Huachuca Mountains, Arizona, illustrated with two fine photographs of the nesting cavity and the eggs. He notes that a cavity with a long, narrow opening in an oak is usually selected, and the nest is composed of skunk and squirrel fur and cow and deer hair. The eggs ordinarily five in number, but sometimes three and occasionally as many as six, are usually deposited during the last week in April or in early May.

In 'A Horseback Trip across Montana,' Saunders gives an interesting running account of the birds observed each day from July 10 to 16, 1911, during a journey from Bozeman to Chouteau. The paper is more readable than it could be if it were presented in the usual form of a list of species, but the valuable notes which it contains may not be cited by some authors because of the omission of scientific names.

Mrs. Myers' description of the 'Nesting Habits of the Western Bluebird' is based on observations of a pair of Bluebirds which bred in April, 1910, in Sycamore Grove, one of the city parks on the outskirts of Los Angeles.

Mention should also be made of the recommendations recently submitted by the Conservation Committee of the Cooper Ornithological Club to the Fish and Game Commission for the amendment of the California game laws. The recommendations include closing the season indefinitely on the Red-head and Wood Duck, protection of the Band-tailed Pigeon, and removal of the Mourning Dove, Rail, Ibis, and all shore-birds, except Wilson's Snipe, from the list of game-birds. The number concludes with a general Index to the volume for 1912, which, with the exception of that for 1908, is the largest volume thus far published in the series.—T. S. P.

Bird - Lore

A Bi-Monthly Magazine
Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN
Contributing Editor, MABEL OSGOOD WRIGHT
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

THE American Museum Colombian Expedition of 1913, which sailed from New York on January 8, arrived at Barranquilla on January 20. As a bit of fortune the traveler in tropical America does not often encounter, a steamer for our destination, the Upper Magdalena, was found sailing that day. Furthermore, it was a steamer of the slowest variety, making frequent and long stops and puffing painfully between them.

Our friends in Barranquilla strongly advised us to wait five days for the express steamer, which would arrive at La Dorada, distant some 600 miles, and the head of navigation on the lower half of the Magdalena, several days in advance of the one we proposed to take, and could not be made to understand why we should prefer the heat, mosquitos, and poor fare of a river steamer to the comparative comforts of Barranquilla. The results, however, as we had anticipated, more than justified our decision.

The Captain of the 'Margarita,' to whom we explained the objects of our trip, expressed unbounded interest in our plans, and with characteristic Spanish cordiality assured us that the business of the 'Margarita,' when compared with ours, was of no importance whatever! He would stop the steamer at any and every point we desired and we should stay as long as we pleased, while the study of birds should be the sole object of the voyage!

Making due allowance for that type of politeness which presents to the newly-arrived guest the host's house and all its contents, the Captain of the 'Margarita' nobly lived up to his promises. The voyage to La Dorada required twelve days, and for ten of these we passed through a luxuriant lowland forest, where from the steamer one could see, at satisfactory distances, the blue and yellow and scarlet, green and blue Macaws, several species of Parrots, Sacred Vultures, Horned Screamers, Southern Black Skimmers and Great-billed Terns, both of which range as far up the river as La Dorada, and many other species; while not infrequently groups of Capybaras were passed on the shores, and on one occasion five howling monkeys and a sloth were seen in one tree. On the sand-bars, or 'playas,' exposed by the low water of the dry season, hundreds of crocodiles with wide-open mouths dozed in the sun, while the great Cocoi Herons stalked about near them.

The surprising amount of wood consumed by the steamer necessitated two or three stops daily to replenish the supply. These stops were usually made at wood-cutters' camps on the edge of the primeval forest where, beyond the small clearing made in felling trees for fuel, we were confronted by a forest wall, penetrable only by a few narrow trails which, fortunately for us, usually could be found.

Due notice was given us of these landings, and we were ready to go ashore the moment the steamer touched it, while a warning whistle advised us when, reluctantly, we should return to the boat. Under these most favorable conditions we made excellent use of our opportunities, and on arriving at La Dorada had secured a collection of the more representative species, as well as some by no means common.

It is impossible, at this point, to go into details concerning the birds observed; but at least mention may be made of the "North American migrants," of which we have noted eighteen species in the Magdalena Valley.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the editor, at 53 Arlington Avenue, Providence, R. I.

METHODS AND PRACTICE

Under the heading, "The Opportunity of the Audubon Society" (see Nov.-Dec. 1912 issue of *BIRD-LORE*), fifteen questions were suggested for the consideration of state societies and other organizations interested in birds and bird protection. The following communication from North Dakota is not only much appreciated by this department, but it is also of interest to those who wish to see practical methods in operation.

METHODS OF WORK IN NORTH DAKOTA

I note the questions in your department of the December issue of "BIRD-LORE," to which you wish replies from various Audubon Societies.

As President of the North Dakota Audubon Society, and one interested in furthering bird- and nature-study in the schools, I am glad to send you the following information:

1. We are pretty well informed in North Dakota regarding the quantity and kind of nature-study, as I have prepared most of the outlines for this work, both for the grades and high schools of the state.
2. There is not a supervisor of nature-study, to my knowledge, within the state, though we have a state high school inspector.
3. Teachers do appear to be glad to receive assistance in this work. We have helped in a number of places through the giving of illustrated lectures. We are just sending out from the College, also, to most of the teachers in this state, copies of our extension bulletin, which we hope may be of value to the teachers in directing their work and pointing them to sources of further information and material.
4. We do know what teachers' conventions are held in the state, and that addresses on Bird-Study have been given in a number of these, and we hope to continue and extend this work.
5. We have not yet arranged a traveling collection, but we do have a traveling pamphlet library which is available for loans to teachers throughout the state.
6. I have personally visited a number of the libraries of the state, and checked up the literature they have on bird- and nature-study, and am plan-

ning, within the next month, to ask the other libraries for a statement of their literature on these subjects.

No. 7. In so far as it is possible to obtain reports from the other state societies, we are endeavoring to keep in touch with them.

8. I have just mailed to each (the president and secretary) a copy of the aforementioned bulletin.

9. We have not, to my knowledge, had a representative at the meeting of the National Association, but a number of our people are also members of the American Ornithologists' Union and Cooper Ornithological Club.

10. In connection with my work as director of the Economic Biological Survey of the State, I have covered a large part of the state, and am pretty familiar with the locality suitable for field trips.

11. We have three particular reservations in North Dakota which are proving very successful. We are at present working for still more of them.

12. The Society has not made a regular practice of putting out such literature.

13. In securing new members, we are much more interested in developing the interest of those members in bird-study than in securing their dollars, as is indicated by the fact that we offer to each member as a premium with the annual membership fee of \$1, the choice of a year's subscription to "BIRD-LORE," or a copy of Reed's "Guide to Land Birds," or "Guide to Water Birds." We are endeavoring in every way possible to increase the interest of our members in bird-study work, and feel that this is one of the best means we have heard of to keep our people in touch with the bird work, and to help them in gaining a familiarity with our bird life.

14. This is a difficult question to answer, but it seems to me that one of the most important things is to interest the teachers in bird-study, and through them to interest the children, and give them information which may add to their interest in birds, and their desire to see them properly protected.

15. I do not know of any larger opportunity than that offered by nature-study, but there is opportunity for additional work among adults through the presentation of lectures in coöperation with other organizations. This we are endeavoring to do by coöoperating with the colleges, the Game and Fish Protective Associations and the Better Farming Association of the state and Women's Clubs.

Yours truly,

W. B. BELL,

Professor of Zoölogy, North Dakota Agricultural College.

The bulletin referred to under 3, entitled *The Extension* (Vol. VI, No. 2), is devoted to birds, and contains an excellent arrangement of information helpful to teachers, bird students, and the public at large.

After a brief survey of the growth of bird-study and the reasons why birds may be easily studied and should be studied, the economic relations of

birds are taken up with particular reference to insects, rodents and weeds, followed by a short description of the societies, federal and state reservations, legal protection, methods of home protection, and the biological survey (recently undertaken) in North Dakota for the study and preservation of birds.

A detailed guide to studying birds and teaching others about birds follows, not too long to discourage the beginner, and stated clearly and simply enough for the busiest teacher's convenience, with an enumeration of the birds of the state by orders, and, under the order *Passeres*, by families, and also a list of birds according to seasonal occurrence.

The last six pages of the bulletin are devoted to "topics suggested for investigation and club papers," "literature and other materials helpful in bird-study in North Dakota," such as manuals and guides for identifying birds, books upon special topics for teachers and adults, books for children, books for general reading, magazines devoted to bird-study, bulletins, educational and special leaflets, slides for stereopticon lectures, colored pictures, and a list of lectures. The price of each book mentioned is given, while a bird topography fills the space left on the final page.

Such a bulletin covers a great many practical points, giving in a nutshell exactly the information which busy people need and want. Each state society would do well to consult the general and city superintendents of schools in its state, to find out how best to coöperate along educational lines already in practice. Many of these officials would welcome the opportunity to obtain the services of a trained bird student, through the Audubon Society, to prepare educational bulletins or bird and arbor day programs, and to send the same to every school or teacher in the state.

Where a State Ornithologist is appointed regularly, such work properly belongs to his office; but wherever such an official does not exist, the Audubon Society may well claim this opportunity and field of work.

One suggestion given in the North Dakota report is being tried elsewhere with success, namely, giving to persons joining the State Audubon Society a book or other printed matter. A short list of material for such a purpose is printed below.

1. A year's subscription to *BIRD-LORE* by special arrangement, together with a year's membership fee, \$1.
2. How to Attract and Protect Wild Birds by the Von Berlepsch Method, 50 cents.
3. Educational leaflets, by the dozen or hundred.
4. Colored pictures, by the dozen or hundred (A. W. Mumford, Chicago, or The Perry Picture Co., Boston, Mass.).
5. The Nature-Study Review (University of Chicago, School of Education, Chicago, Ill.), \$1.

Apply to the National Association of Audubon Societies, 1974 Broadway, New York, for the matter mentioned under 1, 2, and 3.

There are also several desirable field note-books and inexpensive handbooks available, besides very helpful local handbooks, the titles and prices of which may be had from this department. Several interesting books have been written about birds found in city parks and small reservations, which suggest in a very practical way the value of bird-study in limited areas.—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

NOTE.—In view of the fact that Junior Audubon Societies are increasing so rapidly, it has been suggested that this section of the School Department be especially addressed to Junior Audubon members, although all teachers and pupils are included in the work outlined here. To make these outlines most useful, criticisms, questions, and helpful experiences should be freely sent in to the School Department.

Exercise VIII: A Review in Preparation for Bird and Arbor Day

Correlated Studies: Geography, Reading and Elementary Agriculture

THE PALM AND THE PINE

(From the German of Heine)

In the far North stands a Pine-tree, lone,
Upon a wintry height;
It sleeps: around it snows have thrown
A covering of white.

It dreams forever of a Palm
That, far i' the Morning-land,
Stands silent in a most sad calm
'Midst of the burning sand.

—Written at Point Lookout Prison in 1864, by SIDNEY LANIER.

Perhaps, the German poet Heinrich Heine and his American interpreter, Sidney Lanier, also a poet, did not think of the birds which fly from the burning tropics to the wintry North, when they penned the words of this poem; but surely, of all Nature's children, only the birds can bridge the distance between the Palm and the Pine, following up and outdistancing Spring on their wonderful migration journey.

During the last year, we have taken up, in a brief and general way, the principal migration routes of birds in North America, and also the orders and passerine families of the birds of this country, together with the life-zones or faunal areas in which they may be found.

It is true that much of this information may seem somewhat hard to grasp, and it may sometimes be questioned whether it is worth while to try to know so many facts about the life-history and environment of birds; but let us stop to

think of the advantages of studying birds carefully and in a somewhat scientific manner. If a famous traveler or travelers should visit our neighborhood once or twice a year, would it not be worth while to learn the real names by which they are known all over the world, as well as the common names and nicknames by which they might happen to be called in certain localities; and would it not also be of rare interest and advantage to find out all we could about the remarkable journeys of such strangers?

Each one of our bird-neighbors represents a family, whose habits at home and wanderings abroad are as full of charm and instruction as those of any human folk, did we but know how to get at the meaning of them.

Some of our feathered friends spend most of the year with us, and become nearly as familiar to many of us as the trees about our homes or the scenes we know best.

These "permanent" bird-residents seem much easier to become acquainted with than either the nesting species, which are with us only during the summer, or the winter residents and visitors, and far, far easier than transient species, which pass through our neighborhood once or twice a year, and stop, maybe, only for a day or a night while the leaves are budding or falling.

It may help us to remember the birds we have seen, if we make a simple outline and write their names in the proper places, something like this:

Permanent Resident	Summer Resident	Winter Resident	Winter Visitor	Regular Migrant
BLUE JAY Cyanocitta cristata cristata—crested cyano—dark blue citta—a bird that chatters	OVEN-BIRD Seiurus aurocapillus auro—gold capillus—hair seurus—to shake the tail	JUNCO Junco hyemalis hyemalis hyemalis, or hie malis, —wintry, or be- longing to winter junco—the origin of this word is un- known	SNOW BUNTING Plectrophenax nivalis nivalis—snowy, or growing in the snow plectro—a cock's spur phenax—a cheat	BLACKPOLL WARBLER Dendroica striata striata—striped, or streaked dendroica—a house and a tree, or a tree-dweller

Can you arrange the birds in your vicinity under these headings, learning the common name of each species, and, at least, looking at the scientific name, which is in two and sometimes three parts, describing the genus, species and subspecies to which the bird belongs?

The scientific names of birds are not half so difficult as they look; besides, most of them, when translated into English, contain interesting bits of description or history, which help one remember the birds. Thus, the Blue Jay, according to its scientific name, is a crested, dark-blue, chattering bird; the Oven-bird is a golden-haired bird that shakes its tail; the Junco is a bird belonging to winter; the Snow Bunting, on account of its long hind claw and conspicuous changes in plumage, probably, becomes a snowy cheat with a cock's spur; while the Black-poll Warbler is described as a striped or streaked bird whose home is in a tree.

All of the categories of birds mentioned in the outline attract us, but, at

this season, the migrants, or "spring travelers" and "summer neighbors," are especially interesting. Looking over the birds' map of North America, mountains, lakes, rivers, gulfs, plains and forests take on a new meaning, for over and through and across them run unseen highways, frequented by thousands of these feathered travelers. Strange dangers lurk along these mysterious paths, where areas of plenty are broken by inhospitable and foodless expanses.

Birds can fly long distances, it is true, but, in order to accomplish such journeys, they must be well supplied with food. As we have found, migrating birds fly along certain favored routes. It is well to keep these routes in mind, since it helps us to remember whence these birds come and where they go, and what species may be expected in any given locality.

Let us next make an outline of the different routes used by spring and fall transients, marking each route with a figure, and placing the same after the name of each species following that route.

PRINCIPAL MIGRATION ROUTES OF BIRDS IN NORTH AMERICA

¹ Atlantic Coast Route	² "Island" or "Bobo- link" Route	³ Mississippi Valley Route	⁴ Route of the Plains or Interior	⁵ Pacific Coast Route
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The birds traveling by route 1 are water-birds of powerful wing, which fly long distances without stopping to feed, coming up from South America to the far North.

Route 2 is used by species wintering in the West Indies or the northeastern part of South America. These birds enter the United States through Florida, keeping their course along the coast, or through the Middle States to and beyond New England, southern Canada, and the distant Northwest.

Route 3 is the great central highway for birds in America. It runs diagonally across the Gulf of Mexico from Central and South America, up through the broad Mississippi Valley, which is near the dividing line between the humid and arid parts of the country, on north, spreading out over central and northwestern British America, even into Alaska.

The route marked 4, through the Great Plains or interior of the western United States, is not so much traveled as either 2 or 3, and the same is true of route 5, since fewer species follow the all-land paths from Mexico and Central America northward.

When we stop to think of the enormous distances between the winter and the summer homes of many of our migratory species, the wonder of these mysterious spring and fall journeys grows upon us. Although we are learning something about *how* birds migrate, no one as yet knows *why* they migrate.

The birds' map of America spreads itself out before our eyes, not divided into states and territories, each marked by a capital city, with many or few notable places, as geographies show—no, not at all like this! For the birds,

there are no such arbitrary divisions made by man. Birds know only the dividing lines set by Nature's own hand—lines of temperature, of altitude, of humidity or aridity, which mark out areas suitable for the existence of species of certain habits and vigor. Man, indeed, has some power to interfere with Nature's bounds, for he can, at will, drain marshes, cut down forests, burn over vast tracts, or plant extensive fields with grains, crops, or orchards of fruit. He can even bring water into the desert and change the very face of Nature; and so, as we study the birds' map of America, we must all the time keep in mind what man is doing.

Let us now make a third outline, to help us remember what the map of the birds is like, and then try to answer a few questions as to what man is doing in his conquest of nature.

OUTLINE OF FAUNAL AREAS OF DISTRIBUTION IN NORTH AMERICA, ACCORDING TO
DR. J. A. ALLEN AND DR. C. HART MERRIAM

Realm	Region	Sub-region	Province	Sub-province	District	Fauna
Arctic.....						{ Barren ground Alaskan-Arctic
Isotherm of 32°. Tree-limit						
North Temperate	North American	Cold Temperate.....				{ Hudsonian Canadian Aleutian Sitkan
		Warm Temperate.....	Humid {	Appalachian.....		{ Alleghanian Carolynian Louisianian
			Austro-riparian.....			
			Arid ..	Upper Sonoran {	Great plains Great basin	{ Faunas not yet worked out
					Pacific coast	
				Lower Sonoran		
	Euro-asiatic					
Isotherm of 70°						
American Tropical	Central American }					{ Tamaulipan St. Lucas
	Antillean.....					Floridian

1. Notice that there is little variation throughout the arctic realm, either in climate or topography, and that the majority of forms found there are *circumpolar* in distribution.
2. Notice that the cold temperate subregion is also an east to west division, being made up of *transcontinental* coniferous forests, except on the Pacific coast. Compare the temperature of Newfoundland with that of Lake Superior, Athabasca and Alaska.
3. Notice that the warm temperate subregion is more greatly diversified than the cold temperate.
4. Notice that the humid and arid provinces which make up the warm temperate subregion, form a north to south division along the 100th meridian, the dividing factor being the amount of annual rainfall.
5. Notice that the lower Sonoran subprovince comprises mostly open plains and deserts in the western United States.
6. Notice that there are two main highways from the American tropical realm into the North American and arctic regions. These are through Central America and The Antilles.
7. See Exercises, V, VI, VII, BIRD-LORE.

After studying these faunal areas which birds occupy for a part or the whole of the year, let us compare them first from north to south and then from east to west, and try to discover where the greatest abundance of food is found at different seasons, and where the best nesting-sites seem likely to be,—for these are the two great necessities of the birds' existence.

In our next exercise, we shall take up *The Bird at Home*. All that we can learn about the food, nests and nesting-sites and materials used by birds will help us to understand better why birds find congenial homes in so many and such diverse places.

1. Where has man cut down forests?
2. Where has man drained marshes?
3. Where has man brought water into arid lands?
4. Where has man planted extensive tracts of grain or single crops?
5. Where has man made large orchards?
6. How has man changed prairie and grazing lands?
7. What do you know about the Colorado desert and Salt Lake?
8. What do you know about the rice-fields of the East as compared with the rice-fields of Louisiana and Texas, in connection with the Bobolink?
9. What have you observed in your own locality with reference to bird-life, when timber-land was cut off, marshes drained, or houses were built up near together?
10. What can you find out about the pollution of water by naphtha launches, or other harmful matter, and its effect upon water-birds?
11. How is the Robin regarded in the East as compared with the West, and what is the cause of this difference of opinion?
12. What do you know about the increase or decrease of insect pests in relation to the number of birds in any locality?

The answers to these questions show how quickly birds are affected by noticeable changes in their environment, whether with respect to their food or nesting-habits. It might be well to take not only birds but all other forms of life into consideration in seeing whether man is improving nature or not. It has been said that man is always at war with nature; but at this season, when the trees and shrubs are budding and plants are everywhere springing into bloom, who can fail to feel the joy of being at one with the beautiful outdoor world, which is our home and the home of birds and all living things.

Small wonder is it that the poet, as he sat hugging the fire in winter, wrote:

The sky is gray as gray may be,
There is no bird upon the bough,
There is no leaf on vine or tree.

Slow creep the hours, slow creep the days,—

and then finished this winter song by exclaiming,

Just wait till bluebirds, wrens, and jays,
And golden orioles come again!

The same pen set down the thought of our kinship to nature in these rare lines:

When first the crocus thrusts its point of gold
Up through the still snow-drifted garden mold,
And folded green things in dim woods unclose
Their crinkled spears, a sudden tremor goes
Into my veins, and makes me kith and kin
To every wild-born thing that thrills and blows.

—THOMAS BAILEY ALDRICH.

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FROM YOUNG OBSERVERS

Observations on the Habits of Birds

While walking along the street one day, I heard a queer sound, but did not know what it was, although it sounded somewhat like a bird. As I could not see, I made up my mind to hunt until I could find out what it was. After about fifteen minutes' hunt, I saw two birds that were about as large as blackbirds, and were like blackbirds in every respect; but, as I got closer to them, I saw that they were of an iridescent olive-green, which made me think they were Purple Grackles. These birds were hopping around from tree to tree, as if looking for a good location to build a nest; but suddenly the birds stopped hopping and lighted on a branch where, after a while, they started to bring straw and other material to build the nest. The location which they found was a splendid one, because it was pretty well hidden from sight. I should have liked to stay longer with the birds; but, as I was to hurry home, I went. I did not go to see the birds again until one Sunday morning. On that morning I did not see the nest, but the birds were still there, and were hopping about and chirping as if something had happened. I do not know if some bird had robbed the nest and then torn it down, or if the wind had blown it down. Although I looked around, I could not see the nest; so, if the wind had blown it down, some one had found it before I got there.—ZYLPHA O'ROURKE (age 13), 7th Grade, *Chelsea, Mich.*

On April, 7, 1912, in front of our house there were two Robins. The female was watching for something. She was hopping around anxiously. In about

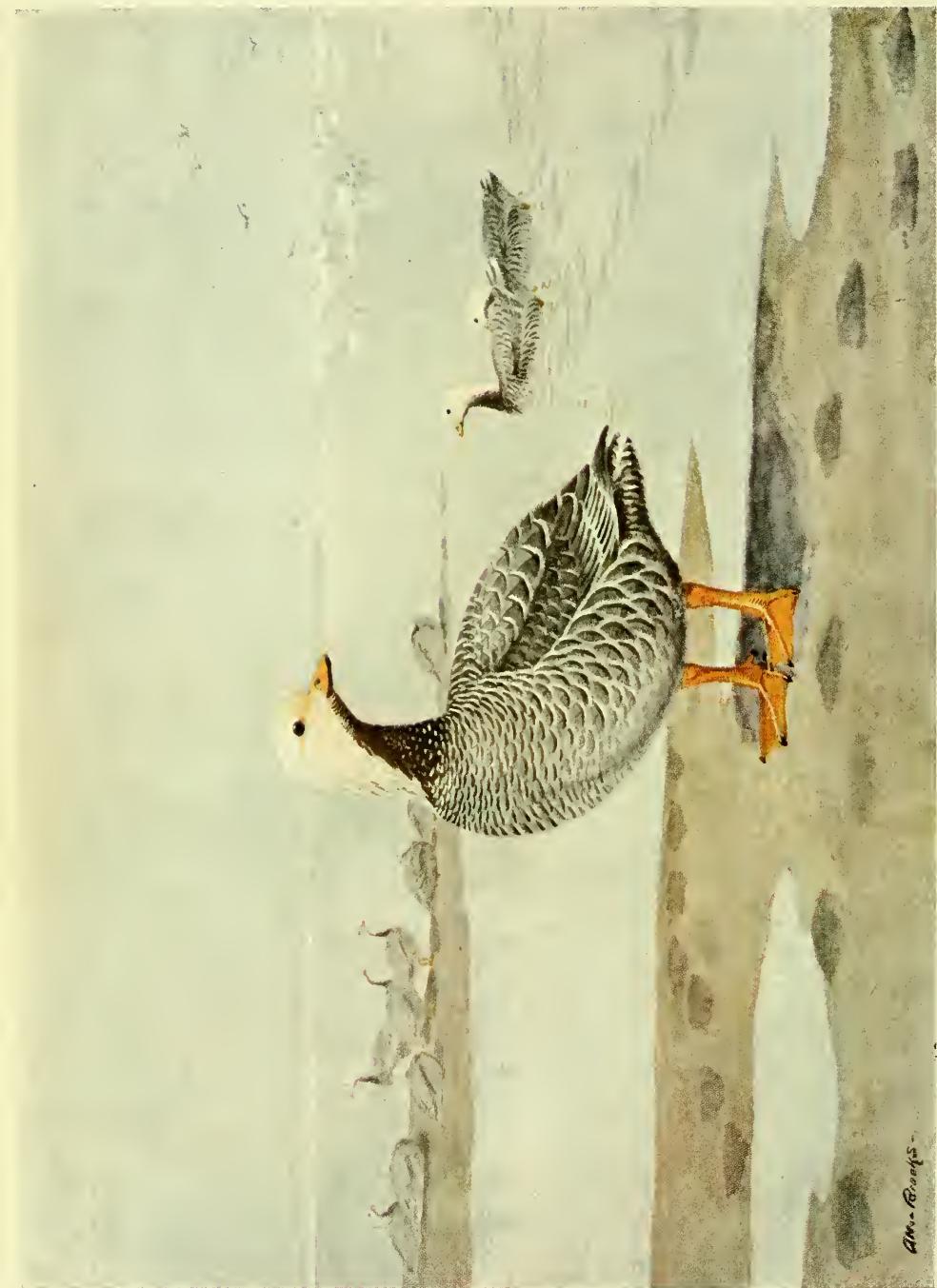
ten minutes after the female's restlessness, the male came. Then they flew into a tree near by and began to chat with each other, and in about two minutes they flew away again. On April 8, they were in the same place as they were on the day before. I saw the female fly into the tree where they were the day before. The male flew away. In a little while he came back with some string in his beak. The female began to call anxiously when she saw him coming. They began to build their nest right away, and before night it was finished. On April 10, two days later, the female was sitting, and the rest of that week the male was busily engaged bringing the female food. On April 22, the female was with the male getting food. I watched them, and I saw five little mouths open to the two older birds. They fed them faithfully until May 11, then the two old birds flew to the ground with all of their little brood, and on May 12, we found three of the little birds dead. I think the storm that we had on the night of May 12 killed them.—ELEANOR NEAKEL (age 12), 7th Grade, *Chelsea, Mich.*

Once upon a time, about the 27th of April, we boys were out in the woods, and we were out all day. We saw some Robins and Orioles. The Robins had their nest in the tree we were under. We climbed up the tree, and the nest had four eggs in it. On the way home we stumbled over a bog,* and a little Meadowlark flew out of it. It had four eggs in its nest. When we were coming across the marsh, we saw two Kingfishers and an Oriole. When we were nearly home, we saw a Wild Canary or Goldfinch. This winter I made a bird-house and put food in it, and put it up high enough so no dogs or cats could get into it, but no birds came there. A few days ago I saw a flock of Geese go over towards a marsh. Out in the woods we saw a lot of Orioles and lots of Robins. Last night I saw a Barn Swallow and some bats. As I was coming home from school I saw three English Sparrows fighting over a nest. It was a Robin's nest.—GLEN TROTEN (age 13), 7th Grade, *Chelsea, Mich.*

[The observations given above show how much one may see of outdoor life, when ear and eye are on the alert. It would interest these young people to read *The Home-Life of Wild Birds*, by Herrick, now that they are aware of some of the interesting things birds are doing about them. A college professor once complained that the class of young ladies he took out to observe the birds during the spring saw and heard little unless he pointed out just what to look at, or called attention to the various sounds one might hear who really listened for Nature's voices. The trouble with these students was that they had never been taught to look and listen. They had always studied books and learned to remember what they read, but they knew nothing about studying without a book.

The great value of bird- and nature-study is that it helps people to find out things by themselves, making their eyes keen to see, their ears to hear, and their minds to grasp facts which are not set down in print. Training of this kind makes education a pleasure and not a task.—A. H. W.]

*Used locally in the United States, according to Webster, for "a little elevated piece of earth in a marsh or swamp, filled with roots and grass."—Ed.



EMPEROR GOOSE

Order—ANSERES
Genus—PHILACTE
Species—CANAGICA
Family—ANATIDÆ
Species—CANAGICA
National Association of Audubon Societies

THE EMPEROR GOOSE

By E. W. NELSON

The National Association of Audubon Societies

EDUCATIONAL LEAFLET No. 64

Among all the Wild Geese which make their summer home in the far north—both in the Old and the New World—the Emperor Goose is the least known and most beautiful. Its snowy white head, dusky throat, satiny gray body, on which each feather is marked by a black crescent and white margin, and the brilliant orange feet, make a strikingly handsome combination of colors. When the males first arrive on their breeding-grounds in spring, the beauty of their plumage is remarkable, but much of its satiny luster goes with the advancing season.

Although the breeding-range of the Emperor Goose covers parts of two continents, yet it is perhaps more restricted in its territory than any other species of northern Goose. Its summer home lies along the coasts on both sides of Bering Straits, but so far as we know, the vast majority of them breed in Alaska, mainly on the islands of the lower part of the Yukon delta, and thence southward on the low marshy tundras to Cape Vancouver and nearly to the mouth of the Kuskoquim River. A few stragglers nest north of the mouth of the Yukon. Considerable numbers also breed on St. Lawrence Island, where I have seen many flocks in June. They also rear their young on the shores of Chukchi Land, in extreme northeastern Asia. We saw them coasting along the beach near East Cape on the Siberian side of Bering Strait the first of July, and they must have been breeding in that district. When Norden-skiöld wintered at Tapkan, on the Arctic Coast of Siberia northwest of Bering Straits, he noted the arrival of these birds near his winter-quarters as soon as the snow left the tundra in spring. This is the most western record we have of them in Siberia, but they no doubt range still farther. Their main wintering place appears to be on the Pacific, or southern, side of the Peninsula of Alaska and the Aleutian Islands. The Aleuts know them as "Beach Geese," owing to their persistent occupation of the seashore. Stray individuals wander far down the American coast in winter, even to northern California, where several, mostly immature birds, have been captured. They also go as far as the Hawaiian Island, and Mr. Henry W. Henshaw records the capture of four on Hawaii, where they arrived, with other stray visitors, after a severe October gale, in 1902. On the coast of eastern Asia, we have records of them as far south as Bering Island, the mouth of the Anadyr River, and the coast of Kamtschatka. On this coast, however, we do not know of their presence in any large numbers.

While I was preparing to go to Alaska, more years ago than I like to contemplate, the Emperor Goose, Steller's and Fischer's Eiders, and the Aleu-

tian Tern were names to conjure with, and the anticipation of studying these birds in their remote northern homes filled me with joy. In the North, my headquarters were at St. Michael, on the coast of Bering Sea, about sixty miles north of the Yukon delta. Here Emperor Geese rarely occurred except stray parties—visitors to the marshy coast-plain in fall. I made a sledge journey one winter through the Yukon delta and across the tundras southward to the Kuskoquim, and found the Esquimos in that area wearing “parkies,” or outer garments, made of the skins of Emperor Geese sewed together, and learned that great numbers of these birds nested there each spring. From what I learned, it appeared evident that they rarely nested above the upper limit of the tide in the sluggish streams of this low plain. All available observations of the habits of this bird show it to be a strictly salt-water, coastal species both in summer and winter. Its food is sought between tide lines either on oozy flats, as at the Yukon mouth, or along the rocky beaches of the wild Aleutian shores.

One spring, during my residence at St. Michael, it became possible to fulfil my long-cherished desire to visit the breeding-grounds of these Geese and many other waterfowl in the Yukon delta. To reach there in time to welcome the coming feathered host, I left St. Michael early in May with an Esquimo and a dog-sledge. The tundra was still clothed in winter white, except here and there a bare spot on the sunny side of a knoll, and the sea was covered with unbroken ice to the far horizon. The hoarse, crowing notes of the Willow Ptarmigan were beginning to be heard on the tundra, and occasional scouts from the coming army of White-fronted and Cackling Geese passed high overhead, spying out the land; yet the day I started the temperature was well below zero.

At the border of the Yukon delta, Esquimos familiar with the country were employed to lead us to the desired nesting-ground of the Emperor Goose. Nearly half a day's journey among the maze of ice-covered channels of the delta brought us to a low, flat island, where our guide assured me many *na-chau-thluk* would soon arrive, to rear their young. It was a bare, desolate spot, with only a few scattered alders on the upper side of the islands, and an unbroken view out over the frozen sea to the west. A tent was put up on a slight rise and, after a stock of drift-wood had been gathered, the guides took the sledge and left me with my Esquimo companion to await the arrival of the birds. Later, when the ice went out, they returned for me with kyaks.

A few White-fronted and Cackling Geese gave noisy evidence of their presence, but it was not until May 22 that the Esquimo brought in the first Emperor Goose—a male in beautiful spring plumage. After this, small flocks came in rapidly until they were plentiful all about us. They arrived quietly, skimming along near the ground, quite unlike the other Geese, which appeared high overhead with wild outbursts of clanging cries, which were answered

by those already on the ground. The river channels and the sea were still covered with ice, and the tundra half covered with snow, at the time of the first arrivals.

At first, the Emperor Geese were difficult to approach, but as their numbers increased they became less shy. When on the wing, they were easily distinguished from the other Geese, even at considerable distances, by their proportionately shorter necks and heavier bodies, as well as by their short, rapid wing-strokes, resembling those of the Black Brant. Like the latter, they usually flew near the ground, rarely more than thirty yards high, and commonly so close to the ground that their wing-tips almost touched the surface on the down stroke. While flying from place to place, they give at short intervals a harsh, strident call of two syllables, like *kla-ha, kla-ha, kla-ha*, entirely different from the note of any other Goose I have ever heard. A group of them on a sand-bar or mud-flat often utter lower, more cackling notes in a conversational tone, which may be raised to welcome new arrivals. They are much less noisy than either the White-fronted or Cackling Geese, which often make the tundra resound with their excited cries. Occasionally I could cause a passing flock to leave its course and swing in close to my place of concealment by imitating their flight notes.

Almost at once after their arrival on the islands, the Emperor Geese appeared to be mated, the males walking around the females, swinging their heads and uttering low love notes, and incoming flocks quickly disintegrated into pairs which moved about together, though often congregating with many others on flats and sand-bars. The male was extremely jealous and pugnacious, however, and immediately resented the slightest approach of another toward his choice; and this spirit was shown equally when an individual of another species chanced to come near. When a pair was feeding, the male moved restlessly about, constantly on the alert, and at the first alarm the pair drew near one another, and just before taking wing uttered a deep, ringing *u-lugh, u-lugh*; these, like the flight notes, having a peculiar deep tone impossible to describe.

At low tide, as soon as the shore ice disappeared, the broad mud-flats along shore were thronged with them in pairs and groups numbering up to thirty or forty individuals. They were industriously dabbling in the mud for food until satisfied, and then congregated on bars, where they sat dozing in the sun or lazily arranging their feathers. By lying flat on the ground and creeping cautiously forward, I repeatedly approached within thirty or forty yards of parties near shore without their showing any uneasiness.

The first of June, they began depositing eggs on the flat marshy islands bordering the sea all along the middle and southern part of the delta. The nests were most numerous in the marshes, a short distance back from the muddy feeding-grounds, but stray pairs were found nesting here and there farther inland on the same tundra with the other species of Geese and numerous other water-

fowl. Near the seashore, the eggs were frequently laid among the bleached and wave-torn scraps of driftwood lying along the highest tide marks. On June 5, a female was found on her eggs on a slight rise in the general level. A small gray-bleached fragment of driftwood lay close by. The Goose must have lain with neck outstretched on the ground, as I afterward found was their custom when approached, for the Esquimo and I passed within a few feet on each side of her; but, in scanning the ground for nesting birds, the general similarity in tint of the bird and the obvious stick of driftwood had completely misled our sweeping glances. We had gone some twenty steps beyond when the sitting bird uttered a loud alarm note and flew swiftly away. The ground was so absolutely bare of any cover that the three eggs on which she had been sitting were plainly visible from where we stood. They were lying in a slight depression without a trace of lining. The same ruse misled us a number of times; but on each occasion the parent betrayed her presence by a startled outcry and hasty departure soon after we had passed her and our backs were presented. They usually flew to a considerable distance, and showed little anxiety over our visit to the nests. The nests I examined usually contained from three to five eggs, but the full complement ranged up to eight. When first laid, the eggs are pure white, but soon become soiled. They vary in shape from elongated oval to slightly pyriform, and are indistinguishable in size and shape from those of the White-fronted Goose. As the complement approaches completion, the parent lines the depression in the ground with a soft, warm bed of fine grass, leaves, and feathers from her own breast. The males were rarely seen near the nests, but usually gathered about the feeding-grounds with others of their kind, where they were joined now and then by their mates.

The young are hatched the last of June or early July, and are led about the tundras by both parents until, the last of July and the first of August, the old birds moult their quill feathers and with the still unfledged young become extremely helpless. At this time, myriads of other Geese are in the same condition, and the Esquimos made a practice of setting up long lines of strong fish-nets on the tundras to form pound-traps, or enclosures with wide wings leading to them, into which thousands were driven and killed for food. The slaughter in this way was very great, for the young were killed at the same time and thrown away in order to get them out of the way of the next drive. The Esquimos of this region also gather large numbers of eggs of the breeding waterfowl for food and, with the demand for them at the mining camps of the North, a serious menace to the existence of these and other waterfowl might ensue.

Fortunately, in 1909, President Roosevelt made a bird-reservation covering the delta of the Yukon and the tundra to the southward, which includes the main breeding-ground of the Emperor Goose, and thus took a long step toward perpetuating this fine bird.



CRESTED AUKLET

Order—PYGOPODES
Genus—AETHIA

Family—ALCIDÆ
Species—CRISTATELLA

National Association of Audubon Societies

THE CRESTED AUKLET

By CHAS. HASKINS TOWNSEND

The National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 65

This is a bird of the far North, frequenting the coasts and islands of Bering Sea and the North Pacific Ocean. We first got acquainted with the Crested Auklets at the Pribilof Islands, where they abound, and afterward saw them in Bering Strait, and above the Arctic Circle at Kotzebue Sound. Later on, in the fishery surveys by the steamship 'Albatross,' we saw them from Kadiak Island and the Alaska Peninsula through the whole Aleutian Archipelago, and beyond to the Commander Islands off Kamtschatka.

The bird is also found along the Kuril Islands, down as far as Japan on the western side of the Pacific. Rich as our experiences with the Auklets were in many of these places, they did not prepare us for what we were to see in the Shumagin Islands south of the Alaska Peninsula.

On the evening of August 1, the 'Albatross' came to anchor in Yukon Harbor at Big Konishi Island of the Shumagin group. While the ship was working her way into this wild and uninhabited bay, everyone noticed the increasing numbers of Crested Auklets. The farther in we went the more numerous they became, until the Captain called me to the bridge to tell him what I could about them.

The birds were nearly all of the crested species, and were present in myriads. The surface of the water was covered with them, and the air was filled with them. Large, compact flocks launched themselves into the air from the lofty cliffs, and careened toward the vessel with great speed and whirring of wings. The Crested Auklets were here more numerous than were the 'Choochkies' (Least Auklets) at St. George, in the Pribilofs, celebrated as the center of abundance for that species.

Twilight did not come until after nine o'clock, and during the long evening the birds were amazingly active. Flocks of them continued to come in rapid succession from the cliffs, many passing close to the ship at high speed and swinging about the harbor. After the anchor was dropped near the cliffs, a loud blast of the whistle made the Auklets still more abundant. The bird legions started from the cliffs, until the misty air and the water about the ship was alive with them. It was a memorable ornithological display, and when darkness came the birds were still moving actively.

These birds appeared to be nesting chiefly in crevices in the cliffs, although they could be heard under the boulders near the beaches. We did not stay long at Yukon Harbor, and I have always wanted to revisit the place and get better acquainted with the metropolis of the Auklets. At the Pribilofs, we

found the birds apparently more abundant under boulders near the beaches than in the high cliffs. In seeking the nests of the Crested Auklets, and in fact the nests of any of the Auklets, one needs a tool not often used by the bird student—*a crowbar*.

To locate the nesting localities is easy. One has but to walk along the great ridges of volcanic stones thrown up by the sea. The stones are rounded and sea-worn like pebbles, but they are giant pebbles and cannot be readily removed. The Auklets go far down among them, perhaps three or four feet, and can be heard chattering there during any part of the nesting season.

The natives attempted to show us the nests. They lifted or rolled the heavy rounded stones for half an hour, until there was a circle of them around us waist high and 15 feet in diameter. They worked in the central depression, carrying or rolling stones until the task became hopeless, and still the Auklets were chattering underneath the stones all about. Mr. E. W. Nelson writes that on the northern islands of Bering Sea, St. Matthew, St. Lawrence, and the Diomedes, the eggs are sometimes deposited in exposed places, with little attempt at concealment. A set consists of a single egg, white, with sometimes a few dark blotches, and measuring on the average 2.10 by 1.40 inches.

We found that a considerable part of the food of this and other kinds of Auklets consisted of amphipod crustaceans, or 'beach-fleas,' as they are called, when found under bits of seaweed along shore. These small crustaceans, less



A FAVORITE NESTING-PLACE OF AUkLETS, PRIBILOF ISLANDS, ALASKA
Photographed by Dr. C. H. Townsend

than a quarter of an inch in length, are amazingly abundant in Alaskan waters and, as a never-failing food-supply, account for the surprising abundance of Auklets of all kinds.

The native Aleuts eat Auklets, just as they do most other kinds of sea-birds, and capture them with nets, which are like a large dip-net with a long handle. The native hunter conceals himself at some point near the beach or bluffs over which the birds are accustomed to fly close. When a flock approaches, the net is swung upward, and a skilful native has little difficulty in catching two or three birds out of each flock that passes. The Aleut people are true children of Nature, and the greater part of their food consists of the fishes, seals, and sea-birds found along their shores. The misty and often stormy shores would be desolate indeed without the lively presence of Auklets; and we cannot help wishing that they abounded in more southern latitudes, where their charming ways could be better known. Some of Nature's finest exhibitions of bird-life, however, are arranged without reference to civilized spectators.

The Crested Auklets arrive at the Pribilofs in May, and remain until the winter ice begins to invest the islands, when they go farther south. They are noisy in the breeding season when about their nests, but are rather silent at other times.

While they take alarm and leave the cliffs when closely approached, they have more confidence when on the water, and do not readily dive or take flight except to make way for the boat. About islands where they are not specially abundant they may yet be as thick as bees about some particular cliff, long rows of them lined up on the rock ledges, while others are coming and going. Sometimes we saw them far off shore in large flocks hundreds of yards in extent. They are a plump, well-fed race, and appear to have plenty of time for play, both in the air and on the water.

The Auklets, or Pygmy Auks, a group of six species (referred to four genera) are confined to the North Pacific.

The Crested Auklet is a very distinct species, distinguished by its much larger size from its nearest relatives, the Whiskered and Least Auklets, and by the differently shaped bill and the presence of a recurved crest from the Paroquet Auklet. Moreover, the underparts are entirely dark in the Crested Auklet, but largely white in the three allied species.

Males and females are alike in plumage, which is sooty black above, and brownish beneath; but this obscure coloring is relieved by the lively crest, the bright red of the beak, and the white, plume-like feathers which extend downward and backward from the eye. The white iris also contributes to the alert appearance of the bird's head. The feet are bluish, with dark webs. That portion of the red beak around the corner of the mouth is soft and flexible.

The forward-curved crest of the Auklet, resembling that of the California

Quail, suggests the name of 'sea-quail,' by which it is known to English-speaking persons. The native name 'Kanooska' is of Russian origin, and means 'Little Captain.'

In length individual birds vary from eight and one-half to nine inches.

The plumage in winter is the same as in summer, but the bill is markedly different. The Crested Auklet not only molts its feathers like other birds, but sheds the red, horny plates about the base of its beak after the breeding season.

The very young bird, whose appearance has not long been known, is a ball of smoky down, in no way resembling its parents. In the immature bird the frontal crest and white feathers beneath the eye are wanting or but slightly developed, while the bill is much smaller and dusky brownish.

At the Pribilofs, it is no uncommon sight to see fur seals, sea-lions, and many kind of sea-birds, including Crested Auklets, in great abundance within a radius of fifty yards.

We need not concern ourselves, I think, about the preservation of the Auklets. They dwell among the high cliffs and boulder-strewn beaches of a thousand uninhabited islands, and know how to stow away their eggs so safely that neither natives nor blue foxes can get them easily.



The Audubon Societies

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Edited by T. GILBERT PEARSON, Secretary

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President Dutcher

Upon the occasion of a recent visit to President Dutcher, the writer was most delightfully surprised to find him apparently much improved in physical vigor. Although he has been confined to his bed almost entirely for the past two and a half years as a result of a paralytic stroke, he has seemed of late to gain strength and courage more rapidly than during any previous period. Just now he is with Mrs. Dutcher enjoying the diversion of a visit to Atlantic City. He is very glad to see or hear from any of his friends, and letters addressed to him at Plainfield, New Jersey, will always reach their destination.—T. G. P.

Weeks-McLean Law

The so-called 'McLean Bill' is now a law. After a stormy passage in the House of Representatives, it was finally passed by Congress as an amendment to the Agricultural Bill, and President Taft officially signed the measure only a few hours before he retired from office on March 4.

Since 1904, bills of this character have been constantly pending in Congress. From the beginning they made a strong appeal to the imagination of people throughout the country who were interested in the conservation of our natural

wild life. This interest increased each year, as a result of the wide publicity given to the measure by this Association and other organizations having to do with bird and game protection. The daily press has always lent its assistance and has helped tremendously in arousing the public. Within the past twelve months, the expressions of approval from the constituents of the Senators and Representatives have increased from a comparatively few isolated shouts to a mighty roar, which meant that the people of the country were demanding the passage of the act. For the past twelve months, the American Game Protective and Propagation Association has been very active in working this bill through Congress. Mr. John B. Burnham, the President of that Association, and Mr. W. S. Haskell, the counsel, have devoted a large share of their time to the subject. But for the efforts of these gentlemen, the bill would undoubtedly have failed to pass at this session of Congress. Among other organizations whose officers and members have contributed to the success of this undertaking, there may be mentioned the Camp-Fire Club of America, the New York Zoölogical Society, the Boone and Crockett Club, the National Federation of Women's Clubs, the Long Island Sportsmen's Association, the thirty-five State Audubon Societies, and numerous sportsmen's clubs scattered throughout

the country. The game commissioners of practically all the states in the Union, as well as thousands of individual workers, have earnestly worked for the success of the Weeks-McLean Bill.

Never before in the history of our country has there been such a widespread general interest in a bird-protective measure, and never before has so much pressure been brought to bear on Congress from such a wide variety of sources in the interest of a bill which made for the conservation of our wild life. The writer could name some of the members of this Association who have individually sent out or caused to be sent from one hundred to two hundred letters imploring Congressmen to vote for the bill. One of our members, Mr. Henry Ford, of Detroit, became so stirred that he instructed one of his most able and resourceful employees, Mr. Glenn Buck, of Chicago, to spare no expense in an effort to arouse the people to the importance of securing the necessary congressional support. Mr. Buck sent out thousands of telegrams and letters and, in fact, for several weeks employed a large force of stenographers in the enterprise.

The struggle for the passage of this bill will go down in the history of American bird protection as being the most gigantic single campaign ever waged for a bird-protective bill. The full text of this new Federal law is given below:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all wild geese, wild swans, brant, wild ducks, snipe, plover, woodcocks, rail, wild pigeons and all other migratory game and insectivorous birds, which in their northern and southern migrations pass through, or do not remain permanently the entire year within the borders of any State or Territory, shall hereafter be deemed to be within the custody and protection of the Government of the United States, and shall not be destroyed or taken contrary to regulations hereinafter provided therefore.

Sec. 2. That the Department of Agriculture is hereby authorized to adopt suitable regulations to give effect to the previous section by prescribing and fixing closed seasons, having due regard to the zones of temperature, breeding habits, and times and line of migratory flight, thereby enabling the department to select and designate suitable districts for different portions of the country within which said closed seasons it shall not be lawful to shoot, or by any device kill or seize and capture migratory birds within the protection of this law, and by declaring penalties by fine of not more than one hundred dollars or imprisonment for ninety days, or both, for violation of such regulations.

Sec. 3. That the Department of Agriculture, after the preparation of said regulations, shall cause the same to be made public, and shall allow a period of three months in which said regulations may be examined and considered before final adoption, permitting, when deemed proper, public hearings thereon, and after final adoption to cause same to be engrossed and submitted to the President of the United States for approval; Provided, however, That nothing herein contained shall be deemed to affect or interfere with the local laws of the States and Territories for the protection of non-migratory game or other birds resident and breeding within their borders, nor to prevent the States and Territories from enacting laws and regulations to promote and render efficient the regulations of the Department of Agriculture provided under this statute.

Sec. 4. That there is hereby appropriated, out of any moneys in the Treasury not otherwise appropriated, for the purpose of carrying out the provisions of this Act, the sum of ten thousand dollars.

T. G. P.

Niobrara Bird Reservation

In an effort to assist in further preserving the American bison and elk, this Association has recently coöperated with the Federal Government in the matter



BUFFALO JUST LIBERATED IN NIOBRARA BIRD RESERVATION



ARRIVAL AT NIOBRARA RESERVATION WITH SIX BUFFALO



ELK JUST INSIDE FENCE OF NIOBRARA RESERVATION

of inclosing with a high wire fence a pasture of two hundred acres on the National Niobrara Bird Reservation in Northern Nebraska.

Mr. J. W. Gilbert, of Friend, Nebraska, presented the Government with a collection of buffalo, elk, and Virginia deer which he had been maintaining for some years on his estate. These animals were given with the understanding that they should be enclosed on a good range provided for by the Government at some point in the State of Nebraska.

The work of constructing the fence, as well as capturing, transporting, and liberating the animals, was conducted by Mr. Fred M. Dille, Special Agent of the United States Bureau of Biological Survey. The first post-hole was dug on November 22, 1912, and in less than ninety days the work was completed and the herd removed to its new quarters.

To carry this enterprise into execution, the Directors of the National Association of Audubon Societies voted an appropriation of fifteen hundred dollars—about five hundred dollars was subscribed by the citizens of the town of Valentine, near which the reservation is located, and one hundred dollars was contributed by the Chicago and Northwestern Railroad Company.

The accompanying photographs taken by Mr. Dille show the height and general character of the wire fence, the method used in transporting the animals to and from the railroad, as well as some of the individuals of this herd of big game, the future of which we trust is now assured.

Just before Hon. James Wilson retired as Secretary of the United States Department of Agriculture, he wrote this office expressing his appreciation of our assistance in this matter, and also took occasion to speak of the coöperation which has long existed between his department and the National Association. Under date of February 27, he wrote:

"I beg to advise you that the herd of big game contributed by Hon. John W. Gilbert, of Friend, Neb., has been successfully installed on the Niobrara Reservation

near Valentine, Neb., in the enclosure erected through the cordial coöperation of the National Association of Audubon Societies and the citizens of Valentine. A committee appointed to examine the work has reported that the fence, constructed of Page woven wire, is well and substantially built and satisfactory in every way. This fence, 766 rods in length, encloses some 200 acres adjoining the headquarters of old Fort Niobrara, and affords an ideal pasture for big game, with abundant feed and shelter. The present herd consists of 6 buffalo, 17 elk, and 2 deer, which I hope will be largely increased in the near future, and the present enclosure can be enlarged from time to time whenever necessary.

"I take this opportunity of extending the thanks of the Department for the timely coöperation of your Association which has made possible the acceptance of this herd and the establishment of a National herd of buffalo similar to the herds previously provided in Oklahoma and Montana through the coöperation of the New York Zoölogical Society and the American Bison Society.

"I also take this opportunity of expressing my appreciation of the cordial coöperation of the National Association of Audubon Societies in the work of inspecting foreign birds and in the establishment and maintenance of National bird refuges. March 14, 1913, will mark the tenth anniversary of the creation of the first National Bird Reservation (that on Pelican Island, Florida) which was set aside on the recommendation of your Association. Since 1903 these reservations have increased from one to sixty, and are now distributed in nineteen States and Territories, from Porto Rico and Michigan in the east to Hawaii and Arctic Alaska in the west. In guarding the birds on these reservations, the Department has received substantial assistance from the Association, particularly in the maintenance of the reservations at Pelican Island, Mosquito Inlet, and Key West, Florida; Breton Island, Louisiana; Siskiwit and Huron Islands, Michigan; Klamath Lake

and Three Arch Rocks, Oregon; and Saint Lazarus, Alaska.

"The establishment of these reservations has aroused wide interest both among our own people and in foreign countries, and has placed the United States at the head of the nations of the world in the work of National bird protection. May the next decade show even greater progress in the development of those refuges, and in the various lines of conservation work which the National Association of Audubon Societies has so successfully undertaken."

Notes on the Elk Situation

The difficult question of how to care for the herds of Elk which pass the summer in the Yellowstone National Park and the adjoining Teton Game Preserve of Wyoming as yet remains unsolved.

It is estimated that about forty-seven thousand Elk inhabit this territory in summer. When the heavy snows fall in early winter, the Elk are driven out of these mountains in quest of food, some of them moving northward from the Park into Montana, and others seeking lower levels south of the Park. The ancestors of these Elk for untold generations have probably been making migrations of this character. In days gone by, it was not difficult for them to find an abundant food supply—the grass of the natural meadows and the twigs from trees and bushes growing along the stream being sufficient for their need. In latter years, however, the ranchers have come, and not only have innumerable wire fences been strung across the country, preventing in some directions the progress of the Elk, but almost all available food has been removed.

This now results in a heavy annual drain to the herds, occasioned by the death from starvation of the young and more helpless Elk. From a reliable source it is learned that two years ago the bodies of over 1,000 young Elk were found strewn along Yellowstone River, north of the Park. Apparently little has been

done to alleviate the suffering of the herd that each winter travels into this territory.

The herd which moves southward from the Teton Game Preserve passes chiefly into Jackson's Hole, a large irregular valley about ten by forty miles in extent. The ranchmen in this neighborhood early in the season gather the hay with which to feed their domestic stock during the winter, and the Elk are prevented from reaching it by high fences built for the purpose.

Mr. S. N. Leek of Jackson, Wyoming, in a recent letter to this office, says: "In the winter of 1910-11 snow fell to an unusual depth in Jackson's Hole, then, turning warmer, it rained, then colder, froze up, completely cutting the Elk off from their food supply and the entire herd was threatened with starvation. Congress was appealed to, and nobly responded by appropriating \$20,000 for the relief of the Elk. In the meantime, the Wyoming Legislature appropriated \$5,000. An agent was appointed and sent in; all available hay was purchased (about two hundred and sixty tons) and with this greatly insufficient amount the attempt was made to save 10,000 starving Elk."

Mr. D. F. Hudson, State Game Warden of Wyoming, estimates that in 1911-12 about 5,000 Elk were congested in the lower end of the valley, and here a serious attempt was made to feed them. Despite this fact, when the spring came and the snows melted, the bodies of 726 Elk, chiefly calves, were found in the neighborhood. This does not take into account the loss sustained in the upper reaches of the valley, where at least 8,000 Elk were known to winter.

According to the opinion of some observers, the large mortality among calves must, in a measure, be accounted for because of the heavy killing of the large males, for which there is growing demand. An old bull Elk not only provides more meat than a young bull or cow, but the splendid antlers are an alluring trophy to the big-game hunters. In addition to this, the large males produce

teeth for which there is a large demand on the market today. When an Elk is about six months old, there appears, on either side of the upper jaw, a tooth which continues to grow in size and beauty until it reaches perfection, when the Elk is about three or four years old. These teeth get to be about the size of the end of one's finger and are in the neighborhood of three-quarters of an inch in length. Not only are they composed of beautiful white, polished ivory, but the cutting end assumes a brown or chestnut hue. Many of the members of the Order of Elks wear these as watch-charms. A beautiful pair will sometimes sell as high as \$75.00, although the usual price ranges from ten to twenty dollars.

The killing of large numbers of the old Elk therefore reduces the efficiency of the herd as breeding stock, and young males being thus privileged to mate before coming to their full strength, a condition exists which does not normally obtain to any great extent if the strong, fighting bulls are still present in the herd. The offspring from these undeveloped males are regarded as not having the strength and endurance which under natural conditions they would enjoy.

The United States Biological Survey, together with the Game Protective authorities of the States of Wyoming and Montana, are giving this entire subject serious consideration and, in addition to providing larger quantities of hay for the Elk during the period of heavy snows, have proposed to provide as far as possible for a permanent natural range in winter. As a still further safeguard, the state authorities should employ a larger game-warden force and see that the Elk are not killed out of season and, in Wyoming particularly, enforce absolutely the statute which prohibits the killing of the Elk for their teeth.

The policy now adopted by the Government to remove annually from the Yellowstone Park the surplus increase, and place them in game preserves elsewhere, will doubtless result in very materially helping to preserve the species.

The Boone and Crockett Club, organized especially for the protection of large-game animals, states in its Annual Report for 1912 that during the past year 480 Elk were transferred, 64 of which were shipped by the Biological Survey to other localities as follows:

Twenty-three were sent to the Sundance National Forest of South Dakota and Wyoming; 15 to the Billy Meadows, Wallowa National Forest, Oregon, where they were placed in an inclosure; 10 to Fish Lake National Forest, Utah; 8 to Wichita National Forest, Oklahoma; 5 to the Bison Range, Montana; and 3 to the City Park, Boulder, Colorado."

Continuing its report on Elk, the Game Preserve Committee of the Club says: "The state of Wyoming transferred 125 Elk calves to points in the East Central part of the state, but this number was considerably reduced by losses en route.

"The state of Montana moved about 200 to four different points in the state.

"The Yellowstone Park authorities sent about 60 to the Cascade Mountains of Washington and about 30 to the Glacier National Park.

"Efforts have been made by the Biological Survey to induce the states of Wyoming, Montana, and the authorities of the Yellowstone Park, to arrange for the transferring of 500 Elk annually from each of the great herds for restocking other suitable areas in the United States. As yet, however, no agreement has been reached. On December 18, 1912, the Interior Department approved regulations limiting the number of Elk to be distributed from the Yellowstone Park herd to fifty for any one State.

"Although the Game Committee favors the introduction of Elk in permanently fenced areas where the surrounding country is not vast enough to receive an overflow from the increasing herd, nevertheless its efforts will be directed toward the establishment of wild herds in Game Refuges where such herds can increase and restock the adjacent region.

"The Elk on the Pacific Coast, in both Washington and California, are of differ-



BULL ELK SHOT FOR ITS TEETH AND FLESH, WYOMING
Photographed by S. N. Leek



ELK CALVES DYING OF STARVATION IN JACKSON'S HOLE, WYOMING
Photographed by S. N. Leek



ELK WINTERING IN JACKSON'S HOLE, WYOMING
Photographed by S. N. Leek

ent species from the Yellowstone Park Elk. The Game Committee will discourage any plan for the distribution of Elk from the Yellowstone to regions where they will mix with, and by interbreeding destroy other species of Elk.

"No more Elk should be shipped to the Glacier National Park, which already possesses an adequate breeding reserve."

—T. G. P.

Prohibit Feather Importations

The Ways and Means Committee of our National Congress has recently been engaged in revising the Tariff Schedule.

On January 30, the writer appeared before this Committee on behalf of the National Association of Audubon Societies and presented a proposition to the effect that Congress should absolutely prohibit the importation of "aigrettes" and the feathers of other wild birds native to the United States as well as those taken from birds whose feathers resemble those native to this country.

Dr. William T. Hornaday, of the New York Zoological Society, was also present and told the Committee much about the destruction of bird life throughout the world for millinery purposes. He asked the committee to stop the importation of the feathers of all wild birds,

Shortly after this the Committee went into executive session, and we shall probably not learn what action they may take in reference to the matter until they make their report to Congress in April.

Hundreds of our members have been writing to the members of the Ways and Means Committee, asking them to adopt the recommendations presented at that time. In this matter we also have the most active coöperation on the part of the National Federation of Women's Clubs and many of the bird and game protective organizations throughout the country. Mr. Henry Oldys, one of the energetic Audubon workers in Washington, D. C., has been particularly active in this work.

The following is the Brief submitted by

the Association for the Consideration of the Ways and Means Committee:

The National Association of Audubon Societies urgently recommends the amendments of paragraph 438 of the Tariff Act, relating to feathers and downs, so as to prohibit the importation of plumage of our native birds of the United States, including aigrettes. We ask for this change:

Amend Schedule N, Section 438, to read as follows:

Feathers and downs of all kinds, including bird skins or parts thereof with the feathers on, crude or not dressed, colored, or otherwise advanced or manufactured in any manner, not specially provided for in this section, twenty per centum ad valorem; when dressed, colored or otherwise advanced or manufactured in any manner, including quilts of down and other manufacturers of down, and also dressed and finished birds suitable for millinery ornaments, and artificial or ornamental feathers, fruits, grains, leaves, flowers and stems or parts thereof, of whatever material composed, not specially provided for in this section, sixty per centum ad valorem; provided, that the importation of plumage of native birds of the United States or of plumage indistinguishable from that of our native wild birds, including aigrettes, crude or manufactured, is hereby prohibited except for scientific purposes.

We ask this on the following grounds:

1. That a number of the species are now approaching extinction.
2. That the birds are of great economic value.
3. That the traffic in such plumage is illegal in many states.
4. That the plumage trade is destructive, barbarous, and unnecessary.
5. That the loss of revenue can readily be made up from other sources.

1. The demand for plumage for wild birds for millinery purposes during the past twenty years has grown to enormous proportions. In the effort to supply the market, the woods, fields, and sea-

coasts of the United States have been combed systematically by plume-hunters. Breeding colonies and rookeries in the tropics, from Australia to Venezuela, and the most distant islands in the Pacific Ocean, have been devastated by the emissaries of the plume trade. The traffic in the United States has caused the practical extinction of some of the most beautiful birds, including egrets, the least tern, and locally of several other species. Breeding colonies of certain sea birds have been practically annihilated along the coasts of New Jersey and Virginia. The egrets, formerly found in every state in the Union, with half a dozen exceptions, are now restricted to a comparatively few isolated colonies in the southern states and a few wandering individuals which occasionally stray northward to visit the haunts where they were formerly abundant.

2. The value of insectivorous and seed-eating native birds is too well known to need detailed exposition in this connection. The economic value of the egrets and other species of plume birds is not generally appreciated. Recent investigations in Florida by a representative of the National Association of Audubon Societies has shown that herons of several species, during the breeding seasons are not only important scavengers, but destroy immense numbers of crayfish, cut-worms and grasshoppers. Without going into detail, the following table shows at a glance the character of the food of four species of young herons in Florida. The results are based on examination of the components of fifty meals of each species. The table shows that fifty snowy egrets consumed no less than 762 grasshoppers and 91 cutworms; that fifty little blue herons destroyed 1,900 grasshoppers, 149 cutworms, and 142 crayfish, and 50 Louisiana herons consumed no less than 2,876 grasshoppers. The stomach of one Louisiana heron was found to contain 200 grasshoppers.

Based on the examination by O. E. Baynard, Orange Lake, Florida, of fifty meals of each of the following species:

	Grass- hoppers	Cut- worms	Cray- fish	Suck- ers	Misc.
Snowy Egret.....	762	91	29	..	9
Little Blue Heron.1,900	149	142	..	45	
Louisiana Heron.2,876	17	67	..	14	
Egrets.....	..	176	61	297	

Under the heading, 'Misc.' are included a large number of water moccasons and other snakes well known as very destructive to fish.

Both the egret and the snowy egret are destructive to field mice, and are therefore of pronounced economic value to the agricultural interests of the country, as shown in Bulletin No. 33 of the Biological Survey of the United States Department of Agriculture.

3. Illegal traffic.—The trade in plumage of native birds is now illegal in a number of the states, including Massachusetts, New York, New Jersey, Ohio, Louisiana, Missouri, Colorado, California, Oregon, Washington, and other states. The trade in plumage of native birds is thus prohibited in such important millinery centers as Boston, New York, New Orleans, Cleveland, Cincinnati, St. Louis, Kansas City, Denver, Los Angeles, San Francisco, Portland, and Seattle. The Federal Law (25 Stat. 1137) already prohibits interstate commerce in plumage shipped in violation of local laws. The United States should not permit the importation of goods which are contraband in some states. Their importation should be prohibited, as has already been done in the case of lottery tickets, opium, sealskins illegally captured, etc.

4. The death knell of any species of wild life is sounded when mankind begins to commercialize it. A number of species of North American birds are today on the verge of extinction because of the activities of the collectors working in the interests of the world's great millinery establishments. In collecting heron aigrettes the most barbarous cruelties are practised. The long airy feathers are the nuptial adornments of the birds and are found only in the breeding-season. To procure these feathers it is absolutely necessary to take the life of the birds which produce them. This means that the young are

left in the nests to die of starvation. Egrets once bred as far north as New Jersey and perhaps Long Island, but today they do not occur during the nesting season north of North Carolina. The agents of the National Association of Audubon Societies have been able to locate in recent years about thirty colonies of these birds in our southern swamps. In the summer of 1912 these few remaining rookeries contained in the aggregate a population of about 5,000 egrets. Thirty years ago there were millions of these birds in the United States. Because of the disappearance of egrets over large sections of the country in which they formerly occurred, it is now necessary for the trade to secure these feathers from abroad, and the same heartless war of extermination is today being carried on in South America and southern Asia. As long as we permit the importation of aigrettes, we have but little assurance for saving the remnant of the egrets still found in this country, as it is impossible to distinguish in the manufactured product the feathers of these birds taken in different countries.

5. Revenue.—The actual revenue derived from the importation of plumage (including aigrettes for millinery purposes) is unknown, for the reason that no separate record is kept of the importation of plumage for millinery purposes and feathers and down used for pillows, quilts and other purposes. In the case of aigrettes, probably 90 per cent of the goods are imported in the crude state at the low rate of duty based on appraisal at port of shipment. If figures were available, it is doubtful whether the appraised value of most aigrettes would exceed \$15 or \$20 per ounce, allowing a revenue of \$3 or \$4 per ounce. Assuming that the importations for any one year amounted to half a ton, or 1,000 pounds, the duty at \$3 an ounce would be \$48,000, and at \$4 per ounce, \$64,000. If this revenue is regarded as indispensable or so important as to necessitate the continuance of a traffic at once barbarous, useless, and destructive to the interests of our farmers, an equal source of revenue may be found in para-

graph 289 in Schedule G by imposing the same duty on game birds as on poultry.

To accomplish this, amend paragraph 289 to read: "Poultry, live, 3 cents per pound; poultry and game birds, dead, 5 cents per pound."

If this amendment be adopted, paragraph 510 of the free list should be amended to read: "Birds and land and water fowls, alive, for exhibition or propagation."

The present provision which imposes a duty of 5 cents a pound on poultry and allows game birds to be imported free is class legislation. It is the height of injustice in these days of high prices to require the poor man to pay a duty of 5 cents a pound on his poultry, while the wealthy patron of the high-class restaurant and hotel can obtain his game birds free of duty. Under the present tariff exemptions, the importation of game birds from Europe has increased enormously. As many as 25,000 birds are known to have been imported on a single vessel at New York. The records of the Conservation Commission of New York show that since the new law went into effect, in 1911, prohibiting the sale of native game and requiring foreign game to be tagged, game birds to the number of 492,400 have been tagged. Most of these birds are pheasants, grouse and ptarmigan weighing from a pound to a pound and half or two pounds. If the average is taken at a pound and a half, the importations of New York alone would net about \$37,000. As these figures represent the importations of New York alone for a period of two years, it would be safe to say that the importations of all ports in the United States may be safely placed at not less than \$50,000.—T. G. P.

Egret Protection

As we go to press, the Association, in co-operation with the Pennsylvania State Audubon Society, is engaged in an extensive campaign to arouse public interest in Pennsylvania with a view of securing support of Senate Bill No. 46, introduced

into the Legislature at our request by Senator Enos M. Jones, of Altoona.

In its provisions this bill follows closely the Audubon Plumage Law now in force in the states of New York, New Jersey and elsewhere. When, two years ago, the New York law made it illegal for the wholesale milliners of New York City to continue their traffic in the feathers of Egrets and other native wild birds, certain enterprising concerns transferred this branch of their business to Philadelphia. From this point they have distributed attractive booklets broadcast throughout New York and elsewhere, and have since been engaged in building up a mail-order business. Should the Jones Bill become a law, this diabolical business will be driven from another one of its strongholds.

On February 18th a hearing was given on this bill in the Capitol building at Harrisburg. The opposition was represented by its usual list of attorneys and millinery feather dealers. Appearing in support of the bill were Mr. Witmer Stone, President of the Pennsylvania Audubon Society; Dr. T. S. Palmer, Assistant Chief of the United States Biological Survey; Dr. William T. Hornaday, of the New York Zoölogical Society; Mr. H. H. Surface, State Economic Zoölogist of Pennsylvania; and the Secretary of the National Association.

B. S. Bowdish, Chief Clerk in our New York office, is now in charge of a branch office which we have opened in Philadelphia from which, in coöperation with Mr. Witmer Stone, he is directing the work of a considerable office force in circularizing the people of the state to acquaint them with the character of this bill and the necessity for its passage.

The Association has also secured the services of the Rev. Edward Frear, of State College, Pa., who has been traveling all over the state in the interest of the measure.

The great point to be immediately gained by the passage of this bill will, of course, be the stopping of the sale of the Heron Aigrettes in Pennsylvania.

A bill to make it a misdemeanor to kill an American Egret or a Snowy Egret, and prohibiting "the purchase and sale of the plumes or feathers of said birds," has been introduced in the Michigan Legislature by Mr. Jefferson Butler, President of the Michigan Audubon Society. The bill has already passed the Senate and we have strong hopes that it will become a law.

A measure of the same character was introduced in the Legislature of Indiana but, after passing the House, was killed in the Senate on the third reading. The Secretary visited the State Capitol in February and had interviews with many of the Senators and Representatives with reference to this proposed law. The bill was lost because Illinois, an adjoining state, did not have such a law. This could have been successfully met had we been financially able to conduct the necessary wide campaign of publicity in the state in order to overcome the activities of the millinery interests.

In the matter of guarding the Egret colonies in the southern states, it may be mentioned that two wardens in South Florida went on duty the 15th of March, and at least a dozen additional agents in Florida, Georgia, South Carolina and North Carolina will take up their lonely and dangerous vigils at Egret colonies on the 1st of April, and others will perhaps be employed later. The number of these wardens which the Association will be able to support will, of course, be entirely dependent upon the financial assistance which the Association will be able to secure.

As previously mentioned, the Board of Directors is very anxious to have a fund of \$10,000 to expend in the general cause of Egret protection for the year 1913. The splendid results of the Association's efforts in this direction, the past two years, will surely justify the continued hearty public support which the work has thus far received.

Below is given a list of the contributors to the Egret Fund since the last issue of BIRD-LORE.

Balance Unexpended from 1912, as per Annual Report.....	\$1,595	26
Acknowledged in Jan.-Feb. Issue 'of		
BIRD-LORE.....	448	00
A Friend.....	2	00
Abbott, Mr. Holker.....	1	00
Adams, Mr. C. Q.....	2	00
Adams, Mr. William C.....	1	00
Agar, Mrs. John G.....	5	00
Ames, Mrs. J. B.....	5	00
Arnin, Albertina von.....	5	00
Asten, Mrs. Thomas R.....	5	00
"Atlanta".....	5	00
Auchincloss, Mrs. H. D.....	5	00
Averill, Miss F. M.....	1	00
Babcock, Mr. Courtlandt.....	1	00
Babson, Mrs. Caroline W.....	1	00
Baker, Miss Charlotte S.....	5	00
Baldwin, Mr. William H.....	1	00
Barclay, Miss Emily.....	2	00
Barnes, Mr. R. M.....	5	00
Barri, Mrs. J. H.....	5	00
Barron, Mr. Geo. D.....	1	00
Bartol, Mr. E. F.....	5	00
Bartol, Mrs. J. W.....	25	00
Baruch, Mr. Bernard M.....	10	00
Baxter, Miss Lucy W.....	3	00
" M. L. B.".....	100	00
Beale, Mr. Phelan.....	1	00
Beebe, Mr. C. K.....	1	00
Beebe, Mrs. Wm. H. H.....	2	00
Beech, Mrs. Herbert.....	18	00
Behr, Mr. Herman.....	2	00
Bell, Mrs. D. M.....	5	00
Benet, Miss Lillian.....	25	00
Bergfels, Mrs. Harry.....	1	00
Bickmore, Prof. Albert S.....	5	00
Birch, Mr. Hugh T.....	3	00
Bird-Lover.....	5	00
Blackwelder, Mr. Eliot.....	1	00
Bliss, Miss Catherine A.....	25	00
Bliss, Mrs. Wm. H.....	25	00
Bole, Mr. Ben P.....	5	00
Bolling, Mrs. Raynal C.....	10	00
Bond, Miss Mary Louise.....	1	00
Bowdoin, Mrs. George S.....	10	00
Braman, Mr. & Mrs. Dwight.....	2	00
Brent, Mrs. Duncan Kenner.....	2	00
Brewer, Mr. Edward M.....	10	00
Bridge, Mr. Edmund.....	5	00
Bridge, Mrs. Lidian E.....	5	00
Brooks, Mrs. Shepherd.....	20	00
Brown, Mrs. C. S.....	2	00
Brown, Mrs. E. J.....	5	00
Bruen, Frank.....	1	00
Burt, Miss Edith.....	2	00
Butler, Wm. Allen, Jr.....	1	00
Carter, Mrs. W. T.....	2	00
Cameron, E. S.....	1	00
Carroll, Mr. Elbert H.....	100	00
Chapman, Mrs. John W.....	2	00
Chapman, Miss M.....	5	00

Amount carried forward.....\$2,554 26

Amount brought forward.....	\$2,554	26
Chase, Miss Alice P.....	5	00
Chase, Miss Annie E.....	1	00
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Amount carried forward.....\$2,868 76

Amount brought forward	\$2,868	76	Amount brought forward	\$3,304	26
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Amount carried forward

\$3,304 26

Amount carried forward

\$3,863 26

Amount brought forward\$3,863	26	Amount brought forward\$4,136	26
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Amount carried forward\$4,136	26			

\$4,296 76

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From January 1 to March 1, 1913, the Association enrolled the following new members.

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 Park, Miss E. L.
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 Savin, William M.
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 Sympathizer, A.
 Till, Miss Elizabeth
 Unknown
 Welton, Miss Nellie L.

General Notes

ON THE coast of Norfolk, England, there is a place known as Blakeney Point, about midway between Wells and Sheringham. It has long been famous as a breeding-place for Terns, Plovers, Oystercatchers, several species of Gulls, and other birds. Announcement was recently made that the Fishmonger's Company, with the coöperation of a few private individuals, has secured the title to over



ONE HUNDRED AND SIXTY-FIVE QUAIL SHOT BY A GEORGIA "SPORTSMAN"
IN A TWO-DAYS HUNT
Photographed in the streets of Atlanta

a thousand acres of this coast front and has turned it over to the Government as a "nature reserve." Bird protectionists will welcome this as one of the evidences of the increasing interest in bird sanctuaries on the part of the English people.

IN A recent conversation with Dr. Joseph Kalbfus, Secretary of the State Game Commission of Pennsylvania, that gentleman stated that during the hunting season which recently closed, twenty-eight men were killed and a hundred and twenty-six wounded in the state as the result of hunting accidents, "and there are fifteen counties yet to be heard from," he added. Reports show that seven hundred and fifty-one deer were killed. Thirty does were known to have been illegally taken. Reports of other kinds of game killed show records of one hundred and thirty-eight black bears, seven hundred and thirty-three Wild Turkeys, five thousand, seven hundred and twenty Woodcock, eighteen thousand, four hundred and thirty-five Quail, ninety thousand one hundred and sixty Ruffed Grouse, seventy-six thousand two hundred and eighty-five squirrels, and three hundred and forty thousand rabbits.

WITHIN the past few years there have come to public attention several instances of the wholesale killing of ducks by the pouring of oil into water which they frequent. The present winter such a case was reported in Providence, Rhode Island, where thousands of birds perished in this way. A section of San Francisco Bay was a few weeks ago polluted by the same means as the result of the dumping of great quantities of oil into the bay from the wharves of the Northwestern Pacific Railroad Company—at least the California Game Commission so charges in the warrant they recently served on the officers of that road. This crude oil, besides killing hundreds of ducks outright, clogged the feathers of thousands of water-fowl, which rendered them an easy prey to many men and boys who went hunting for them with clubs.

IT MAY not be generally known that, in addition to the English Sparrow, the English Starling, the English Ring-necked Pheasants, and the Hungarian Partridge, many other species of foreign birds have been introduced into America from time to time, with the hope that they might find this country a land in which they could successfully propagate and enrich our bird fauna. Skylarks have been brought over on several occasions, and, for a time at least, these birds were known to mate and nest on Long Island. Various experiments have been made in an effort to introduce the little Migratory Quail on game preserves in North Carolina and elsewhere. With the exception of the Sparrow and Starling, and to a limited extent, the Ring-necked Pheasant, all efforts to establish foreign birds successfully in this country have resulted in failure. With the memory of these facts fresh in mind, ornithologists will view with concern the attempt now being made to introduce various species of English song birds into the woods and fields of Vancouver Island, British Columbia. A recent dispatch from England stated that a cargo of several hundred Goldfinches, Linnets, Robins, Larks, and Blue-tits, have been exported for this purpose.

THE fine collection of birds gathered during thirty-three years' effort by Manly Hardy, of Brewer, Rhode Island, has been purchased from his heirs by the Rhode Island Audubon Society as a memorial to their beloved founder, Mrs. Henry Grant. The Society has presented the same to the Roger Williams Park Museum of Providence. The collection is one of unique interest and value and contains about seventeen hundred specimens. The City has accepted the gift, and a resolution was recently passed that this collection be properly housed, cared for, and exhibited to the public in the Museum within three years from the date of the passage of the resolution. The Park Commissioners have been authorized to secure plans for the needed fireproof addition to the Museum.

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JUN 6 1913

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May - June, 1913

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1. TEXAS PYRRHULOXIA Male
2. TEXAS PYRRHULOXIA Female

(One-half Natural Size)

3. CARDINAL Male
4. CARDINAL Female

Bird = Lore

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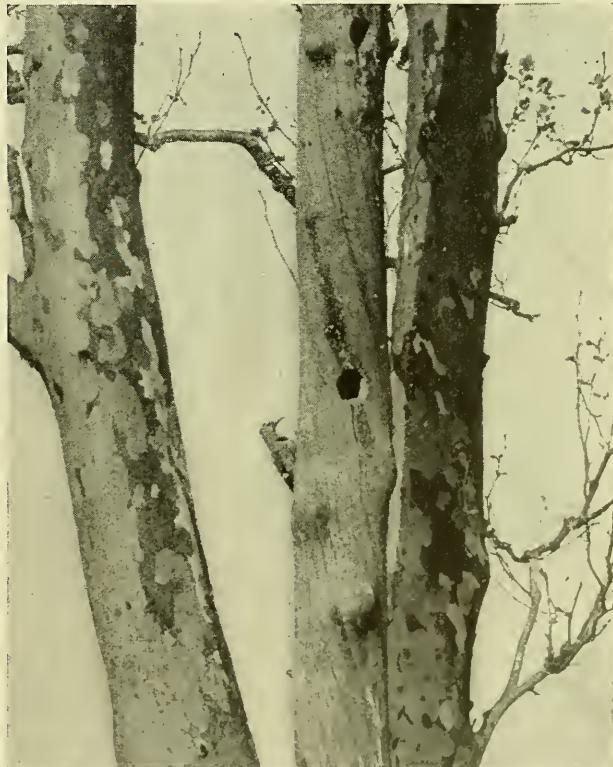
MAY—JUNE, 1913

No. 3

A Bird Apartment House

By ALBERT MORGAN, West Hartford, Conn
With photographs by the author

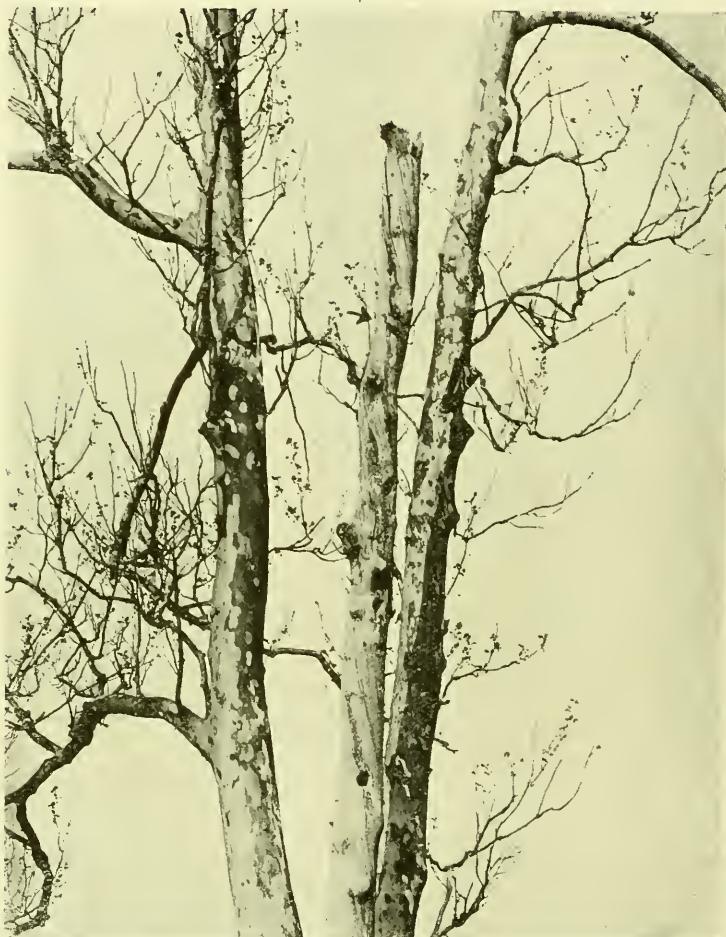
ONE day, while going down a lane on the way to the Wintergreen Pasture Woods, in Wethersfield Connecticut, my observations led to a sycamore tree in that stage which makes it so strikingly beautiful. Its trunk and larger branches were a mottled sea-green and brown, for it had partly shed its bark. While gazing at and appreciating the colors and the grotesquely irregular branches, I was aware of a babel of the voices of bird-land, made up of the notes of the Flicker, Bluebird and Sparrow Hawk, and, upon further looking, it dawned upon me that in the dead branch perforated by several holes there was an inhabited nest, and later in reality there proved to be three families living in this branch at the



FLICKER NEAR ENTRANCE TO NEST

same time in apparent harmony. My presence only seemed to disturb this otherwise contented colony.

It is probable that, in the making, the upper apartment required a carpenter in the person of a Downy Woodpecker, while the three lower ones were the work of the Flickers, or Yellow-hammers, the lowest cavity being



NESTING-HOLES OF SPARROW HAWK, FLICKER AND BLUEBIRD
IN THE CENTRAL TRUNK.

The Bluebird is shown covering the entrance to its nest

made that season; probably being necessary because of the early occupancy of last year's Flicker home by the Sparrow Hawks who were earlier "out for a rent."

Some who do not know the general habits of the Sparrow Hawk would probably not be reconciled to the fact that the Bluebirds and Yellow-hammers

selected sites in this branch with the Hawk family. However, the Sparrow Hawk, like the Red-shouldered Hawk, is not so bad as he is painted, and busies himself catching grasshoppers, field-mice, etc., only occasionally catching a sick or maimed bird easily run down.

The unmistakable alarm note of the Bluebird was in evidence, although the Sparrow Hawks made their share of noise. The brooding Flicker seemed anxious to return again to her nest, which would indicate that there was a clutch of eggs about to give up their tiny contents. When she left the nest and alighted upon a nearby fence-post, the male bird would appear and give her something in the nature of a scolding; whereupon, back she would fly to the tree, and, after assuring herself that I would not harm her, she would move sidewise around the trunk to the entrance of the nest and disappear within.

It was my ambition to get photos of all three tenants at their doors, but in this I was unsuccessful in so far as the Sparrow Hawk was concerned; for, unlike the Bluebird and the Flicker who posed for me often, they would not approach their home while I was near.

The illustrations will serve to show the apartment, even though the images of the birds are not what they might be.

Since the above experience, it has been my pleasure to find a two-tenement house occupied by English Starlings and Flickers, the latter having excavated a new home beneath the one from which they were driven, no doubt, by the Starlings, who have by the observations of many been proved to be genuine usurpers.

At another time, when the opportunity came to me to revisit the nesting-site of a Flicker in an apple orchard, to make some photographs, my surprise was great when, instead of a Flicker head appearing at the entrance, an English Starling flew out with a rush.



A Purple Martin Colony*

By WINSOR M. TYLER, Lexington, Mass.

MOUNTED on a pole in the dooryard of the farm in Salisbury, N. H., where we spent from July 13 to 17, 1912, was a well-populated Martin-house—a big, substantially made three-story house, painted white, with two covered piazzas, a cupola topped by a miniature weather-vane, and forty-four windows, each of which led to an inner apartment. More than half of these rooms were occupied, each by a pair of Purple Martins and their young. These birds form by far the largest Martin colony in the neighborhood, and are highly valued by the Dunlop family, on whose farm they have bred for years. In return for their shelter, the Martins afford to their vicinity a protection against hawks, it is thought, and also enliven their surroundings with an atmosphere of untiring energy, not unlike the daily life of the New England farmer.

When we arrived, on the afternoon of July 13, the young were well grown and were all, apparently, in the nest. The little birds, in threes and fours, looked solemnly out from their windows—some side by side, others one above another as if standing in an upright pile. On the face of each was an expression of imperturbable gravity; they looked like tiny owls until, as the old birds approached, they opened their pale yellow mouths and cried for food. They were always unsatisfied except for the moment after a large insect was thrust down their throats.

One of the young birds was much smaller than the others; he was a little, puny thing, with bare places on his breast between the feather tracts, and was alone in his nest. He was fed at long intervals on July 13, but the next morning, although a female bird brought food to his window and often entered his room, she always came out without feeding him. Time after time she returned, hunted for her young, and flew off with the insect she had caught for him. Apparently she could not understand what was plain to us—that he lay dead in his nest.

The Dunlop farm stands on a low hillside overlooking a sluggish stream, which, during its course through the valley, widens occasionally into a broad, almost currentless pond. The largest of these ponds, a mile toward the north, bordered by pond-lilies and abounding in dragon-flies, was, I think, the chief feeding-ground of the Martins.

All day long the birds coursed over this country, driving along with full, strong wing-beats, and sailing on set triangular wings, wheeling, dodging, and performing incredible feats of equilibrium. And all day long, without rest, both parents brought food to their waiting young. Flying swiftly to the entrance hole, they clung to the threshold, supporting themselves with the tail, and instantly crammed an insect into an open mouth. The food received

*Read before the Nuttall Ornithological Club, February 17, 1913

no preparatory treatment; it was evidently captured alive on the wing, carried to the nest, and delivered to the young birds whole, and perhaps still alive. The capacity of the small mouths was surprising; dragon-flies two or three inches long were the principal food, and were swallowed readily. Twice a young bird ate an *Antiope* butterfly, wings and all, with no difficulty or delay. Once an old bird brought several millers crowded into her bill, and once I made out a bee or a wasp. But nine times out of ten the young were fed with large dragon-flies.

These were brought in one by one and, when crowded well down a young bird's throat, kept him busy, munching and swallowing, while the others still clamored for food, sometimes even biting at the old bird. She, however, with the same eagerness with which she had brought the food, pushed past them into the apartment and reappeared, carrying a faecal sac in her bill. The removal of excrement seemed as much a part of each visit to the nest as the feeding of the young, and it was seldom omitted. The excrement was white, slightly curved, in shape longer and slimmer than that of a Robin. Indeed, it had not the appearance of a sac, but rather of a thick worm. Its consistency was such as to be easily taken in the beak and carried away. Both parents removed the excrement and dropped it nearby while on the wing. I never saw an adult bird of either sex eat it, but once a young bird swallowed a bit which he found lying on his door-sill. Almost invariably the adults entered the nest to clean it, but rarely I saw a young bird, with tell-tale nervousness, turn about, so that the parent was able to snatch the excrement from him.

From very early in the morning until fifteen minutes after sunset the Martins were on the wing, chiefly in the interests of their young; and during all this long period of work their combined voices rose almost to a continuous noise. The voice is loud and rough almost to hoarseness, with a brazen ring. It has a quality which suggests the Scarlet Tanager, and the alarm note "kerp" is remarkably like the Evening Grosbeak's call. In flight the Martin gives a short, often repeated note which recalls the Redpoll's "tchu-tchu." Two birds meeting in the air may utter a grating "ka-a-a," and as the birds sweep away from the box, and very likely at other times, they whistle out "koo-kee-koo," which, when shortened to two syllables, as it often is, sounds very like our word "Bo-peep." What I took to be the complicated song of the male is made up of several throaty notes followed by a spluttering trill. At this season the birds sang little, and very likely imperfectly. The song resembled somewhat that of a Barn Swallow, except that the voice of the Martin was pitched lower. Another note, given singly as a kind of solemnly pronounced exclamation, was a low-toned "kroop." The cry of the young for food was an insistent "kirp," lighter and higher than the adult's call, but otherwise similar.

The plumage of the young at this stage was curiously intermediate between the plumages of the parents. All of the adult females were much browner than any

of the young birds. These were all tinged with blue on the back and crown, and the mottling of the breast was a soft gray, rather than the brown of the female parent. The wedge of black which widens back of the eye was clearly marked in the young bird and, with the ring or crescent of pale gray curving about the side of the neck, made an excellent field mark to distinguish young from adult.

On the ground or nest ledge the Martins were far from graceful; they shuffled about with crest feathers elevated, head drawn back, and breast swelled out, strutting like Pouter Pigeons.

Twice I saw the Martins attack Hawks. Once a few birds flew at a Marsh Hawk and, aided by a Kingbird, drove him off in short order; the other time, when a Cooper's Hawk flew near, every available Martin turned out with a great clamor and made for him. The Hawk alighted in a tree, whereupon the whole body of Martins towered in the air, sounding their loud call, until the Hawk made off, pursued and attacked from above by the whole troop. The elder Mr. Dunlop told me that once a "Yellow-tailed Hawk," pestered by the Martins, had sought shelter in the parlor. He would back the Martins, he said, against any Eagle living.

During the day, those of the young birds whose nests opened on a piazza crawled through the doorway and met their parents on the ledge outside. This precociousness of a young bird was encouraged by the old ones, who, after feeding him, shuffled about, endeavoring to edge themselves between him and the house, and urged him to fly by trying to push him from the ledge. The young birds, however, timidly backed into a corner or took refuge in a nest—sometimes their own, sometimes that of a neighbor. Often between the parents' visits a young bird ventured out of his hole and, after waddling about the ledge, entered the nest next door. Whether when not at home he was fed by his hosts I could not determine, but this wandering about from nest to nest indicates a lessening of family unity—a natural result of communal life. The concern which the old birds showed in the first flights of the young indicates, too, that the interest of a pair is not confined to their own brood. When a young bird had been pushed from the box, or, of his own accord attempted a flight, the adults—most of those about the house, apparently—swooped about the little one, calling loudly and encouraging him to continue—indeed, by their actions making it difficult for him to return to the box until he had accomplished a long flight.

At the close of the day all the Martins gathered about the house, feeding their young until dusk. Then they entered their nests and quieted down for the night; but sometimes, long after dark, fluttering sounds, or a soft twitter came from the house, where more than a hundred Martins were sleeping.

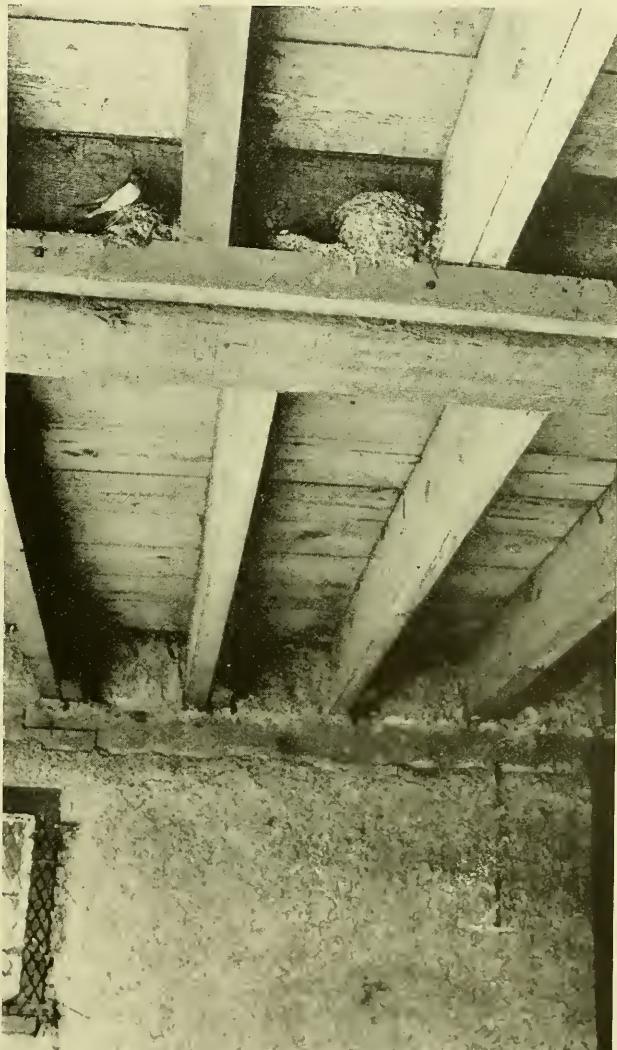
Barn Swallows in Springtime

By J. W. LIPPINCOTT, Bethayres, Pa.
With photographs by the author

WHEN spring days become really warm and the flying insects begin to stir in the fields, I know that the Barn Swallows are to be expected from the South at any moment. Every year they come with a rush to the old farm buildings; familiar haunts where rows of their old nests, plastered along shed rafters, seem to make the tiny travelers feel at home immediately.

This particular year I waited for them longer than usual. Then one balmy morning came the call "Swallows are here!" and I hastened to the barnyard to find them skimming about on all sides. Dozens of them, in fact, some investigating the old nesting places and others the possibilities of a good food supply nearby.

In the end, eleven pairs remained to take possession of the sunny cow-shed, while two couples chose to build in the rather gloomy wagon-house not far distant; and such twittering and commotion as there was whenever the cows



BARN SWALLOW AT NEST



BARN SWALLOWS AND NEST

was ludicrous on account of this year's mud being black, coming as it did from the horse-trough overflow; while that of the year before was reddish, and the layers below, brown or yellow. Nearly all of these nests had four or five "stories," showing how very durable is the work.

One pair, which I soon grew to recognize from the others and which evidently were young birds, began to build a foundation close to an old nest once more occupied; but after three days' mud hauling they were driven away by the pair nearby, who then began to carry mud to the new nest as well as to their own, as though undecided which to use. The young pair now boldly started a nest against the rough surface of a crossbeam in the shed roof, rather than in the eaves where there was a support.

These two birds flew to the stickiest mud hole to be found near the trough and, alighting at the edge, gingerly walked a step or two, jabbed their bills into the mud, and pulled up a big mouthful, which invariably took such exertion as to require constant balancing with the wings. Sometimes they would be in a row of hovering Swallows, all grabbing mud for all they were worth. Small roots and grass helped to hold the rather large mass together while being carried in the bill to the beam, where the bird caught hold of the splinters with its feet, and balancing by flapping its wings, firmly plastered the mud into the grain of the wood. Some of this fell off, but enough remained to help hold much more when it had hardened overnight.

were driven in for milking or a wagon was moved out.

The work of nest-building very soon became a most absorbing matter to all of the birds. Eight of the old nests were capped over with a layer of fresh mud, and then relined with a few dry grass blades and plenty of chicken feathers neatly arranged to make the softest, springiest bed. This saved infinite trouble, since no foundation had to be laid; but the effect

Once properly started, the nest soon took on the usual symmetrical, inverted pear shape, and in about two weeks was beautifully complete, with its feather lining and six little spotted eggs under the brooding bird.

All the nests in the cow-shed now contained eggs, and the birds were quite tame, allowing one to pass within a few feet without taking alarm, and never making that harsh cry which one hears constantly after the young are hatched. If a female bird flew from the nest, the male would take her place, after a minute or two, poking around among the eggs before settling down. He did not seem to stay long, however, and, when his mate appeared, would fly off with a few rapidly repeated notes resembling a song, returning after a few circlings to alight close beside the nest on a beam, or sometimes on the nest's edge. Walking upon the cross-beams was often practised when the birds were resting at noontime, but their little legs are so short and the birds do it so gravely that the performance was always ridiculous.

The young added new interest to the cow-shed colony, since, so far as I could count, there were fifty-nine of them, all crazy for food and requiring an enormous daily amount of insect-catching on the part of the parents. During the day the chattering never ceased. There was one constant frolic among the young, and constant toil for the parents, until night shut them in, and all the little ones huddled down beneath the mother, while the father settled himself in a corner nearby. The young pair hatched five robust birdlings.



YOUNG BARN SWALLOWS NEARLY READY TO LEAVE NEST

In the middle of the day, the cows, the sheep, and the chickens collected under the shed, as if to amuse the Swallows; for fifty-nine pairs of little eyes were then nearly always upon them, the little birds even leaning far over the nest's edge in order to have more room and to miss nothing. They now had a good supply of feathers, and exercised their wings as well as threats when the parents came near.

How they recognized a parent when still in the distance always puzzled me. All six in a full nest will suddenly jump to their feet, begin to call lustily, and then become almost frantic when the parent swoops up, pokes a bug down the nearest throat, and is off again like a flash. This goes on most of the day. Of course the old birds sit around the roofs and on the telephone wires for short rests, and morning and evening fly off to the pond for water; but at other times are always scouring the fields. Just before sunset, numbers of them visit the pond, skimming over the surface, dexterously dipping their bills occasionally or, if it is a very warm day, gaily splashing themselves as they touch the water a little harder than usual.

They soon learn that animals stir up insects, and so they follow the cows, horses, and sheep, circling about them, now dipping, now rising after the elusive prey. It is ludicrous to see a dog, or sometimes a solemn old rooster, being gaily escorted across a field by a half-dozen busy Swallows who, in spite of their speed, do not miss a single beetle.

The young did not leave the nests until they could fly surprisingly well. Then I began to see them upon the roofs or hovering about the shed rafters, not far from the nests to which they usually returned at night, and, if now I placed my hand over a crowded nest, the whole brood invariably flew out with a great commotion. Their tail feathers were not so long, nor their colors so bright or distinct, as those of their truly beautiful parents; but they had the world before them, and they seemed to like it and go into it well equipped.



TOWHEE NEAR NEST
Photographed by G. A. Bailey, Genesee, N. Y.

The Gray Kingbird at Home

By HENRY THURSTON, Floral Park, N. Y.

With photographs by the author

LAST year, on a small "bile" or salt marsh near Tampa Bay, I made my first acquaintance with the Gray Kingbird. This bird reminds one of, and has many things in common with, our northern Kingbird, but its call is sharper and more penetrating. The note uttered on the wing, on the other hand, though of a slightly different key, is nearly identical with that heard from the northern bird when one approaches its nest and it hovers overhead protesting against intrusion. The nest of the Gray Kingbird is utterly unlike the bulky assortment of material that the "Bee Martin" brings together in the old trees of the orchard, being a very slight and frail-looking structure. The owner is as fond as its northern relative of perching on dead limbs near home, darting out to catch passing insects and, as the bird returns calmly folding its wings, the greater size is apparent, especially of the bill, which is strikingly larger.

Being a West Indian species, the Gray Kingbird is found in but few of our southern states; in fact, it has been recorded only from Georgia, Florida and southeastern South Carolina, in which regions it breeds locally. On the west coast of Florida, near Seven Oaks, I found what might be called a small colony of these tyrants. They arrive here about the middle of April and start nesting immediately along the banks of the salt marshes, amid the mangroves.

'Tis true our bird of this genus also loves to build near the water, but *dominicensis* is even more fond of it than is his northern cousin. For a month during the height of the breeding season it was my good fortune to be daily with this gray tyrant. During this time, I examined fifteen nests in all stages of development, and only one of those observed was over four feet above the brackish waters. This exception was also over an inlet, but about ten feet up in a sapling.

The haunt of these birds at Seven Oaks is a strip of land a mile or more from the plantations,—just a nice uphill ride on the pony through the pines that fairly teem with animal life. Upon reaching the crest, the haunt of the Kingbirds becomes visible, a long, narrow, low-lying peninsula, fringed with a dense growth of mangroves that dip their many tendrils in the sparkling blue water, here and there a wooded patch of mingled pines and palmettos, occasional flats covered with rank growth of marsh grass through which winding creeks can be seen glistening under the bright light of the noonday sun. Gracefully sailing above are Ospreys and Pelicans, wheeling over the flats soldierly flocks of Ibis, also a few Spoonbills. A pair of Kingbirds are even now "driving" a Hawk that unthinkingly has entered their domain.

I lost no time in getting my canoe started and soon was skirting the bushes.

As I approached a likely clump, I was greeted by their harsh, high-pitched *ree-zeet'*, *a-ree-zeet'*, *ree-zeet*, uttered quickly with a sharp accent on the last syllable. The note has a feeling of alarm and excitement, but the birds seemed absolutely composed as they voiced it, perching on twigs of nearby dead trees, their wings slightly elevated evidently for ventilation, as it was very warm.

It is peculiar that, instead of keeping still or moving to a distant point when one is approaching the nest, the Gray Kingbird—at least as far as my experience goes—perches himself within a few feet of it and calls at the top

of his voice, giving the approximate location. I peered among the branches, and it was not long before I had discovered their treasure. The nest was at the usual height of four feet and just overhanging the water. A very flimsy structure it seemed at first glance, though, when examined, a very compact one. The outer walls were of partly decayed and dried rootlets of various sizes closely woven. The lining consisted of finer rootlets, a few horse hairs, and fine sedge-like stems. The whole was weakly fastened to the limb.

Realizing now that the nest had been found, they prepared for a fray. The *ree-zeet* note was

foremost, but accompanied by a harsh though semi-musical twittering similar to that uttered on the wing by the common Kingbird and likewise rendered as they hovered overhead. The female was the braver of the two, and as I was arranging the camera, made several dives at it, only to veer sharply when within a few feet of the apparatus. This nest contained four beautiful eggs of a creamy pink in ground color delightfully spotted and blotched with lilac and warm shades of sienna.

In quick succession, several other nests were found, a few of which contained young. In one the young were just a day old; curious little fellows, for the most part naked, sparingly tufted with brownish white down. In another the nestlings were older, and most of the down, though a goodly portion was retained on the head and lower back, was replaced by the bluish feather sheaths. These birdlings were livelier than the preceding, and eagerly stretched



GRAY KINGBIRD

their necks upward, opening their large mouths, expectantly awaiting food. The mother was nearby, with her large beak full; so I paddled on to give her a chance to feed her hungry babies, and also to make tracks for shelter, as great rain clouds were banking in the skies.

Rain simply streamed down for the following week, night and day almost incessantly. On the seventh day, the sun nosed his way through once more, and I again journeyed to the mangroves. The lakes and streams along the way had risen, carrying away bridges and drowning the young Grackles and Red-wings, as the heretofore reed-covered ponds were nearly uninterrupted sheets



NEST AND EGGS OF GRAY KINGBIRD

of water, and below were dozens of young that had been unable to escape as the water closed over them. I had fears now as to whether my Kingbirds had survived this devastating downpour; and, indeed, my fears were only too well justified, for, on reaching the nests, I found them battered and soaked, some dislodged and in others the young dead. Probably death resulted from cold and wet and perhaps also starvation, as it would have been a hard job to secure much for the babes to eat during those days.

I paddled away sadly. The storm had done its work grimly; not only Blackbirds and Kingbirds had suffered, the ground nesters had had as much trouble. The Plovers' nests on the beaches were destroyed by the high tides, and Chuck-wills' eggs that had been found floating were brought in. Instead of being discouraged and moping over this tragedy, the little feathered workers

got busy again, and in a few days when I made the last trip for the season to the mangroves, new nests were appearing, as it is not unusual for the Kingbirds to raise two broods in a season. As I rounded a point, I saw my last Gray Kingbird for the year, perched high on a stub that was nicely set off by fleecy banks of clouds in the sky behind, screaming defiance until I and my canoe had passed far beyond penetration of his voice, then, hovering over the mangroves, he dropped from sight into their soft green arms.



CEDAR WAXWING WITH YOUNG
Photographed by G. A. Bailey, Genesee, N. Y.

A Pet Blue Jay

By MRS. H. E. MERRILL, Cranford, N. J.

ABOUT July 14, some friends sent me a young Blue Jay that had fallen from the nest. They had kept him several days but, owning a cat, were afraid the pets would not live together in amity. The bird was pretty well covered with feathers except around the neck, and we judged him to be about ten days old. He could not feed himself, but the food had to be pushed down the very large mouth which opened so wide every time anybody approached, and he had to be fed about every hour. We first gave him bread and milk, hominy, or berries, then hard-boiled egg, corn, and very little meat. Then I bought chicken food, and mixed it with corn meal and water; but he was just crazy for the yolk of the hard-boiled egg.

An old clothes-horse was placed near a window in the cellar, and he would hop from one bar to the other, tacking crosswise to mount to the top. In less than two weeks Tramp, as he was called, commenced to fly around the cellar.

We would take him up in the daytime, and let him play around the open piazza or fly out in the trees, and he would return to our call through the upper windows, or alight on head or shoulders, as he soon learned to recognize the voice of every member of the family. When I am sewing, he sits on work-basket or lap, playing with the thread or thimble just like a kitten, or perches on back of chair, or walks all over the paper, nibbling at the pen, while I write at my desk. He delights in his bath every day and sometimes takes two or three. Now having had him six weeks or more, we put him in a large cage at night on the shed out from our window, and in the morning Tramp wakes early, but just jumps around, and does not call until he hears us moving in the room. Then he chirps, and when I go to take the cage in has the dearest little cooing song, as if thanking me for letting him out. Then he flies on my head and wants to be fed, though there is something always in the cage, which is left open during the day, and he goes in and out as he pleases.

In the rooms where he is allowed are certain perches (towel-racks) where Tramp has learned to rest. He has a very cunning musical gurgle in his throat, without opening his bill very wide, and it could really be called a pretty song, which has surprised me; but he does not often indulge in that piercing Jay call by which these birds are known to most people. He pays no attention when he hears the family call outside.

About the second week in August, there was a family of Blue Jays in the garden when Tramp was flying around, and a young one, which seemed about the same age, came quite close on the limb of the tree. They talked together a little, then the wild one flew away and Tramp made no attempt to follow, but for a few weeks after we did not allow him so much liberty. He hammers with his bill just like a Woodpecker, takes buttons, thimbles, or anything he can find, and hides them, pushing them under cushions or rugs. He is very

cute and affectionate, perfectly satisfied if one sits quietly in the room and he can fly and play around, and loves to tear papers. Tramp is easily taught tricks, and will walk up stairs from one finger to another, jump rope, etc.

Of course he is a care, as we have to watch him for fear of the cats. Knowing that we do not harm him, Tramp does not seem to think anything will trouble him, not even cats, from whom one would imagine birds would feel an instinctive shrinking. But no, he flies down on the ground directly in front of them, and the cats naturally jump. One day Tramp was caught. He gave a most pathetic cry, and all the family were out after him, likewise all the birds in the neighborhood collected with much noise. The cat dropped the bird, who flew up into the trees, and it was some time before he could be coaxed down, when he finally flew right on my shoulder. One leg was very much hurt, hanging down almost helpless, not broken, but pulled a little out of place; so we bathed it with arnica, and poor Tramp was an invalid and kept quietly in the cage for over a week. After that, hoping he had learned his lesson and knowing he must take care of himself, the screen and window were left open (and he had really to be put out sometimes). He would remain in the trees for three or four hours at a time, but always within sight or sound of my whistle, which he would answer with his own peculiar whistle that he had learned from us. On the shed is the lunch-counter, which has been there for several years and well patronized in winter by Chickadees, Nuthatches, Titmice, Juncos, Song Sparrows, White-throats and others, also Blue Jays. There I put Tramp's bathtub, hoping he would become so accustomed to the spot that he would always know where to come for food. His coloring was not quite so brilliant, nor his breast quite so white, as those of the wild birds.

He was certainly cute, intelligent, and affectionate, and quite a revelation as to what can be done with a young wild bird. We enjoyed his company for over two months. Then, on the 19th of September, he at last felt the "Call of the Wild." He flew out as usual in the morning, returning two or three times to the room, took his bath on the shed,—and then disappeared—we hope with his own kind—for some of the neighbors think they saw him with two other Blue Jays the next day on our shed. This is the time "where ignorance is bliss," as I will not consider the possibility of the cats. There is a short-string tied on one leg, which was put there when he first came; so he kept it clean just as he did his claws.

Now the question: Is it not a doubtful kindness to raise a wild bird that way; for we have no means of warning them against their natural enemies, as the parent birds do; and, when they join their own kind, are they treated well or not, and can they protect themselves? We can only hope for the best.

The Migration of North American Sparrows

TWENTY-SECOND PAPER

Compiled by Prof. W. W. Cooke

With drawings by LOUIS AGASSIZ FUERTES

(See Frontispiece)

PYRRHULOXIA

The Pyrrhuloxia is a non-migratory bird found in the southeastern United States and Mexico. It has been separated into three forms:

The Texas Pyrrhuloxia (*Pyrrhuloxia sinuata texana*) of southern Texas and eastern Mexico.

The Arizona Pyrrhuloxia (*Pyrrhuloxia sinuata sinuata*) of western Texas, southern New Mexico, southeastern Arizona, and western Mexico.

The San Lucas Pyrrhuloxia (*Pyrrhuloxia sinuata peninsulae*) of the southern part of Lower California.

CARDINAL

The Cardinal is most common in the southeastern quarter of the United States. It is strictly non-migratory; indeed, it is one of the best examples of that class. Many a Cardinal lives out its allotted term of years without ever going ten miles from the place where it was hatched. Even at the extreme northern limit of its range, it still remains throughout the winter.

The Cardinal has been divided into several forms or subspecies, the principal one of which, the Cardinal, occurs in the eastern United States north to Long Island, northern New Jersey, Pennsylvania, northern Ohio (locally in southern Ontario), northern Indiana, northern Illinois, and southern Iowa. It has occurred casually in Massachusetts, Connecticut, Michigan, Wisconsin, and Minnesota. The western limit is found in the eastern parts of Nebraska, Kansas, Oklahoma, and Texas, and the species ranges south to include the Gulf States and northern Florida.

The other forms are the Florida Cardinal (*Cardinalis cardinalis floridanus*), inhabiting Florida, except the northern part.

The Arizona Cardinal (*Cardinalis cardinalis superbus*), living in southeastern Arizona and the contiguous parts of Mexico.

The Gray-tailed Cardinal (*Cardinalis cardinalis canicaudus*), occupying central and southern Texas and northeastern Mexico.

The San Lucas Cardinal (*Cardinalis cardinalis igneus*), found only in the southern part of Lower California.

In addition to the above, there are seven races of the Cardinal confined to Mexico, the southernmost one reaching British Honduras. A closely related species occurs in southern Mexico, and a very distinct one in northern South America. The genus is wholly absent from the greater part of Central America.

Notes on the Plumage of North American Sparrows

TWENTY-FIRST PAPER

By W. DeW. MILLER

(See Frontispiece)

Pyrrhuloxia (*Pyrrhuloxia sinuata*, Figs. 1 and 2). The nestling or juvenal plumage scarcely differs from that of the adult female, save that the feathers are more woolly in texture and the underparts much paler. The first winter dress is attained by a complete renewal of the body plumage; the male acquires the rosy shade below and, though it is often less bright and extensive than in older birds, both male and female are now almost indistinguishable from the adults. It is uncertain whether the wings and tail are replaced at this time, as in the Cardinal, but there is probably no regular or complete renewal of these feathers.

There is no spring molt, and the breeding plumage differs from that of autumn only in the greater amount of red visible on the underparts of the male, due to the wearing off of the gray tips of the feathers.

The female is often wholly without red on the throat and center of the belly, but possibly this is so only in immature birds.

Three geographical races of the Pyrrhuloxias are recognized, but they are all very similar in appearance. The Texas Pyrrhuloxia differs from the Arizona race in its larger bill and darker coloration. The San Lucas form resembles the first in color but is slightly smaller, excepting the bill, which is larger.

Cardinal (*Cardinalis cardinalis*, Figs. 3 and 4). The young Cardinals in nestling plumage are lighter beneath than the adult female and lack the grayish face and throat. The crest of the male is tinged with dull red and the underparts with pink; in the female only the wings and tail are reddish.

At the postjuvenile molt the entire plumage, including wings and tail, is renewed, both sexes becoming indistinguishable from the adults except by the color of the bill, which does not become red till later. The bill of the adult female is as red as that of the male, and the tail-feathers are merely edged with gray, the plate conveying an erroneous impression in these respects.

The breeding dress is acquired by wear only, the male becoming brighter and redder than in winter through loss of the grayish tips.

The Florida Cardinal is slightly smaller and darker than the Eastern Cardinal, while the Gray-tailed race is scarcely distinguishable from the latter.

The two western subspecies differ from those of the East chiefly in the brighter red crest of the male, and the pale, instead of dark gray, face and throat of the female. The Arizona form is decidedly the largest of all the Cardinals, the tail being particularly long.

The four races of southeastern Mexico are very intensely colored, the red of the males being very bright and pure, and the face of the females black or grayish black.

Notes from Field and Study

Our Winter Boarders

Since my husband put up a lunch-counter last December, we have many interesting boarders. It is open on all sides, but has a roof and is placed on the top of a post several feet from our back door. Birds of the woods have come regularly for food this winter. Every morning I watch for my pert little Titmouse, the owner of a very crooked tail, who arrives with his mate promptly at 7 o'clock every morning. After singing his song, of great volume for so small a bird, he and his active mate fly from the cherry tree to the lunch-counter and help themselves to the hickory-nuts which we cracked and scattered on the floor; they extract the meats in a comical way by holding the nuts between their feet.

The male Titmouse then flies to our window-sill for suet, which we tied on a short board that is nailed to the window. In this way, I got him accustomed to me, for I sit very close to the window; and now, after watching him at close range for many mornings, he has become quite tame—so much so that after he flew away I raised the window high enough to thrust my hand out on the board. I put a piece of suet between my fingers, sat very still and waited. In a few minutes the female flew to the maple tree which is a few feet from the window. While my eyes were riveted on her, I was startled when I felt sharp claws clamp around my fingers. It was the owner of the crooked tail, who pecked vigorously at the suet in my hand, and who paused long enough to size up my little finger, which might have varied its position by a sixteenth of an inch, and went on with his eating, perfectly contented with his landlady. I look forward every morning to this great treat.

A White-breasted Nuthatch bobs along up the post to the lunch-counter, only to be chased down again by the Tit-

mice; they hold full sway until the four important Blue Jays arrive. Their lively chatter was interrupted by an inquisitive Flicker, which flew on the roof, peered under and flew away, and we have not seen him since.

One morning four Nuthatches were scurrying up and down on the juneberry tree; the two males couldn't agree, and flew down in the snow and fought viciously while their mates kept busy satisfying their appetites. They, too, come to the window for suet or fried pork-chop—the latter is greatly relished by the Tufted Titmice.

On the sixteenth of January, while standing at the back door, I heard a Robin singing. We have noticed that the Titmice and Nuthatches carry small pieces of suet from the trees in which we have it hanging, and hide it in other trees.

We expect many interesting birds to come if "Heiny," the minister's cat, stays on his own side of the street.—VANCHIE A. RINGWALT, *Ft. Wayne, Ind.*

The Evening Grosbeak in Nova Scotia

On March 18, 1913, about 8 A.M., I saw three specimens of the Evening Grosbeak on the grounds of the Truro Armory. The day was fine, but quite frosty. The three birds were very quiet, remaining stationary for the most part, and occasionally uttering a note similar to the "beady note" of the Cedar Waxwing. They were all in the plumage of female birds. Their heavy, greenish yellow bills formed a prominent characteristic. I pointed them out to Mr. L. C. Harlow, instructor in bird-study at the Nova Scotia Provincial Normal College, and he agreed that they could be none other than Evening Grosbeaks. I should like very much to know if they have been seen more than usual in other parts of the East this winter.—HARRISON F. LEWIS, *Truro, N. S.*

The Evening Grosbeak in Vermont

In a sugar snow-storm, on March 11, a flock of eighteen Evening Grosbeaks came to our trees. They were high at first, but came lower until they were as close to us as the branches reached. My husband and I saw them perfectly, and, comparing them with the colored cuts in BIRD-LORE of Nov.-Dec., 1911, found them identical. They were eating maple buds and, later, locust-seeds. We spread the news up and down the street, as the birds went from place to place, and many came out and admired them. Several times they seemed pleased to come as near to us as they could without leaving the trees, once being only fifteen feet away. They made a chirp somewhat like that of an English Sparrow, but more musical, and a short trill, or "gz." They stayed for hours. The flock was first seen on March 3, and individuals (females) several times later, but they were not recognized.

Two Pine Grosbeaks were identified both by appearance and by call notes on March 2, and a large flock of Horned Larks came on March 3.—ELIZA F. MILLER, *Bethel, V.*

Evening Grosbeaks in the White Mountains

A correspondent well acquainted with birds sends me *in litt.* the following note on Evening Grosbeaks seen by members of the Appalachian Mountain Club party which visited the White Mountains, New Hampshire, around Washington's Birthday, 1913: ". . . There were Evening Grosbeaks seen in Jackson by two of our party. One lady was walking alone down by Glen Station, and was attracted by a bird which she had an excellent chance to watch for several minutes, as it sat quite still. She had her glasses and could see every mark. She could hardly believe that he had seen a male Evening Grosbeak, but he had every mark as it is given in the books, and since she has come home she has examined a stuffed specimen. Another lady saw, the next

day, several miles from this place, a small flock of birds, two or three of which she saw clearly and reported that they too were the Evening Grosbeaks. Neither had ever seen these birds alive, before, but both are very familiar with our usual birds and migrants; so it seems as if there could be no mistake."—CHARLES H. ROGERS, *New York City.*

The Evening Grosbeak in New Jersey

In the Christmas Bird Census for 1911 there were many observations of the Evening Grosbeak in northern New Jersey. In 1912, not one was noted in the state. As my note of "A November Black-throated Blue Warbler" seems to have been of interest to several BIRD-LORE readers, I am emboldened to add another observation. At noon on January 2, 1912, I saw a male Evening Grosbeak and a pair of Cardinals sitting in a forsythia bush ten feet from a window, and in a tree overhanging the bush sat six Robins. The weather was cold, with snow on the ground. The Cardinals had come for the daily supply of corn thrown from the window. The Evening Grosbeak stayed about for an hour, then was seen no more. I had never before seen an Evening Grosbeak, but was familiar with them from museum specimens, and from the BIRD-LORE colored print which adorned the wall of my summer home one whole summer.—ISABEL D. MARTIN, *Princeton, N. J.*

A Baltimore Oriole in Winter

On January 15, 1913, I observed a male Baltimore Oriole in first-year plumage, at the home of H. D. Rymer, a farmer living near Columbiana, Ohio.

The Oriole first appeared a few days before Christmas, and has been feeding there regularly ever since. While I was observing him, he went from the suet to an orchard where he was eating apples that remained on the trees. Mr. Rymer informs me that when he first appeared his feathers were ruffled, and he did not seem to be in nearly so good condition as at the

present time. I am inclined to think the bird was disabled at migration time, and could not leave for its usual winter home with the other migrants. I judge this from the fact that his left wing appeared to be about an inch lower than the right, when the bird was perching with the wings folded to his body.—GEO. L. FORDYCE,
Youngstown, Ohio.

A Freak Downy Woodpecker

During the winter of 1911-12, I observed a freak Downy Woodpecker having yellow and white instead of the usual black and white markings, and having no red on the head. This curious freak came many times to my suet near the house. It disappeared during the first half of April, 1912, and I did not see it again. I should be glad to hear from any person who has observed it since.—HOWARD HOPKINS, *New Haven, Conn.*

The Worm-eating Warbler in April

On April 14, 1913, I observed a Worm-eating Warbler in the woods at Englewood, N. J. The bird was by the roadside, not far from the ground, at close range, and was carefully examined with a pair of binoculars. Its buffy greenish yellow head and breast changing to grayish on the crissum, to olive-green on back and wings, which were without bars, and set off by black stripes on either side of the head (a broad central area between them) and by narrower black stripes through the eyes, were noted. Though in a good locality for the species in summer, the date seems very remarkable. There were many small insects on the wing, but trees and shrubs were still almost entirely leafless.—JOHN TREADWELL NICHOLS, *New York City.*

Notes on the Song of the Carolina Wren

As the Carolina Wren has been one of the most common birds in my locality since I can first remember, I have had excellent opportunity to learn something

of its song. I dare say, there is not one day during the year when I neither see nor hear a Carolina Wren, and very few there are when I do not hear one or more singing. Indeed, this bird is one of the most persistent singers known to me. It seems to be a rule with him to sing whenever he is not busily satisfying his appetite, regardless of the time of day or year; though, of course, the song is rather more frequently heard during the spring of the year. However, I believe I have never known him to sing while feeding, as do many of the Warblers. Many times during the day he hops up to a convenient perch to pour forth his loud, ringing melody.

Weather conditions seem to count for but little with him. To him it is all 'God's good weather,' in one form or other. Not infrequently his cheerful voice may be heard above the racket of the rain, or while the air is full of flying snow. Yet the song is not so monotonous as one might think a song so frequently heard would be.

The song is a cheerful ringing melody, surprisingly loud for the size of the bird, as it may be distinctly heard at a distance of fully half a mile on a still day. It consists of two to four syllables, repeated from two to seven times, then an interval of a few seconds before the song is repeated. The song is always uttered quite rapidly, and is subject seemingly to almost an unlimited list of variations, though all have the same characteristic loud ringing quality, and to me are easily distinguishable from the song of any other bird. However, Mr. Stone (in Educational Leaflet No. 50 of the Audubon Society, on the Carolina Wren), writes of the difficulty of distinguishing the song of this Wren from that of the Cardinal or Tufted Titmouse. Both of the latter are very familiar birds to me, but I must say that, previous to reading this, I had not thought of the resemblance noted.

To my ear, the song of the Cardinal is more of a whistle, and does not possess the tinkling qualities of that of the Wren. Moreover, the Cardinal's song is not usually a continuous repetition, as is the

Wren's song. Thus a common phase of the Cardinal's song sounds like *wet-chyear-wet-wet-wet* or *wet-wet-wet-chyear-wet*, while the Wren seems to say, *chugar-beet-chugar-beet-chugar-beet-chugar*. Often the Cardinal's song is only a repetition as *peeto-peeto-peeto-peeto-peet*, but when this is the case it usually starts out rather slowly, becoming more rapid near the end, whereas the Wren's song is unvarying in rapidity throughout.

The song of the Tufted Titmouse also lacks the ringing, tinkling quality so noticeable in the Carolina Wren's song; in fact, to me it sometimes sounds almost nasal, and is not, usually, I think, quite so rapid as the Wren's song.

Some other common phases of the Carolina Wren's song sound like the following: *sheel-doit-sheel-doit-sheel-doit-sheel-doit*; *chugar-tree* repeated as many times, or *teakettle*; another, *pbe-cheo*, still another *wheeadle*, each repeated from three to seven times (usually four or five). Often a bird will change suddenly from one phase to another, sounding almost like another bird. I have the following notes taken from a bird that was good at this: "Song sounds like *chugar-beet*, repeated four or five times; now changes to *pbe-cheo*, repeated same number of times for about a minute; change to *cheedl-doit*, repeated three times once then *sheel-doit* about a minute or more; then change back to *pbe-cheo*; now changes to *pccee-otllle*, repeated two to four times and often ending with first syllable; now a pause of one or two minutes, then *che-pul*, repeated rapidly from five to seven times."—MERRIAM G. LEWIS, Lawrenceville, Va.

A February Kingfisher in Wisconsin

On February 6, when crossing a footbridge over the outlet of Green Lake, I heard a splash in the water almost directly beneath me. I looked over the railing of the bridge and was surprised to see a Belted Kingfisher rise from the water with a minnow, and alight in a willow tree about five rods away, where he could be seen plainly, and where he gave his call—

a loud, harsh rattle which is unmistakable. He has been seen often since that time along the creek, which is always open.—GEO. E. BALDWIN, Green Lake, Wis.

The Tufted Titmouse in Wisconsin

On December 1, 1912, a Tufted Titmouse made its appearance at Whitewater, Wis. It was seen by many of the bird-wise people and offered food. It is there at this writing, March 15, and regularly visits the feeding-tables of its friends, Mrs. E. L. Shutts, Miss F. L. Esterly and Prof. A. S. Watson. On March 27, 1912, Mr. Elmore Elliott Peake saw a Tufted Titmouse at Lake Geneva, Wis., and writes as follows: "I was working at my desk when its loud *peter! peter!* a sound familiar from childhood in southern Ohio, suddenly electrified me. I had the bird under observation for twenty minutes with a glass, and several times as near as fifteen feet, so there is no possibility of mistake. A day or two later, other observers reported it to me, one of them living up the lake a mile and a half.—I. N. MITCHELL, Milwaukee, Wis.

The Starling, American Robin and Bluebird in England

May an English subscriber to BIRD-LORE be permitted to send a few notes on birds?

A correspondent in the number for November-December asks whether the habit of following cattle is newly acquired by Starlings. Indeed no; it is one of their best-known habits. I have seen a Starling sitting on a sheep's back; it had no doubt been searching the wool for ticks.

In England the Starling is a great mimic. I wonder whether it has developed that habit in America. The Starling, I take it, is a distant relative of your Meadowlark. One spring day, I was positively startled to hear a note exactly resembling the last long-drawn-out syllable of the Meadowlark's song (which I had heard in the United States a year or two before). I found that it was a Starling that uttered

the sound. It occurred to me that possibly this might be common to all the Starling family.

Last spring, I was astonished to see an American Robin in Richmond Park, not far from London. It collected mud, which it carried into a high tree, apparently for its nest. One bird only was seen; it remained for some weeks, then disappeared. I noticed that it always ran when on the ground. Does your Robin never hop? Our English Thrushes, as a rule, hop. I was not able to tell the sex. Once I heard it call loudly, something like *pink, pink, pink*, a sound distantly resembling the note of our Blackbird (which is, of course, a Thrush). I never heard it sing. I believe that Lord Northcliffe, the proprietor of "The Daily Mail," introduced several American Robins into Surrey, not very many miles from where I saw this bird, a few years ago, and there have been cases of its appearance in different parts of England since, notably in Cumberland, where I believe it bred. It would be interesting to know where it migrates in the winter.

A few years ago, I was shown the stuffed body of a Bluebird, which had been seen in a Hampshire orchard and, of course, shot! It may possibly have escaped from some aviary; but I am under the impression that your Government forbids the exporting of Bluebirds. Oddly enough, a year or two after this, somebody wrote to a newspaper, from a different part of England, describing a strange bird which had appeared in his garden, and which seemed to have been, again, a Bluebird. It is difficult to imagine that these birds could have been blown so far out of their course of migration, so I imagine they must have escaped from some aviary.—*J. RUDGE HARDING, London, England.*

The Same Old Story

This year, I erected quite a number of bird-houses around my home, in an effort to have some interesting tenants. One of these nest-boxes was a pine stub brought from the woods and placed in a maple in

the front yard. Early in the spring, when the Bluebirds were home-hunting, they espied this natural cavity, and at once laid claim to it. About the same time, a pair of Sparrows (*Passer domesticus*) got a notion that they needed the same place, and started to oust the Bluebirds. Battle after battle ensued for the possession of the nest and, after about three or four days, the Bluebirds seemed to have established supremacy. At any rate, the Sparrows desisted from their attacks to a certain extent.

On April 4, I climbed up to the stub, and saw that the Bluebirds had succeeded in making a nest, and also that it contained two eggs. The next day, I found the remains of the eggs on the ground and, upon looking in the nest, I found that it, too, was torn up. Undoubtedly this was the work of the Sparrows, as they were seen nearby, and also going into the nest. The Bluebirds were seen only once during the day (April 5), and never afterward. From then until the time of this writing (April 16), the Sparrows never used the cavity as a nesting-place, and have been seen around it but very little.

This little incident shows the English Sparrows in true colors. The domineering and driving-out instinct is prominently shown; they cannot endure to see any other pair of small birds nesting in their neighborhood.—*RALPH W. JACKSON, Cambridge, Md.*

House Sparrow and Starling

A few mornings ago, a House Sparrow and a Starling were noticed by some commuters, feeding on insects on the lawn in front of the railway station. The curious way in which the Sparrow obtained his food being noted by one who was aware of my interest in birds, he called my attention to it. The Starling had, at the time I started to watch, a large grub of some sort in his bill. The Sparrow was trailing behind, for all the world like a dog trotting at his master's heels. Carefully the Starling searched every spear of grass; finally one bearing an insect turned up.

To get this he had to lay down his worm, which he did. Quick as a flash in jumped the Sparrow and grabbed the worm. He had a good deal of trouble in swallowing it, but, after mastering the larva, once more started to trail his larger countryman. How long this unwilling partnership was kept up I can't say, as a train had to be taken to the city. Probably "unwilling" is not the way to express this partnership, as the Starling seemed not the least disturbed by these repeated robberies.—
HENRY THURSTON, *Floral Park, N. Y.*

A Solution of the English Sparrow Problem

Back on the farm in the good old Hoosier State, my father taught us boys early to discriminate between beneficial and harmful birds and, armed with rubber slings, we never lost an opportunity to try our marksmanship on the latter. I am sorry to say, however, that the line between "good" and "bad" birds was not always correctly drawn, for far too many Red-headed Woodpeckers paid the penalty of death for the few cherries they came to steal.

The list of condemned included the English Sparrows, against whom we stood as sworn enemies, granting no quarter under any circumstances. As youngsters, we tore down their nests in great glee, and killed the young or broke the eggs with much dispatch. Later, with the shot-gun and rifle in our hands, the imported nuisance had no show. The few which learned this sought other feeding-grounds, while the unsuspecting new-comers fell easy victims.

For us, the Sparrow problem was reduced almost entirely to the early spring, when two to five pairs came in search of nesting-places. With the destruction of these few pairs, the premises remained practically free of the pest for the remainder of the year. Now and then a flock would swoop down to feed, but departed immediately upon the completion of their meal, or, if they did not, one or two loads of shot sufficed to put them to rout.

It is surprising how wise and wild the English Sparrow becomes after being shot at a time or two. The opening of a door or the sight of a man sixty yards away is cause enough for him to take to wing. However, there is a time, the brooding period, when the wildest can be bagged, at least the female and usually the male also. At such times the most wary that insisted on remaining paid the price for their folly. I am sure that not a single brood was reared on our premises up to the time of my leaving the home-stead six years ago.

This I consider significant, that a farm of one hundred and sixty acres was able to enjoy such freedom from these birds at an annual cost not exceeding fifteen cents, while the five adjoining farms had, and still have Sparrows in abundance. One has maintained a flock numbering at least one hundred.

Such is the experiment, successfully prosecuted over twenty-five years, that might be taken as an example by all land-owners. In fact, I have come to believe that the only way to deal with the problem successfully is for the various states to require every real-estate holder to prevent absolutely the rearing of a single brood of English Sparrows on his premises.—
NEWTON MILLER, *Norton, Mass.*

The Purple Martin

The object in view of every bird-lover, bird-student and protectionist is not alone the preservation of the Martin bird, but also that the largest number of young birds are reared to maturity, and attain the state of self-maintenance.

From my boyhood, I have been a lover of the Purple Martin, and have studied its habits. It has always been a source of regret to me to see so many young Martins fall out of their boxes; for, if a young Martin falls to the ground, nine out of ten perish. The loss of young birds may be obviated to a great extent by proper construction of the houses, the exact location of the door being of great importance. This applies to houses whether single or

with several compartments. The compartment should not be less than 9 by 11 inches or, better still, larger. The opening should be on a level with the floor, not less than $2\frac{3}{4}$ inches in diameter and a pin $\frac{1}{2}$ inch wide by 3 inches long for a foot-rest. I have tried all manner of openings and porches for foot-rests, and find that when the openings are made as described above the number of young that fall out of their boxes is almost nil; while, on the other hand, in boxes with openings an inch or more above the floor almost invariably some would fall out. The same applies to wide foot-rests, or porches; the young will venture out of the box too soon, as they cannot see the danger. To repeat: the opening should be on a level with the floor, and not less than $2\frac{3}{4}$ inches in diameter. It all depends on the opening.—

DR. FERDINAND SCHREIMAN, *Concordia, Mo.*

Notes on the Shrike and the Chickadee

While reading the December number of *BIRD-LORE*, I thought of a Shrike, and a Chickadee experience of mine that might be of interest to others. On November 1, 1912, I heard very harsh, loud calls from a tall treetop, that sounded very unbird-like. I saw a bird about the size of a Robin that had light underparts, large gray head, long dark tail that flipped up and down a few times, and the part of the wing that I could see was dark. He had an alert manner, and he sang a low warble, and once called so like a Catbird that for one confused instant I thought it must be one. Then he made more harsh calls, the like of which I had never heard, and from a distance came other unfamiliar sounds, also harsh, but unlike the first.

As I watched, another bird of nearly the same size came and fiercely attacked the first. As he approached him, the attacking bird took an upright position, so that I saw that his wings were black and white spotted. His tail was also widely spread. The first bird yielded, but did not leave the tree. The other began hunting on the branches, Woodpecker-fashion, and I knew it was a Hairy Wood-

pecker, though I never heard such sounds from one before. After a while, the other one flew swiftly off, and dropped beyond a house where English Sparrows congregate. In a moment, back he came, closely pursuing a small bird that made frightened cries. The small bird dodged at right angles into a tree, and I think the other went on, as I lost him then. I did not see this bird at close range, and I did not know that a Shrike sang in the fall,—but what else could it be?

Mr. Forbush's allusion to an injured Chickadee reminded me of two sad experiences that we had in the spring of 1912. We noticed that one of our piazza Chickadees had only two feathers in his tail, and that he seemed afraid of us, and of the other Chickadees, but after a while he became a little less shy, and on March 22, I saw that a new tail of short feathers was budding. In a few days more, he would try for several minutes to get up his courage to come to me, but failed. By the 26th, he would fly almost to my hand, and then turn away. Then he would stand and look at me for a minute, and try again; but no, he dared not! So I gave him bits of nut as he stood on the vines, and he would take them from my fingers. He became braver as his tail grew—and it grew fast. Very surely he had been one of those that were hand-tame before he lost his tail.

On April 2, I saw that one of the Chickadees held his foot up in his feathers, and was afraid of the others. He kept very quiet on the vines a good deal, but occasionally he ate at the shelf when alone. He lived through a heavy snowstorm, and came on the 3rd, but one of the others drove him about. He would take food from my hand as he stood on the vine, and this and the unevenness of his tail convinced me that it was unfortunate little Short-tail. On the 4th I observed something that angered me, but, after all, I suppose it was only a part of the world-old tragedy necessary to the production of a strong race. I had a piece of nut in each hand and was carefully offering one to the lame bird. He wanted it, but did

not attempt to take it. Another Chickadee kept coming nearer and nearer, and I thought he would come to my other hand, but he wanted what I was offering to the lame one, apparently, so I stopped and offered him a piece. He would not take it, but just looked upward and pretended not to see it, and then went a little away. When I went back to the lame bird, he returned at once, and the lame one dared not take the food. Then I saw the point! The strong bird was not hungry, but he was determined that the lame one should have no food. He kept up this persecution until the other was forced to go away. Later in the day, the poor little victim came again when no other birds were present, and then, though rather fearful, he took food from my fingers as he stood on the box.

Three days later he would alight on my hand for an instant. After a few more days he would come to the vines and call loudly for me to come out and feed him, which I was glad to do. On April 16, a small Hawk sailed through the yard when "Lamey" and another Chickadee were at the piazza. One of them uttered a very high thin note. That was the last time that we saw "Lamey," and I have a feeling that I know his end.

Another Chickadee we lost on March 31. We called this one "Little Black-vest," as its breast was quite dark. The little thing had been very sweet and confiding that winter, showing no fear. On this last day of March, he came to my hand early, but seemed not to be all right. He acted as if he could not see well, yet he could alight where he chose. Perhaps it was because he felt weak that he leaned forward and gazed so earnestly before he flew to me. When on my hand he showed a tendency to tip backward, and though he was hungry, he could not always pick up the food. He ate from my hand and from my husband's for some time, and went away. Before 11 A.M., he returned. I fed him again on my hand, but he had yet more difficulty in eating. It seemed hard for him to put his head down, or to find the food. By and by he took a piece

and went to the vine, flying low as though weak, and finally went down on the snow and tried to hold the piece with his foot and eat it. Two Redpolls went near, as though to take his food. He made a few piping notes that apparently warned them off. At last he tried to fly away, turned to come back, and fell on the snow. By the time I could reach him he was dead. I brought him in to show to my family (for he was our little friend), and soon knew what was his trouble, for lice began to crawl out of the feathers around his head and throat.—ELIZA F. MILLER, *Bethel, Vt.*

The Predicament of a Pied-billed Grebe

November 30, 1912, I found one of these birds stranded on the ice in the bed of the old Calumet River at Miller, Ind. Several wooden decoy ducks had been left out in the lagoon, and had become frozen in the ice, most of them, however, remaining in a natural position. It seems probable that the Grebe decoyed to these, and, alighting on the ice, was unable to rise. My attention was first called to it by a rustling among the sedges near shore where it had taken refuge. When badly frightened, the bird made very good progress over the ice by violently flapping its wings, giving it the appearance of running on the tips of its toes, but it was absolutely unable to rise into the air. The next day was warm with a heavy rain, so enough water may have accumulated to enable the bird eventually to escape.—EDWIN D. HULL, *Chicago, Ill.*

The Holbœll's. Grebe at Bedford, Massachusetts

A Holbœll's. Grebe was caught on the bank of the Concord River, at the Carlisle Bridge, Bedford, Mass., February 15, 1913. We kept him twenty-four hours, then released him where he was found, as he refused food, and his condition showed that he had had all he needed.—WINIFRED THORNDIKE SIMONDS, *Bedford, Mass.*

Book News and Reviews

FIELD DAYS IN CALIFORNIA. By BRADFORD TORREY. Houghton Mifflin Company, Boston and New York, 1913. 8vo, 235 pp., 9 plates. Price \$1.50, net.

This collection of fifteen essays, republished from various periodicals, was revised by Mr. Torrey only a few weeks before his death, on October 7, 1912. The search for the Yellow-billed Magpie and the Condor, studies of the shore birds on the California beaches, and accounts of bird hunts in the Santa Cruz Mountains, the Grand Cañon, and among the Redwoods, are related with the simplicity and charm characteristic of this writer's nature sketches. The chapter on 'Reading a Check-List' is commended to those who can find nothing but technicalities in such a work.

Mr. Torrey's accuracy and care in identification has always been evident in his books, and in his account of a troublesome Yellow-legs, which seemed too big for the Lesser species and not large enough for the Greater, his remarks should be heeded by the opera-glass student. He says, "If I had been a younger hand at the business, I could probably have decided the question on the instant. Given a certain measure of inexperience, and certainty is about the easiest thing in the world. Why bother one's head with second thoughts? What a man knows, he knows, and there's an end on't. Also I have found that too often what a man knows he doesn't know; and so with age comes slowness of decision, with all its disagreeable concomitants."

An excellent photogravure of Mr. Torrey forms the frontispiece, and eight beautiful half-tones from photographs illustrate scenes from localities visited by the author.—W. DeW. M.

THE PRACTICAL VALUE OF BIRDS. By JUNIUS HENDERSON, University of Colorado Bulletin. Vol. XIII, No. 4. Boulder, Colo., 1913. 48 pp.

To say that this is a pamphlet of forty-eight pages gives small idea of the bulk

of the material it contains, so full of condensed information is it. This is especially true of the quantities of tables and summaries of the results of stomach examinations given in the nineteen pages of 'Systematic Discussion.' Under this heading each order of North American birds and each family of North American Passeres is treated separately, with particular reference to the birds of Colorado. This is preceded by sections on 'The Balance of Nature,' 'Rescue of Crops, Foliage and Forests by Birds,' 'Quantities of Food Required by Birds,' 'Methods of Investigation,' and 'Necessity of Bird Protection.' The paper closes with a seven-page bibliography of the more important titles on the subject. Nearly every item of information throughout the paper has its source carefully indicated in a footnote.

The statement that the Cooper's Hawk is "a small species strongly marked with dark stripes below" and that the Sharp-shin is "marked by bars below" is misleading. The two species have the underparts similarly marked, both being streaked when young and barred when adult. We hope no one will attempt to identify and shoot Cooper's Hawks by the description as given, as it applies equally to certain highly beneficial species, the Broadwing for instance.—C. H. R.

SECOND REPORT OF THE MERIDEN BIRD CLUB, with brief reports from other New Hampshire Clubs. Poole Printing Company, Boston, Mass. Paper covers, small 4to, 82 pp. 18 illustrations and 2 maps. Price \$1.00.

The report of this flourishing society should be read by everyone interested in local bird protection. Short chapters are devoted to methods of feeding birds, bird-houses and baths, and bird enemies.

An addition to the bird-sanctuary owned by the club is recorded as one of the important events of the past year. Reports from six other recently organized New Hampshire clubs indicate the influence of the Meriden organization and

the rapidly growing interest in bird-study and protection.—W. DeW. M.

Book News

THE Revised Edition of the Color Key to North American Birds, by Frank M. Chapman, contains a new Systematic Table of North American Birds, revised and brought up to July, 1912. Wholly new features are two appendices, the first containing the changes in nomenclature, and descriptions of new species and races since the publication of the Color Key in 1903; the second comprising an extensive list of faunal bird papers arranged under geographic headings. A decided improvement is noted in the quality of the paper used in this edition.

WE learn from the 17th Annual Report of the New York Zoölogical Society that the park contains a larger number of living birds than is possessed by any other institution. The number of species is 903, of which 378 are Perching Birds, and the total number of individuals is over 3,000.

Among the important additions to the collection during the year of 1912 were the beautiful Ocellated Turkey of Central America, the Great Bustard, Horned Screamer and Goliath Heron, a number of interesting Haitian birds, several species of African Plantain-Eaters, and two immature specimens of Count Raggi's Bird of Paradise, the second species of the family secured by the Society. A pure blue and white variety of the Australian Grass or Shell Parakeet, developed by a European breeder about three years ago, is also of special interest.

The Ornithological Magazines

THE AUK.—The varied contents of the bulky April issue will appeal to many readers. Some interesting pages in the life-history of a familiar western Hawk are furnished by E. S. Cameron, under the title 'Notes on Swainson's Hawk (*Buteo swainsoni*) in Montana.' Such observations are of the greatest value;

also R. T. Moore's study of 'The Fox Sparrow as a Songster,' although here, as it is almost always the case, musical notations might as well be Greek so far as it gives an adequate idea of song to any other than the transcriber. We do not question that the Fox Sparrow sings in five flats, but even he might not be able to recognize his notes from the impressive musical staff that confronts us.

The ever-fascinating subject of migration is discussed by J. C. Phillips in 'Bird Migration from the Standpoint of its Periodic Activity.' Both facts and fancies are dealt with, and some clue to the writer's attitude may be gained from the following quotation—"The modern tendency seems to be to sniff at the word 'mystery' as applied to any phenomenon of bird migration. This is merely a question of where the word is applied; if to the actual facts, then it is hardly warranted, but if to the cause, then it is certainly as applicable now as ever." W. W. Cooke, in an article on 'The Relation of Bird Migration to the Weather,' contributes many valuable facts, well tabulated and charted, and in this connection should be read H. H. Cleave's paper on 'What the American Bird-Banding Association Has Accomplished During 1912.' Some photos show birds with bands in place.

F. H. Allen, in a paper entitled 'More Notes on the Morning Awakening,' helps to place the subject on a more definite basis than the mere knowledge, common to all of us, that birds are early risers; G. Eifrig furnishes 'Notes on Some of the Rarer Birds of the Prairie Part of the Chicago Area;' O. E. Baynard presents a local list of the 'Breeding Birds of Alachua Co., Fla.,' in which the nesting of the Glossy Ibis is noteworthy. 'Ontario Bird Notes,' by J. H. Fleming, is really a list of rare captures; and 'Concealing Action of the Bittern (*Botaurus lentiginosus*),' by W. B. Barrows, tells of a bird swaying so as to blend with the rushes rustling in the breeze.

'Two New Races of the Pigmy Owl from the Pacific Coast,' i.e., *Glaucidium gnoma vigilante* and *G. g. swarthi*, are described

by J. Grinnell; and 'Anatomical Notes on Some Genera of Passerine Birds,' i.e., *Saltator*, *Chlorophonia* and *Euphonia*, are furnished by H. L. Clark.

The 'General Notes' department is well filled, and several items assume almost the proportions of brief local lists, while that of 'Recent Literature' is crowded with reviews and titles. In 'Correspondence,' F. H. Allen has the last word (temporarily, at least) on the concealing-coloration question.

Those who bind their Auks must not forget the list of members issued with this number.—J. D., Jr.

THE CONDOR.—Of the half-dozen articles in the January number of 'The Condor,' Dawson's 'A Glimpse of Surf-birds' and Grinnell's 'Outlook for Conserving the Band-tailed Pigeon as a Game Bird of California,' merit special mention. The former, illustrated by six excellent photographs, contains brief notes on the Surf-bird near Santa Barbara. The latter, accompanied by a map and bibliography, is a comprehensive discussion of the present status of the Band-tailed Pigeon. It is rather curious that, in the preparation of this paper for the California Fish and Game Commission, to show the necessity for protection of the bird, ornithological literature has been exhaustively examined, while game-protective literature has been ignored. Not a reference is given to a non-ornithological publication, no mention is made of former efforts to protect the species, and among the fifty-nine titles cited in the bibliography but two or three relate to the destruction or protection of the bird. Henderson's 'Concealing and Revealing Coloration of Animals,' and Warren's 'Swallows and Bedbugs,' contain contributions to subjects of general interest. Of the two local lists, Tyler's 'Notes on Some Fresno County Birds' comprise observations on six species, and Willett's 'Bird Notes from the Coast of Northern Lower California' contains brief remarks on 98 species observed between San Diego and Cerros Island, April 4-26, 1912. In the Editorial

Notes and News is a statement of the work of the California Associated Societies for the Conservation of Wild Life and a 'Report of Progress' by Secretary W. P. Taylor.

The March number may fairly be termed a 'Dawson Number,' since four of the six main articles and most of the illustrations are by W. L. Dawson, or relate to his elaborate work on 'The Birds of California.' The frontispiece is a most artistic colored plate of the Dusky Warbler, reproduced from a water-color painting by Allan Brooks; there are also three special illustrations of Baird's Sandpiper, Long-billed Dowitcher, and Bonaparte's Gull, from photographs by Dawson, which will appear in this work. Dawson contributes an article on 'The Nesting of the Prairie Falcon in San Luis Obispo County,' and a biography of Allan Brooks. His own biography is the subject of an article by Swarth, and a new subspecies of Rosy Finch (*Leucosticte tephrocotis dawsoni*) from Whitney Meadows in the Southern Sierra Nevada is described by Grinnell and named in his honor.

A remarkable account of 'The Great Destruction of Birds' Eggs and Nestlings in the Sierra Nevada,' near Cisco, in June, 1912, is given by A. M. Ingersoll. Of 140 nests belonging to 30 species which came under observation, 20 were collected and 77 destroyed or broken up, leaving only a possible 43 (some of which were not examined) in which the young may have been reared. The havoc which overtook more than half the nests observed was caused partly by Blue Jays and partly by a cold rain, followed by sleet and wet snow, on June 22 and 23. In the report by Wright and Snyder on the 'Birds Observed in the Summer of 1912 among the Santa Barbara Islands,' are several important records. A colony of 300 to 400 California Brown Pelicans was found nesting in Santa Barbara Island, the third time this species has been recorded as breeding in California; Xantus' Murrelet was found nesting on Santa Barbara and Anacapa; and five Ashy Petrels were breeding on Santa Cruz Island.—T. S. P.

Bird-Lore

A Bi-Monthly Magazine

Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Contributing Editor, MABEL OSGOOD WRIGHT
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Bird-Lore's Motto:

A Bird in the Bush Is Worth Two in the Hand

THE Colombian expedition of the American Museum of Natural History returned to New York City early in May after an absence of about four months. The expedition met with great success, securing material for a Habitat Group of the bird-life of the Magdalena Valley, and a representative series of birds of the Bogotá region, but its leader, Mr. Frank M. Chapman, contracted a relapsing fever and, while convalescing, did not sufficiently recover from the effects of his illness to resume his editorial duties, and the present number of BIRD-LORE is therefore brought out under the supervision of Mr. Waldron DeWitt Miller.

TO THE student of ornithology there is still a wide field in the investigation of various phases of our birds' life-histories. Miss Sherman's memoirs of the Screech Owl and the Flicker are among the best examples of the valuable results that may be obtained by patient and intelligent observation. Of quite a different nature, yet of great interest, is Mr. Burns' unique sectional bird census which represents the arduous work of three seasons.

Not all of us, however, have the time or the inclination for such research work, and after all, to many, bird study is a recreation pure and simple. While we do not believe that the making of a big list for the day or the season should be the one ambition of the field-glass student, yet an occasional effort of this kind, stimu-

lated, perhaps, by friendly rivalry, may be a profitable as well as enjoyable pastime.

BIRD-LORE'S Christmas Census has, we believe, justified itself by the interest awakened and the results secured, giving us a clearer idea of the distribution of our winter birds than would ever be obtained from the reading of paragraphs on Range. We have in mind at the present moment, however, the spring migration one-day bird-list. Such a list is no new idea, but thus far, because of the large number of species involved, no attempt has been made to publish a migration census. In certain respects the scientific interest of a general spring census would exceed that of the winter list, showing in a graphic manner the northward movement of the Warblers and Thrushes, and the extent of latitude occupied by certain migrating species on the day chosen. While BIRD-LORE has no present intention of undertaking the publication of a spring census, we fully expect that within a few years some one will take up this work.

Probably the largest one-day list ever obtained, in this country at least, is that of Prof. Lynds Jones who, with two assistants, recorded in northern Ohio, on May 13, 1907, 144 species. In the Atlantic States, a list of 100 inland species could doubtless be obtained by a combination of good fortune and hard work. The element of luck in the spring is a more important factor than in the winter, particularly to one who cannot choose his day, for only a wave of Warblers and other migrants, among them many of the rarer species, will make it possible to secure a record list. The spring migration now closing in the vicinity of New York City was somewhat later than usual, great bird-waves arriving on the 13th and 17th. On the 18th, the writer's total for the day reached 95. As is usually the case, some common birds were not observed, while among the rarities noted were a Golden-eye Duck, the first local record, a Long-billed Marsh Wren, a species seldom met with as a migrant, and several of the rarer Warblers and Sparrows.—W. DeW. M.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the editor, at 53 Arlington Avenue, Providence, R. I.

THE VALUE OF COÖPERATION

In no work, possibly, is the spirit of coöperation more quickly productive of results and of more value to those engaged in it than in that of the Audubon Society. There is a contagion about bird-study which takes hold of both old and young, a contagion that spreads rapidly and does not die out easily. The following letter from Wilmington, North Carolina, illustrates very aptly how pleasantly and readily children and grown-ups may be brought into touch by a common interest in birds. The benefits of such coöperation are felt more often than seen, perhaps, but they are of lasting value.

A Bobolink Society in the South

The Society was not organized until February, but we have been much interested in birds since October. Each day or so, we have told in class about birds observed and watched by members of the class. Pleasing accounts have been given about Wrens, Song Sparrows, Thrushes, and many other kinds of birds. Thirty-two boys have been most interested in birds this winter, and have protected them in every instance.

Last December the school had exercises on Carolina Day, in which our room took part. As our part was about birds and trees, you may be interested in it, since the idea originated with the Audubon Society.

The thirty-two boys (of the Bobolink Club) represented trees. Nineteen girls represented birds. Around each child's neck was strung a placard, bearing the name of a tree or bird. These names were painted in large letters.

First, Henry Abbey's *What Do We Plant When We Plant a Tree?* was given in concert. Then each boy came forward and told in a sentence the uses of his tree. The girls next took part and gave in concert the motto of BIRD-LORE: "A bird in the bush is worth two in the hand." Each girl came forward in turn and gave the call or cry of a bird, and then all the children repeated the call. One boy could whistle perfectly like a House Wren and a Song Sparrow, so he helped the girls with these two birds. The calls were found in Dr. Van Dyke's book and the album published by the Chicklet Chewing Gum Company.

This simple little exercise was liked by the public. When Civic Day was being observed in the Academy of Music, the ladies of the Sorosis Club asked

us to repeat the exercise for them. Our Superintendent also has taken several of our best bird imitators with him, on several of his visits to neighboring rural schools this month, to interest these schools in the Audubon Society.

If any school would like to know more about our exercise which has stimulated interest in this delightful subject, I should be pleased to tell them.—MARGARET H. WOOD.

It should be said that the children taking part in the exercise described above were only nine and ten years of age. The enthusiasm and care evidently shown in the preparation of the class for the observance of a special day assured success from the start. The spirit of coöperation is what our schools need in order to overcome the monotony, neglect, or perfunctory performance of daily duties.

A teacher in Central Falls, Rhode Island, conceived the clever idea of taking classes out in squads during a part of the afternoon session, for two weeks or more, during April, while the eggs of the brown-tail moth were hatching.

These pupils worked, under an expert leader from the State Agricultural College, in the most practical and thorough way. It need scarcely be added that no book-knowledge concerning the damage done by destructive insects could equal such a series of outdoor lessons in actual hand-to-moth encounter. Here again, coöperation is the underlying principle of an enlivening and awakening form of nature-study.

There is need of practical nature-study on every hand, and of trained nature-teachers. The appeal for individual instruction of children in nature-study has come to this Department twice recently, from mothers who desire to engage a cultivated and competent student of nature to spend several hours a day with their boys and girls outdoors. It seems unfortunate indeed that, with all the book-knowledge our schools and colleges give, so few students are trained in a practical way to go out in the open with the seeing eye and the practical ear. The time has come when a constantly increasing demand for this kind of instruction and training is to be found. Some of our bright young men and women ought to take advantage of this opportunity to earn a compensation, or even a livelihood, by giving private individual or class talks and walks along the line of nature-study. If a child can once get started to observe to some purpose, there is no trouble about his interest in nature at the time or for all his life long. Most children see very quickly, but cannot correlate their observations, or concentrate their attention upon a single object for more than a few moments. They need to become familiar with many objects to touch nature at many points. Later on in their education, there comes the proper time to specialize in a single subject.

Will not more teachers undertake some such work outside the school-room, with a view to helping their pupils gain a first-hand knowledge of the world around them, and the part which all forms of life and matter play in that world?—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise IX: Correlated Studies: Reading: Basket-making and Weaving: Modeling.

During the last year or more, we have studied the birds in their wanderings from place to place, and have tried in a simple way to form some idea of the general features of the areas they frequent. The birds' map of America we found quite different from the map we are accustomed to study in the ordinary geography, for on it, altitude, humidity and temperature play a far more important part than state or territorial divisions, although these have a relation to the welfare of birds, as we shall see later on, when we come to consider what birds do for man and what man does for birds.

In this exercise we shall try to find out a few facts about the birds *at home*.

Did you ever stop to think what is meant by the home of a bird? It is really a difficult thing to explain, and involves several theories concerning the original place or places where birds were found ages ago when palm trees grew in Greenland and reindeer roamed through France.

In those remote times, animals and plants were distributed very differently over the earth than they are today, owing to the great changes in climate, and consequently in all conditions for the maintenance of life which then occurred.

We know that now certain birds spend the entire year in practically the same latitude, wandering comparatively short distances, to seek food or nesting-sites, and that such birds are found permanently settled in the arctic, temperate and tropical regions. We also know that certain other birds spend part of the year in one place and part in another, often traveling enormous distances to reach the summer and winter resorts which they prefer.

Such birds we call *transients* or *migrants*. Migrants may go regularly each season, along fixed routes from one resort to the other, or they may go irregularly, taking one route north and another route south. Again, they may make their journeys in the spring and fall, for purposes of nesting and possibly for food; or they may change their abode only during the colder months in search of better feeding-areas, going regularly back and forth each winter, or irregularly, according to the severity of the season.

In order to make these strangely complicated movements of the birds more real to your minds, let us take your own home-vicinity as the point from which to watch the feathered throng, provided you live in the North Temperate region, where the greater part of bird-travel takes place. If we selected a place in the Arctic region, you will readily see that part of the movements described could not occur there, since there is no "farthest north" beyond this region; and, if we selected a place in the tropics, we might find ourselves completely turned around, since the seasons and zones of temperature in the south-

ern hemisphere are just the reverse of those in the northern. At any point in the North Temperate region, then, we may take the census of the bird-population during the year as follows:

1. Permanent Residents (P. R.).
2. Winter Residents (W. R.).
3. Winter Visitants (W. V.).
4. Regular Transients (R. T.).
5. Irregular Transients (I. T.).
6. Summer Residents (S. R.).
7. Summer Visitants (S. V.).
8. Accidental or Casual Visitants (Acc. or Cas.).
9. Introduced* Species (In.).

It will be worth our while to review these different kinds of bird-tourists, in order that we may better appreciate the meaning of a bird's home.

Permanent Residents (P. R.) are species which both nest and find their food throughout the year in a given locality. Individuals of such species may roam about some, but at any time, winter or summer, spring or fall, you will find the species marked P. R. in your vicinity. Look up the Chickadee, Blue Jay, Crow and Downy Woodpecker, and find out whether they belong in this category so far as your locality is concerned.

Winter Residents (W. R.) are species that come south to your latitude each winter for food, but which go north again at the approach of spring, to nest. In New England, the Junco and Tree Sparrow are regular winter residents. How far west are they found during the cold months?

W. V. stands for *Winter Visitants*, or those species which may visit your vicinity at irregular times each winter, or which may come south to your latitude only now and then during many years. Look up the Redpoll, Pine Grosbeak, Evening Grosbeak, Snowy Owl, and the American Rough-legged Hawk. Notice particularly what kinds of food Winter Residents and Winter Visitants eat.

Turning now to species which come from the south to pass through or visit your vicinity, we find a great many of the former, which are called *Regular Transients* or *Migrants*.

Regular Transients (R. T.) vary much in the length of the spring and fall journeys which they make every year; so much indeed, that you must study the trips of each species separately, in order to get a good idea of where the

*NOTE.—Introduced species must first become acclimatized and used to their new environment before moving about extensively in any direction. The English Sparrow is a permanent resident throughout the United States. What the Starling will do it is hard to say just yet, but it will doubtless spread and become a permanent resident wherever it goes. It has been described as "a citizen of the world," from its wide distribution and adaptability to different climates and environments.

different migrating birds go. Can you make a list of ten regular transients which you are sure pass through your vicinity every year?

What do you know about the migration journey of the American Golden Plover and Connecticut Warbler? After you have studied the routes followed by these two very different kinds of birds, you will understand more nearly what is meant by an *Irregular Transient* (I. T.).

You may notice that certain species which nest in your vicinity are also found nesting considerably farther north or even farther south. This means, simply, that the summer range of these species covers a larger area than that of certain other species. Compare the summer home of the Golden Plover with that of the Maryland Yellow-throat or Blackpoll Warbler. Or, better still, compare the summer homes of the Phoebe and Acadian Flycatcher with those of the Olive-sided and Yellow-bellied Flycatchers.

Whatever birds stop on their northward journey to nest in your vicinity you may call *Summer Residents* (S. R.). After the nesting-season, you may find, to your surprise, birds which have nested farther south visiting your latitude. Such birds are well named *Summer Visitants* (S. V.).

A little Blue Heron or Summer Tanager in southern New England, or along that latitude, are *Summer Visitants*, the former usually coming under the head of an accidental visitor from the south.

Accidental and *Casual Visitants* may come from the north in winter, as well as from the south in summer; or they may come from the east or the west at different seasons of the year.

A Turkey Vulture from the south or a Yellow-headed Blackbird from the west would be *accidental* in Maine, because both of these species have their homes so far distant from northeastern New England. On the other hand, the Knot or "Robin Snipe," a transient bird of the coast, would be *accidental* as far inland as Missouri, as would also the Kittiwake Gull, which comes south in winter only as far as the Great Lakes, except on the coast, where it occasionally drifts down to Long Island and Virginia.

In addition to all of these seasonal movements which have just been mentioned, birds go hither and thither in search of food, or, for no very apparent reason, in somewhat random fashion, making a series of temporary trips throughout their accustomed range.

When are the birds, then, really *at home*, and when are they merely *visiting* different places?

The home of a bird is *where it nests*, wherever else it may be found at other times of the year. This is an important fact to keep in mind, for many birds actually spend only a small part of their time at home, if we call the nesting-area home.

As we glance over the map, then, we see that at nearly every point from the Arctic region to the tropics may be found the home of one or more species

of birds. It seems rather confusing to think of the birds traveling to so many different places to nest, especially when many of them seem to be going straight away from places where they might find attractive nesting-sites, but we cannot unravel this mystery. We simply know that many kinds of birds nest in different places, building very different kinds of nests and taking care of their eggs and young in different ways.

Now, if the home of a bird is where it nests, what shall we call the nest itself, for, at first thought, that would seem to be the home? The nest is only a "cradle" for the young. The parent-birds spend more or less time on the nest, according to the habit of the species, but the nest is not primarily a place for them to rest in or a home where they may find shelter. Most male birds visit the nest only to assist in its construction or to help feed the mother and nestlings, going elsewhere to perch for the night or to pour forth their song during the day.

We need not expect to describe one bird's nest as a type of all birds' nests, because there are almost as many kinds of these nests, or "cradles," as there are different kinds of birds. Some seventy-five years ago, in a set of books entitled "The Library of Entertaining Knowledge," the different kinds of birds and their nests were described in the following interesting and ingenious way, which may help us to get a clearer idea of the great variety in bird-architecture than we might otherwise obtain without much study.

I. Mining Birds, or birds which make holes in banks, in sand, under stones, and elsewhere. The Bank Swallow, Bee-eater, Stormy Petrel, Puffin, Penguin, Burrowing Owl, Jackdaw, Rook, Kingfisher, Green Tody and Miner-lark are given as examples of this group. (See *BIRD-LORE*, May-June, 1912, p. 184.)

II. Ground-Builders, or birds which nest on the ground, as the Eider-duck, the Peahen and English Redbreast. The Summer or Wood Duck is placed somewhat doubtfully in this list. Can you tell the reason why?

III. Mason-Birds, as, for example, the Cliff Swallow, the Chimney Swift, South American Baker-bird, Flamingo, Barn Swallow, Crested Penguin, Robin and Song-thrush. The Ring-necked Swallow and European Nuthatch are included with the Mason-birds, because of their habit of barricading their nests.

IV. Carpenter-Birds, such as the Toucan, Wryneck, Woodpeckers, Nuthatches and Chickadees.

V. Platform-Builders, of which the Ringdove, the once abundant Passenger Pigeon, Bald Eagle, Osprey, Herons, Storks and Cranes are examples.

VI. Basket-making Birds, among which are found the Blue Jay, Bullfinch, Mockingbird, Red-winged Blackbird, Missel-Thrush, Cedar Waxwing and Bottle-nest Sparrow.

VII. Weaver-Birds, of which some of the most skilful nest-builders are the Weaver Oriole of Senegal, the Hedge-Sparrow. Greenfinch, Baltimore Oriole, Indian Sparrow and Prairie Warbler.

VIII. Tailor-Birds, such as the Orchard Oriole, Bonana Starling and the East Indian Tailor-bird.

IX. Felt-making Birds. The Chaffinch, Goldfinch, Pinc-pinc, Yellow Warbler, Hummingbirds and Capocier are placed here because they line their nests with downy or felt-like material, according to the writer of this classification.

X. Cementers. The Swifts are put here, and for what reason? The Chimney Swift, Esculent Swift of China (which furnishes the edible birds' nests), and Java Swallow or Swift are example of cement-making birds.

XI. Dome-Builders, such as the Marsh Wren, Magpie, Clapper Rail, Cliff-chaff, Maryland Yellow-throat, Gold-crested Wren (or Kinglet), Meadowlark, Bobwhite and Oven-bird.

XII. Parasite Birds, which build no nests of their own, but lay their eggs in the nests of other birds. The European Cuckoo and our Cowbird are the best-known parasite birds, but included under this term are also certain species which steal or appropriate the nests of other birds. These are rather thieves than true parasites, since they are good nest-builders ordinarily. The English or House Sparrow heads the list of these thieves, while the Wrens are mentioned, and the Crow Blackbird, the latter on account of its habit of frequently taking advantage of the Osprey's huge nest as a hiding-place for its own.

Now this, at best, is but a superficial and often faulty classification of the different kinds of birds' nests one may find. It serves, however, to show what a variety there is in the building-habits of birds, and it may whet our curiosity to inquire more carefully into the details of bird-architecture.

Keeping in mind, first, that the real home of a bird is where it nests, and, second, that birds as a class show a remarkable difference in the nesting-habit, not only with reference to the structure of the nest, but also in respect to the date of nesting, the number of eggs laid in a clutch, the length of the incubation-period, the care of the nestlings, and, in fact, every detail connected with the nesting-habit, let us next find out, as nearly as we can, what things are most important about a nest to make it a good cradle.

Suppose you first try to imagine what you would want or would most need if you were going to be brought up in a nest, and that may help you to understand better what a remarkable structure a nest is.

There are at least three essential points about a nest. It must be safely and conveniently placed with reference to: (1) Balance; (2) Protection; (3) Getting food.

Let us think of these three points a little more closely. With very little observation, we soon discover that many apparently safe and convenient nesting-sites are not used by birds, while many rather unsafe places seem to be chosen in preference. At first, this seems puzzling, until we remember that there is probably as much variation in the choice of the nesting-site as in the structure of the nest itself. But, varied as the site may be—and I have seen the nest of a Robin placed thirty or forty feet high in a tree, or only two or three feet from the ground, directly on the roadside, on an eaves-spout or the rail of a fence, under a shed roof on a beam or directly upon the top of a trellis—the nest is usually properly balanced and safely placed. Occasionally, one finds a shaky or partially tipped nest which looks insecure, but such nests are exceptions. The position of a nest, we may note, is of more importance than its height, and the balance than either.

A nest, in the second place, must be so situated as to protect the eggs and

nestlings and, in some instances, the mother-bird from rain and wind, the direct rays of the sun, too great moisture, and also from enemies, such as cats, weasels, snakes and thoughtless boys or cruel pothunters. If you will take time to observe just how skilfully birds accomplish this task, you will have learned a great deal of interesting knowledge. It would take far more space than is here available to describe bird-architecture with regard to this one point of protection. Look at all the pictures of nests that you can, or, better yet, study real nests without disturbing the birds.

In the third place, a nest must be conveniently placed for procuring food both for the young birds and the parents, especially the former. Since nearly all land-birds, whatever their food-habits when adult, feed insects to their young, it frequently happens that the nesting-site of these birds seems to be selected rather for convenience in getting food than for safety. I recall a Crested Flycatcher, which built in an old apple stub only a few feet from the highway, in an open pasture, where insect food was abundant. Hardly a more conspicuous site could have been hit upon, but the naturally timid parent birds reared their young there successfully.

Parent-birds may have to go longer distances to seek their own food than that for the young. Try watching nesting-birds and see where they find food.

A nest is usually in two parts, an outer part, or foundation, and an inner part which is the nest proper. The outer part varies greatly in many cases, so that it would be difficult often, to determine the species to which a nest belongs by the foundation alone. The inner part is usually far more regular and of one type. One reason for this is that, when the nesting-site is once chosen, the nest is built of materials which are at hand. It is not safe, therefore, to describe the nest of a single bird, expecting all other birds of that kind to build exactly similar nests. This is an interesting point to study. You may find a lost letter, handkerchief, string, tissue-paper, or the like, woven into the outer part of a Robin's nest, giving it a strange, un-Robinlike appearance, but you will seldom find the inner part lacking the nicely-molded cup of mud which cements the structure firmly together.

Perhaps as helpful a way as any to learn to recognize nests is by a comparative study of the different groups of birds and the different kinds of nests which they build.

The best way, of course, is to watch birds building their cradles, but we are not often at hand to watch this interesting operation.

The following table is simply a guide to a comparative study of nests and nesting-data. The species given under each Order and Family, with one or two exceptions, are described and pictured in the Educational Leaflets published in *BIRD-LORE* during the last few years. Particular attention should be given to correlating the "condition of the young at hatching" with the "kind of nest." What birds are born naked or nearly so? What birds are ready to leave the nest shortly after hatching?

AN OUTLINE FOR A COMPARATIVE STUDY OF NESTS AND NESTING-DATA

SUGGESTIONS

See *BIRD-LORE*, May-June 1912, p. 179, and July-Aug. 1912, p. 239.

At this season, try to watch some pair of birds build a nest. The English Sparrow will do if no other birds are at hand; but remember this Sparrow is a slovenly nest-builder.

Try and see what materials the birds put into the nest, how the material is shaped into place, and which parent does the most toward building the nest.

Collect nests in the fall after the birds have gone, disinfect them thoroughly, and bring them into the schoolroom for study during the winter months.

References:

The Standard Library of Natural History, Vol. II.

Herrick: *The Home-Life of Wild Birds*.

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Rennie: *Bird-Architecture*.

Mitchell: *The Childhood of Animals*.

Pycraft: *The Infancy of Animals*.

Chapman: *Guide Leaflet No. 14 (American Museum of Natural History)*.

Note: On p. 126 of the Mar.-April *BIRD-LORE* 1913, read Salton Sea or Salton Lake for Salt Lake.

Where and what is Salt Lake, Texas?

Where is the Great Salt Lake, and is it frequented by birds?

FROM YOUNG OBSERVERS

A Junior Protectionist

The Aldie School has an Audubon Society. There are twenty-four members.

We have pictures of birds, which we color. I have seen all of the birds that we have colored except one, and that is the Carolina Wren.

We have saved the birds by giving money to feed and take care of them. I put up some tin cans for the birds to build in. We put up wires and put food in them, and we tacked boards up on the schoolhouse and put crumbs out for the birds. Birds are very useful to people, and I think it is a cruel thing to kill them. They do the farmers a lot of good. They eat the worms and bugs that kill the crops.

The Bird Society is to keep people from killing the birds. They have lots of dangers. Men kill them, cats eat them, and dogs kill them, too; some boys and girls steal their eggs and nests.

I have been trying to save the birds that come near my home by feeding them and putting up bird-houses. I like to feed the birds so they won't die through the long cold winter, and that they may live in peace so they will be ready for their busy work.—DOROTHY MOORE (age 10), 3d Grade, *Aldie, Va.*

[This earnest letter from one of our youngest Audubon members rings true to the principles of conservation. If each good citizen in the land could say with this little girl: "I have been trying to save the birds that come near my home by feeding them and putting up bird-houses," how nearly the goal of bird-protection would be reached! —A. H. W.]

FROM ADULT OBSERVERS

Long-wings

Last October, the eleventh, was a misty day, and at nightfall some people heard a slight sound outside. Opening the door and turning on the light, as they said, in flew a Herring or Harbor Gull. He was captured and put into a box with a wire screen in front. At first he would not eat, as he feared the people, and still more the cats and dogs, as they appeared and reappeared, and he shrank back in his little box. After a day or two, he decided to make the best of an unpleasant situation, and he would even eat from the hand a little bread and a few kernels of corn.

To keep a protected bird in confinement requires a permit, in our state, and so, by gifts of bird pictures and other valuable considerations, the people were induced to permit us to get the permit, which was secured from Dr. Field, chairman of the Fish and Game Commission. Long-wings bit sharply at the gloved hands that removed him from the box where he had spent five days, but, when released into a house sixty feet long where he was to enjoy the company of seven fowls and many visitors, he showed pleasure by rising again and again about three feet into the air and waving his wings. This graceful movement was his favorite exercise, being deprived of swimming facilities.

His first bath in a dish-pan was satisfactory, and, when a larger bath was secured for him after several days, he would not try that, but waited all day for the dish-pan to be restored. Both wings were found to be wounded, and at times the feathers of the breast would be much stained with blood; at other times there would be only a slight pink stain, which shows still after nearly four months. When the wounds seemed to be at their worst, he would carefully soak them and arrange the feathers about them in his daily bath. When all was finished with great care, his whole bath and feather arrangement taking sometimes two hours, his appearance was perfectly neat.

When first seen, Long-wings was entirely white on head and neck, but, on the morning of October 17, some minute specks of silver were seen on head and neck, and in a few days he was in full winter plumage, as described in Reed's Bird Guide. We named him Longipennes, or Long-wings for the Order to which he belongs, as that name best described a bird which surprised people here especially when he stretched out his wings, for, living a hundred miles from the ocean, few had seen any of this order of birds. The game warden calling to inquire for his health, said: "How is *Larus*?" The family name *Laridae* and the generic name *Larus* refer to "fat," and the specific name *Argentatus* seems to describe not only the silver mantle covering the back, but a certain silvery whiteness which is most clearly seen when the bird is flying.

In two days' time, Long-wings would fly toward anyone and eat cautiously from the hands. The fowls were considerably surprised and fearful at his flying, but, when he was standing, they would approach and desire to eat with him. His conduct toward these low-caste birds was exemplary. He never interfered with them, only as they tried to appropriate his food-supply, then, with dignity, he would very quietly remove a feather from the intruder's tail. However much food he had, he would not permit any familiarity. But Chanticleer, gaining courage, would try to find him in some disadvantageous position, as when he had just alighted upon the floor and was getting his balance. Long-wings would stretch out his bill and open it, and this was at first sufficient. When this was not enough, a slight, sudden, threatening movement of the wings would scare the beautiful cock and send him to his harem to explain. One day, the aid of the six females was secured, all falling on Long-wings as he alighted on the ground, and

with loud "cacks," and bill extended, he was obliged to retreat. He learned to spend most of his time on a box at the west window and on a barrel at the south window, partly, probably, because he saw some pestiferous rodents come to those places, and partly, since these places afforded a good outlook for enemies. He soon became lame, especially mornings, and Dr. Marshall said it might be from sitting on hard boards. Boxes full of sawdust were placed on his resting-places, and he immediately accepted these, after which no lameness was seen. If a light was brought near him, after dark, he was always sure to leave his place and become confused, groping about and taking hold of things with his bill, as if to ascertain where he was, and no amount of trying to light him back to his place availed. But, approached in the darkness, we found him quiet when we were near enough to hear him breathe. On a moonlight night, our sudden appearance at the window sent him quickly from his place to the floor.

Miss Alice Teele came to take his picture one day at 11 o'clock, but he had been in his bath and was a little wet, and no choice food, of which he was in need at the time, would induce him to leave the west window, where he was arranging his toilet to come into the sun at the south window. After we had waited an hour for him to arrange his feathers, the doctor appeared with a determined air, and caught him quickly by the sides, so that he could not beat his wings, but could only try to bite and call "cack." One would suppose from the tones that he could never survive this indignity. But, being tossed upon the barrel where he was wanted, he showed his usual adaptability by standing right there and coolly finishing his toilet, after which he ate and had his picture taken.

In food, this bird had decided preferences. We think he has never eaten vegetable food when he could get animal food. He preferred fasting considerably before eating vegetable food. He rejected carrots and beets, ate cabbage, and much pre-

ferred potatoes and turnips nicely mashed and buttered to whole ones. He ate bread, clear butter, and grease, but did not seem to prefer sweet cake to plain bread, as many birds do. Cheese, which he had evidently not seen before, was carefully tasted, then eaten greedily. Cheese curds he seemed acquainted with, and milk and boiled eggs were relished. Dead mice were quickly discovered as soon as shown at a distance, and disposed of, and once he was seen pointing at a live squirrel, which got away before it was caught. The professor's wife brought him a bag of half-grown rats. It was after he had eaten a meal. He grabbed one by the middle, as if he were in the habit of thus shutting off the air from the base of the lungs, turned it about till he got the head, then swallowed it whole, taking a second rat immediately after. Trying to swallow a third, the tail of the second remained in his mouth, and though he picked up the other and dipped it in water, he could not make room for it. But next morning he swallowed the other three, making about fourteen ounces. As he had weighed himself by stepping on some scales placed in his way, and weighed two and a half pounds, his breakfast weighed about a third as much as he; as though you who weigh a hundred and fifty pounds were to eat a fifty-pound breakfast. Farmers admired his beauty more after hearing of his taste for rats and mice, although some ladies did not. To the normal mind, what does good looks good. A rat and a herring were laid side by side. Long-wings picked up the rat first, then laid it down and took the herring. The herring was taken away, and he quickly swallowed the rat, after which he picked the herring to pieces and ate that. When less hungry, he liked to take smaller mouthfuls. In swallowing large rodents, he seemed nearly choked, breathed hard, twisted his neck, body, and tail, and the feathers of the nape, as if to fill out every available space in the place where his food is packed. Long-wings swallowed a red squirrel which had been shot three days. The hind legs and tail were found disgorged, and

afterward these disappeared again. Fur, teeth, claws, and bones were disgorged as pellets, and the scales of fishes were found made up in a pellet. To see if he had any egg-eating habit, he was shown a hen's egg and a robin's egg on the dish with his food several times. He did not notice them. This was conclusive, as he saw the animal food which he liked at a distance of forty feet, and flew quickly toward us when hungry. One day, a hen's egg was laid by his dish when he was not hungry. After a while he seized it, as he had a habit of seizing sticks, feathers, and other things in his bill when not hungry, and started to walk off. He was surprised at the unusual tone in which he was told to "drop it," and laid it down unbroken in the dish.

Long-wings had never shown the slightest disposition to get out of the house, although the door had often been left open to test him, but he would fly past the door and alight on his box. Being in Boston on business connected with continuing the protection of his kind, I had just consulted the state ornithologist, Mr. Forbush,

about whether it would be safe for Longwings to go in the spring. Meanwhile the supply of choice viands had given out, and on the afternoon of February 6, a strong northwest wind was perhaps making him restless. The door being opened, he shot through it, rose a dozen feet towards the southwest, then turned to the southeast, rising, when he seemed to be sure of his direction, and sailed at great speed directly southeast toward Providence, which the map shows to be exactly southeast of us and our very nearest sea-coast. At that rate, the man who saw him fly said he would be at Providence in an hour.

The intimate acquaintance with this bird from the ocean has deepened the interest of all the people of the village in all nature, and his life-history amid mysterious deeps, and then as a recipient of our attention, is an occasion for never-ending wonder.—E. O. MARSHALL, *New Salem, Mass.*

[This correspondent is now taking care of a Holbœl's Grebe which was found exhausted.—A. H. W.]



MEADOWLARK

Photographed by G. A. Bailey, Genesee, N. Y.

THE GREEN HERON

By T. GILBERT PEARSON

The National Association of Audubon Societies

EDUCATIONAL LEAFLET No. 66

The Green Heron is the smallest North American member of that sub-family of birds sometimes called True Herons. From tip to tip the expanse of wings of one of ordinary size is two feet. When the bird stretches its neck to its greatest length, the distance from the end of its tail to the point of its bill is seventeen inches. Its legs, like those of all Herons, are sufficiently long to enable it to wade in shallow water. These are destitute of feathers along the greater part of their external length, which is a characteristic common to all birds which are in the habit of wading much in the water. The bill is long and very sharp at the end.

Many species of Herons inhabit chiefly extensive marshes, the shores of lakes, large streams, or the vast swamps of the South. The Green Heron,

Habitat however, by no means confines its travels or stopping-places to such localities. Wherever ponds, creeks, or even small branches occur, especially if these be in open country, there you are likely to find this bird. Because, therefore, of its general distribution, more people probably have a bowing acquaintance with the Green Heron than with any other member of the family. It is in part nocturnal in its habits, and in many regions of the United States it is not uncommon to hear its guttural note when, on still summer nights, it wings its way across the country from one feeding-range to another. If you chance to be working your way along a creek bank, you may startle the bird from its roost in the willows or from its feeding-place among the rushes or tall grass growing in the shallow water. On such occasions it will fly away with a startled cry, sometimes passing entirely out of sight, but, if not unduly alarmed, will often alight on some tree or snag nearby and, with jerking tail and raised crest, proceed to survey the intruder with ill-concealed disapproval.

The writer well recalls the first Green Heron's nest he ever saw. This was down in the pine barren regions of central Florida. The country is here largely underlaid with soft limestone, through which a network of underground streams gurgle along their subterranean courses. Here and there the soft rock becomes disintegrated and washed away to such an extent that the earth above gives way and falls into the cavern beneath. Thus are formed the many "natural wells" and "sink-holes" which one finds scattered about through the country. It was in a bush growing from the side of the rock, and hanging over the water in one of these sink-holes, that a pair of Green Herons, long years ago, built the



GREEN HERON

Order—HERODIONES

Genus—BUTORIDES

Family—ARDEIDÆ

Species—VIRESSENS

National Association of Audubon Societies

loose platform of twigs which served for a nest. Day after day, when I crept cautiously to the brink and looked down, I could see one of them sitting on the green eggs forty feet beneath me. Below the nest, the still water of the sink was never ruffled by a passing breeze, and from its depths frogs and small turtles climbed to projecting bits of rock, and added the only touches of life to the weird scene.

A mile away, in a small water oak tree growing in an abandoned field, I found another nest the succeeding year. Possibly it was built by some of the young hatched in the deep shadows of the sink. There was no way to approach this nest without the birds discovering the intruder long before the tree was reached. Twice we visited the spot, and each time the parent bird which was at home departed hastily when we were within a hundred feet of the tree. It is not good to disturb birds too frequently when they have the care of their eggs or young, so we did not go near the tree again until the young had flown. Although the nest was so frail that one could see the eggs through the twigs from the ground below, it must have been securely built, for much of it was still in position the next spring when we again went to the old field, hoping that the Green Herons might still be using the tree as a nesting-place.

In the edge of the lake nearby, there grew thickly clustered many tall buttonwood bushes, in which, each April, were built the nests of a colony of

At the Lake Boat-tailed Grackles, those large, shiny, black birds common in that region of the far South. One spring a pair of Green Herons made their nest here and, despite the great noise and clatter which always prevails in a Blackbird colony, they appeared to find the location quite to their liking, for later the young were seen with their parents along the shore.

If you should chance some summer to visit the farm of Mr. Alden H. Hadley, in Indiana, he would probably take you out to his large apple orchard and there show you six or eight nests of the Green Herons. For many years, this little colony has gathered here each season when the birds return to the North after the snows have gone. Nearby there flows a small stream along which the birds gather their food, chiefly by night. Up and down the stream, across fields and through the woods, the birds follow its winding course, collecting the minnows, frogs, grasshoppers and various water insects and crustaceans which they delight to eat.

Perhaps a more striking example of this bird's tendency to rear its young near the abode of man is shown by the fact that, in Pelham Bay Park, within the limits of Greater New York City, a little colony of four or five pairs have for several years selected an old apple orchard in which to make their nests and hatch their young.

Thus we may see that the Green Heron has a wide range of suitable places to select for nest-building. Often the nest is far from any pond or lake, and frequently it is found singly, with no other Heron's nest near. Yet this

is by no means always the case. Go to the great colonies of nesting Herons and Ibises in the southern swamps and, among the hundreds, or often thousands, of birds collected here, you will find now and then a nest of the modest little Green Heron occupying some inconspicuous spot in one of the willow or cypress trees.

Every bird in the world, as probably every other wild creature, has its natural enemies. Something is ever on the alert to prey upon it. Every

**Natural
Enemies** Sparrow, Wren, Warbler, Thrush, Hawk, and even the resourceful and powerful Eagle, must keep a sharp lookout that some foe does not catch it or destroy its eggs and young. The

Green Heron is no exception to this rule. Foxes, also minks and weasels, possibly catch this bird now and then. The nesting season, however, must be the period of greatest anxiety for them. Although the cradle for the eggs is always well hidden in the rushes or among the foliage of bushes and trees, it is nevertheless often discovered by sharp-eyed wild hunters when out in search of good things to eat. Crows, which know so well how to look out for their own interests, every year steal many Herons' eggs from the nests. The Fish Crow, which is a slightly smaller bird than the common Crow that is usually seen, and which is particularly numerous along the seacoast, as well as in the neighborhood of large ponds, lakes and rivers, is a wonderfully successful egg-hunter. When this bird goes out for an omelet, it flies across the country or slips through the trees in a most crafty and silent manner. Finding a Heron's nest, it will cunningly withdraw, and return at a time when the parent bird is temporarily away, taking a rest or looking for food.

Then comes the Crow. With a strong, plunging stroke it will dive its bill into an egg, and fly off with it without a sound. Often it will alight on the limb of some tree nearby and proceed at once to enjoy its repast. Sometimes, however, it will fly a long distance with its booty before stopping. Once I saw a plucky Kingbird attack a Crow which was carrying on its bill a Green Heron's egg. The fierce little black fighter boldly attacked the marauder, which was many times its size, and drove it for fully a quarter of a mile. The Crow flew with all its power in its efforts to get away from its tormentor. The Kingbird followed fast, and frequently ranging along above it would dart down at the head and back of the Crow. In desperation, the egg-hunter finally dropped its load, and at length escaped to the friendly shelter of a thick pine tree. The egg chanced to fall into a pool of water, and I picked it up unbroken. In one side was a hole about the size of the end of a man's finger. This had been made by the bill of the feathered robber.

When the Green Heron builds its nest in bushes growing over or near the surface of a pond or lake, there is always danger from water moccasons, which are very fond of birds' eggs, and, when hungry, they often make sad work in the small Heron's nest.

It is a perfectly well understood fact that there would undoubtedly be

many more of these interesting birds if they were not so constantly persecuted by their human neighbors. Green Herons sometimes come to ponds where fish are being propagated, and cause the owners annoyance by eating many of the young which have been hatched and are being raised with so much care. This very naturally causes the fish-raiser to become worried, and sometimes he gets his gun and shoots the birds. From the data which it has been possible to gather, we now believe that Green Herons, as a whole, do comparatively little damage, but that, on the other hand, they may render mankind a distinct service. Quite apart from seeking revenge from any real injury which they do about fish-ponds, many men shoot them whenever they get the opportunity for the mere pleasure of seeing if they can hit the birds. Many thoughtless and ill-trained boys have been known to kill these trusting birds with little rifles, all of which is wrong.

Another influence which has tended to decrease their numbers has been the craze which many boys have possessed for collecting all the birds' eggs they could find. They have taken a peculiar pleasure in this pursuit, and so extensively has the practice been carried on in many localities that Green Herons, as well as other birds of the region, have been largely depleted in numbers. Collecting eggs should never be indulged in except by persons whose real scientific interest in the subject is sufficient to warrant the state authorities in granting them a license for the purpose. Even then, the collecting should not be carried on to an extent which will be appreciably injurious to the well-being of the birds.

In most of the states in the Union, it is now against the law to kill Green Herons except under permits granted by the state authorities, and all right-minded persons should unite in giving these statutes their most hearty support.

The Green Heron is classified as belonging to the Order Herodiones, the Sub-order Herodii, Family Ardeidae, and the Sub-family Ardeinæ. It is found in many suitable localities from Oregon and Ontario southward to the West Indies and Venezuela. Besides the eastern form, to which this leaflet especially refers, two geographical races or sub-species are recognized by ornithologists: Viz, Frazar's Green Heron (*B. v. frazari*), a slightly larger, darker form from Lower California, and Anthony's Green Heron (*B. v. anthonyi*), a pale desert race occurring from northern California, southward through arid Mexico.

THE ALASKA LONGSPUR

By E. W. NELSON

The National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 67

The Lapland Longspur is a circumpolar bird, whose presence has been recorded in summer from many points visited by explorers in the treeless Arctic regions. It nests in Iceland, Greenland, and a majority of the islands of the icy sea north to 73 degrees of latitude, as well as on the mainland. Owing probably to some climatic influence, the Longspurs which breed west of the Mackenzie River and throughout Alaska, as well as on the Aleutian and other islands of Bering Sea, are paler than those from the rest of the great range of this species, and have been distinguished as a geographic subspecies called the Alaska Longspur (*Calcarius lapponicus alascensis*). These Longspurs throughout their range, however, are so nearly alike in appearance and habits that in the present sketch they have been treated as one. In Alaska, they are extremely abundant and familiar birds on practically all of the treeless tundras or Arctic barrens. They are perhaps most numerous on the mainland everywhere in suitable places, but are also common on the islands of Bering Sea. It is known in these northern haunts only in summer. During this season, it breeds from Kadiak Island north to Point Barrow.

The males reach Dawson, on the Upper Yukon, from the 5th to 18th of April in nearly perfect breeding plumage. There appears to be no spring molt of these birds, but they attain the breeding dress by the wearing away of the light edgings of feathers characteristic of the winter plumage. At the same time, remaining parts of the feathers appear to become brighter and richer, as though suffused with added coloring matter. There is considerable individual variation in color, due to a greater or less intensity rather than to any change in pattern.

During the last days of April or first of May, they arrive at St. Michael, on the coast of Bering Sea, and are known to reach southern Greenland at about the same time. Murdock tells us that they are abundant in summer at Point Barrow, where they arrive about May 20. The first eggs are laid there by the beginning of June, and they migrate southward the last of August or first of September. On the western Aleutian Islands, Dall found them to be abundant summer residents, and discovered a nest with four much-incubated eggs June 18. They leave these islands in winter, and I may add that I do not know of a winter record from any part of Alaska.

During the summer of 1881, I found them nesting on St. Lawrence Island, in northern Bering Sea, on both sides of Bering Strait, but saw no trace of them on Wrangel and Herald Islands. They are well known and abun-



ALASKAN LONGSPUR

Order—PASERES Family—FRINGILLIDÆ
Genus—CALCARUS Sub-species—LAPOONICUS ALASCENSIS
National Association of Audubon Societies

dant on the Fur Seal Islands, where they are the most beautiful songsters among the limited number of land birds summering there. They winter through parts of central Europe and middle Asia to Japan, and through the middle northern United States, mainly from the Great Lakes to Oregon and Washington, and sometimes ranging to Texas.

Early in May, the tundra on the Alaskan coast of Bering Sea is still mostly covered with snow, except in grassy spots on southern exposures and other favorably situated places. Here the first male Longspurs suddenly appear in all the beauty of their summer dress. At this season, the males are beautiful birds, the head and breast being jet-black with white or buffy stripes back of the eyes, the back of the neck bright rufous, and the back streaked with black and brownish. The females, as usual among birds, are more obscurely marked, and reach the breeding-ground a little later than the males. They arrive on the coast of Norton Sound in flocks and spread rapidly over their breeding-ground. Despite the bleak surroundings and chilling winds, they are soon abundant after the first arrivals, and by the middle of May are in full song. As if conscious of their handsome appearance, the males choose the tops of projecting tussocks, rocks or small knolls, the only breaks in the monotonous surface, where their bright colors render them conspicuous.

The Lapland Longspur is one of the few birds, which, like the Skylark and the Bobolink, is so filled with the ecstasy of life in spring that it must mount into the air to pour forth its joy in exquisite song. The males are scattered here and there over the tundra on their chosen projecting points, and at frequent intervals mount slowly on tremulous wings ten or fifteen yards into the air. There they pause a moment and then, with wings up-pointed forming V-shaped figures, they float gently back to their perches, uttering, as they sink, their liquid notes, which fall in tinkling succession on the ear. It is an exquisite, slightly jingling melody, with much less power, but slightly resembling the song of the Bobolink. It has more melody than the song of that bird, and is so filled with the joyous charm of springtime that no one can hear it unmoved. The period of song ends soon after the first of June, when the eggs are being incubated. By the last of May, each songster has his mate, and they build a snug nest, well located in the heart of a sheltering tussock or on a dry knoll, in which are placed from four to seven eggs. During my residence at St. Michael, I examined many nests, and the number might readily have been doubled. One could scarcely walk about the tundra for half an hour during the proper season without finding from one to half a dozen of them.

The nests are generally built in the driest parts of the tundra, in a hummock, a tuft of grass, or perhaps a little bunch of dwarf willow. As one comes upon it, the female usually flutters off at one's feet, and is immediately joined by the male. Both hover about or fly restlessly from tussock to tussock, uttering protests at the intruder as long as he remains in the vicinity.

If the eggs are nearly ready to hatch, the female shows the greatest solici-

tude, and when the young have hatched, her anxiety is still more pronounced. In one instance, the female was frightened from her eggs just as they were about to hatch, and ran along the ground a few yards uttering a plaintive *chee-chee-chee* in a fine vibrating metallic tone, at the same time dragging her outspread wings and tail on the ground and fluttering as though in mortal agony.

The nests vary in size, but average about two and three-fourths inches in depth by five inches across the top on the outside, and the central cavity about two inches deep and three inches across the top. The walls are sometimes thick and strong, composed of an abundance of material, or may be a mere cup-shaped shell, barely sufficient to hold the eggs. The majority of nests are composed of rather coarse grass, sometimes with moss interwoven, forming a thick layer, which was frequently found to be as thoroughly water-soaked as a wet sponge. The amount of material used depends greatly upon the locality; in damp places a much greater amount is made use of, while in dry places the nests are much lighter. Though the outer part of the nest is frequently formed of old and often grimy or partly decayed vegetable matter, the interior invariably contains fine, soft, yellow blades of last year's grasses. These, in many instances, are unmixed with other materials, but are sometimes combined with feathers of Ptarmigan or other wild-fowl. In a few cases, the lining of the nests examined by me were made of a warm cup of feathers inclosed in fine grass, and one had a thick lining of feathers and dog's hair. Some nests are so small that they may be inclosed in the hand, while others can scarcely be inclosed in both hands; one of the smallest nests might be easily inserted in the cavity of a large one. The largest nest I found contained the largest eggs, and probably belonged to an unusually large bird. The eggs are heavily covered with blotches and zigzag lines of various shades of brown, and the ground-color, when visible, is a light clay with a pale greenish tinge.

The last of June or first of July, the partly fledged birds have the feathers of the crown, back, rump, breast, and throat with black or very dark-brown shaft lines, which, on the breast and throat, are narrowed to about one-third the width of the feather. On the crown and back, the black central markings occupy over half this width. The feathers of the crown are edged with a dingy, yellowish buff; those on the nape, with the grayish or dull ashy; and on the back and rump, with a dingy yellowish gray or buffy. There are two indistinct white wing-bars. The edges of breast feathers are soiled yellowish, with a wash of the same on the feathers of the entire under surface. This state of plumage is scarcely attained before it begins to give place to the fall and winter dress with which we are familiar, when the birds come trooping down to the northern United States from the North at the commencement of winter. Beginning on the lower parts, the feathers are gradually molted and replaced, the change extending slowly toward the bill. I am inclined to think that the molt commences about the tail and rump. It begins the last of

July and first of August, at which time the old birds are already far advanced in their autumnal change. Adult males were found with nearly complete winter dress on July 22, and probably some change even earlier than this. They usually begin to move South before they have fully molted, so that only the comparatively few individuals which have completed the molt in September are found in perfect winter dress on their northern breeding-grounds. The young are out on the wing sometimes as early as the first of July, but more generally by the tenth of this month, from which time they unite in small bands, most of them on the open plains, but many frequenting the vicinity of the trading-posts and native villages. They remain in great abundance until the last of August or first of September, when they commence their straggling departure for the South. While in the neighborhood of houses, they are extremely heedless of the presence of people, and are nearly as familiar as are the English Sparrows in our cities. By the first of October, the last one has passed away toward the South, and none are seen until returning spring brings them North again.

In winter and early spring the Longspurs are very common over the prairie states of the upper half of the Mississippi River drainage, and thence west to Oregon and Washington. A vivid idea of the vast number of these birds in the aggregate is given by Dr. T. S. Roberts's account in *The Auk* for 1907 (pp. 369-377), of the enormous number which perished during a storm in northwestern Iowa and southwestern Minnesota the night of March 13-14, 1904. In two square miles of icy surface on two small lakes, Dr. Roberts thinks nearly a million birds lay dead, and he estimates that in the vicinity probably a million and a half birds perished that night. These birds had been caught in a storm of wet snow while migrating and, as the total area over which their bodies lay scattered exceeded 1,500 square miles, it is evident that the number killed must have gone into the millions. Such catastrophies as the foregoing must not rarely overtake birds like these, which live on open shelterless plains and exist so closely on the borders of winter. The wide extent of their breeding and wintering grounds, however, insures them against any serious danger to the species from local causes, no matter how destructive these may be.



The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 974 Broadway, New York City

WILLIAM DUTCHER, *President*
THEODORE S. PALMER, *First Vice-President* T. GILBERT PEARSON, *Secretary*
F. A. LUCAS, *Second Vice-President* JONATHAN DWIGHT, Jr., *Treasurer*

Any person, club, school, or company in sympathy with the objects of this Association may become a member, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

\$5.00 annually pays for a Sustaining Membership
\$100.00 paid at one time constitutes a Life Membership
\$1,000.00 constitutes a person a Patron
\$5,000.00 constitutes a person a Founder
\$25,000.00 constitutes a person a Benefactor

A Great Year for the Birds

The legislatures of about forty states in the Union meet in 1913. At this writing the sessions in most of the states have closed. The year has been marked by a large amount of activity in reference to the laws which make for the protection of wild birds and animals.

As usual, there have been numerous attempts to provide more liberal seasons for the shooting of ducks and other wild fowl. These have nearly all been defeated by the friends of bird-protection. After a most extensive campaign in Massachusetts, the several bills of this character were all disposed of in a satisfactory manner.

In New York State the pressure brought to bear against the proposed laws to permit the January shooting of ducks on Long Island was sufficiently effective to cause the authors of these bills to withdraw them. Other measures of a harmful character were pretty generally killed in legislatures throughout the country.

On the other hand, a great many bills were introduced for the further protection of birds, and an unusually large number of these have been enacted. On April 22, Governor Tener, of Pennsylvania, signed the Jones Bill, Senate 46, thus ending the long and hard-fought campaign in behalf of this measure. The result not merely gives Pennsylvania a plumage law as

beneficial as those of New York and New Jersey, but the campaign in its behalf has been one of education and awakening to the people of Pennsylvania on the subject of the economic value of birds and the necessity for their conservation, such as the state has not before seen.

Notwithstanding the repeated misrepresentations regarding the bill made by its opponents, it passed the Senate on March 10 by a unanimous vote, and on April 8 went through the House of Representatives 174-0. The city of Philadelphia will thus be cut off as a market for the sale of aigrettes after July 1, 1914.

A law prohibiting the sale of aigrettes has also been passed in Michigan. Vermont adopted the New York law, making illegal the sale of the feathers of all wild, protected birds, as well as the feathers of all other birds, regardless of where they were taken, providing they belong to the same family as protected species in that state.

In North Carolina, the Audubon Society's bill to protect Robins became a law for the counties of Halifax, Franklin, Buncombe, Mecklenburg, Hertford, Rowan, Madison, Guilford, Rockingham, Union, and Moore. For a long time it has been practically impossible to get a state-wide game law of any character in North Carolina, and any advancement in the direction of bird-protection has to be made by counties.



PETITION OF THE SCHOOL CHILDREN OF ST. PETERSBURG, FLORIDA, IN
BEHALF OF THE ROBIN



BIRD-BOXES MADE BY THE BOYS OF SIAM JUNIOR AUDUBON CLASS
ORGANIZED BY MR. GEORGE D. SHAWLEY, OF BROOKLYN, MICH.

These boxes were made from sections of an old wooden pump

In Congress the passage of the Weeks-McLean bill, which gives the Agricultural Department authority to regulate the seasons when migratory game birds and insect-eating birds may be killed, is a long step in the right direction. While this is by no means a panacea for all the ills of bird-slaughter, it will in many parts of the country have a most wholesome moral effect.

At the present time it appears altogether probable that the proviso in the Tariff Bill which intends to prohibit the importation of the feathers of wild birds except for educational and scientific purposes, will become a law. The effect of such a statute would be very far-reaching, and the progress of the Tariff Bill through Congress will be watched with great interest by bird-protectionists everywhere.—

T. G. P.

New York and Florida

Information recently reached the office of the Association to the effect that the Transvaal Feather Company of New York City was violating the plumage law by selling aigrettes. As a result of a little detective work on the part of a member

of the Association staff, this firm was trapped and a stock of some thirty dozen aigrette plumes was confiscated and action brought against the firm.

This case was settled by the Transvaal Company out of court by the payment of a fine of \$150 and the confiscation of the plumes.

Through the activity of the St. Petersburg Auxiliary of the Florida Audubon Society, a petition signed by the local school children, seventy feet in length, was sent to the Legislature. Prizes were offered to the pupils securing the largest number of signatures. First prize was awarded for a list of 1,286 names and the second for a list of 1,064 names. All the separate lists, when pasted together, measured over seventy feet in double column of names. Therefore, in single column the length of the petition would have been one hundred and forty feet.

The petition was to place the Robin on the list of birds protected by law at all times in Florida. The bill passed the Legislature on May 20, 1913.

In the picture the little girls standing on the ladder are the winners of the prizes for the largest lists of signatures, Eva Hardee and Lenora Pearce; and from left



AIGRETTES SEIZED IN RAID ON TRANSVAAL FEATHER COMPANY



to right, standing, are shown: Miss Austin, Fifth Grade Teacher; Mrs. Barton, Secretary of the St. Petersburg Audubon Society; Mrs. Tippetts, President of the Society; and Miss Balsley, Fifth Grade Teacher.

**List of Contributors to the
Egret Fund**

Below is given a list of the contributors to the Egret Protection Fund since the last issue of *BIRD-LORE*.

Previously acknowledged.....	\$4,296 76
Anderson, Gen. George J.....	5 00
Anonymous.....	110 00
Armstrong, Mr. C. D.....	5 00
Auchincloss, Mrs. E. S.....	10 00
Baird, Jr., Mr. Thomas E.....	5 00
Barber, Mrs. H.....	5 00
Barhydt, Mrs. P. Hackley.....	10 00
Barnhart, Mrs. F. P.....	1 00
Berlin, Mrs. C. D.....	1 00
Bernheimer, Mrs. J. S.....	10 00
Bignelle, Mrs. E.....	1 00

Amount carried forward..... \$4,459 76

Amount brought forward.....	\$4,459 76
Bindley, Miss Cornelis McK..	10 00
Bonham, Miss Elizabeth S....	5 00
Bonham, Mrs. Horace.....	5 00
Boynton, Mrs. C. H.....	1 00
Brazier, Mr. H. Bartol.....	2 00
Brooks, Mr. S.....	5 00
Brown, Mr. D. J.....	2 00
Brown, Mrs. Wilda L.....	1 00
Burden, Mr. James A.....	10 00
Burnham, Mr. William.....	10 00
Burpee, Mr. David.....	1 00
Burpee, Mr. W. Atlee.....	5 00
Button, Mr. Conyers.....	15 00
Caesar, Mr. H. A.....	1 00
Cammann, Mr. K. L.....	5 00
Carse, Miss Harriet.....	2 00
Church, Mr. C. T.....	5 00
Clinch, Mr. Edward S.....	5 00
Codman, Mr. J. S.....	2 00
Colby, Mr. Howard A.....	5 00
Convers, Miss C. B.....	2 00
Crabb, Miss Eliza T.....	2 00
Curie, Mr. Charles.....	10 00
Curtis, Mr. Charles P.....	5 00
Curtis, Miss L. A. & Mildred.	4 00
Davis, Mr. Gherardi.....	10 00
Davis, Dr. Gwilym G.....	2 00
Davis, Mrs. John V.....	5 00

Amount carried forward..... \$4,596 76



JUNIOR AUDUBON CLASS ORGANIZED BY MRS. H. J. PRICE
MORRISTOWN, TENN.

This class has been increased in size and now numbers twenty-three

Amount brought forward.....	\$4,596	76
Day, Miss C. E.....	2	00
de Forest, Mrs. Robert W.....	5	00
Detroit Bird Protecting Club.....	5	00
Dickerman, Mr. W. B.....	25	00
Douglas, Mrs. James.....	10	00
DuPont, Mr. F. A.....	10	00
Durham, Mr. J. E.....	1	00
Eddison, Mr. Charles.....	5	00
Ellis, Mr. William D.....	10	00
Enos, Mrs. Frank.....	1	00
Fairchild, Mrs. Charles S.....	5	00
Fergusson, Mr. Alex C.....	1	00
Foote, Mrs. Frederick Wm.....	2	00
Franklin, Mrs. M. L.....	5	00
Frothingham, Mr. John W.....	25	00
Fuguet, Mr. Stephen.....	5	00
Fuller, Mrs. Eugene.....	2	00
Gault, Mr. B. T.....	2	00
Goehring, Mr. J. M.....	5	00
Greenwold, Mr. J. William.....	5	00
Greer, Miss Almira.....	5	00
Hacketston Bird-Lovers.....	47	50
Hager, Mr. George W.....	2	00
Hamerschlag, Mr. E. A.....	5	00
Harvey, Mr. J. S. C.....	20	00
Heide, Mr. Henry.....	10	00
Hering, Mr. W. E.....	5	00
Herpers, Mr. Henry.....	2	00
Higginson, Mrs. J. J.....	10	00
Horr, Miss Elizabeth.....	5	00
Hoyt, Miss Gertrude L.....	5	00
Hungerford, Mr. R. S.....	10	00
Hupfel, Mr. J. C. S.....	5	00
Irwin, Mrs. J. V.....	5	00
James, Mrs. Walter B.....	10	00
Jarves, Miss F.....	10	00
Jennings, Miss A. B.....	100	00
Jewett, Mr. George L.....	5	00
Johnson, Mrs. Eldridge R.....	5	00
Johnston, Mr. J. W.....	10	00
Kaighn, Mr. Robert.....	1	00
Kautz-Eulenburg, Miss P. R.....	5	00
King, Miss Ellen.....	25	00
Kleinschmidt, Miss Helen.....	1	00
Kuhn, Mr. A. K.....	5	00
Kuser, Mr. John Dryden.....	5	00
Lang, Mr. Henry.....	5	00
Lewis, Mrs. Herman E.....	5	00
Lydig, Mr. P. M.....	10	00
McCrea, Mr. W. S.....	5	00
McKim, Mr. LeRoy.....	5	00
McLemmon, Miss Isabelle.....	1	00
McPheeters, Miss Claudia.....	18	50
Marsh, Mr. J. A.....	5	00
Mason, Mr. G. A.....	5	00
Mason, Jr., Mr. H. L.....	5	00
Massachusetts Audubon Soc.....	5	00
Mellon, Mr. W. L.....	25	00
Metzger, Mr. William T.....	5	00
Migel, Mrs. M. C.....	2	00
Miller, Hon. Charles R.....	10	00
Miller, Mr. William P.....	2	50

Amount carried forward.....\$5,160 26

Amount brought forward.....	\$5,160	26
Morgan, Miss C. L.....	5	00
Morgan, Miss J. N.....	5	00
Moore, Mr. A.....	5	00
Morse, Mrs. James R.....	5	00
Mosle, Mrs. A. Henry.....	10	00
Mudge, Mr. E. W.....	25	00
Osborn, Mr. Carl H.....	2	00
Overton, Dr. Frank.....	5	00
Pagenstecher, Miss F.....	5	00
Parsons, Mrs. Edgerton.....	1	00
Patton, Mrs. Margaret S.....	5	00
Pearson, Mr. F. S.....	10	00
Penfold, Mr. Edmund.....	10	00
Perkins, Mrs. George W.....	10	00
Peterson, Mrs. Wilson.....	5	00
Phillips, Mr. John C.....	25	00
Post, Mrs. Charles A.....	5	00
Pott, Miss Emma.....	1	00
Powers, Mrs. John C.....	5	00
Procter, Mr. William.....	5	00
Proctor, Mr. William Ross.....	25	00
Purves, Mr. Pierre M.....	1	00
Pusey, Mrs. Howard.....	2	00
Putnam, Mrs. A. S.....	2	00
Reynolds, Miss Mabel D.....	2	00
Richard, Miss E.....	10	00
Richardson, Mrs. M. G.....	5	00
Robbins, Mr. Royal.....	10	00
Rodewald, Mr. F. L.....	5	00
Sabin, Mr. Joseph F.....	1	00
Saltonstall, Mr. John L.....	50	00
Sawtelle, Mrs. E. M.....	1	00
Sayre, Mrs. H. N.....	2	00
Scattergood, Mr. Henry W.....	5	00
Schultz, Mr. Charles S.....	1	00
Schwarzenbach, Mr. R. J. F.....	5	00
Sellers, Mr. Howard.....	10	00
Shaffer, Mr. C. B.....	25	00
Shaw, Mrs. John C. and Mrs. Winsor.....	2	00
Sheble, Mrs. Frank J.....	3	00
Shepard, Mr. Sidney C.....	10	00
Sherman, Mr. A. R.....	5	00
Shoemaker, Mr. Henry W.....	200	00
Simon, Mr. Herman.....	5	00
Sleight, Mrs. B. H. B.....	5	00
Snow, Mrs. Frederick.....	5	00
Somers, Mr. L. H.....	2	00
S. Boston Jr. Audubon Soc.....	2	00
Sparhawk, Mrs. Richard D.....	5	00
Steiner, Mr. G. A.....	10	00
Strong, Mr. Benjamin.....	5	00
Sturgis, Mr. F. K.....	5	00
Tate, Jr., Mr. J. M.....	1	00
Thaw, Mr. J. C.....	5	00
Thacker, Mr. Horace B.....	1	00
Thorne, Mr. Jonathan.....	10	00
Troescher, Mr. A. F.....	10	00
Tyler, Mr. George A.....	2	00
Underwood, Mr. William L.....	10	00
Vail, Mr. Philetus W.....	1	00
Van Santvoord, Mr. John S.....	5	00

Amount carried forward.....\$5,780 26

Amount brought forward.....	\$5,780 26
Van Wagenen, Mrs. G. A.....	1 00
Warner, Mr. R. L.....	2 00
Wasson, Mr. E. A.....	2 00
Wetherill, Mr. S. P.....	10 00
White, Mr. Horace.....	5 00
Williams, Mrs. C. Duane.....	50 00
Wilson, Jr., Mr. Alexander.....	5 00
Witherbee, Miss Elizabeth W.....	1 00
Wood, Miss Juliana.....	5 00
Wood, Mr. W. C.....	5 00
Wright, Mr. Charles A.....	2 00
Yarrow, Miss Mary C.....	10 00
Yeates, Mr. F. C.....	2 00
	<hr/>
	\$5,880 26

New Members

From March 1 to May 1, 1913, the Association enrolled the following new members:

Life Members.

Brown, Mr. T. Hassall
 Cabot, Mrs. A. T.
 Cutting, Mrs. W. B.
 Dane, Mrs. E. B.
 Dane, Mr. E. B.
 Farrell, Mrs. Franklin
 Ford, Mr. James B.
 Garneau, Mr. Joseph
 Hawkins, Mr. Rush C.
 New Jersey Audubon Society

Sustaining Members.

Abbey, Mrs. F. R.
 Allee, Miss Jean H.
 Aronstien, Mrs. S.
 Barr, Mrs. T. F.
 Bedford Audubon Society
 Blashfield, Mrs. Edwin H.
 Boland, Miss Mary
 Bolles, Miss D. F.
 Bond, Mr. S. N.
 Bosworth, Mrs. William W.
 Bradley, Mrs. D. Richards
 Brewster, Mr. R. J.
 Brown, Mr. F. Q.
 Brown, Mrs. F. Q.
 Bryant, Mrs. E. B.
 Bryant, Master Geoffrey
 Buel, Miss Katherine L.
 Bullard, Mr. Frederic L.
 Burchard, Mr. A.
 Burgess, Miss Sarah K.
 Chase, Miss Eliza M.
 Cheney, Miss Lillian F.
 Chilton, Mr. H. P.
 Closson, Mr. H. B.
 Coolidge, Mr. T. Jefferson
 Culver, Mr. Frederic
 Curry, Mrs. J. B.
 Cutler, Mrs. Roger W.

Sustaining Members, continued.

Dale, Mrs. Charles H.
 Davies, Mrs. J. Clarence
 Despard, Mr. C. L.
 Despard, Mr. W. D.
 Dexter, Mrs. Mary P.
 Dickinson, Mrs. C. P.
 Douglass, Mrs. Charles
 Drayton, Mr. J. Coleman
 Drew, Mr. John
 Eddy, Mr. William A.
 Edwards, Mr. Eugene P.
 Eimer, Mrs. Mary L.
 Erie County Bird Club
 Everett, Miss Leolyn L.
 Ferguson, Miss Frances
 Floyd, Mrs. W. T.
 Foot, Mr. Sandford D.
 Forbes, Mrs. Dora Delano
 Frearm, Mr. Edward M.
 Freund, Mr. John C.
 Galway, Mrs. James
 Garver, Mr. John A.
 Gibbs, Mr. George
 Gillette, Mrs. Curtenius
 Greeff, Mr. Donald C.
 Greene, Mr. A. E.
 Greer, Mr. Austin M.
 Gregory, Mr. C. F.
 Gregory, Mr. J. Raymond
 Goodwin, Miss Mary W.
 Harding, Mrs. J. H.
 Harker, Mr. Era
 Hart, Mr. A. W.
 Hartwell, Dr. J. A.
 Hawkes, Mrs. McDougall
 Hayden, Miss A. R.
 Hibbard, Mrs. Angus
 Hinckley, Mrs. M. V.
 Hodges, Mr. Harrison B.
 Howe, Mrs. Sarah P.
 Hunting, Miss Clara C.
 Jackson, Miss Elizabeth
 Jones, Mr. Alfred Winslow
 Jones, Mr. Joseph A.
 Jones, Mr. J. W.
 Jungbluth, Mr. Karl
 Keck, Miss M. V.
 Kennedy, Miss E. H.
 Kimball, Mrs. W. F.
 Kimball, Mr. Walter F.
 Kittredge, Miss Sarah N.
 Land, Mrs. William H.
 Latham, Mrs. Mary A.
 Lawrence, Mrs. John
 Lawrence, Mrs. J. M.
 Lester, Mr. Wm. C. and A. Edw.
 Levy, Miss Florence E.
 Linder, Mrs. George
 Merritt, Mr. Walter Gordon
 Miller, Mrs. E. C. T.
 Morison, Mr. Robert S.
 Morsemere Bird Club
 Munro, Miss Adelia
 Neilson, Mr. James

Sustaining Members, continued.

Ombaugh, Mr. Chester B.
 Osborn, Mrs. J. B.
 Parker, Mrs. Harrison
 Putnam, Prof. F. W.
 Raymond, Mrs. James
 Richards, Gen. John T.
 Scott, Mr. William G.
 Simonson, Mrs. Ethel B.
 Smith, Miss Lillian
 Snyder, Miss Mary L.
 Stone, Mrs. H. F.
 Suter, Mrs. C. R.
 Vanderhoof, Mr. William M.
 Wane, Mr. George C.
 Wearne, Mr. Henry
 Weber, Mr. R. H.
 Webster, Mrs. E. H.
 Wendell, Miss B. H.
 Wheeler, Mr. C. W. B.
 Whittemore, Mrs. J. H.
 Williams, Mrs. C. D.
 Williams, 2nd, Mr. Richard A.

New Contributors

Appleton, Mrs. W. C.
 Benjamin, Mrs. John
 Bostwick, Mrs. George W.
 Brock Brothers
 Brown, Mr. Irving Swan
 Burton, Mrs. E. F.
 Channing, Miss Eva
 Cobb, Mr. Edward H.
 Curtis, Mrs. F. R.
 Duff, Mrs. M. E.
 Farrell, Mrs. C. P.
 Field, Mr. Cortlandt deP.
 Fisher, Mr. Frederic A.
 Fisher, Mrs. H. L.
 Franklin, Mrs. V. G.
 Fuller, Mrs. Arthur O.
 Fuller, Mrs. G. A.
 Goldthwaite, Dr. Joel E.
 Gyger, Mr. Edward G.
 Hammond, Mrs. E. P.
 "M. G. H."
 "C. R. H."
 A Friend—Miss Tillie S. Jaregtu
 Langdon, Mr. Palmer H.
 Lewis, Mrs. John
 Mead, Mrs. Prof. Ch. M.
 Noeth, Mr. George E.
 Perley, Miss Mary Y., In
 Memory of
 Philipp, Mr. and Mrs. Moritz B.
 Puffer, Mrs. E. D.
 Scales, Miss Lilla M.
 Sidman, Miss J. A.
 Sylvester, Mrs. H. F.
 Taber, Mr. M.
 Wells, Miss Lily
 Williams, Mr. John D.
 Winter, Mrs. I. L.

General Notes

On May 1, 1913, four plume-hunters raided the protected Egret colony at Alligator Bay, Florida. Warden Williams, employed jointly by this Association and by Mr. Charles Willis Ward, was temporarily absent at the time, but his assistant and a boatman were on watch. Hearing the shooting in the rookery, they immediately took their rifles and started to investigate. Upon their near approach, the wardens fired on them and for some time a fight with high-power rifles was in progress. In the end the poachers retreated and escaped through the mangrove swamps. It was found that they had killed seven parent Egrets. In their haste to leave, they had failed to secure the plumes from two of the slain birds.

The Pennsylvania Legislature has this year made a splendid record in the matter of bird-protection. Not only did it pass the Audubon Law, introduced by Senator Jones, to prohibit the sale of the feathers of wild protected birds in that state, but it also enacted a highly important measure requiring a resident hunter's license, the income from which is to be used for employment of a larger and much-needed force of game-wardens.

From the standpoint of bird-protection, it is a pity the Legislature did not then adjourn, for since then a bill has been introduced offering a bounty on so-called predatory birds and animals. In the list of creatures on whose heads a price is set, we find the words *Hen Hawks*. As the term *Hen Hawks* is not defined, it is easy to observe that the law can readily be construed to apply to practically all species of large Hawks found in the state.

At once, upon learning that such a bill had been presented to the Legislature, this Association filed its most earnest protests with every member of the Pennsylvania Senate and House of Representatives. We shall continue to voice our strong opposition to this measure and do our utmost to bring about its defeat.

New, Revised Edition of the

HANDBOOK OF BIRDS of Eastern North America

By FRANK M. CHAPMAN

Curator of Birds, American Museum of Natural History

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AGASSIZ FUERTES, and Text Illustrations by
TAPPAN ADNEY and ERNEST THOMPSON-SETON

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1. SWAMP SPARROW, Summer

2. SWAMP SPARROW, Winter

3. LINCOLN'S SPARROW

4. BLACK-THROATED SPARROW

5. SAGE SPARROW

6. BELL'S SPARROW

(One-half Natural Size)

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No. 4

The "Old Man"

A MAINE COAST BIRD STUDY

By FRANK A. BROWN, Beverly, Mass.
With photographs by the author

OFF the far eastern coast of Maine, some miles from the shore and about midway between the mouth of Machias Bay and the harbor entrance of Cutler, stands an island of some ten or twelve acres area. From all sides landing is most difficult even when the sea is calm, and that is not a common occurrence. With any wind and waves it is quite impossible of approach, as the long jagged points and steep-sided chasms become a line of roaring foam. The black spot on the coast chart, called the 'Old Man,' represents this desolate place. The island is really separated into four parts, the main portion being divided about in its center by a straight walled chasm, which runs from side to side and is some forty or fifty or more feet in depth, but visible only on near approach. Somewhere about at its center a rock has become wedged in the top, so that one may cross easily from one part to the other. The other two portions are perpendicular-sided rocks of some twenty or twenty-five feet in height, and stand well apart from the main portion of the island. The tops of these two rocks are covered with a thick growth of grass, with a few marine flowering plants, but with no bushes or trees. The main island is crowned with a growth of spruce, some partially living, but many dead, whose long weather-bleached arms pointing skyward make a most weird appearance. Underneath these trees is an almost impenetrable growth of raspberry bushes, which, in late July, attain a height of some six or seven feet. This island is the home of many sea-birds, although of but few species. Its unique distinction lies in the fact that each year there are reared in the dense tangles of its thickets supposedly from fifteen to twenty-five families of Eider Ducks. Outside of this island, to my knowledge, the Eider Ducks are rarely known to breed on the eastern coast of the United States. Some few pairs of Crows nest in the spruces, while, covering the available places all about its rocky border and along the edges of the grass, extending even into the shelter of the underbrush and bordering trees, hundreds of big Herring Gulls lay their

eggs and rear their young. With the exception of a family or two of Spotted Sandpipers, and perhaps a few Song Sparrows, this comprises the entire bird life of the island. The Audubon Societies employ a warden to look after the interests of the birds during the entire breeding season, and his estimate is that some two thousand or more breed there each year.

In early June, in company with the warden and in his power-launch, I started from the Cross Island Life-saving Station at the entrance of Machias Bay, bound for the "Old Man." A light southwest wind barely rippled the water. Outside of the long waves caused by the heavy tide the ocean was calm, and highly favorable to landing on the island.

As we bowled along swiftly over the water sparkling in the sun, several of the big Gulls passed by us with their strong and heavy flight, the beak, head and tail entirely on a line with the body. This flight is a noticeable characteristic of the Gull family. We anchored the launch off shore and, taking the tender, made a landing among the rocks at the foot of the cliffs. As soon as we landed, crowds of Gulls went into the air with shrill cries and were continuously circling about us during the entire period that we were on the island. It was a most beautiful sight to watch them in the air, now showing the pure white breast, glistening as the sun shone full upon them, and at the other end of their wide circling becoming a jet-black object against the azure sky. Some would alight on the very top of the cliffs and trees for a few moments, and then spring into the air again to join the circling and excited throng. With almost no flapping or fluttering, but with the broad wings extended, they



THE "OLD MAN"

sailed gracefully and majestically in great curves, apparently effortless, but continually uttering their shrill cries of *kree kree*.

There was no beach on which to pull up the tender, simply a mass of rocks and sharp boulders on all sides, making it necessary to bodily lift the little boat up among them, and make it fast to a big boulder well out of reach of the tide. By a little right-angled channel on one side of the higher of the two

smaller points, ascent was made to its summit, where, among the long, tangled grasses, were as many nests as the small area could conveniently hold, and each containing eggs or young. The owners of the nests, particularly those that contained young, became much more fearless at this time, and came down to within much closer distance, but did not make any attempt to frighten us, as I have often had the smaller Mackerel Gulls, or Terns, do in their breeding colonies. It was a tough climb up an almost perpendicular face of rock to the main island, but I found ample reward by the hundreds of nests, both of eggs and young birds which were scattered everywhere, so much so that it was sometimes difficult to walk without treading on them. Most of them contained either two or three eggs. Those which were among the grasses were composed of very little material outside of that which had died down from the season before, and which had been molded into a shallow hollow. Those which were on the rocks, and in crevices of the ledge had evidently required the bringing of much nesting material. One nest of three eggs contained nearly one-half bushel of dried grass, sedges, sticks and feathers. In some cases but one egg was in the nest.

The young birds develop very quickly after being hatched, and whereas those but a day or two old would usually rest quietly in the nest with head drooped and bill pointed forward, resting on the ground, those a little older quickly took to their feet and scurried off into the grass and bushes. On being placed back in the nest to have their picture taken, the moment their feet again touched the ground they would scurry off. In many cases, indeed, the young had vacated their nest before our approach. Owing to their covering of down so closely conforming to that of the ground and rocks, it took sharp eyes to detect their whereabouts. The process of getting photographs of the older birds I found to be by no means so easy. The only method which was successful was to have my boatman land me on the island, where we erected a large umbrella-frame covered with green cloth, and in closest proximity to as many of the nests as we could find whose location was advantageous. Then, by his leaving me alone and retiring entirely from the island, the birds were evidently much puzzled as to whether their count of the number of persons landed and again re-embarked on the departing boat was the same.

I had had the mistaken idea that the birds would immediately return to the vicinity of their nests, and especially to their young, a very short time after my boatman left me. I therefore put into my pocket a couple of biscuits,



HERRING GULL ON TREE

to last me until dinner-time, and most cheerfully told him to return for me in an hour or two. The day was hot, although I did not realize it until I was comfortably settled under my umbrella, where for the first hour I enjoyed very much the odor of rockweed and the saltiness of the sea, which were gently blown to me through the openings cut in the cloth sides for peep-holes. The



HERRING GULL

purring of the surf breaking on the ledges fifty feet below; the screams of the Gulls, greatly decreasing in number and volume as their fright became more or less allayed; the distant view of the islands and lighthouses, and the sharp contour of the rock-ribbed coast stretching far to the eastward till almost lost in the vague distance—the projecting southern head of Grand Manan looking almost like a low-lying gray cloud; the slow passing of dark-sailed schooners against the far horizon—all were pleasant sights and sounds, until the presence of the summer sun directly overhead caused a most stifling heat, and a host of most athletic and well-developed mosquitos found me out and took away part of the pleasure.

The second hour did not pass so quickly, but the munching of the two biscuits which made a rather slim dinner helped somewhat to while it away. I did not dare to slap at the mosquitos, as the Gulls by this time were beginning to circle quite near, even to alighting for short intervals on some of the big rocks within some thirty or forty feet of my umbrella, and any quick motion inside, or any noise, would have meant the spoiling of my efforts for that day at least. During my third hour the Gulls had become calmed down sufficiently so that at a distance of some twenty or thirty feet I shot (with the camera) several good specimens from rocks and trees.

One Gull whose nest was not more than twelve or fourteen feet from my blind was particularly shy, and it took at least another hour before she could

get quietly settled down on her nest, as at each flutter of the cloth of my blind she would jump nervously, either flying a short distance or jumping to the top of a nearby rock. When I walked out of my blind, throwing up its sides, there was a flutter of wings, and every Gull jumped with the exception of the nervous one close to me, who was evidently so much surprised that she sat on the top of a rock not ten feet away and allowed me again to take a last snapshot.

The main object of my search, however, was to find a nest of the Eider Duck which the warden told me that, in spite of my efforts, I would be unable to do, although being positive, from the number of Ducks on land and about the island during the breeding season, and from seeing the young Ducks in the coves after hatching, that they were breeding there. On hands and knees we carefully went through the nearly impenetrable tangle, determined this time to find a nest, and were at last successful in our efforts, discovering in a depression in the moss, thickly overtopped by ferns and raspberry bushes, a nest lined with down from the breast of the bird, and containing one egg. I was greatly disappointed that more eggs had not been laid, but took a photograph of the one we found, determined later to revisit the place. Further search failed to find any more nests, although a flock of twelve of the Ducks, seven females and five males, were lying in close by the rocks, and even came out onto the ledges and preened their feathers in the sunshine. Carefully stalking them, we were able to get within twenty-five or thirty yards, and even on coming into sight they were not greatly alarmed, showing plainly the care and attention given to keep them from molestation.

Some three weeks and one-half elapsed before I was again able to visit the the island, to find the same Duck's nest, but with only the egg-shells of the hatched young. Later in the summer, all the young birds being hatched and able to fly, the island begins gradually to lose its interest to the bird-lover, until, with the coming of another spring, its inhabitants return again to their summer home from more southern climes.



EIDER DUCKS

Five Little Waxwings and How They Grew

By GEORGE G. PHILLIPS, Greene, R. I.

INTO the lives of all of us come, at times, experiences that make their mark and linger in our memories while we live.

The story I am about to tell is of just such an experience that came to me; and, though I can hardly hope to create for others the pleasure that was mine, I am sure that all true lovers of birds and babies who read this will "know and understand."

One day in the summer of 1912—it was July 15—while seated at dinner, I heard the cry of young birds.

Stepping to my back door, I found on the doorstep two young and newly fledged Cedar Waxwings.

Presently, guided by their cries, I found three more nearby.

Now, if it is a notable event to have one baby left on your doorstep, what an embarrassment of riches was mine, who found *five* babies there at once!

"Where did they come from?" was the first question asked. I never knew, for neither old bird or nest had we ever seen or could we find. Undoubtedly, they fluttered from a nest high up in the pine trees, a row of which stands near my house.

Thinking and hoping that the old birds would come to feed them, I left them on the ground for an hour or two. But no parent bird ever came, and after a while the mute appeal of those five gaping bills and yellow throats became too much to bear, and I realized that something must be done, and done quickly.

"What do baby Waxwings eat?" was the burning question. The books told of the parent bird feeding them by regurgitation. As that process did not happen to be one of my accomplishments, I took a chance on ripe raspberries, and was greatly relieved to find that they would eat them readily. I immediately filled them full, and from that time it was my daily and almost hourly duty to feed those baby birds.

The second day, I tried bread and milk. That went even better than the berries, and was adopted for their regular food; though I venture to say that never before did young Waxwings grow up on such a diet.

One little fellow, smaller and weaker than the rest, handicapped from the first, gave up his life on the second day. The other four grew and waxed strong and beautiful; grew, oh, so rapidly! taking on from day to day the exquisite coloring which so beautifully marks the adult bird.

How much did we feed them? some one may ask. There need be no mistake on this point. I put the food in and pushed it down until they were full—until I could *see* it. A pretty habit of theirs was, when full, to pass the professed morsel to a next neighbor, a bit of politeness characteristic of this gentle and interesting bird.

To keep my little pets from straying and becoming a prey to prowling cats, I made of chicken-wire a cage on the lawn, and rigged perches in it on which they would snuggle up to each other in the most affectionate way.

At night I took them into the house, in a little wicker basket, for safe keeping, putting them out each morning.

From the first, they showed a most remarkable absence of fear, and not the slightest aversion to being handled.

After about two weeks of faithful feeding and care, I began to wish that my birds could help themselves, so that I might feel justified in giving them their freedom.

But it is a trait of young birds not to feed themselves as long as somebody else will do it for them, so that it was not until July 31, sixteen days from the day they came, that I brought myself to the point of letting them go.

After breakfast that morning, I took their basket up into the berry patch, where they could find plenty of food, and not without considerable reluctance, gave them up to Nature's keeping. They showed no special delight at being free. They flew about the berry bushes and up into the pine trees, occasionally returning to perch upon my arm or shoulder, and I soon found that it is not so easy to turn off foster children. If I was ready to let them go, they were by no means ready to give me up.

About this time I was doing some rustic work a short distance from the house and for days the little creatures were my almost constant companions, flying about in the maples over my head and coming down every little while to get their bread and milk, a saucer of which I kept on the ground by me.

Wherever I was about the place they were liable to appear. Each morning as I stepped on the porch their cry greeted me, and instantly four little monoplanes would be coming full speed toward me. I always threw up my arm for a perch, and they would suffer me to carry them thus about the grounds and to the house.

Their familiar, enticing ways were completely captivating, for if it was beautiful to have them so tame in captivity, it was perfectly charming to have them show such trust and confidence when at liberty, and I was their willing slave while the little drama lasted.

Two of the birds I was always able to identify—one, the only one of the brood that had the sealing-wax tips on his wing feathers, and another who had a white spot on his shoulder, where he had lost a feather. This last was tamer than all the rest. After his breakfast of bread and milk, he would perch on my finger by the half hour. He seemed to like the warmth at his feet, and I would carry him thus perched into the house and up-stairs, to show to my wife, who perchance had not yet risen. Then we would sit in the kitchen rocker for a time. When I held him up in front of my face, he would peer into my eyes, throw up his crest, and twist his head from side to side, evidently studying me quite as much as I was studying him.

Then he would pull at the hairs of my mustache, perhaps thinking it might make good nest material.

For two weeks this pretty intercourse lasted. Gradually their visits grew less frequent. Finally, one morning at breakfast, I heard the well-known cry and, hurrying out onto the veranda, I found two of the birds taking their breakfast of bread and milk—the red-tipped one and my tame one.

I noticed at once something unusual in their behavior. There was something strangely hurried and urgent in their manner, as if important business was to be attended to.

Hurriedly they swallowed their bread and milk, just for a moment my favorite perched on my finger, then with a whirr they were off and I never saw them again, to know them. For many days I heard their cry—a singularly elusive note, amongst the cedars by the brook, and sometimes saw large flocks of Waxwings, which my birds had doubtless joined. Dear little Comrades! I shall never see or hear a Waxwing without tender thoughts of the little creatures who gave me a month of such genuine pleasure.

The Woodcock and Its Nest

By FRANCIS M. ROOT, Oberlin, Ohio

THE haphazard trumper and amateur bird student are not likely to find this bird. But, if about March 20, or later, we go to the swaggiest, brushiest piece of woods we can find, and poke around in the thickest, wettest part of it, we may start up a long-billed, big-eyed bird, who wavers up above the underbrush just long enough for us to see his softly mottled brown back, and then slides down into the covert again. This is friend Woodcock.

Although we may know where to find a Woodcock, his nest is a different matter. The finding of a Woodcock's nest is a happy accident, not a matter of searching. Two points are worth remembering, however: The nest, like the bird himself, will be in swampy woods, and usually near a stream or pool of clear water.

Last spring, on April 10, a friend took me to a nest he had stumbled upon a few days before. For a time we could not see the nest, but finally the roundness of the eggs betrayed it. After admiring it for several minutes, we took a step forward and flushed the female bird, who had been crouching on the dead leaves within a foot of the nest, in plain sight, yet invisible until she moved.

The nest was in a tiny glade, the floor of which was covered with dead leaves and weed-stems. The nest was simply a hollow, lined with dead leaves and surrounded by a slightly elevated rim of the same material. If the eggs had not been there, it could hardly have been told from any other hollow of the forest floor. In this primitive cradle lay four big, blunt eggs. Their ground-color was an inconspicuous drab, with small blotches of darker brown and lilac.

When I next returned, approaching quietly, I found the bird on the nest. Setting up my camera, ready for a long time-exposure, I crept nearer; step by step, until I was within a yard of the nest. I took one picture as she faced me, as still as the sodden leaves on the ground. Then, backing out and approaching from another direction, I secured a nice side view. A few weed stems were in the way, from this position, and I tried to remove them. One, which almost touched her at one end, was safely pulled away, but as my hand grasped another, within two inches of the bird, her nerves gave way. She sprang into the air, and went off, fluttering down to the ground only a few yards away. When I returned, after twenty minutes, she was on again, as steady as ever.



"STILL AS THE . . . LEAVES ON THE GROUND"

Young Woodcocks leave the nest very soon after they are hatched, and I was not able to see the young from this particular nest, who emerged from their shells about May 1. Several years ago, however, I came upon a Woodcock's nest, just after the emergence of the young. And of all the cunning little balls of fluff you ever saw! Their long, stout bills made them look top-heavy, and their yellow-brown down was mottled with darker brown above in the daintiest way imaginable. When I looked away for a moment at the fluttering, frightened mother, I had hard work to make them out again, as they crouched low in the nest hollow.

So, here's to friend Woodcock! May he nest with us in ever-increasing numbers, and may only his friends succeed in finding his home!

The Carolina Wren in Beverly, Mass.

By VIOLA E. CRITTENDEN, Beverly, Mass.

FOR an entire week I have been the proprietor of a Carolina Wren. I discovered him by means of his striking song, early in the morning of March 9, and have seldom had a richer reward for early rising. Today, March 16, he is still haunting the brush-piles along the little brook which is directly in the rear of a rather busy street. It is not a romantic spot. A good part of it is occupied by a dump; children and dogs are numerous, likewise men splitting kindlings in back yards, and women beating rugs.

The crowing of roosters and the quacking of ducks is much in evidence, but through all these sounds the Wren's clear tones penetrate, and can be heard at a long distance by a trained ear.

During my morning calls, he is not at all shy. He gives his undivided attention to his vocal practice, singing each phrase many times, as though he were afraid of forgetting it. His method of practice is most fortunate for the observer who wishes to "drive it in." *Tick'le you! tick'le you!* he calls lustily from a little sapling. On being disturbed, he flies to the brush-pile, and perhaps doubles his song thus: *Tick'le you, tick'le you, tick!* His vigor reminds me of the White-eyed Vireo, and his position and coloring are a little like the Thrasher's. He will sit "head on" and sing, watching me calmly until I come close enough to see the pretty curve of his slender bill. Then, when I grow unbearably obtrusive, his tail, which has drooped as he sang, suddenly takes Wren-like pertness, and he drops to the ground behind the brush-pile.

Soon his voice calls clearly, "*Ju'dy! Ju'dy! Ju'dy!*" and then, perhaps, he varies a phrase with some rich little grace-notes or a tremolo. His flights are usually short, and he sings a different phrase on settling in a new position. Only once have I seen him sulky or shy. That was late in the afternoon of a cold day. I wonder if loneliness has not made him bold, for I have been within seven or eight feet of him.

March 30. This morning I visited my little friend at 6:30, and found him mad with song and showing the most intense excitement. From the brush-heap above which he sang issued a petulant scolding chatter, suspiciously feminine, and to my delight Jennie Wren popped into the open. Both birds were apparently unaware of the presence of an intruder, and several times flew to within five feet of where I was standing. Jenny was certainly in a most unenviable mood. She would sit on a twig, open her little bill to the widest possible extent, and scold poor 'Jimmy' in a manner most unbecoming to one of the gentle sex. Then she would drop to the ground with seeming nonchalance and fall to feeding.

As for Jimmy, he was far too jubilant to dream of food. Not for a second did he allow her out of his sight. With drooping tail and lifted bill, like a miniature Thrasher, he performed his repertoire again and again. He sang

from the ground, from the brush-heap, from the trees, and once or twice he worked his way up an alder twig, singing as he climbed.

It is three weeks today since I discovered the little fellow, and I have observed him intimately. The question is, where, at this late day, did he get the little lady.

Had he had her secreted in the vicinity even while I was pitying his loneliness; and was it righteous indignation at incarceration which I witnessed this morning? Or was he so up to date that he brought her here by mental suggestion or concentration, only to find himself soundly berated when she was disillusioned by the chilly air of the New England coast?

For the sake of the pleasure his song has given me, I wish him success, and I can but believe that his beauty and talent will win out in his wooing. I shall watch with the greatest interest any domestic developments.

July 15. I am very glad to add that the Wrens have prospered and have raised two broods. Fortunately they have been unable to secrete their lively offspring as effectually as their nest, so I have enjoyed the whole family together. Had they been in any way defrauded of their right to "life, liberty and the pursuit of happiness," one bird-lover at least would have felt deep personal loss.

Tragedies of Sandpipers' Nests

By PAUL E. GRAY, Haverhill, Mass.

With photograph by Carl H. Morrill

THE ill luck that befell the two nests of Spotted Sandpipers which I found and watched last summer is, I hope, the exception and not the rule among these graceful shore-birds. A small duck-pond, made by damming up a marshy creek, seems to be a favorite haunt of the Sandpipers. The Spotted nested near it, and the Solitary and either the Least or the Semipalmated (I am not certain which it was) paid migratory visits there. It was while sorting out these different species that I discovered the nest of the Spotted.

Several times early in May two Spotted Sandpipers were seen about the pond. On May 15 I flushed one once or twice in the ploughed ground that borders the pond, and I was suspicious, from the way the bird darted along the ground before taking flight, that a nest might be in the vicinity. A hasty search failed to reveal it, though I must have stepped very near. So I took care to watch the bird the next time it left the pool, and noted exactly where it disappeared behind the clods of dirt. I followed, and found the nest in a slight depression in the ploughed ground under the end of a rough, gnarled piece of wood. It was made of coarse roots, grasses, and straws. There were four eggs in it, spotted more heavily on the larger ends, and placed with the smaller

ends toward the center. It was about one hundred and thirty feet from the water, and the bird left when I came within sixty feet. She ran quietly along in the ruts for some distance, then flew to the pool. I sat on a rock fifty feet from the nest, and in five or ten minutes she returned and went on again. Two days later I paid another visit and found the bird on. She came off, as before, when we were within a few feet, skulked through the furrows, and flew. Two days later one egg was missing, and my companion took a photograph of the nest with the remaining three eggs. On May 25 I found that the field had been ploughed again or harrowed, the nest was almost obliterated, and there was no sign of eggs.



NEST AND EGGS OF SPOTTED
SANDPIPER

The second nest was three-quarters of a mile away, and seemed more dangerously placed than the first. I discovered it June 14, while riding by in a carriage. A Sandpiper flew up from the grass twelve feet from the road and about one hundred feet from a pond. I alighted and found the nest, with four eggs, just where the bird flew up. It was placed in the grass and clover, and was made of rather finer material than the other nest. As in the first one, the eggs were placed with the smaller ends pointing inward. When I went to it the next day, I approached within ten feet before the bird flew, stopping a moment in the road nearby. On June 23 my friend photographed the nest. A week later, when we expected to find a happy family, there were only three cold eggs and a broken shell filled with ants. The field had been mowed and the protecting grass and clover cut away.

It would seem that proximity to civilization does not help the Sandpiper in raising its young. The sea-beaches and wilder inland ponds would probably provide safer nesting-sites.

The Massachusetts Audubon Society's Bird-Lists

FOllowing the established custom, various members of the Massachusetts Audubon Society have recorded the birds observed by them in Massachusetts during the year. Eight lists of species noted in 1912 have been received by the Secretary of the Society, made by the following members: Harold L. Barrett, Jamaica Plain, 244 species; Anna K. Barry, Dorchester, 173 species; F. A. Scott, Belmont, 170 species; Rev. Robert F. Cheney, Southboro, 134 species; Harold W. Copeland, Bridgewater, 86 species; Horace McFarlin, Bridgewater, 80 species; Edwin H. Merrill, Winchendon, 33 species; Florence V. V. Storer, Winchendon, 20 species. The two lists first mentioned are published herewith.

Name of Species	List of Birds observed by Harold L. Barrett, in Mass., from January 1, 1912, to December 31, 1912.		List of Birds observed by Anna Kingman Barry, in Mass., from January 1, 1912, to December 31, 1912.	
	Locality	Date	Locality	Date
Holbœll's Grebe.....	Duxbury.....	Jan. 1	Mass. Bay.....	Feb. 17
Horned Grebe.....	Nahant.....	Jan. 25	Mass. Bay.....	Feb. 17
Pied-billed Grebe.....	Jamaica Plain..	Sept. 29	Wayland.....	Sept. 28
Loon.....	Duxbury.....	Jan. 1	Mass. Bay.....	Feb. 17
Red-throated Loon.....	Marshfield.....	Jan. 1	Plum Island.....	Nov. 2
Black Guillemot.....	Nahant.....	Jan. 25	Mass. Bay.....	Feb. 17
Brünnich's Murre.....	Nahant.....	Jan. 18	Mass. Bay.....	Feb. 17
Razor-billed Auk.....	Nahant.....	Jan. 25	Mass. Bay.....	Feb. 17
Pomarine Jaeger.....	Ipswich.....	Aug. 25	.....	.....
Parasitic Jaeger.....	Plum Island.....	Sept. 15	.....	.....
Kittiwake.....	Nahant.....	Jan. 3	Nahant.....	Nov. 27
Great Black-backed Gull.....	Duxbury.....	Jan. 1	Mass. Bay.....	Feb. 17
Herring Gull.....	Marshfield.....	Jan. 1	Boston Harbor.....	Feb. 10
Ring-billed Gull.....	Nahant.....	Jan. 18	Ipswich.....	May 18
Laughing Gull.....	Duxbury.....	July 30	Duxbury.....	May 30
Bonaparte's Gull.....	Plum Island.....	Sept. 15	Plum Island.....	Nov. 2
Common Tern.....	Marshfield.....	July 29	Ipswich.....	July 31
Arctic Tern.....	Marshfield.....	July 29	Ipswich.....	Aug. 17
Roseate Tern.....	Nahant.....	Aug. 21	.....	.....
Wilson's Petrel.....	Nahant.....	Sept. 12	Mass. Bay.....	July 15
Gannet.....	Plum Island.....	Sept. 15	Plum Island.....	Nov. 23
Double-crested Cormorant.....	Nahant.....	Oct. 13	.....	.....
American Merganser.....	Jamaica Plain..	Mar. 27	Brookline.....	Feb. 15
Red-breasted Merganser.....	Duxbury.....	Jan. 1	Mass. Bay.....	Feb. 17
Hooded Merganser.....	Jamaica Plain..	Nov. 7	.....	.....
Mallard.....	Jamaica Plain..	Mar. 27	.....	.....
Black Duck.....	Duxbury.....	Jan. 1	Gloucester Boat.....	Feb. 17
Red-legged Black Duck.....	Jamaica Plain..	Jan. 2	.....	.....
Green-winged Teal.....	Cambridge.....	Dec. 8	.....	.....
Blue-winged Teal.....	Ipswich.....	Aug. 25	.....	.....
Pintail.....	Jamaica Plain..	Oct. 13	Ipswich.....	Aug. 7.
Wood Duck.....	Randolph.....	Sept. 22	Dover.....	Oct. 5
Redhead.....	Jamaica Plain..	Oct. 15	.....	.....
Scaup Duck.....	Duxbury.....	Jan. 1	Jamaica Pond....	Nov. 18
Lesser Scaup Duck.....	Jamaica Plain..	Apr. 2	Jamaica Pond....	Nov. 30

Name of Species	List of Birds observed by Harold L. Barrett, in Mass., from January 1, 1912, to December 31, 1912.		List of Birds observed by Anna Kingman Barry, in Mass., from January 1, 1912, to December 31, 1912.	
	Locality	Date	Locality	Date
American Golden-eye.....	Duxbury.....	Jan. 1	Brookline.....	Feb. 17
Bufflehead.....	Nahant.....	Jan. 3	Nahant.....	Mar. 6
Old-squaw.....	Duxbury.....	Jan. 1	Marblehead N.....	Mar. 1
American Eider.....	Nahant.....	Dec. 17	.....	.....
American Scoter.....	Nahant.....	Jan. 18	Marblehead.....	Mar. 1
White-winged Scoter.....	Nahant.....	Jan. 31	Mass. Bay.....	Feb. 17
Surf Scoter.....	Nahant.....	Mar. 14	Nahant.....	Mar. 6
Ruddy Duck.....	Jamaica Plain.....	Oct. 21	Norman's Woe.....	Dec. 10
Canada Goose.....	Jamaica Plain.....	Apr. 5	Ipswich.....	Apr. 20
Brant.....	Marblehead.....	Nov. 19	Ipswich.....	Apr. 20
American Bittern.....	Ipswich.....	May 30	.....	.....
Least Bittern.....	Braintree.....	June 11	.....	.....
Great Blue Heron.....	Marshfield.....	July 29	Ipswich.....	May 18
Green Heron.....	Jamaica Plain.....	May 12	Cambridge.....	July 17
Black-crowned Night Heron.....	Marshfield.....	July 30	Ipswich.....	May 18
Virginia Rail.....	Cambridge.....	May 29	.....	.....
Sora.....	Cambridge.....	May 29	.....	.....
Florida Gallinule.....	Cambridge.....	Oct. 6	Stoneham.....	Oct. 7
American Coot.....	Jamaica Plain.....	Oct. 16	.....	.....
American Woodcock.....	Jamaica Plain.....	May 1	Lincoln.....	Sept. 21
Wilson's Snipe.....	Jamaica Plain.....	Mar. 18	Ipswich.....	July 31
Dowitcher.....	Ipswich.....	Aug. 25	.....	.....
Knot.....	Ipswich.....	Aug. 25	.....	.....
Purple Sandpiper.....	Nahant.....	Oct. 13	.....	.....
Pectoral Sandpiper.....	Ipswich.....	Aug. 25	Ipswich.....	May 18
White-rumped Sandpiper.....	Marshfield.....	July 29	Ipswich.....	July 24
Least Sandpiper.....	Marshfield.....	July 30	Ipswich.....	May 18
Red-backed Sandpiper.....	Ipswich.....	May 30	.....	.....
Semipalmated Sandpiper.....	Ipswich.....	May 30	Ipswich.....	May 18
Sanderling.....	Marshfield.....	July 29	Ipswich.....	May 18
Greater Yellow-legs.....	Ipswich.....	Aug. 25	Ipswich.....	May 18
Yellow-legs.....	Ipswich.....	May 30	Ipswich.....	July 24
Solitary Sandpiper.....	Cambridge.....	July 18	Cambridge.....	May 21
Willet.....	Ipswich.....	Aug. 25	Ipswich.....	Aug. 17
Bartramian Sandpiper.....	Ipswich.....	Aug. 25	Ipswich.....	July 31
Spotted Sandpiper.....	Jamaica Plain.....	Apr. 25	Dover.....	May 11
Hudsonian Curlew.....	Duxbury.....	July 30	.....	.....
Black-bellied Plover.....	Ipswich.....	May 30	Ipswich.....	May 18
Am. Golden Plover.....	Ipswich.....	Aug. 25	.....	.....
Killdeer.....	Ipswich.....	Aug. 25	Ipswich.....	July 24
Semipalmated Plover.....	Ipswich.....	May 30	Ipswich.....	May 18
Piping Plover.....	Duxbury.....	July 30	Duxbury.....	May 30
Ruddy Turnstone.....	Duxbury.....	July 30	Nahant.....	Aug. 12
Bob-white.....	Jamaica Plain.....	Jan. 28	New Bedford.....	Jan. 20
Ruffed Grouse.....	Jamaica Plain.....	Jan. 28	Canton.....	Apr. 11
Mourning Dove.....	Newton.....	Apr. 27	Lexington.....	Apr. 6
Marsh Hawk.....	Marshfield.....	July 29	Dover.....	May 11
Sharp-shinned Hawk.....	Jamaica Plain.....	Mar. 10	.....	.....
Cooper's Hawk.....	Jamaica Plain.....	May 1	Ipswich.....	Apr. 20
Red-tailed Hawk.....	Jamaica Plain.....	Sept. 22	.....	.....
Red-shouldered Hawk.....	Jamaica Plain.....	Mar. 16	Milton.....	Mar. 22
Broad-winged Hawk.....	Jamaica Plain.....	Sept. 22	Berlin.....	June 15
Am. Rough-legged Hawk.....	Jamaica Plain.....	Dec. 1	.....	.....
Bald Eagle.....	Cohasset.....	Oct. 31	.....	.....
Duck Hawk.....	Jamaica Plain.....	Oct. 13	Plum Island.....	Oct. 12

Name of Species	List of Birds observed by Harold L. Barrett, in Mass., from January 1, 1912, to December 31, 1912.		List of Birds observed by Anna Kingman Barry, in Mass., from January 1, 1912, to December 31, 1912.	
	Locality	Date	Locality	Date
Pigeon Hawk.....	Jamaica Plain...	Apr. 16	.....	.....
Am. Sparrow Hawk.....	Jamaica Plain...	Jan. 4	New Bedford...	Jan. 22
American Osprey.....	Marblehead....	June 27	Dover.....	May 11
Am. Long-eared Owl.....	Jamaica Plain...	Nov. 15	.....	.....
Short-eared Owl.....	Marblehead....	Nov. 19	Ipswich.....	Apr. 20
Barred Owl.....	Boston.....	Dec. 19	.....	.....
Screech Owl.....	Jamaica Plain...	June 15	.....	.....
Yellow-billed Cuckoo.....	Jamaica Plain...	May 19	Holbrook.....	May 25
Black-billed Cuckoo.....	Jamaica Plain...	May 22	Braintree.....	May 25
Belted Kingfisher.....	Jamaica Plain...	Mar. 31	Ipswich.....	Apr. 20
Hairy Woodpecker.....	Duxbury.....	Jan. 1	Wayland.....	Mar. 9
Downy Woodpecker.....	Jamaica Plain...	Jan. 2	Marblehead...	Mar. 1
Yellow-bellied Sapsucker.....	Boston.....	Oct. 14	Needham.....	Oct. 5
Red-headed Woodpecker.....	Arlington.....	June 21	Arlington.....	June 26
Northern Flicker.....	Marshfield....	Jan. 1	New Bedford...	Jan. 20
Whip-poor-will.....	Marshfield....	July 29	Lynfield.....	May 15
Nighthawk.....	Boston.....	June 9	.....	.....
Chimney Swift.....	Jamaica Plain...	Apr. 29	Natick.....	May 4
Ruby-th'ed Hummingbird.....	Jamaica Plain...	Aug. 21	Sudbury.....	May 19
Kingbird.....	Jamaica Plain...	May 15	Concord.....	May 8
Crested Flycatcher.....	Jamaica Plain...	May 12	.....	.....
Pheebe.....	Jamaica Plain...	Mar. 28	Waverley.....	Mar. 27
Wood Pewee.....	Jamaica Plain...	May 19	Lynnfield.....	May 17
Yellow-bellied Flycatcher.....	Jamaica Plain...	May 19	.....	.....
Alder Flycatcher.....	Jamaica Plain...	May 22	.....	.....
Least Flycatcher.....	Boston.....	May 21	Natick.....	May 4
Horned Lark.....	Duxbury.....	Jan. 1	Ipswich.....	Feb. 22
Prairie Horned Lark.....	Ipswich.....	Sept. 15	Ipswich.....	May 18
Blue Jay.....	Jamaica Plain...	Jan. 2	Dorchester.....	Jan. 12
American Crow.....	Marshfield....	Jan. 1	Dorchester.....	Jan. 15
Bobolink.....	Jamaica Plain...	May 19	Dover.....	May 11
Cowbird.....	Cambridge.....	Mar. 18	.....	.....
Red-winged Blackbird.....	Cambridge.....	Mar. 18	Waltham.....	Mar. 23
Meadowlark.....	Marshfield....	Jan. 1	Cambridge.....	Mar. 12
Orchard Oriole.....	Brookline.....	May 22	.....	.....
Baltimore Oriole.....	Jamaica Plain...	May 12	Dorchester.....	May 11
Rusty Blackbird.....	Jamaica Plain...	Apr. 16	Waltham.....	Mar. 23
Bronzed Grackle.....	Jamaica Plain...	Mar. 16	Dorchester.....	Apr. 6
Canadian Pine Grosbeak.....	Jamaica Plain...	Dec. 30	.....	.....
Purple Finch.....	Duxbury.....	Jan. 1	New Bedford...	Jan. 20
American Crossbill.....	Jamaica Plain...	Feb. 19	Ipswich.....	Apr. 20
White-winged Crossbill.....	Jamaica Plain...	Nov. 17	.....	.....
Redpoll.....	Jamaica Plain...	Jan. 7	Waltham.....	Mar. 23
American Goldfinch.....	Duxbury.....	Jan. 1	New Bedford...	Jan. 20
Pine Siskin.....	Jamaica Plain...	Jan. 28	.....	.....
Snowflake.....	Duxbury.....	Jan. 1	Nahant.....	Mar. 6
Lapland Longspur.....	Cohasset....	Oct. 31	.....	.....
Vesper Sparrow.....	Jamaica Plain...	Apr. 7	Lexington.....	Apr. 6
Ipswich Sparrow.....	Duxbury.....	Jan. 1	Plum Island.....	Oct. 12
Savanna Sparrow.....	Randolph.....	Apr. 7	Ipswich.....	Apr. 20
Grasshopper Sparrow.....	Concord.....	May 26	Lincoln.....	Sept. 21
Henslow's Sparrow.....	Norwood.....	June 19	.....	.....
Sharp-tailed Sparrow.....	Marshfield....	July 30	.....	.....
White-crowned Sparrow.....	Boston.....	May 21
White-throated Sparrow.....	Jamaica Plain...	Jan. 2	Arboretum.....	Mar. 20

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	Locality	Date	Locality	Date
Tree Sparrow.....	Duxbury.....	Jan. 1	New Bedford.....	Jan. 17
Chipping Sparrow.....	Jamaica Plain.....	Apr. 11	Dover.....	Apr. 27
Field Sparrow.....	Jamaica Plain.....	Apr. 7	Ipswich.....	Apr. 20
Slate-colored Junco.....	Duxbury.....	Jan. 1	Milton.....	Mar. 22
Song Sparrow.....	Duxbury.....	Jan. 1	New Bedford.....	Jan. 20
Lincoln's Sparrow.....	Jamaica Plain.....	May 15	Plum Island.....	Oct. 12
Swamp Sparrow.....	Jamaica Plain.....	May 22	Ipswich.....	May 18
Fox Sparrow.....	Jamaica Plain.....	Jan. 28	Waverley.....	Mar. 27
Towhee.....	Jamaica Plain.....	Apr. 29	Concord.....	May 8
Rose-breasted Grosbeak.....	Newton.....	May 7	Dover.....	May 11
Indigo Bunting.....	Jamaica Plain.....	May 19	Sudbury.....	May 19
Scarlet Tanager.....	Jamaica Plain.....	May 19	Lynnfield.....	May 17
Purple Martin.....	Ipswich.....	Aug. 25	Ipswich.....	May 18
Cliff Swallow.....	Jamaica Plain.....	Apr. 28	Medfield.....	Apr. 27
Barn Swallow.....	Jamaica Plain.....	Apr. 25	Ipswich.....	Apr. 20
Tree Swallow.....	Randolph.....	Apr. 7	Ipswich.....	May 18
Bank Swallow.....	Ipswich.....	May 30	Brookline.....	May 9
Cedar Waxwing.....	Duxbury.....	Jan. 1	Brookline.....	Feb. 19
Northern Shrike.....	Jamaica Plain.....	Jan. 7	Lynnfield.....	May 17
Red-eyed Vireo.....	Jamaica Plain.....	May 15	Sudbury.....	May 19
Warbling Vireo.....	Jamaica Plain.....	May 19	Lynnfield.....	May 17
Yellow-throated Vireo.....	Jamaica Plain.....	May 12	Concord.....	May 8
Blue-headed Vireo.....	Jamaica Plain.....	May 2	Braintree.....	May 25
White-eyed Vireo.....	Braintree.....	June 11	Sherburn.....	Apr. 27
Black and White Warbler.....	Jamaica Plain.....	Apr. 28	Lynnfield.....	May 16
Golden-winged Warbler.....	Jamaica Plain.....	May 12	Concord.....	May 8
Nashville Warbler.....	Jamaica Plain.....	May 12	Tennessee Warbler.....	May 16
Tennessee Warbler.....	Boston.....	May 16	Concord.....	May 8
Northern Parula Warbler.....	Jamaica Plain.....	May 4	Concord.....	May 8
Yellow Warbler.....	Jamaica Plain.....	May 12	Concord.....	May 8
Black-throated Blue Warbler.....	Jamaica Plain.....	May 19	Marblehead.....	Mar. 11
Myrtle Warbler.....	Duxbury.....	Jan. 1	Ipswich.....	May 18
Magnolia Warbler.....	Jamaica Plain.....	May 15	Concord.....	May 8
Chestnut-sided Warbler.....	Jamaica Plain.....	May 19	Cambridge.....	May 21
Bay-breasted Warbler.....	Jamaica Plain.....	May 19	Natick.....	May 4
Black-poll Warbler.....	Jamaica Plain.....	May 15	Ponkapoag.....	Apr. 24
Blackburnian Warbler.....	Jamaica Plain.....	May 15	Natick.....	May 4
Black-thr'd Gr'n Warbler.....	Jamaica Plain.....	May 2	Braintree.....	May 25
Pine Warbler.....	Jamaica Plain.....	May 4	Concord.....	May 8
Palm Warbler.....	Jamaica Plain.....	Sept. 22	Concord.....	May 19
Yellow Palm Warbler.....	Jamaica Plain.....	Apr. 7	Sudbury.....	May 19
Prairie Warbler.....	Newton.....	May 14	Lynnfield.....	May 17
Ovenbird.....	Jamaica Plain.....	May 12	Natick.....	May 4
Water-Thrush.....	Jamaica Plain.....	May 22	Braintree.....	May 25
Connecticut Warbler.....	Jamaica Plain.....	Sept. 22	Concord.....	May 8
Northern Yellow-throat.....	Jamaica Plain.....	May 15	Sudbury.....	May 19
Yellow-breasted Chat.....	Braintree.....	June 11	Lynnfield.....	May 17
Wilson's Warbler.....	Jamaica Plain.....	May 22	Cambridge.....	May 21
Canadian Warbler.....	Jamaica Plain.....	May 19	Sudbury.....	May 19
American Redstart.....	Jamaica Plain.....	May 19	Dover.....	May 11
American Pipit.....	Jamaica Plain.....	Oct. 6	Ipswich.....	May 18
Catbird.....	Jamaica Plain.....	Jan. 14	Brookline.....	May 9
Brown Thrasher.....	Jamaica Plain.....	Apr. 28	Dover.....	May 11
House Wren.....	Jamaica Plain.....	June 9	Berlin.....	June 17
Winter Wren.....	Jamaica Plain.....	Oct. 28	.....	.....

Name of Species	List of Birds observed by Harold L. Barrett, in Mass., from January 1, 1912, to December 31, 1912.		List of Birds observed by Anna Kingman Barry, in Mass., from January 1, 1912, to December 31, 1912.	
	Locality	Date	Locality	Date
Short-billed Marsh Wren.	Norwood.	June 19	Cambridge.	May 21
Long-billed Marsh Wren.	Cambridge.	May 20	Plum Island.	Oct. 12
Brown Creeper.	Jamaica Plain.	Apr. 11	Berlin.	June 16
White-breasted Nuthatch.	Jamaica Plain.	Jan. 4	Lincoln.	Sept. 21
Red-breasted Nuthatch.	Jamaica Plain.	Mar. 8	New Bedford.	Jan. 20
Chickadee.	Duxbury.	Jan. 1	Ipswich.	Apr. 20
Golden-crowned Kinglet.	Duxbury.	Jan. 1	Ipswich.	Apr. 20
Ruby-crowned Kinglet.	Jamaica Plain.	Apr. 17	Concord.	May 8
Wood Thrush.	Jamaica Plain.	June 9	.....	.....
Wilson's Thrush.	Jamaica Plain.	Apr. 29	.....	.....
Gray-cheeked Thrush.	Jamaica Plain.	May 22	.....	.....
Bicknell's Thrush.	Boston.	May 21	Pub. Garden.	May 14
Olive-backed Thrush.	Boston.	May 16	Dover.	Oct. 5
Hermit Thrush.	Jamaica Plain.	Apr. 11	Cambridge.	Mar. 12
American Robin.	Duxbury.	Jan. 1	Waverley.	Mar. 27
Bluebird.	Jamaica Plain.	Mar. 18	.....	.....
Puffin.	Marblehead.	Feb. 14	.....	.....
Dovekie.	Nahant.	Jan. 31	Nahant.	Mar. 2
Glaucous Gull.	Swampscott.	Dec. 17	Ipswich.	Feb. 22
Iceland Gull.	Nahant.	Feb. 18	Mass. Bay.	Feb. 17
Kumlien's Gull.	Nahant.	Jan. 18	Mass. Bay.	Mar. 18
Caspian Tern.	Ipswich.	Aug. 25	Duxbury.	May 30
Forster's Tern.	Plum Island.	Sept. 15	.....	.....
Black Tern.	Ipswich.	Aug. 25	Ipswich.	Aug. 17
Greater Shearwater.	Nahant.	Sept. 12	.....	.....
Baldpate.	Jamaica Plain.	Jan. 2	Brookline.	Feb. 15
Ring-necked Duck.	Jamaica Plain.	Nov. 24	Ipswich.	July 24
Barrow's Golden-eye.	Nahant.	Jan. 31	.....	.....
Stilt Sandpiper.	Ipswich.	Aug. 25	Ipswich.	Sept. 4
Baird's Sandpiper.	Nahant.	Aug. 21	.....	.....
Western Sandpiper.	Nahant.	Aug. 4	.....	.....
Hudsonian Godwit.	Plum Island.	Sept. 15	.....	.....
Buff-breasted Sandpiper.	Plum Island.	Sept. 15	Ipswich.	Sept. 4
Ring-necked Pheasant.	Jamaica Plain.	Jan. 2	Ipswich.	Feb. 22
Purple Grackle.	Jamaica Plain.	Mar. 31	.....	.....
Greater Redpoll.	Brighton.	Jan. 29	.....	.....
Acadian Sharp-t'l'd Sparrow	Plum Island.	Sept. 15	Plum Island.	Oct. 12
Philadelphia Vireo.	Jamaica Plain.	Sept. 8	.....	.....
Blue-winged Warbler.	Jamaica Plain.	May 24	.....	.....
Brewster's Warbler.	Newton.	May 14	.....	.....
Orange-crowned Warbler.	Jamaica Plain.	Dec. 16	.....	.....
Cape May Warbler.	Boston.	May 22	.....	.....
Mockingbird.	Brighton.	Jan. 22	.....	.....
Blue-gray Gnatcatcher.	Jamaica Plain.	Dec. 3	Plum Island.	Oct. 12
Nelson's Sharp-t'l'd Sparrow	.....	.....	.....	.....



MAP SHOWING THE TWO ZONES INTO WHICH THE UNITED STATES IS DIVIDED FOR THE PROTECTION OF MIGRATORY BIRDS

Proposed Regulations for the Protection of Migratory Birds*

WASHINGTON, D. C., June 17, 1913.

Pursuant to the provisions of the act of March 4, 1913, authorizing and directing the Department of Agriculture to adopt suitable regulations prescribing and fixing closed seasons for migratory birds (37 Stat., 847), regulations, copy of which is hereto annexed, have been prepared, are hereby made public, and are hereby proposed for adoption, after allowing a period of three months in which the same may be examined and considered. The regulations, as finally adopted, will become effective on or after October 1, 1913, whenever approved by the President.

Public hearings on the proposed regulations will be held by the Bureau of Biological Survey of this department whenever deemed necessary. Inquiries in reference thereto should be addressed to the Secretary of Agriculture.

B. T. GALLOWAY,
Acting Secretary of Agriculture.

REGULATIONS FOR THE PROTECTION OF MIGRATORY BIRDS

Pursuant to the provisions of the act of March 4, 1913, authorizing and directing the Department of Agriculture to adopt suitable regulations prescribing and fixing closed seasons for migratory birds (37 Stat., 847), having due regard to zones of temperature, breeding habits, and times and lines of migratory flight, the Department of Agriculture has adopted the following regulations:

Regulation 1. Definitions

For the purposes of these regulations the following shall be considered migratory game birds:

- (a) Anatidæ or waterfowl, including brant, wild ducks, geese, and swans.
- (b) Gruidæ or cranes, including little brown, sandhill, and whooping cranes.
- (c) Rallidæ or rails, including coots, gallinules, and sora and other rails.
- (d) Limicolæ or shore birds, including avocets, curlew, dowitchers, godwits, knots, oyster catchers, phalaropes, plover, sandpipers, snipe, stilts, surf birds, turnstones, willet, woodcock, and yellow legs.
- (e) Columbidae or pigeons, including doves and wild pigeons.

For the purposes of these regulations the following shall be considered migratory insectivorous birds:

- (f) Bobolinks, catbirds, chickadees, cuckoos, flycatchers, grosbeaks, hum-

*In view of its far-reaching importance, we reprint herewith Circular No. 92 of the Bureau of Biological Survey, United States Department of Agriculture, issued under the direction of Henry W. Henshaw, Chief of Bureau. June 23, 1913.—ED.

mingbirds, kinglets, martins, meadowlarks, night hawks or bull bats, nut-hatches, orioles, robins, shrikes, swallows, swifts, tanagers, titmice, thrushes, vireos, warblers, waxwings, whippoorwills, woodpeckers, and wrens, and all other perching birds which feed entirely or chiefly on insects.

Regulation 2. Closed Seasons at Night

A daily closed season on all migratory game and insectivorous birds shall extend from sunset to sunrise.

Regulation 3. Closed Season on Insectivorous Birds

A closed season on migratory insectivorous birds shall continue to December 31, 1913, and each year thereafter shall begin January 1 and continue to December 31, both dates inclusive, provided that nothing in this regulation shall be construed to prevent the issue of permits for collecting such birds for scientific purposes in accordance with the laws and regulations in force in the respective States and Territories and the District of Columbia; and provided further that the closed season on reedbills or ricebirds in Delaware, Maryland, the District of Columbia, Virginia, and South Carolina shall begin November 1 and end August 31 next following, both dates inclusive.

Regulation 4. Five-year Closed Seasons on Certain Game Birds

A closed season shall continue until September 1, 1918, on the following migratory game birds: Band-tailed pigeons, little brown, sandhill, and whooping cranes, swans, curlew, and all shorebirds except the black-breasted and golden plover, Wilson or jack snipe, woodcock, and the greater and lesser yellowlegs.

A closed season shall also continue until September 1, 1918, on wood ducks in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Indiana, Michigan, West Virginia, and Wisconsin; on rails in California and Vermont; and on woodcock in Illinois and Missouri.

Regulation 5. Closed Season on Certain Navigable Rivers

A closed season shall continue between January 1 and October 31, both dates inclusive, of each year, on all migratory birds passing over or at rest on any of the waters of the main streams of the following navigable rivers, to wit: The Mississippi River between New Orleans, La., and Minneapolis, Minn.; the Ohio River between its mouth and Pittsburgh, Pa.; and the Missouri River between its mouth and Bismarck, N. D.; and on the killing or capture of any of such birds on or over the shores of any of said rivers, or at any point within the limits aforesaid, from any boat, raft, or other device, floating or otherwise, in or on any such waters.

Regulation 6. Zones

The following zones for the protection of migratory game and insectivorous birds are hereby established:

Zone No. 1, the breeding zone, comprising States lying wholly or in part north of latitude 40° and the Ohio River and including Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, Nebraska, Colorado, Wyoming, Montana, Idaho, Oregon, and Washington—25 States.

Zone No. 2, the wintering zone, comprising States lying wholly or in part south of latitude 40° and the Ohio River and including Delaware, Maryland, the District of Columbia, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Kentucky, Missouri, Arkansas, Louisiana, Texas, Oklahoma, Kansas, New Mexico, Arizona, California, Nevada, and Utah—23 States and the District of Columbia.

Regulation 7. Construction

For the purposes of regulations 8 and 9, each period of time therein prescribed as a closed season shall be construed to include the first day and to exclude the last day thereof.

Regulation 8. Closed Seasons in Zone No. 1

Closed seasons in zone No. 1 shall be as follows:

Waterfowl.—The closed season on waterfowl shall be between December 16 and September 1 next following, except as follows:

Exceptions: In Massachusetts the closed season shall be between January 1 and September 15.

In Minnesota and North Dakota the closed season shall be between December 16 and September 7.

In South Dakota the closed season shall be between December 16 and September 10.

In New York, other than on Long Island, and in Oregon the closed season shall be between December 16 and September 16.

In New Hampshire, Long Island, New Jersey, and Washington the closed season shall be between January 16 and October 1.

Rails.—The closed season on rails, coots, and gallinules shall be between December 1 and September 1 next following, except as follows:

Exceptions: In Massachusetts and Rhode Island the closed season shall be between December 1 and August 1.

In New York and on Long Island the closed season shall be between December 1 and September 16; and

On rails in California and Vermont the closed season shall be until September 1, 1918.

Woodcock.—The closed season on woodcock shall be between December 1 and October 1 next following, except as follows:

Exceptions: In Maine and Vermont the closed season shall be between December 1 and September 15.

In Massachusetts, Connecticut, and New Jersey the closed season shall be between December 1 and October 10.

In Rhode Island, Pennsylvania, and on Long Island the closed season shall be between December 1 and October 15; and

In Illinois and Missouri the closed season shall be until September 1, 1918.

Shore birds.—The closed season on black-breasted and golden plover, jacksnipe or Wilson snipe, and greater or lesser yellowlegs shall be between December 16 and September 1 next following, except as follows:

Exceptions: In Maine, Massachusetts, and on Long Island the closed season shall be between December 16 and August 1.

In Minnesota and North Dakota the closed season shall be between December 16 and September 7.

In South Dakota the closed season shall be between December 16 and September 10.

In New York, other than Long Island, and in Oregon the closed season shall be between December 16 and September 16; and

In New Hampshire and Washington the closed season shall be between December 16 and October 1.

Regulation 9. Closed Seasons in Zone No. 2

Closed seasons in zone No. 2 shall be as follows:

Waterfowl.—The closed season on waterfowl shall be between January 16 and October 1 next following, except as follows:

Exceptions: In Kansas, Oklahoma, New Mexico, and Arizona the closed season shall be between December 16 and September 1; and

In Maryland, Virginia, North Carolina, and South Carolina the closed season shall be between February 1 and November 1.

Rails.—The closed season on rails, coots, and gallinules shall be between December 1 and September 1 next following, except as follows:

Exceptions: In Tennessee and Louisiana the closed season shall be between December 1 and October 1; and

In Arizona the closed season shall be between December 1 and October 15.

Woodcock.—The closed season on woodcock shall be between January 1 and November 1, except as follows:

Exceptions: In Louisiana the closed season shall be between January 1 and November 15; and

In Georgia the closed season shall be between January 1 and December 1.

Shore birds.—The closed season on black-breasted and golden plover, jacksnipe or Wilson snipe, and greater and lesser yellowlegs shall be between December 16 and September 1, next following, except as follows:

Exceptions: In Alabama the closed season shall be between December 16 and November 1.

In Louisiana and Tennessee the closed season shall be between December 16 and October 1.

In Arizona the closed season shall be between December 16 and October 15.

In Utah, on snipe the closed season shall be between December 16 and October 1, and on plover and yellowlegs shall be until September 1, 1918.

Regulation 10. Hearings

Persons recommending changes in the regulations or desiring to submit evidence in person or by attorney as to the necessity for such changes should make application to the Secretary of Agriculture. Whenever possible hearings will be arranged at central points, and due notice thereof given by publication or otherwise as may be deemed appropriate. Persons recommending changes should be prepared to show the necessity for such action and to submit evidence other than that based on reasons of personal convenience or a desire to kill game during a longer open season.



LONG-EARED OWL.

Photographed at Camden, N. J., February 9, 1913, by Julian K. Potter

The Migration of North American Sparrows

TWENTY-THIRD PAPER

Compiled by Prof. W. W. Cooke, Chiefly from Data in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES

(See Frontispiece)

BLACK-THROATED SPARROW

The individuals occupying the southeastern part of the range of the Black-throated Sparrow from central Texas to Northern Mexico,—typical *Amphispiza bilineata*—remain so commonly in winter at the northern limit of the breeding range that no migration dates can be assigned to those individuals that move south in the winter. The birds from farther west in New Mexico, Arizona and California—separated as the subspecies *A. b. deserticola*, or the Desert Sparrow—are true migrants, wintering along the southern boundary of the United States. In their spring migration they have been noted as arriving at Silver, N. M., March 11, 1884; Carlisle, N. M., March 21, 1890; Bedrock, Colo., April 17, 1908; San Felipe Cañon, Cal., March 22, 1895; and Furnace Creek, Cal., March 22, 1890.

BELL'S SPARROW

The Bell's Sparrow is a non-migratory species, inhabiting the lower parts of southwestern California and northwestern Lower California.

SAGE SPARROW

The Sage Sparrow has been separated into three forms: The California Sage Sparrow (*Amphispiza nevadensis canescens*), comprises the most western individuals occupying a small area in east-central California and western Nevada, where they are non-migratory; the Gray Sage Sparrow (*A. n. cinerea*), is limited to the west coast of central Lower California and is non-migratory; the main bulk of the Sage Sparrows (typical *nevadensis*) breed from Washington, Idaho and Wyoming to southern Colorado and winter from southern Utah to northern Mexico. The individuals of this form are strictly migratory and are among the early migrating Sparrows, their arrival having been noted at Rupert, Idaho, February 28, 1909; Camp Harney, Oregon, March 11, 1875; and near Boulder, Colo., March 18, 1904.

LINCOLN'S SPARROW

Lincoln's Sparrow is divided into two races. The typical form breeds from Nova Scotia to Alaska and south to the mountains of Southern California and New Mexico. It winters from the southern United States to Guatemala. The race known as Forbush's Sparrow (*Melospiza lincolni striata*) is restricted in summer to the coast region of Alaska, and 'migrates as far south as southern Lower California.

LINCOLN'S SPARROW

SPRING MIGRATION

PLACE	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Weaverville, N. C.			May 6, 1893
Washington, D. C.	3	May 6	May 3, 1885
Princeton, N. J.			May 8, 1894
Fire Island Light, N. Y.			May 9, 1882
Ithaca, N. Y.			May 12, 1899
Alfred, N. Y.	2	May 17	May 16, 1908
Eastern Massachusetts	6	May 11	May 7, 1896
Monadnock, N. H.			May 13, 1902
Durham, N. H.			May 13, 1899
Westbrook, Me.			May 12, 1900
Point de Monts, Quebec			June 2, 1884
St. Louis, Mo.	4	April 25	April 21, 1909
Central Illinois	3	May 3	May 1, 1889
Chicago, Ill.	2	May 9	May 8, 1895
New Harmony, Ind.			April 17, 1902
Oberlin, O.	8	May 10	April 25, 1901
Southwestern Ontario	5	May 13	May 6, 1901
Ottawa, Ontario	4	May 16	May 12, 1905
Grinnell, Ia.			April 22, 1890
Sioux City, Ia.	3	May 9	April 28, 1900
Southern Wisconsin	3	May 15	May 19, 1903
Southern Minnesota	6	May 5	May 1, 1892
Manhattan, Kan.	5	April 24	April 9, 1892
Onaga, Kan.	12	April 24	April 6, 1902
Southeastern Nebraska	6	April 23	April 17, 1890
Southern Arizona	3	March 11	March 5, 1881
Fort Lyon, Colo.			April 2, 1886
Salida, Colo.			April 19, 1908
Cheyenne, Wyo.			April 23, 1888
Tacoma, Wash.			April 14, 1908
Okanagan Landing, B. C.	2	April 20	April 18, 1906
Terry, Mont.			May 10, 1897
Great Falls, Mont.			May 15, 1892
Columbia Falls, Mont.			May 15, 1895
Aweme, Manitoba	3	May 14	May 12, 1907
Indian Head, Sask.			May 13, 1907
Edmonton, Alberta			May 13, 1903
Ft. Simpson, Mack.			May 16, 1904

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Washington, D. C.	7	May 18	May 21, 1893
Hartford, Conn.			May 23, 1892
Monadnock, N. H.			May 28, 1902
Hickman, Ky.			May 16, 1899
St. Louis, Mo.	4	May 15	May 23, 1882
Central Illinois	4	May 21	May 28, 1897
Oberlin, O.	5	May 19	May 23, 1904
Detroit, Mich.			May 26, 1907
Central Iowa	7	May 16	May 18, 1909
North Freedom, Wis.			May 28, 1904
Lomita, Tex.			May 5, 1878

SPRING MIGRATION, continued

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Northern Texas.....	5	May 14	May 20, 1885
Onaga, Kan.	14	May 11	May 21, 1892
San Diego, Cal.			March 25, 1861
Pasadena, Cal.			May 3, 1896

FALL MIGRATION

PLACE	Number, of years' record	Average date of fall arrival	Earliest date of fall arrival
Chilliwack, B. C.	2	September 11	September 6, 1888
Los Angeles, Cal.			September 18, 1897
Nebraska City, Neb.			September 17, 1900
Lanesboro, Minn.	4	September 16	September 10, 1889
National, Ia.			September 9, 1908
Chicago, Ill.	4	September 21	September 11, 1888
Point Pelee, Ontario.			September 20, 1906
Southern Michigan.	3	September 30	September 28, 1879
Lexington, Ky.			September 7, 1905
Scotch Lake, N. B.			August, 10, 1900
Intervale, N. H.			September 7, 1890
North Truro, Mass.			September 13, 1888
Portland, Conn.			September 21, 1892
Englewood, N. J.			September 10, 1898
Washington, D. C.		October 4	September 30, 1894

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Southern British Columbia.	3	October 12	October 21, 1888
Yuma, Colo.			October 4, 1906
Aweme, Manitoba.			October 7, 1908
Lincoln, Neb.			November 3, 1900
Onaga, Kan.	5	October 21	December 2, 1903
Lanesboro, Minn.	4	October 19	October 23, 1887
Central Iowa.	5	October 19	October 25, 1884
Southern Michigan.	3	October 8	October 9, 1904
Chicago, Ill.	5	October 6	October 9, 1898
Lexington, Ky.			October 20, 1904
Belmont, Mass.			November 1, 1898
Buffalo, N. Y.			October 27, 1900
Princeton, N. J.			October 25, 1875
Parkville, N. Y.			November 27, 1896
Washington, D. C.	2	October 19	October 21, 1888

SWAMP SPARROW

SPRING MIGRATION

PLACE	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Washington, D. C.	8	April 12	Rare, winter
Baltimore, Md.			April 3, 1898
Erie, Pa.			April 20, 1902
Morristown, N. J.	5	April 12	March 25, 1887
New Providence, N. J.	5	April 20	March 21, 1893
Saratoga, N. Y.			February 27, 1880
Auburn, N. Y.			April 4, 1902
Hartford, Conn.	4	April 22	April 11, 1888
Providence, R. I.	4	April 13	April 4, 1897
Taunton, Mass.	3	April 18	April 15, 1888
Beverly, Mass.	8	April 19	April 14, 1903
Southern New Hampshire	6	April 25	April 14, 1905
Portland, Me.	3	April 24	April 20, 1906
Phillips, Me.	4	April 28	April 26, 1906
Yarmouth, N. S.			April 25, 1904
Pictou, N. S.			April 26, 1895
Chatham, N. B.			May 1, 1897
Quebec City, Canada			May 6, 1904
Godbout, Canada			June 2, 1884
Southern Missouri	4	March 11	March 5, 1902
Central Illinois	3	March 19	March 2, 1904
Bloomington, Ind.	3	March 24	March 5, 1895
Oberlin, O.	8	April 23	March 16, 1908
Chicago, Ill.	15	April 7	March 22, 1907
Southern Michigan	6	April 9	April 3, 1907
Toronto, Ont.	3	April 5	April 2, 1891
Guelph, Ont.	5	April 24	April 12, 1902
Ottawa, Ont.	5	May 10	April 18, 1906
Palmer, Mich.	2	May 17	May 13, 1894
Keokuk, Ia.	8	March 26	March 4, 1894
Hillsboro, Ia.	4	March 29	March 8, 1897
Grinnell, Ia.	5	April 11	April 6, 1886
Madison, Wis.	4	April 16	March 29, 1908
Lanesboro, Minn.	8	April 13	April 5, 1888
Minneapolis, Minn.	4	April 14	April 11, 1889
Elk River, Minn.	4	April 19	April 13, 1886
Independence, Kan.			March 20, 1905
Southeastern Nebraska	5	April 3	March 24, 1890
Aweme, Manitoba	8	May 6	April 27, 1908
Oak Point, Manitoba			April 24, 1884
Osler, Saskatchewan			May 4, 1893
Fort Chipewyan, Alberta			May 23, 1901
Fort Resolution, Mackenzie			June 22, 1903

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Northern Florida	4	April 23	April 28, 1903
Kirkwood, Ga.			April 29, 1902
Raleigh, N. C.	4	May 9	May 14, 1907
Washington, D. C.	17	May 12	May 19, 1859
Baltimore, Md.			May 24, 1903

SPRING MIGRATION, continued

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Southern Louisiana.....	8	April 26	May 3, 1898
Bay St. Louis, Miss.....			April 22, 1902
San Antonio, Tex.....			April 5, 1891
San Angelo, Tex.....			April 25, 1885
St. Louis, Mo.....	5	May 7	May 11, 1886
Keokuk, Ia.....	3	May 3	May 15, 1894
Hillsboro, Ia.....	5	May 4	May 15, 1900
Oberlin, O.....	9	May 15	May 25, 1906

FALL MIGRATION

PLACE	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Flathead Lake, Mont.....			August 11, 1900
Mosca, Colo.....			October 2, 1907
Lawrence, Kan.....	2	October 8	October 2, 1885
St. Louis, Mo.....	3	October 18	October 17, 1905
Southern Louisiana.....	5	October 5	September 26, 1895
Southern Mississippi.....	3	October 12	September 18, 1896
Washington, D. C.....	10	October 7	September 28, 1890
Raleigh, N. C.....	10	October 20	October 10, 1888
Kirkwood, Ga.....	6	October 23	October 15, 1903
Northern Florida.....	5	October 18	October 4, 1903

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Aweme, Manitoba.....	9	October 7	October 14, 1901
Ravenna, Neb.			October 28, 1899
Lawrence, Kan....			October 28, 1905
Elk River, Minn.....	3	October 13	October 15, 1885
Lanesboro, Minn.....	3	October 21	November 18, 1892
Grinnell, Ia.....	4	October 26	November 1, 1886
Keokuk, Ia.....	6	November 4	December 15, 1896
North Freedom, Wis.....	3	November 3	November 12, 1904
Chicago, Ill.....	7	October 20	November 9, 1906
Palmer, Mich.....			October 14, 1894
Southern Michigan.....	5	October 29	November 6, 1907
Ottawa, Ontario.....	12	October 8	October 22, 1895
Southwestern Ontario.....	7	October 15	October 24, 1901
Chatham, N. B.....			October 20, 1907
Montreal, Canada.....	3	October 11	October 18, 1884
Southwestern Maine.....	10	October 14	November 15, 1904
Cambridge, Mass.....			December 29, 1884
Providence, R. I.....			November 1, 1904
Coney Island, N. Y.....			December 20, 1876
Morristown, N. J.....	4	November 2	December 19, 1908
Washington, D. C.....	6	October 27	Rare, winter

Notes on the Plumage of North American Sparrows

TWENTY-SECOND PAPER

By W. DeW. MILLER

(See Frontispiece)

Swamp Sparrow (*Melospiza georgiana*, Figs. 1 and 2).—The bright cinnamon wings, without white bars, and the tawny brown flanks are the diagnostic features of the Swamp Sparrow. The juvenal (nestling) dress differs from subsequent plumages chiefly in the darker shade of the wings, the coverts lacking the cinnamon of older birds, and in the buffy, black-streaked chest. The resemblance to the young Song and Lincoln's Sparrows is close, but the crown is usually darker.

The first winter plumage is assumed by a complete molt of the body feathers. In this, as in later plumages, the underparts are normally unmarked, but there are frequently a few narrow black streaks on the sides of the breast, rarely extending across the chest. Birds at this stage are often tinged with yellow, particularly about the face. The spring molt involves chiefly the feathers of the crown and throat. In the male, the chestnut cap is assumed, often, however, in the first breeding plumage, streaked with black.

The adult winter plumage, gained by a complete molt in August and September, resembles that of the first winter; but the gray of the head and neck is clearer, and there is usually more chestnut in the crown. (In the figure representing the winter plumage, there is too abrupt and great a contrast between the dark shaded breast and the white belly.) In the fully adult breeding plumage, acquired by a partial spring molt, as in younger birds, the chestnut cap is pure and extensive.

The female resembles the male in all plumages, but the crown is usually streaked with black and with an indication of the gray median stripe; occasional birds, however, scarcely differ from the adult male.

Lincoln's Sparrow (*Melospiza lincolni*, Fig. 3).—Few birds present so little variation in plumage as does this species. Not only are the sexes alike at all seasons, but even the juvenal plumage bears a general resemblance to that of the adult. There is no spring molt, and the only effect of wear is a slight fading of the browns and buffs, bringing the black streaks into sharper contrast. In juvenal dress this species closely resembles the young of the Swamp and Song Sparrows. Even when adult, its general appearance is that of a Song Sparrow, but its buff malar stripe and breast band, and the finer streaking of the latter, serve to distinguish it.

Lincoln's Sparrow is distributed over the greater part of North America. A local race known as Forbush's Sparrow (*M. l. striata*) is confined to the Pacific coast region, breeding in Alaska and wintering south to southern Lower California. It is slightly smaller and more heavily streaked than the common form.

Black-throated Sparrow (*Amphispiza bilineata*, Fig. 4).—In juvenal plumage there is an entire absence of the black face and throat, but the white line over the eye is present; the back, which is browner than in the adult, is obscurely, and the breast more distinctly streaked with grayish black or dusky; the greater wing-coverts are broadly edged with brownish buff.

The black-throated adult plumage is assumed at the first (postjuvenile) molt, and the only effect of wear and fading on the winter dress is the gradual disappearance of the brownish buff shading of the flanks and crissum. The female, in all plumages, is indistinguishable from the male.

The typical form of this species, the Black-throated Sparrow proper (*A. b. bilineata*), is the easternmost form of the genus, ranging from northeastern Mexico north into northern middle Texas. It is characterized by the large size of the white spots on the outer tail-feathers.

The Desert Sparrow (*A. b. deserticola*) inhabits the arid plains from western Texas to California, north to Nevada, Utah, and Colorado, and south into northern Mexico. A third race, slightly smaller and browner, is confined to Mexico.

Sage Sparrow (*Amphispiza nevadensis*, Fig. 5).—The young of this species is conspicuously streaked both above and below with grayish black. At the postjuvenile molt it becomes practically indistinguishable from the adults. There is apparently no spring molt, and the summer plumage scarcely differs from that of winter. The female resembles the male in coloration.

Three races of the Sage Sparrow are recognized. The typical, that is, the first-described form (*A. n. nevadensis*), breeds "from central Washington, central Idaho and central Wyoming, south to southeastern California and southern Colorado." This is much the largest of the three races. The Gray Sage Sparrow (*A. n. cinerea*) inhabits the western coast of Lower California. The California Sage Sparrow (*A. n. canescens*) is confined to "Owen's Valley and adjacent areas in eastern California and extreme western Nevada."

Bell's Sparrow (*Amphispiza belli*, Fig. 6).—Bell's Sparrow is found in the "valleys and foothills of California, west of Sierra Nevada, and Colorado Desert from about latitude 38° south to northwestern Lower California." This species is closely related to the Sage Sparrow, differing in much darker coloration, but agreeing in the pattern, molts and sequence of its plumages.



Notes from Field and Study

An Unusual Site for a Chewink's Nest

Late in June, as I walked through the woods, I heard a sudden scurry among dead leaves, and then *chewink, to whee*, on all sides at once, apparently, resounded in the thicket. And there was a female Chewink with dead grass in her bill, surprised at her nest-building. Close by was her mate, and nearer, in a small hemlock, about two feet from the ground, in plain sight, was a partly finished nest of dead leaves, grass, and roots. I retired from their vociferous alarm, and in a day or two returned to find the nest completed—a rather bulky, loosely built affair, with one egg in it. To this two more were added, bluish tinged, spotted with brown. I visited it frequently during incubation, without disturbing the sitting bird, always finding the male singing his nesting song in a tree close by. They did not show alarm, as I did not too closely approach the nest. I intended to photograph the nest, with the eggs or mother, but time passed quickly, and there were three naked, ugly little birds with wide-open mouths, which the mother bird was assiduously filling, while the male sang from his tree, but at no time, in several visits, offered to feed them.

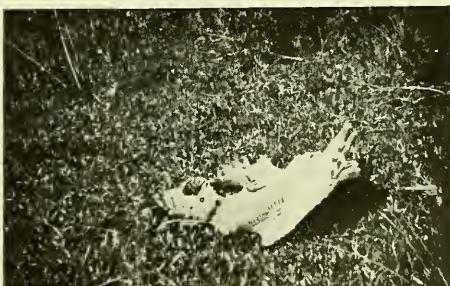
It was certainly not over a week after I had found them hatched that the nest was empty, and I felt sure that they could not have matured sufficiently to leave the nest, but that they were destroyed on account of its unusually exposed site. I did not see or hear anything of the old birds in the vicinity.

Other Chewinks had been feeding their young two weeks earlier, and it occurred to me that this one may have been belated by having used equally poor judgment in the location of a previous nest. I had always found a Chewink's nest on the ground, and then only with great diffi-

culty, after many vain hunts. I had a photograph made of the empty nest, thinking it might interest someone else.—
ANNE E. PERKINS, Gowanda, N. Y.

Hawk and Snake

While riding along the shore of a lake not far from here, I saw a Hawk drop not twenty feet from me, and rode up to see the cause of it. The Hawk had caught a 3-foot black snake, and the snake, in turn, had wound itself around the Hawk's neck. I watched them fight for ten minutes, and, as the Hawk seemed to be



HAWK AND BLACK SNAKE IN COMBAT

getting the worst of it (and I raise some chickens), I left them to fight it out.—WM. E. HERRON, Inverness, Fla.

The Mockingbird at Boston, Mass.

On Thursday morning, January 2, I went on a trip to Jamaica Pond, which is in the Boston Park district. My purpose was to study the ducks that stopped there on their migrations, remaining there until it freezes.

On the way out, I could hear many Chickadees flying overhead and in the branches of the surrounding trees, and now and then a Blue Jay from the other side of the pond.

When not quite halfway to my destination, I noticed a grayish bird that

alighted on one of the lower branches, off to the right. His upper parts were light gray, lower parts lighter, wings and tail nearly black, outer tail feathers and lower part of the primaries white, bill black and slightly curved; unmistakably a Mockingbird.

When I arrived at the pond, the part nearest me was frozen, but the other side was open, so I proceeded to walk around the pond. After I had gotten to a place where the point no longer obstructed my

Our attention is more often called to the preventive measures that insure us against the ravages of certain species of insects, which outnumber us a million to one. Seldom do we consider the benefits derived from those organisms which we see, and with which we associate in our everyday life.

It has been to my profit to watch, for seven consecutive seasons, the Wrens shown in the photographs. They have been a source of pleasure and a marked benefit.



HOUSE WREN LEAVING NEST-BOX

view, I began to scan the pond with my glasses. I identified many species, American Golden-eye, Black Ducks, American Scaup Ducks. On my way back through the Fenway, I saw the Mockingbird again in about the same place.—HASKELL B. CURRY, *Boston, Mass.*

Our Friend, the House Wren

Modern methods of civilization and social life lead most of us to forget the fact that man, although the possessor of the earth, is quite dependent upon the multitudes of plant and animal life that surround him in his struggle for existence.

The common House Wren is no unassuming individual who hides at the least sign of danger. Both male and female can and do battle royally for their home. My observations lead me to conclude that they are efficient and capable enemies of the English Sparrows. The House Wrens in the pictures have kept Sparrows from nesting or roosting in an ivy vine and rambler rose that cover the porch. They accomplish this through their fighting ability. A Common House Wren moves several times more quickly than a Sparrow. Oftentimes I have watched one of these little birds take the advantage by flying directly over the enemy. In

such a position, the Sparrow is helpless. The Wren takes every opportunity to come close and sink his sharp beak into the foe's head and back. Nine out of ten times, the smaller bird is the victor. I have seen a Sparrow fall more than eighteen inches in the air after having been struck by an angry Wren.

We owe the Wrens a debt of gratitude not only because of their fighting ability but also because of their feeding habits. They eat countless numbers of insects that destroy plants and bushes. Potato bugs, lice and aphides are their just prey.

Would you like the Wrens to nest near your home? A closed cigar-box with a hole in one end no larger than a quarter makes them an ideal house. Place it from six to ten feet above the ground, and let it have a southern or western exposure near some trees or bushes. The birds will do the rest. They are happy little friends and bear enmity to no man.—RAYMOND B. BECKWITH, *Olivet, Mich.*

Moving a Robin's Nest

In May, 1907, a pair of Robins built their nest in a honeysuckle vine which effectively shaded one end of our front porch. The eggs were laid, hatched, and by June 7 there were three young birds, fully feathered, but yet too young to leave the nest.

Unfortunately for the peace of the Robins' home, our house was being painted and, as the porch was the next in line to be refinished, the honeysuckle had to come down. But what would become of the Robins' nest and the little Robins? My father and I were at an utter loss. Finally we hit upon the plan of taking the nest and its contents bodily and transporting it to a cigar-box, nailed in a maple tree only eight or ten feet from the original site.

A ladder was put up and, having climbed up, I started to cut the nest loose from the supporting twigs. In a moment a young Robin, unable to withstand his fear of me, flew or rather half fell to the ground. The parents, who had been flying

about uneasily and calling anxiously, now dashed to the spot and perching but a few feet away, berated me unmercifully.

The other two young birds crouched down in the nest, too frightened to move.

After several minutes' work, the nest was cut loose and transported to its new position, and the bold young one replaced.

It really seemed as though we had accomplished our end, and that our task was finished. But no! Without any warning, another, or maybe the same little rascal, flopped out again. Resignedly we set to work to replace the runaway without frightening his brothers. But the old Robins wanted none of our help. They apparently thought that already we had done enough mischief. Swooping down about our heads and calling, half crazy with rage and grief, they made such a commotion and stir that in no time there were at least eight other Robins busily engaged in calling us all manner of harsh and uncomplimentary names.

After a short chase the bird was captured, and once more the three young Robins were united. Fearful lest another might decide to leave home, we hurried away. It was a long time before the Robins, young and old, became reconciled to the new location of their home. But they finally quieted down and went about their business as before.—EDWARD J. F. MARX, *Easton, Pa.*

The Barn Owls' Scrap-pile

I have always been impressed by the accounts given of the wonderful appetite of the Barn Owl for the smaller rodents, but never fully realized what it meant until I chanced to stop under a tree in a cavity of which a family of these birds had their home.

It was a large, isolated oak, and stood on the side of a hill, sloping to the creek, and overlooking a large expanse of swampy meadow land, and low pastures—the natural home of myriads of meadow-mice.

Here the birds had evidently secured a plentiful supply of food, for under the tree

were thousands of pellets, containing skulls, bones and hair of meadow mice. A careful search among this mass of debris failed to reveal a single feather, or other part of any bird, or anything, indeed, but meadow mice and other small mammals.

I have no means of knowing how many years the birds had used the cavity in this old tree as a home, but it had no doubt been for a considerable time, and, although it stands in quite an exposed situation, it has answered their purpose admirably.

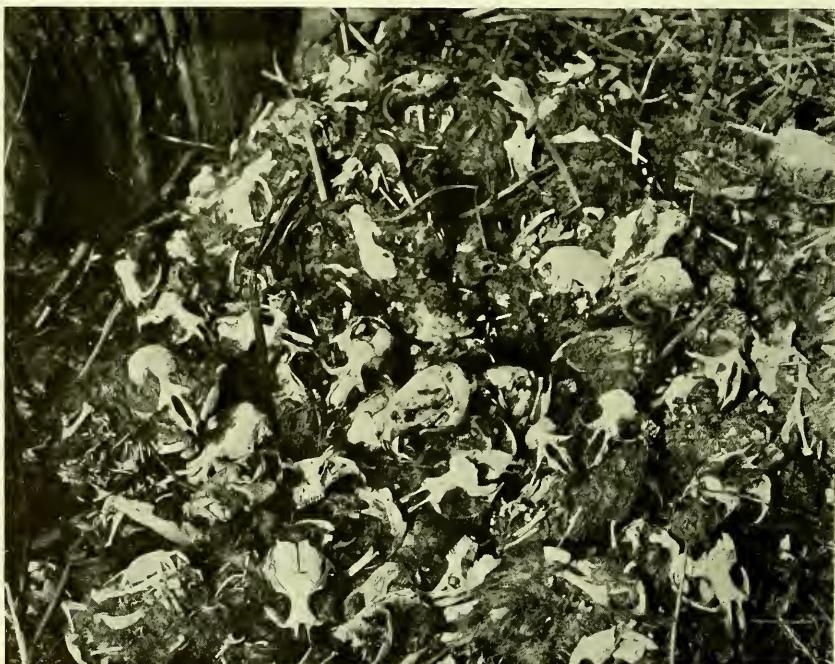
It is difficult to estimate the amount of good the Owls accomplish in keeping in check the noxious enemies of the man who tills the soil, and the sooner he learns to protect and encourage them about his premises, the sooner will these pests cease their destructive annoyance. All of our Owls, perhaps with the possible exception of the Great Horned Owl, are beneficial in a large degree and deserving of good treatment.—THOMAS H. JACKSON, *West Chester, Pa.*

House Sparrow vs. Robin

A pair of Robin Redbreasts showed little human wisdom in choosing for a nest-site a bare oak limb directly above a much-traveled path. Fears were entertained that some wanton passer-by might interfere with them; but trouble came from another source.

Attracted by a bird brawl in the direction of the nest, I observed an English Sparrow cock and two militant hens hectoring the mother Robin on the nest. Neither Robin nor Sparrows appeared near the nest for several days. A peep into the nest revealed a small mottled egg, unmistakable proof that the pesky Sparrows had dispossessed the rightful owners.

The Robins built a new nest in a young maple about one hundred yards away. Again they were set upon by the Sparrows, with the result that a Robin's egg was thrown down. It seems plausible that the marauders committed this deed.—J. H. ROHRBACK, *Richmond Hill, N. Y.*



MASS OF PELLETS OF THE BARN OWL

Book News and Reviews

NOTES OF A BOTANIST ON THE AMAZON AND ANDES. By RICHARD SPRUCE. Edited and condensed by Alfred Russel Wallace, with a Biographical Introduction, portraits, 71 illustrations and 7 maps. 8vo. Vol. I, pp. 1-518; Vol. II, pp. 1-524. Price, \$6.50.

Richard Spruce sailed from England for Para on June 7, 1849, and devoted the succeeding fourteen years and ten months to botanical collecting on the Amazon, the Rio Negro, and in Peru and Ecuador. He returned to England broken in health and, through the failure of a commercial house in Guayaquil, with no material gain to show for a decade and a half of arduous labor, exposure and privation; but he established for himself an enviable reputation as a careful, energetic and fearless explorer in the world of plants. Comparatively little of the contents of the two volumes which recount his experiences in South America was left by him in final shape for publication, but his publishers have been exceedingly fortunate in securing as the editor of Spruce's notes, Alfred Russel Wallace. Not only was Spruce a personal friend of Wallace, but Wallace's own classic explorations in Amazonia were made just prior to Spruce's arrival in that region. Wallace, therefore, is admirably fitted to handle sympathetically Spruce's manuscript and correspondence, selecting those portions which best deserve preservation, and adding annotations which greatly increase their value. The two volumes resulting, published by Macmillan & Co., in London, 1908, have recently been imported by the New York house of this name and are, therefore, now readily accessible to American readers.

While Spruce has comparatively little to say about birds, this record of his contact with nature primeval cannot fail to interest every lover of nature, nor to make its strong appeal to those who admire courageous, uncomplaining persistence, toward whatever end it be directed.

Furthermore, the book contains a large amount of information concerning the country, of means of transportation and subsistence, which is still of value. It is illustrated with reproductions of Spruce's sketches, photographs, and several excellent maps.—F. M. C.

OUR VANISHING WILD LIFE, ITS EXTERMINATION AND PRESERVATION. By DR. WILLIAM T. HORNADAY, Director of the New York Zoölogical Society. Published by the New York Zoölogical Society and sold by Charles Scribner's Sons, \$1.50. Illustrated.

This is the first attempt which has been made in this country to treat in extended popular style the subject of the passing of the wild bird and animal life, as a result of the selfish activities of mankind. Doctor Hornaday, as a naturalist and a big-game hunter of extended experience, has here brought together a large array of facts gathered during his many years of observation. He has also drawn freely from various bulletins of the United States Biological Survey, reports of State Game Commissions and publications of the National Association of Audubon Societies. From all these sources he has culled his material and prepared an illustrated volume of 411 pages, the majority of which make as interesting reading as is to be found in the best novel, and infinitely more instructive.

The author deals with the former abundance of wild life in this and other countries, and traces, by stages, its disappearance. He also outlines methods by which bird-slaughter may be stopped, and gives many examples of the good results accomplished in efforts at bird-protection. The language used is, at times, exceedingly vigorous and, while there may be those who will not agree with all he says, or approve of just the way in which he says it, no one can fail to recognize the forceful message which the book carries.

The volume is dedicated to "William

Dutcher, Founder and President of the National Association of Audubon Societies."—T. G. P.

BIRDS COLLECTED OR OBSERVED ON THE EXPEDITION OF THE ALPINE CLUB OF CANADA TO JASPER PARK, YELLOWHEAD PASS, AND MOUNT ROBSON REGION. By J. H. RILEY, Special Number of The Canadian Alpine Club Journal, Sidney, Vancouver (Care of S. H. Mitchell, Secretary-Treasurer.) 1912. Pp. 47-75.

This paper is based on field work done during July and August, 1911, when, as a member of the Alpine Club of Canada's expedition, Mr. Riley, representing the United States National Museum, was given exceptional facilities to study the bird-life of this heretofore little-known part of Canada.

His annotated list includes 78 species, of which a Song Sparrow (*Melospiza melodia inexpectata*) and a Fox Sparrow (*Passerella iliaca altivagans*) are recognized as new forms. The Willow Ptarmigan was found with young, and the essentially topotypical specimens taken of the White-tailed Ptarmigan are believed, on comparison, to indicate that a southern (*L. l. altipetens*) as well as northern (*L. l. peninsulae*) form of this bird should be recognized. Statements are made in connection with several other species which add to our knowledge of relationships and distribution.

Besides Mr. Riley's paper, there are also papers on mammals (pp. 1-44) and on reptiles and batrachians (pp. 45, 46), by N. Hollister, and one on plants (pp. 76-97), by Paul C. Standley. There are half-tones of localities and of specimens, and a large-scale folding map by Arthur O. Wheeler.—F. M. C.

ABSTRACT OF THE PROCEEDINGS OF THE LINNÆAN SOCIETY OF NEW YORK. Nos. 20-23, for the years ending March 10, 1908; March 9, 1909; March 8, 1910, and March 14, 1911. Date of issue, February 8, 1913. 122 pp., xiv plates, and a line cut.

This is the first Linnæan Society publication since the *Abstract* that appeared

in October, 1907. The *Abstract* proper summarizes the business, etc., and also the more important observations and the papers offered at each meeting in the years mentioned. This is followed by three illustrated articles of some length. "Bird's-nesting in the Magdalen Islands," by P. B. Philipp, tells of a midsummer trip he and T. F. Wilcox made thither and to Bird Rock, and of the birds there, many of whose nests they found and photographed, often with the birds themselves. A particularly interesting find was a pair of Semipalmated Sandpipers, with their nest and eggs; this species was not previously known to breed south of northern Labrador. The same author contributes "The Bird Colonies of Pamlico Sound," describing a midsummer visit to them with B. S. Bowdish, C. G. Abbott, and H. H. Brimley. They studied colonies of Laughing Gulls, Royal, Common, and Least Terns, and Black Skimmers, and three pairs of Cabot's Terns. Together these articles are illustrated by eighteen excellent photographs of scenery and bird life, and each is followed by a briefly annotated list of all the birds observed—fifty-five species at the Magdalens and Bird Rock, and twelve about the islands in Pamlico Sound. The third article is by John Treadwell Nichols, and is "A List of the Fishes [239 species] Known to Have Occurred within Fifty Miles of New York City," each with the briefest mention of its abundance and season. There are good drawings of ten species.—C. H. R.

FIELD, FOREST AND STREAM IN OKLAHOMA. being the 1912 Annual Report of the State Game and Fish Warden, John B. Doolin, to the Governor of the State of Oklahoma, the Honorable Lee Cruce. Compiled by Frederick S. Barde. 1913. 159 pp. and numerous half-tone illustrations.

This very readable and attractively illustrated report is encouraging evidence of the progress of wild-life protection in Oklahoma.

Among the chapters devoted to birds, one contains a preliminary list of 227 species of known occurrence in the state.

The Hawks, injurious and beneficial, are treated in another chapter. There are also several pages on bird-migration, and accounts of the Wild Turkey and Prairie Chicken.—W. DeW. M.

CASSINIA: Proceedings of the Delaware Valley Ornithological Club, No. XVI, 1912. Philadelphia, Pa. 8vo, 72 pp., 1 plate.

The series of biographical sketches of early Philadelphia ornithologists, by Witmer Stone, is continued with an account of George Archibald McCall, illustrated with his photograph. Mr. Stone concludes that "General McCall played no small part in building up our knowledge of the North American avifauna; although, like many other field naturalists, he had no selfish desire to gain notoriety by publishing all his notes over his own name, but gave the results of his experience cheerfully to others, who could use them in the advancement of his favorite science."

W. W. Cooke contributes an article on 'Bird-Migration in Pennsylvania a Hundred Years Ago.' He compares the migration dates of twenty-one species, as recorded by Dr. Benjamin S. Barton, in 1791, with the average dates of arrival in late years, and concludes that the birds have not changed their times of spring arrival in the last hundred years.

A 'Preliminary Report on Roosting Habits of the Purple Grackle in the Delaware Valley' is furnished by Julian K. Potter, based on the observations of himself and nine other members of the Club.

An interesting article on the great nesting of the Passenger Pigeon in Pennsylvania in 1886 is reprinted from the "New York Times" of May 9, 1886. While at that time there was a state law in force prohibiting the capture of the Wild Pigeon in their nesting season, the law was wholly disregarded and not a single arrest of an offender was made. Strict enforcement of the statute at that time might have materially altered the subsequent history of this virtually extinct species.

Spencer Trotter writes of the days before the founding of the Delaware Valley Club,

giving his recollections of the local ornithologists and collectors of that period.

Under 'General Notes' are included records of unusual occurrences for 1912, and a list of forty-one species observed at Moorestown, N. J., on December 25. The 'Report of the Spring Migration of 1912,' and miscellaneous records, are unusually full, occupying twenty-two pages.

The number closes with the 'Abstract of the Proceedings of the D. V. O. C., 1912,' 'Club Notes,' 'Bibliography 1912,' and a list of the officers and members of the Club.—W. DeW. M.

LIFE AND ADVENTURES OF AUDUBON, THE NATURALIST. By Robert Buchanan. J. M. Dent and Sons, Ltd., London, and E. P. Dutton & Co., New York. Small 8vo. 335 pp. Price, cloth, net, 35 cents; leather, 70 cents.

To the bird-lover this volume is a particularly welcome addition to the Everyman's Library. The work consists chiefly of extracts from the journals of Audubon, connected by the editor into a running narrative.

An essay by John Burroughs, originally published in the New York *Nation*, in 1869, forms the introduction.

The Ornithological Magazines

THE AUK.—The July number opens with W. Stone's 'Bird-Migration Records of William Bartram, 1802-1822,' the same being a reproduction, in part, with notes by Mr. Stone, of an old diary kept by this naturalist of the early days. Simplified spellers should read and take heart, while synonymists may also find something new. The close correspondence of the dates of arrival of birds a century ago as compared with modern time is striking.

'Concerning the Flight of Gulls,' by A. Forbes, is a contribution to the problem of soaring or gliding, about which there are many opinions to explain well-known facts. A gliding bird is still a far better heavier-than-air machine than is an aëroplane, probably because flight has been practised by birds a good many more years than it has by men.

Three valuable contributions to the life-histories of certain birds are furnished—one by Miss A. R. Sherman on 'The Nest Life of the Sparrow Hawk,' one by E. S. Cameron in 'Notes on Swainson's Hawk in Montana,' and one by W. M. Tyler on 'A Successful Pair of Robins.' Such observations are of the greatest value, and indicate an interest in ornithology that augurs well for its future as an out-of-door science. The indoor side is touched upon by H. L. Clarke, who adds to his previous list of papers 'Anatomical Notes on *Todus*, *Oxyruncus* and *Spindalis*.

J. L. Peters illustrates his 'List of Birds of Quintana Roo, Mexico,' etc., by a map, and describes several new geographical races. H. S. Swarth discusses 'The Status of Lloyd's Bush-Tit as a Bird of Arizona,' and states that all the supposed occurrences are merely records of the young of the Lead-colored Bush-Tit. There is evidently still something to be learned regarding the plumages of North American birds. Many of us will be interested in 'Some North American Birds in Panama,' by L. L. Jewel.

We should be grateful to our painstaking editor for his activity in reviewing, not only the newest books, but the bird articles of many journals. 'The Auk' becomes thereby more cosmopolitan than it has ever been, and its value as a medium of reference is greatly enhanced. We are glad to see that Mr. Ridgway's 'Color Standards and Color Nomenclature' is at last published, but we fervently hope it may not lead to finer discrimination of color races.—J. D., Jr.

THE CONDOR.—The May number of 'The Condor' contains an unusual number of general articles. Two of them, by Aretas A. Saunders, describing the nesting of the Marsh Hawk and the Short-eared Owl, are based on observations made near Chouteau, Mont., in the summer of 1912. The period of incubation of the Marsh Hawk was found to be 31 days, and in 33 or 34 days more the young left the nest. In a brief article on 'The Wild Turkeys of Colorado,' Prof. W. W. Cooke

gives the salient points in the local history of the birds, and concludes that the eastern Wild Turkey never occurred in the state and that Merriam's Turkey is the only one entitled to a place in the Colorado list. In an interesting account of 'The Rocky Mountain Pine Grosbeak in Utah,' E. and A. O. Treganza give the results of their observations in the Wasatch Mountains, in 1912. On July 3, a nest containing 3 eggs was found on American Fork Creek, near the Iowa Copper Mine, at an altitude of 7,000 to 8,500 feet. It is interesting to note that these observations on the Rocky Mountain bird correspond closely with those on the California Pine Grosbeak, the eggs of which were discovered by M. S. Ray, June 19, 1911, near Pyramid Peak, Calif., at an altitude of 8,000 feet (Condor, XIV, p. 181, and mentioned in BIRD-LORE, XIV, p. 360). Altogether, nine nests of the Rocky Mountain Grosbeak were examined but only one of them contained four young, the usual number of eggs or young being three.

Four short papers on birds of Colorado, California, and Kansas contain records of local interest. Warren contributes notes on 14 species found in Mesa County, Colo.; Ray adds 'Some Further Notes from the Tahoe Region'; Lamb and Howell, 'Notes from Buena Vista Lake and Fort Tejon'—an account of the breeding birds found at the Lake in June, 1912, including a colony of 600 Farallon Cormorants and White Pelicans; and Wetmore describes briefly the effect of the severe winter of 1911-12 on the Woodpecker, Carolina Wren, and Cardinal, in the vicinity of Lawrence, Kansas.

Taylor gives a timely 'Synopsis of the Recent Campaign for the Conservation of Wild Life in California,' in which he mentions thirteen important amendments to the game laws, which were secured at the recent session of the legislature. This article was prepared before all the bills had been approved, and it should be noted that one or two of these amendments, including the one providing absolute protection of the Band-tailed Pigeon, failed through the veto of the governor.—T. S. P.

Bird-Lore

A Bi-Monthly Magazine

Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Contributing Editor, MABEL OSGOOD WRIGHT

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Bird-Lore's Motto:

A Bird in the Bush Is Worth Two in the Hand

BIOLOGICAL Survey Circular No. 92, "Proposed Regulations for the Protection of Migratory Birds," which we reprint in this issue of BIRD-LORE, is doubtless the most important document in relation to bird-protection which has ever appeared in this country—possibly in any country. Indeed, in application, its provisions promise to be so far-reaching that the mind cannot at once grasp its full significance. In brief, the government at Washington has declared that migratory birds are the property of the nation, and not the individual assets of sportsmen, market-gunners, game-dealers, or millinery collectors, and that they shall be protected by a federal law, based on due consideration of all the facts involved, and not subject to the endless variety of local influences which render state laws so unstable. Hereafter, therefore, it will not be necessary to watch with apprehension every legislature in session, lest some pernicious measure be introduced or some hard-won law be repealed or so modified as to be rendered useless.

But wholly aside from its potentialities as a preserver of bird-life, one is impressed by the fact that in passing the act on which this Circular No. 92 is based, the law has paid an eloquent tribute to science. The drafting of the "regulations" for which the act provided was not placed in the hands of committeemen whose proceedings might be controlled by the wishes of their constituents, but, fully appreciating

the need of the service of experts, the matter was entrusted to the Department of Agriculture, with the knowledge that its Bureau of Biological Survey was equipped both with men and data to prepare satisfactorily the regulations called for. Only those who have appeared before legislative committees to combat ignorance, prejudice, self-interest, perhaps worse, in the effort to secure the passage of some desirable bill, can understand how truly miraculous it seems to learn* that, in effect, so far as migratory birds are concerned, the "Game Committee" of every state in the Union consists of T. S. Palmer, A. K. Fisher, and W. W. Cooke!—members of the Biological Survey, who have prepared the regulations proposed.

But our satisfaction goes further. These professional ornithologists were qualified to act not only because of their individual fitness, but because they were in possession of adequate information concerning the distribution, migration, and food of North American birds. And for this information they are largely indebted to the thousands of volunteer observers and contributors who, ever since 1885 (when the Committee of the American Ornithologists' Union from which the Survey sprung, issued its first call for coöperation) have been supplying the Survey with data.

While, therefore, we gladly give our thanks to Messrs. Shiras, Weeks, and McLean, champions in Congress of federal bird-protection, and to all the individuals and organizations who helped to secure the passage of this law, let us not forget the generally isolated workers who have supplied the ammunition, without which the battle could not have been won.

As for the regulations themselves, the committee appears to have handled successfully a novel and exceedingly difficult problem. Doubtless, the discussion invited will make even more effective the law finally adopted, and we particularly hope that the Bobolink will be protected at all seasons.

*From Biological Survey Circular No. 93 'Explanation of the Proposed Regulations for the Protection of Migratory Birds.'

The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the editor, at 53 Arlington Avenue, Providence, R. I.

THE VALUE OF CO-OPERATION, continued

During the last season, an entertainment of unique interest was presented to the American public, which it would have profited every child of school age, as well as every adult, to see. This was the remarkable series of moving pictures made by Mr. Ponting on the Antarctic expedition of the late Captain Scott, which is described and illustrated in a recent issue of the *Scientific American* (June 21, 1913).

Only those who took advantage of the opportunity to gain a clearer and more vivid conception of the conditions of polar exploration, and in particular, of the natural history of the Antarctic region, by seeing these pictures and listening to the brief but instructive lecture which accompanied them, can realize how much such an entertainment might be made to accomplish in the way of stimulating interest in geography and bird- and nature-study, if it were brought directly to the attention of scholars and teachers.

To enumerate only a few striking subjects which Mr. Ponting's pictures so graphically represent, volcanoes, glaciers, seals, penguins, skua-gulls, killer-whales, sledges and sledge-dogs, camping-outfits, and operations, taking samples and testing the temperature of sea-water at different depths, may be cited.

Hitherto unobserved habits of the Weddell seal, such as its method of gnawing a path through the ice, were recorded by the photographer, while the *actual hatching* of a skua-gull's egg is undoubtedly the first attempt to show on the screen this obscure process of nature (see *The Auk*, Vol. XXX, No. 2, p. 290, Craig's Studies of Bird Behavior).

The penguin films alone make up a set of pictures of rare attractiveness, while, throughout the entire series, the conscientious effort to reproduce those scenes and activities which would best convey a truthful idea of nature in the vicinity of the South Pole, and the methods and difficulties of polar exploration, can be followed and appreciated.

It is probably true that a relatively small number of school-children saw these pictures, and it is also equally true that, if our Audubon Societies had taken sufficient interest to introduce and vouch for the educational value of this entertainment, many hundreds of children and adults might have been reached, who never even heard of it.

Would it not be worth while to be on the lookout for ways of coöperating with the schools and the public in matters like this, where a hint here and a suggestion there might aid people in knowing the worth, not only of an entertainment of moving pictures, but also of many other things likely to be of moment to the nature-student?

The great attraction of moving picture shows for the mass of our people is so widespread that it is rather surprising that a larger number of nature-study films have not been made and distributed to managers of these entertainments. A college professor recently ran across a series of excellent moving pictures of the activities of a tumble-bug, in a small city show-hall, which illustrates very well the point that even insignificant, as well as more conspicuous and well-known objects of nature may be brought to the attention of the public in a vivid and instructive manner.

Let us help the spread of reliable nature-study knowledge through every available channel, teaching the public in every way possible.—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise X: Correlated Studies: Botany; Basket-making and Weaving; Modeling; Reading

BIRD-CRADLES

As was explained in the last exercise, birds can be said to be at home only *where they nest*, while their nests are merely *cradles* for their young, and should not be wrongly called homes, either for immature or adult birds.

If you have taken time to fill out, only in part, the outline given for a comparative study of nests and nesting-data, you will have discovered several rather surprising facts, first, the great variety of birds' cradles with respect to position, materials and methods of construction, shape, size and height from the ground; second, the striking variation in dates of nesting, number, shape and weight or size of eggs laid, and the length of the incubation period; third, the condition of the young when hatched and the length of time spent in the nest, and, lastly, the diversity and difference in latitude of the summer and winter ranges of many species of even our commonest birds.

Let us now consider briefly some of the different types of nests which are formed among our North American birds, noting again that a typical nest is made up of an inner and an outer part. Sometimes one or both of these parts may be lacking, and nothing but the nesting-site be visible; nevertheless, most birds make some preparation for the care and protection of their eggs, according to their particular habits and habitats.

It is a long step, a very long step indeed, from the beautifully woven, suspended nest of the common Oriole to the rocky ledge where the Murre lays its single, long-pointed egg side by side with hundreds of similar individuals of its kind. Nevertheless, the Oriole is no more constant in returning to the accustomed nesting-site, and perhaps no more solicitous for the care of its eggs and young, than the Murre.

Think of the female Oriole, almost hidden with her eggs in a snug, deep nest, swinging cosily with every breeze, safe from enemies and intruders as well as from storms; and then try to picture hundreds and even thousands of Murres clinging to a precarious position on a rocky islet, crowded closely side by side, each parent holding its single egg, point outward, between its legs, thus furnishing the warmth and protection which are necessary for proper incubation.

Or, look at the nest of a Spotted Sandpiper, if you are so lucky as to stumble across one in the eel-grass along the sandy salt-water coast, or in the weeds and low bushes along fresh water. It may appear to be nothing but a small hollow, scooped in the sand, and lined with scarcely more than an occasional spear of grass, or perhaps, merely with a few grasses pulled about and over it as a screen; yet this nesting-site has been selected with much care and well serves the purpose of hiding the large, spotted, cream-white eggs, as you will be convinced when you have tried to find it a second time, or to direct someone else to it.

Remember that the young of the aquatic Murre and semi-aquatic Sandpiper are *præcocial*—that is, hatched covered with down—ready to care for themselves almost from the eggshell, while the *altricial* young of the Oriole are blind, helpless, nearly naked creatures, unfit to seek for food or to find protection from the strong rays of the midday sun, from storms or chilling rains, or to escape from enemies of their kind.

The cradle of a bird, then, indicates to a considerable extent the habit of the species to which it belongs, and the condition of the young at birth.

As may be inferred, *præcocial* species have less use for elaborately constructed nests than *altricial* species, since they need to provide only a safe receptacle for their eggs during the period of incubation, without concern for a protective cradle for their newly hatched young.

This explanation probably accounts in part for the simple means which such birds have for safeguarding their eggs.

Nests in holes or banks are of a higher type, and are intermediate between the primitive devices of most of the *præcocial* birds and the complicated structures of some of the *altricial* birds. These nests in many cases, however, have the inner part or lining carefully selected and arranged. Baron von Berlepsch, in a long series of experiments with artificial nesting-holes, discovered how symmetrical the inner dimensions of such cavities must be, before they are suitable, even with proper lining material, to serve as bird-cradles.

Among the more or less complicated nests of altricial birds, we find two general types: the so-called "statant" nest (stationary or standing, built up from a foundation) and the more complicated "pensile" nest (hanging, suspended from a support).

Nests of the statant type may be placed upon the ground, in bushes, upon the branches of shrubs or trees, or upon beams, shelves, or other artificial foundations. Those of the first kind are usually loosely put together, often without much regard to attachment, so far as the outer part is concerned, though usually containing a well-formed inner cup.

The nests of the Towhee, Meadowlark, Swamp and Vesper Sparrows are familiar examples of ground-nesting species. It is interesting to notice the locations of ground nests, for, quite contrary to expectation, one may find such nests by the roadside, in open pastures, and other apparently unprotected places. While ground-nests of this kind may often be easily detached from and, in fact, may seem to have little if any point of attachment to the ground upon which they rest, it is not unusual to find them rather strongly built into the hollow or tuft of grass where they are placed, showing care on the part of the builder with reference to the site selected and the permanence of the nest.

Other loosely-constructed nests of the statant type resemble platforms, and are usually made of small twigs or sticks, such as the nests of the Cuckoos and Herons; or are more bulky, like the nests of Crows and Hawks.

Statant nests of a more finished kind may be found in bushes or on the branches of trees. The Catbird makes an extremely shapely nest of twigs interwoven with leaves and grasses; at times, neatly rounded, both on its inner and outer sides; at times less perfectly formed on the exterior, though almost invariably showing a smoothly twined lining of rootlets.

The nests of the Robin and Wood Thrush and Phœbe are made solid and of nice contour by means of mud, although much variation occurs in the amount of mud used by different individuals of these species.

Perhaps no more exquisite structures can be found in our native bird architecture than the lichen-covered cradles of the Wood Pewee and Ruby-throated Hummingbird. It would be difficult to draw a line of distinction between these bird-cradles and those of the Vireos and Orioles, so far as artistic finish is concerned.

A freshly built Vireo's nest, hoary with lichens and spiderwebs, seen in the dewy air of early morning, is truly an object of great beauty; but the amount of this decoration varies considerably among individuals, so that one need not be surprised to detect differences in workmanship in these cradles, which at first sight seem all of one pattern and finish.

The loosely woven and rather shallow hammock of the Acadian Flycatcher is particularly interesting with regard to the method of its attachment and its decoration. Although from beneath one may look up through the meshes of the nest and see the eggs and young, I venture to state that the Acadian's

nest is seldom detached by the strongest wind, so tautly are its edges woven to and about the supporting branch.

In localities where the chestnut is common, the Acadian's cradle is cunningly trimmed with tassels from this particular tree, giving a characteristic touch which the keen observer will not fail to recognize.

And here it might be said that the study of nest-architecture and decoration from the standpoint of botany is extremely instructive, since birds make use of such a variety of vegetative materials in building their nests.

The deep closely woven cradles of the Orioles suggest strength and pattern as their main features of interest. Collect an old nest of this kind and try to tear it apart, to test its strength, or to unravel it, to discover its pattern of weaving.

But so manifold are the variations and specific differences in the nests of birds that space is lacking to more than point the way to this fascinating part of bird-study.

The following comparative catalogue of the nesting-sites and materials used by the different orders of our North American birds may serve to illustrate more graphically than any further description the almost endless variety displayed in this important part of the birds' activities.

Comparative Catalogue of Nesting-Sites and Materials Used by the Different Orders of North American Birds

I. Beginning with the Diving Birds, we find that some place their nests among rushes of a slough or tule-lake, others on the ground, often on a muskrat house near water; while others select a crevice in the rocks, or make a burrow in the ground, or lay their eggs on a bare ledge on some rocky islet. As these birds are aquatic by habit, the slight nesting material used by certain species is selected from the stems and leaves of aquatic plants or decaying and water-soaked vegetation in the vicinity. Certain other species merely make a small hollow in the ground or elsewhere, using no materials for a lining to the cavity.

II. We may look for the nests of the Long-winged Swimmers on the ground of moors or tundras, on rocky cliffs, in grassy or reedy marshes, on islands, on stumps, or in bushes and trees, on the salt marshes of the coast, on tussocks of grass, or simply on the ground, unless disturbed, when certain individuals have been known to select a nesting-site in tall trees.

These nests may be simply unlined depressions in the ground, or lined with a few grasses, shells or pebbles, or sometimes they may be made of moss, seaweed, sticks, flags and leaves, with grass and feathers for lining.

III. The nesting-habits of some of the Tube-nosed Swimmers are unknown; but certain species of this order nest in holes in rocks, on ledges of rocky cliffs, or in burrows under rocks, fashioning a scanty cradle for their eggs with a few grasses and feathers.

IV. The Totipalmate Swimmers are extremely interesting with respect to their choice of a nesting-site, for we find some seeking holes in rocks or cliffs, others nesting on the ground, still others selecting low bushes or high trees; while a certain few show a decided preference for mangrove and cypress swamps.

The nests of these large birds are very primitive in structure, like those of the pre-

ceding orders, but we find a few grasses, feathers, seaweed, sticks, reeds, rootlets or pebbles used in their construction.

V. The Lamellirostral Swimmers, or Ducks, Geese and Swans, make up a large order of widely distributed species, whose nesting-sites are more various than the materials used in making their simple nests.

Holes in trees or cliffs, depressions on the ground among rocks or scrubby bushes near water, hollow trees or stumps, secluded nooks in high grass or reeds or even brush, sometimes far from water, or in short prairie grass, beneath rose-bushes, in reeds over water, or merely a hollow on dried grass, are congenial sites selected by species of this order.

The outer part of the nest, if any is made, may be of twigs, leaves, grasses or moss, or of reeds, lined, in some cases, with down. Curiously enough, one species prefers a lining of white down, while another plucks gray down from its breast to furnish the desired material.

VI. The Long-Legged Ducks, or Flamingoes, nest in colonies on mud flats, laying their single egg in a slight depression formed on the top of a regular, truncated cone of mud, which is built up some eight to fourteen inches from the ground.

VII. Spoonbills, Herons, Ibises and Bitterns vary considerably in nesting-habits; for we find the nests of some in tall trees, in marshes only $2\frac{1}{2}$ feet over water, in mangrove bushes, in reedy marshes, in trees and bushes of medium height, or on the ground, the latter being restricted usually to secluded islets.

A platform of sticks suits the Spoonbills, Herons and Storks, while the Ibises prefer a nest of reeds and weed-stalks, and the Bitterns a nest of rushes, plant-stems, grasses or, in one instance, of willow twigs lined with maiden cane leaves.

VIII. As might be expected, The Paludicola, or Marsh-birds, seek nesting-sites about marshes or near water, sometimes choosing a bush or small tree, or a secluded nook in rushes over water, sometimes restricting their nesting-area to fresh-water or to salt-water. Grasses, reed-stalks, roots, leaves, twigs, or simple platforms of weed-stalks, are used in the construction of the nests, showing little advance over those of the three preceding orders.

IX. The Shore-birds, or Limicola, although forming one of the largest orders of our native birds, show less dissimilarity in their nesting-habits than the members of some of the smaller orders. As a rule, all of the shore-birds nest on the ground except one species, which uses the abandoned nests of Robins, Grackles, Waxwings and other tree-building species. We find the nesting-site in various places, near woods, in marshy places or in grassy marshes, in the grass itself, on dry ground, near fresh or salt water as the preference of the species may be. The nests of these birds are very simple, being slight depressions in the ground, or very scanty structures of dry leaves, grasses, stones or moss.

X. With the transition to land-birds, in Order X, we find about the same simple method of building among the *Gallinæ*, although these birds have easy access to a variety of nesting-material. Hollows in grasses or moss or on the ground, filled in with leaves and feathers, make up their nests, which we may look for near or beneath bushes, at the base of stumps, sometimes in oak woods in the sprouts around stumps, often sheltered by overhanging limbs, or in the far north in dwarf bushes or patches of sedge in the vast expanses of a tundra.

XI. The *Columba*, or Doves and Pigeons, although building on or near the ground (sometimes in trees), make loose platforms of sticks or small twigs, resembling the nests of Herons in type, though their nests are not so large, and are perhaps rather more neatly built.

XII. A new kind of nesting-site is found among the Raptore, that is, holes in trees and dead stubs; but these cavities are not shaped with the care and nicety exhibited by

the Woodpeckers, while a large number of the Birds of Prey put together a clumsy nest of sticks in the upper branches of tall trees. We may say that the holes selected by certain of these species are more like retreats than nests, being especially preferred by Owls, whose nocturnal feeding-habit causes them to shrink from the light of day. Certain Birds of Prey select hollow stumps or logs, depressions beneath rocks, bushes or palmettos, secluded places in bushes among reeds or tall grasses, or in marshes, small trees or chaparral growth; others choose rocky ledges and inaccessible cliffs for a nesting-site; and still others nest in the cabbage palmetto, tops of dense bushes, in towers or steeples, holes in banks, or even in old Hawks', Crows', or Squirrels' nests. Often a deserted Woodpecker's hole is used, when the less skilful raptorial bird profits by the workmanship of the bird carpenter of the woods.

XIII. The nesting-habits of our few Parrots and Paroquets are still largely unknown, although they are thought to prefer hollow cypress or sycamore trees as sites for their nests.

XIV. Strangely diverse in all of their habits, the Cuckoos and Kingfishers show little if any resemblance in either nesting-sites or materials. The former build platforms of sticks, lined with a few grasses or catkins, on low trees or bushes, often vine-covered bushes, while the latter excavate deep holes in banks, strewing them with fish-bones as the young are fed.

XV. The symmetrical holes of the Woodpeckers are found in orchard trees, living pine trees, in dead trees, in cypresses over 40 feet above the ground, or in other trees from 15 to 80 feet up. One cannot but admire the precision and rapidity with which Woodpeckers work, and the snug cradles which they fashion.

XVI. Again, in the *Macrochires*, or Nighthawks, Whip-poor-wills, Swifts and Hummingbirds, there is very great diversity in the nesting-habit. The first two are content with a hollow on the ground or on leaves in thickets or woods, or even with a slight depression on a flat rooftop or rock in the open field.

The Swifts build remarkable baskets of dead twigs, glued neatly together and fastened against the walls of a chimney or, in times past, in hollow trees; while the Hummingbirds fashion an exquisite lichen-covered cup of the true statant type, placed on the limb of a tree. Plant-down and plant-fibers are used in these dainty cradles, which shelter the tiniest bird-babies we have.

XVII. It would take some space to catalogue all of the nesting-sites and materials selected by the *Passeres*, our largest Order of birds. We find these perching birds making their nests not only on the ground, in bushes and on trees, but also in crevices of rock, on rafters and beams, in holes, in banks or trees, behind the loose bark of trees, in reeds, beneath cliffs or eaves, at the base of stumps, in mossy banks under roots, in cane-brake, gourds and bird-houses, in weeds and beneath scrub palmetto, in or about logs, salt marshes—in short, in almost every place on *land* that other orders frequent.

As to nesting-materials, the Perching Birds use a great variety in a highly skilful manner to make their shapely cradles, certain species preferring certain materials if it is possible to obtain them. Green mosses, coarse twigs, weed-stalks, pine needles, coarse and fine grasses, moss, mud, hempen fibers, leaves, straw, vegetable fibers, blossoms, coarse down, fine strips of bark, birch-bark and grape-vine, pieces of string, paper or cloth, reed-stalks, sticks, seaweed, decaying vegetation, etc., enter into the construction of the outer part of different nests. For lining their nests, these birds procure horsehair, wool, thistledown, felted fur, feathers, soft moss, rootlets, plant-down, cotton, the soft inner bark of trees, sometimes tucking in a cast-off snake's skin and weaving all with great nicety, using the webs of spiders, long hairs, blossom stems, vine tendrils and fine grasses, in the process of construction.

Thus, from the merest suggestion of a nest, a hollow in the ground, to the intricate

pensile nests of the highest types of nest-builders, we find every gradation in workmanship and elaboration among our native birds.

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A. H. W.

FROM YOUNG OBSERVERS

Our Bird Club

I live in Concord, Mich. I am eleven years old and in the fifth grade. We have a bird-club in our room of which I am a member. We are studying the colors and habits of birds of various kinds.

I enjoy studying the birds very much. You may think the Blue Jay is a cruel bird; well, he is, but he does more good than harm. I am sure that you are all familiar with this bird. Once I saw a Blue Jay in an evergreen tree. He would fly to the ground and then to a tree; this he did several times. Whether there was food there or not, I do not know.

Our club took up a collection, and our teacher sent for nearly twenty pictures of different kinds.

Lately we have been studying the Robin and the Goldfinch, which was very interesting. We had the pictures of them colored and a picture that was not, and we colored the picture that was not, the same as the colored one.

We put out bird-houses and lunch-counters, and have had quite good success.

If you ever study birds, you will find it interesting.—ELEANOR LYMAN (age 11).

[This letter is to be commended for the amount of information which it contains, the genuine enthusiasm that it expresses, and the habit of observation which it suggests is being formed. Perhaps this little girl will keep on watching the Blue Jay until she discovers just where and how it finds its food.—A. H. W.]

The Robin

A year ago this spring, two Robins built their nest in one of our apple-trees. The first thing they did was to take some twigs and make the framework by twining them together. They next took some mud from our flower-beds, which had recently been watered. Then they took some ravelings which I had put out. One day I saw four blue eggs in the nest. Then the mother Robin sat on the eggs for about fifteen days.

As I was looking out of the window one morning, I saw that the mother Robin was not on the nest, but in it were four baby Robins waiting for mother and father to bring them their breakfast.

One day mother and I heard the old Robins making a great fuss. We went out and saw a baby Robin on the ground, and a strange cat was trying to catch it. We put the baby back in the tree and drove the cat away. After that, I threw out bread crumbs every morning.—MARION BOULDREY (aged 10) Fourth grade, *Concord, Mich.*

[Careful observation and an interesting account. The cat might well have been killed, if it had no responsible owner. When cats are licensed properly, like dogs, there ought to be fewer strays around to molest birds.—A. H. W.]

Notes on the Downy Woodpecker and Carolina Wren

On August 24th, as I was sitting on my veranda, I heard a strange note from a China-ball tree. Then I saw a small bird fly into a silver-leaved maple. The bird was a male Downy Woodpecker. He was sitting on a small dead limb, making the bark fly, and eating the insects as he ran about. I noticed him eating ants, chinch-bugs and caterpillars more than anything else. He used a peculiar call-note—*cheep*—repeated at intervals of about five minutes.

On the 26th, I saw another, which acted in the same manner as the first. I also saw a pair of Carolina Wrens with two young. The latter were very pert-looking, and one concealed itself so well that I could not distinguish it from the bare ground, and came near stepping on it.—MAURICE B. EMMICH (age 11), *Vicksburg, Miss.*

[The squeaky note of the Downy Woodpecker is probably not commonly associated with this species as often as the more familiar “roll” and drumming notes. Compare the notes of the young in the nest-hole with those of the adult. Although the chinch-bug is not given in ordinary diet-lists of Downy Woodpeckers, it is not improbable that this insect, which is such a pest in the corn- and wheat-fields of the Mississippi Valley, should now and then fall a victim to this industrious bird. If the Downy will sample the fruit of the mulberry, as the writer has observed, it may quite likely relish a chinch-bug when one happens in its way.—A. H. W.]

Practical Home Protection of Birds

I am inclosing two photographs for Bird-Lore. They are both of Wood Thrushes, one with its young, and were taken by myself last summer (1912).

We had a pan filled with water, to which Thrushes, Robins, Flickers and many others habitually came.

I am a Junior at New Trier Township High School, and became really interested in birds in the spring of 1912, largely through the zoölogy teacher



WOOD THRUSH

there, Mr. Hildebrand. The pictures inclosed were taken by means of a thread run from the release of the shutter to our front porch, where I would sit and read.—WINTHROP CASE, *Hubbard Woods, Ill.*

[This is a very good illustration of the lifelikeness of a good photograph of a live bird in a natural attitude as compared with some unnatural colored pictures which frequently bear little if any resemblance to the species they are supposed to portray. A picture must convey the idea of motion in repose—whether colored or not, if it truly represents a living bird.—A. H. W.

FROM ADULT OBSERVERS

The Story of the Little Wrens

In the summer of 1906 I was in a small country town in the upper part of New Jersey. The home where I made my abiding-place was an old-fashioned house nestled among the trees. Large orchards on both sides of the house, with rows of maple trees on either side of the roadway, and numerous other trees were scattered about in which the various birds built their nests. I say various, because there were very many varieties of birds. One morning, while eating my breakfast in front of the window, I counted seven different varie-

ties of birds come down for the seeds or crumbs which had been thrown out for them. In the trees near the house, where the branches rested on the roof, a Catbird's nest and two Robins' nests were nestled among the leaves. We put up several boxes and in two of them the Wrens built their nest, but one pair of Wrens built several times, only to have their nest torn down by the English Sparrows, so it was very late before they at last found their home in a box on the end of the shed, which had been placed there for that purpose. Mother Wren sat there very patiently until her little brood of four were all hatched, then one day we heard the baby Wrens crying piteously and, after watching for some time, we did not see Mother or Father Wren come to feed them. We put up a ladder to see if we could discover what was the matter, but could only see the four babies without father or mother. We came down disconsolate, because we knew we could not feed them, as they only eat insects from underneath old decayed timber, but on looking back to the ladder, we were surprised to see Mother Wren with one broken wing hopping up the ladder with her mouth full for her babies. Then she came down again for more, and



Group of 105 grammar-school children, leaving Roger Williams Park Museum, Providence, R. I., after attending a free lecture on birds. 54 of these pupils became members of a Junior Audubon Society as a result of the lecture. The same school has sent 10 different classes to the Museum for bird lectures, and has a total of 178 Junior Audubon members. Since last October, the Audubon Society and the Museum have coöperated in giving 35 lectures on birds to 2,795 children.

H. L. MADISON, *Curator.*

continued going up and down the ladder to feed her little brood until we took the ladder down at night, so the cats would not get to the nest. We put the ladder up every morning and took it down at night, and Mother Wren continued to go up and down to feed her little ones until they were able to fly. She never was able to fly except very short distances, but taught her little ones by coaxing them out of the nest, then flying to the top of the box and coaxing them there, then to the tree near. Her faithfulness to her little brood was a most touching sight, and one long to be remembered. The father never returned and it is to be presumed that he was killed when the mother was injured. While the mother was sitting, the father would often stay on a brush-heap near the house, and sing for nearly an hour. We could talk to him and he would answer, but if we even looked toward the nest he would scold as fast as he could. I felt sorry to have them go away, but hope they had no more mishaps.—HARRIET ANNA CARPENTER, Ramsey, New Jersey.

[This interesting observation is now and then duplicated in other species. Accounts of the Baltimore Oriole and Towhee, which have been disabled by a broken limb but which have persevered in caring for their young, have been printed in recent issues of *Bird-Lore*. Had the food-habits of the Wren been better understood, it might have been possible to assist the mother in finding suitable insect diet for the nestlings. Grasshoppers, beetles, caterpillars, bugs and spiders are all relished by Wrens. A single brood of House Wrens has been observed to dispose of about 1,000 insects in a single day, which suggests the highly beneficial character of this species.—A. H. W.]



KINGBIRD AT NEST

Nest removed for convenience in photographing
Photographed by Guy A. Bailey, Genesee, N. Y.

THE BROWN THRASHER

By T. GILBERT PEARSON

The National Association of Audubon Societies

EDUCATIONAL LEAFLET No. 68

Among the twelve hundred and more species and varieties of wild birds found in North America, there are a certain number so well known that few

A Common Bird indeed are the people who have not made their acquaintance either by actual introduction or by hearsay. The Robin, the Crow, the Jay, and the Eagle, for example, are household words often quite familiar to children long before the little folk are large enough to go afield and observe the birds for themselves. The writers of verse have done much to make some of our feathered friends known to us. In fact, poets have depicted the charms of some birds in such living, rhythmical verse that it is doubtful whether the fame of these birds would ever fade from the memory of mankind, even should the species thus glorified pass for all time from our view.

Many of us, as children, read certain lines regarding the Brown Thrasher. The schoolbook called it "Brown Thrush," and perhaps the name does quite as well. The poem to which I refer is truly a beautiful one, and should be memorized by every child who does not already know it. In it is given much of the creed of the Audubon Society.

There's a merry Brown Thrush sitting up in the tree;
He's singing to me! he's singing to me!
And what does he say, little girl, little boy,
"Oh, the world's running over with joy!
Don't you hear? don't you see?
Hush! look in my tree!
For I am as happy as happy can be."
And the Brown Thrush keeps singing, "A nest do you see?
And, five eggs hid by me in the juniper tree?
Don't meddle, don't touch, little girl, little boy,
Or the world will lose some of its joy.
Now I'm glad! now I'm free!
And I always shall be,
If you never bring sorrow to me."

The Brown Thrasher well deserves the fame which it has achieved as a vocalist, and fortunate is the man in whose garden a pair of these birds have chosen to take up their abode. Its song is the most varied note of the bird chorus heard at daybreak in the northern states. It is the Mockingbird of the North. In fact, so much does its song suggest the musical performances of that masterful vocalist that early American ornithologists often called it the "Ferruginous Mockingbird."



BROWN THRASHER

Order—PASSERES
Genus—TOXOSTOMA

Family—MIMIDÆ
Species—RUFUM

National Association of Audubon Societies

While singing, it usually occupies the topmost bough of some bush or tree and, although it sings mostly in the morning, it may occasionally be heard at any hour of the day. Its voice is loud, clear, and far-reaching, but can hardly be said to possess the sweetness of tone so characteristic of the Wood Thrush and the Veery. The bird's fame is based rather on the wide variety and clearness of notes which it produces, aided perhaps by the fact that it sings much in the immediate neighborhood of man's abode.

Upon arriving in the spring from his winter home in the southern states, this bird usually announces his presence by his voluble song, with which he floods the morning air from his perch on a neighboring tree. In common with many other singing birds, the worry and responsibility of domestic life which shortly come upon him do not, to any notable extent, lessen the force or frequency of his singing.

The nest of the Brown Thrasher is, for the size of the bird, a rather bulky structure. It is mainly composed of dead twigs and possesses a lining of rootlets. The nest is usually placed in a bush or thick cluster of vines, where it is well concealed from the eye of the passerby.

The Nest I recall finding a nest in the main fork of an old pear tree about three feet from the ground, and another which was situated on a small stump, and well screened from view by the sprouts which had grown up above it. Sometimes the nest is even placed on the ground, but it is always well hidden by vegetation. Some observers have recorded that they have seen ground nests built in such wet situations that the dampness working up through the nesting-material caused the eggs to addle. The parent birds, failing to recognize the misfortune which had come to their treasures, would, in some instances, continue to sit on them for several weeks.

The eggs, which are usually four in number, are thickly and uniformly covered with fine dots of cinnamon or rufous brown.

When one approaches the nest of the Crow, if one of the birds is at home, it will usually leave, and will frequently not again be observed until the intruder has left the neighborhood. There are some other birds that Habits have this same habit of deserting their nest on the approach of real or imaginary danger. Such, however, is not the case with the Brown Thrasher.

When an enemy appears, both birds instantly become alert. If one chances to be away, the scolding notes of the one on guard soon recall the absent companion. Together they fly in and out of the bushes, constantly voicing their alarm and disapproval, and often darting viciously at the creature which has trespassed upon their privacy. They become especially excited and annoyed upon the appearance of that most dreaded of all bird enemies—the house cat; and their alarm is not without cause, for seldom is a Thrasher's nest built in such a situation as to be safe from the agile activities of this marauder.

One of the saddest sights in the bird world is to witness the dejected movements, and hear the piteously mournful notes, of a pair of Brown Thrashers whose nest has been despoiled by a grimalkin.

Some years ago, a pair of these birds constructed their nest in a thorn-bush growing on the lawn of a residence where the writer chanced to be visiting. The members of the household became much interested in watching the fortunes of this bird family, and especially were we impressed with the frequency with which the parents fed their young. At this work they were busy all day long. The birds seemed to gather food for the little ones entirely from the lawn of the residence adjacent and the two gardens in the rear, rarely going off this territory.

The Nest on the Lawn

In approaching the nest, they would advance flying low over the grass until within about ten feet of the thorn-bush. Alighting on the ground, they would look around for a moment, to see if any danger was near, and then hop rapidly along to the lower branches, which came down to the ground. Then, from limb to limb they would jump, ascending a sort of irregular stairway to the nest, when we could hear the eager clamor of the four little ones as they received their nourishment. We soon noticed that one bird always went up the right-hand side of the bush, and the other invariably hopped up through the limbs on the left side.

I became curious to know just how often they brought food, and, one morning, with notebook in hand, sat for an hour on the veranda watching the movements of our little brown neighbors. Through my field-glasses I could see that they brought one, and at times apparently two or three, insects or their larvæ at each trip. Every time a bird came to the nest, I made a mark with my pencil. In the middle of the day I made the same observations for an hour, and repeated the records in the evening.

The bird which went up the right-hand side of the bush made a trip on an average of every two and a half minutes, and the bird which went up the left-hand side, made a trip every ten minutes. The young were in the nest in the neighborhood of two weeks. If the birds took only one insect a trip, it would mean that during this interval these Brown Thrashers fed to their young 5,180 soft-bodied worms and insects. This, of course, does not take into consideration what the old birds ate during this time; nor what they consumed during the period of incubation; nor all those delectable morsels which the male fed to the female during the blissful days of courtship. Suppose we include all these, and also what the family of six ate after the young had left the nest and flown off into the bushes; it is a most conservative estimate to say that this pair of Brown Thrashers and their young were responsible, that summer, for the destruction of the lives of over fifty thousand insects, many of which were injurious to the vegetation of the region.

There are some birds which are of such great value to mankind that, even if there were no laws on the statute books to protect them, every man, woman

and child of the entire country should use his utmost influence to see that these birds are not killed by human enemies, and that, so far as possible, they receive strict protection from cats and other domestic animals. There are few birds which are of more service to us than is the Brown Thrasher. Despite this fact, these birds are not infrequently shot through ignorance.

Such an instance arose in connection with the pair of Brown Thrashers mentioned above. One day I heard the report of a little rifle and, looking out of the window, saw that a boy had just fired at one of the birds. By the time I was able to reach the lawn he was taking aim for a second time. I shouted to him to stop, and, running out to the road, told him he must not kill those birds—that we not only wanted them to live, but that it was against the law to shoot them. His father, who had accompanied this twelve-year-old boy on his walk, came up and asked for an explanation of my conduct in interfering with his son. In defense of the young hunter, the father stated: "I have bought my boy a rifle and am teaching him to shoot. I want him to grow up and be a sportsman. Why do you seek to interfere with him in his innocent sport?"

The Little Sportsman
In the days when the father was a boy there were, unfortunately, no Audubon Societies in the country, and there was comparatively little instruction in the schools dealing with the economic value of wild birds and the desirability of preserving them. Still, it seemed incredible that this man who, from his appearance, had evidently prospered in business or by inheritance, should have lived to the age of fifty and never learned better than to think that the greatest service which a Brown Thrasher can render is to serve as a target for a boy who is ambitious to learn the art of skilfully pursuing and destroying the wild life which inhabits the woods and fields.

Occasionally we hear complaints that Brown Thrashers destroy grain and fruit. However, after careful and extended observations, bird experts of the United States Department of Agriculture have reported that 65 per cent of the bird's food consists of insects, mainly beetles. The fruit which they eat is mostly wild varieties, and the damage done to cultivated fruit is exceedingly small. The grain taken appears to be entirely waste kernels scattered in harvesting or hauling it along the roads.

The Brown Thrasher belongs to the Order *Passeres* and the Family *Mimidae*. Its scientific name is *Toxostoma rufum*. It breeds from southern Alberta, Classification southern Manitoba, northern Michigan, southern Ontario, and southern Quebec, and northern Maine, south to Louisiana, Distribution Mississippi, Alabama, and northern Florida, and from the base of the Rocky Mountains in Montana, Wyoming, and Colorado eastward; and winters from southeastern Missouri and North Carolina to south-central Texas, southern Florida, and casually farther north. In the western states it is replaced by several other species of the same genus.

THE TUFTED PUFFIN

By WILLIAM LEON DAWSON

The National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 69

To those who have been fortunate enough to visit some romantic isle off the North Pacific shore, these quaint fowls make an irresistible appeal of interest. "Sea Parrots" and "Jew Ducks," the sailors call them; and we should all be inclined to poke fun at them for their outlandish head-gear if the situation were not so perfectly redeemed by the impeccable behavior of the birds. Masks are essentially ridiculous; but these "Masking Puffins" will not countenance laughter, and the grave solemnity of their regard brings you soon to respect, and then to admiration. For my own part, I confess a positive affection for these droll Quakers of the sea.

Puffins, in common with other species of the *Alcidae*, spend the winter upon the ocean, and are seen near land only when the buffeting of some storm of unusual severity strews the sand with bodies of dead and wounded. As spring advances, these birds are provided with an extraordinary array of nuptial ornaments and appendages. Males and females alike receive, in place of dull black feathers, a white facial mask; and this is prolonged behind from either side into long, waving feather "horns" of a rich, deep straw-color. The eyelid becomes a brilliant red; and the great red beak, always stout and strongly compressed, is further augmented basally by a new set of horny plates of a dull oil-green or delicate horn-color, and these, in turn, exactly match the irides in tint. The feet also become bright vermillion, instead of a pale salmon.

Thus gaily caparisoned, the Tufted Puffins repair to the grassy, sloping hillsides of the rocky islets which constitute their summer homes, and proceed to renovate the old nesting burrows, or else dig new ones. They work intermittently at this. Stejneger, on the Commander Islands, noted that in the early days of the season the Puffins spent only one day ashore in alternation with two days at sea. It is probable, therefore, that the birds engage in the evolutions of courtship during these "sea-days," for I have never seen anything but the most circumspect behavior ashore.

It is difficult to exaggerate the gravity of these tranquil birds. Absolutely silent on all occasions save when caught and harassed, when they may emit a low, raucous groan. They spend much time standing demurely at the entrances of their burrows, and the nearest approach to levity one ever sees is the accidental shaking of the pendent plumes when the bird turns its head.

If a hillside colony is approached suddenly from shore, the standing population, presumably males, pitches downward to sea by a common impulse; while the nest occupants come shelling out by twos and threes and dozens, as one traverses the honey-combed earth. Once a-wing, the Puffin returns



TUFTED PUFFIN

Order—*Pygopodes*
Genus—*Lunda*

Family—*Alcidæ*
Species—*cirrhata*

National Association of Audubon Societies.

again and again to satisfy his curiosity, employing for the purpose great horizontal circles or ellipses, and slowing up a little at perigee. Or, if the nesting island be a small one, the Puffins will circle it a score of times. You know that the birds are justly apprehensive, but there is something so weird and funereal about the whole performance!

Later the Puffins settle upon the surface of the water until the sea is black with them. Each bird dives, if only for a moment, upon the instant of alighting; and it may be that they find it difficult to effect this exchange of medium without a spill. Rising also requires an effort, desperate if the sea is smooth, but easier in proportion to the increasing strength of the wind. Once the invader has left, or else secreted himself, the Puffins return rapidly to reclaim the cooling egg, or to take up the sober vigil at the burrow's mouth. Each alights with uplifted wings held well back. The wings are also lifted from time to time as though to rest them, and they are brought into requisition as balancers whenever the bird attempts to walk. Be the going ever so easy, the Puffin shifts about as gingerly as a slack-wire performer.

A Puffin's bill is so remarkable a creation that a glance at its structure may not be out of place; though as to what may be the necessity of this powerful crushing organ we are frankly ignorant. The bird is not a shallow-water feeder, and so has no need to reduce bivalves. Moreover, in the breeding season it seems to subsist upon small fish, which are as easily taken by the slender-billed Murre. And, if the bill were designed to cope with some stubborn viand of the middle sea, why reduce its size in winter? We do not know. But we do know that the Puffin's bill is wonderfully contrived of some eighteen plates (with underlying membranes), and that of these, sixteen, including "rosettes, lamellæ and selvedges," but chiefly the olive-green basal plates, are deciduous,—they fall away, that is, at the end of the breeding season. Their place is taken partly by underlying feathered tracts, and partly by an underlying horny plate of a deep brown color; and the basal dimensions of the bill are much reduced. Accompanying these changes is a disappearance of the white facial mask with its plumes, and the entire head becomes a uniform blackish color. The vermillion eyelids fade to a sickly salmon-color; and the irides, if we may trust scanty observations, become pale bluish.

A forty-five-degree slope of soil is the characteristic nesting-site of the Tufted Puffin. Here tunnels are driven at random to a depth of three or four feet, and so close together that once, on Erin, one of the Olympiades, by placing a foot in the entrance of a burrow and "fetching a compass," I was able to touch with the hands the entrances of twenty-five others, apparently occupied. This may have been an unusually populous section, but, if we reckoned at half that rate, an acre of ground would carry 2,700 burrows. Hard or rocky soil is not shunned in prosperous colonies, but many efforts here are baffled outright, and "prospects" are at least as numerous as occupied burrows. Elsewhere the top soil on precipitous clinging ledges may be utilized, or else crannies,

crevices, and rock-hewn chambers. Upon the Farallone Islands, California, these birds have little opportunity for digging in the earth, and little necessity for providing fresh burrows, for crevices and cubby-holes abound. These are, for the most part, of an ample and substantial character, as though well maintained, and most of them have, doubtless, seen use measured by cycles rather than generations. Many eggs, and sitting birds as well, are visible from the outside; while some of the nesting-sites are nothing more than the innermost recesses of niches and caves occupied by Murres. On the Farallones, there is a fierce, albeit silent, competition between these silent birds and the rabbits which swarm over the rocks. I have seen impulsive bunnies which, fleeing from fancied danger and taking refuge in the first burrow at hand, emerged more hastily than they went in. The Tufted Puffin is a dangerous, as well as a determined foe, and a bite from that rugged beak will cut to the bone.

Although equipped with so formidable a weapon, the birds, in digging their burrows, appear to depend upon their feet. These are provided with nails as sharp as tacks, and the "finish" of the nesting-chamber usually exhibits a criss-cross pattern of fine lines.

Long grass and dense thickets, as of salal, salmon-berry bushes, or dwarf spruce, occasionally afford refuge to birds hard-pressed for room. Here the Puffin, starting from some exposed edge, drives a tunnel through the matted vegetation and deposits its egg upon the surface of the ground, in shade almost as intense as that afforded by the earth itself.

Only one egg is laid, dull white as to hue, with faint vermiculations of brown and purplish. Because the nest-lining is usually of the scantiest, a few salal leaves or bits of grass, the egg is often so soiled by contact with the earth as to pass for dingy brown.

The baby Puffin is your true *Puffin*, and it is undoubtedly he who gave this trivial name to the group. He is, indeed, a mere puff-ball of down, for he is densely covered at birth with down at least an inch long, and you could blow him away (Pouf!) if he were not so fat and anchored in a hole. The down is of a uniform dull slaty black, and the only touch of color about this infant pin-cushion is a showing of dull red near the middle of the otherwise black bill.

In assuming the first plumage, the juvenal shows many of the characters of the winter adult, but it is whitish or light gray below. With the approach of its first spring, it takes on first the feather tufts, of a dull brownish hue, then the white facial mask, with corresponding bill changes; but whether or not the yearling bird breeds, is an open question. The non-breeding birds remain at sea, where they are nearly as exempt from scrutiny as are baby sea-serpents.

The Tufted Puffin enjoys the widest breeding range of any bird in the North Pacific, except the Pigeon Guillemot; and, although not so thoroughly distributed as that species, it is undoubtedly far more abundant. On the

American side, it breeds as far south as the Santa Barbara Islands, California, and as far north as Cape Lisburne, in northwest Alaska. It is, however, of comparatively rare occurrence in Arctic waters. On the Asiatic side, its breeding range extends as far south as Japan; while its center of abundance is generally conceded to be the Aleutian Islands. Deposition of eggs occurs as early as May 1 in southern California, and as late as August 1 in northern latitudes; but fresh eggs may also be found somewhere from June 1 to June 20 at any given point in its breeding range. Thus, on certain islets off the west coast of Washington, I have found the Puffins punctual to a day, and deposition occurring with practical uniformity; whereas, on the Farallones, 1911, there was a steady increase in numbers from the 1st to the 28th of May, with a few still to be heard from on June 3. The winter range of this species comprises the open ocean, and the birds are occasionally driven shoreward along the Aleutian chain and the coasts of approximate latitudes.

From time immemorial, the natives of the North Pacific islands have placed large dependence upon the Puffins, Tufted and Horned, to supply both food and clothing. Advantage is taken of the bird's inability to alter quickly its course of flight—your Puffin is no dodger—and large numbers are caught annually by means of small nets mounted on poles,—a sort of glorified butterfly hunt. The Puffin meat is not distasteful, as sea-birds go, although white men do not care for it. More important to the native Aleutian is the uniform tough skin, which goes into the making of parkas, the famed feather-coats of the North. These garments, each requiring the use of from forty-five to fifty Puffin skins, are made up feather-side in, and are nearly impervious to cold.

With the natives we shall, of course, have to be very patient until such times as the channels of distribution have been perfected, so that they may have Gloucester codfish, Yakima potatoes, and Ventura beans for food, instead of the flesh of "Toporki" (the Commander Island name for Puffin), and garments made of good Irish wool, instead of flimsy bird-skins. With the fishermen (imported) we shall have to be very firm, reminding them that Uncle Sam is willing to subscribe liberally for fish spawn, to fill the ocean if need be, so that there may be indeed food for all, birds and humans; but very unwilling to see his guests assault the ancient rights of his feathered wards.

For ourselves, we need no economic excuse to cloak our interest in these quaint old-men-of-the-sea, the Tufted Puffins. Remote, unobtrusive though they be, they belong to us to study, to protect (as need arises), to enjoy. A visit paid to one of their breeding haunts is like a trip to fairyland, a real and tangible bit of romance. Such a privilege, properly exercised, is the inherent right of every American citizen, and should be safeguarded to our children for all time. The maintenance in full measure of these and other sea-fowl is so obvious an esthetic advantage to the race that no taint of commercialism ought to enter in, at any point, upon our consideration of them.

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 974 Broadway, New York City

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Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

\$5.00 annually pays for a Sustaining Membership
\$100.00 paid at one time constitutes a Life Membership
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The Feather Proviso

The paragraph in Schedule "N" of the Tariff Bill which plans to prohibit the importation of the feathers of birds, except those of the Ostrich and domestic fowls, did not fare well at the hands of the Finance Committee of the Senate, to which it was referred after having successfully passed the House of Representatives. The Chairman of this Committee distributed the different schedules among various Sub-Committees for detailed consideration. Thus Schedule "N" fell into the hands of Senators Charles F. Johnson, of Maine, Hoke Smith, of Georgia, and William Hughes, of New Jersey. The millinery interests worked energetically and desperately on these three lawmakers, and eventually induced them to adopt the spirit, although not the wording, of an amendment previously introduced by Senator Moses E. Clapp, of Minnesota, which, if it finally becomes a law, will in a large measure nullify the effect of the anti-importation proviso.

This Sub-Committee, after having evidently reached a conclusion on the matter, reluctantly granted the friends of the birds a hearing. This was done suddenly and without sufficient warning to admit of the presence of many who, had they known in advance, would have gladly availed themselves of the opportunity to be there. There were present,

however, Dr. W. T. Hornaday, of the New York Zoölogical Society, Mr. E. H. Forbush, of Boston, representing the National Association of Audubon Societies, and Dr. Henry Oldys, of the District of Columbia Audubon Society. The scant impression which the array of unanswerable facts presented by these gentlemen seemed to make on the Sub-Committee was a subject which occasioned comment.

So the Sub-Committee made its report to the Finance Committee, and the Finance Committee, adopting their suggestion, has reported to the Democratic caucus of the Senate that they recommend changing the feather paragraph so as to admit the importation of "*the feathers or plumes of birds commonly recognized as edible or pestiferous.*"

Think of it! The feathers of any bird which anyone eats at any place on this green earth, or any bird which any interested person may be pleased to catalogue as a pest, may be imported under this provision! Mr. L. S. Crandall, of the New York Zoölogical Park, has compiled for Dr. Hornaday a list of 1,622 birds which he considers game birds. But remember, the Senators have not said "game birds," but went much farther and said "birds commonly recognized as edible." Few of us would think of calling Robins, Night-hawks, Bobolinks, Flickers, White Ibis and Night Herons as "game birds," and yet in a number of our southern states

these, and also several other species, are "commonly recognized as edible," so their feathers may be imported. In Italy there is hardly a bird that flies, walks or swims but what is "commonly recognized as edible," which would mean that the feathers of European song birds could be imported with impunity. Where is the thing to end, and who is the official who will dare to say that any feathers whatever shall be debarred from importation?

Then, too, pestiferous birds are placed on the unprotected list; but no authority is given for determining just what birds are pests. The city dweller says the English Sparrow is a pest, the suburban gardener declares the Starling is a pest, the rice planter says Bobolinks and Black-birds are pests, the corn-grower declares the Lark and Quail to be pests, the chicken-raiser votes that Hawks are pests, the propagator of fish says Herons and Kingfishers are pests, sailors vow Petrels that warn them of coming storms are pests, the man with a chimney says the Swift is a pest, the Southern grape-grower swears the Mockingbird is a pest, and, under the proposed law, whosoever will may call any bird in the world a pest, and ship its feathers to this country to enrich the pockets of the selfish, greedy traffickers in the plumage torn from the bodies of slaughtered mother birds.

To speak mildly, it looks as though Messrs. Johnson, Smith and Hughes have been imposed upon by the shrewd arguments of the clever attorneys hired by the Millinery Trade. What this Association, the New York Zoölogical Society, and other organizations are now attempting to do is to acquaint the public with just what is going on at Washington, and urge everybody to write the senators from his or her state, and urge the adoption of the feather proviso in Schedule "N" just as it passed the *House of Representatives*. United States Senators will soon be elected by a direct vote of the people, and they will listen right now to what their constituents have to say on important public issues, if the constituents will only speak freely and insist on being heard.

Just before going to press, word was received to the effect that the Senate Finance Committee has decided to strike out the entire feather proviso except the clause which prohibits the importation of Heron "aigrettes"!

Regulations Under Weeks-McLean Law

The United States Department of Agriculture has issued a circular under date of June 23, 1913, giving "Proposed Regulations for the Protection of Migratory Birds." This was done under authority granted the Department by the Federal statute commonly known as the "Weeks-McLean Law," which became effective on March 4, 1913. Accompanying this circular there is also one entitled "Explanation of the Proposed Regulations for the Propagation of Migratory Birds." Any one desiring copies of these for examination may doubtless secure them by addressing the "Secretary of Agriculture, Washington, D. C."

Under the provisions of the law, these rules do not become operative until receiving the signature of the President of the United States three months after their promulgation. This is to give an opportunity for all parties to be heard who may wish to address any complaints or suggested changes to the authorities having the matter in charge.

The entire proposition is set forth under ten headings or "regulations." Briefly, these are as follow:

Regulation 1 defines migratory game birds as *Anatidæ*, including Brant, Wild Ducks, Geese and Swans; *Gruidæ*, Cranes; *Rallidæ*, Rails, Coots and Gallinules; *Limicolæ*, shore birds, including Snipe, Plover, Curlew, Sandpipers, etc.; and *Columbidæ*, being Doves and Wild Pigeons. For the purposes of the regulations, "perching birds which feed entirely or chiefly on insects" are considered as "migratory insectivorous birds."

Regulation 2 declares a daily closed season from sunset to sunrise on all birds enumerated in Regulation No. 1. That is, all night shooting is to be stopped.

Regulation 3 provides a perpetual closed season on all "migratory insectivorous birds," except that Bobolinks may be killed from August 31 to November 1 in the states of Delaware, Maryland, Virginia, South Carolina and the District of Columbia.

Regulation 4 makes a five-year closed season on Band-tailed Pigeons, Swans, Curlew, our three species of Cranes, and all shore birds, except Black-breasted and Golden Plover, Wilson's Snipe, Woodcock and the two forms of Yellow-legs. Five years' full protection is also given Wood Ducks in New York, New Jersey, Pennsylvania, Ohio, Indiana, Michigan, West Virginia, Wisconsin and the New England states. In like manner, Rails are protected in California and Vermont, and Woodcock in Illinois and Missouri.

Regulation 5 permits the killing of migratory game birds only from October 31 to January 1, on the waters or shores of the Mississippi, Ohio and Missouri Rivers, throughout the greater part of their length.

Regulation 6. Here Zones are prescribed as follows: "Breeding Zone" comprises states lying wholly or in part north of latitude 40° and the Ohio River, and "Wintering Zone" being the territory south of this line.

Regulation 7 states that the periods for closed seasons given in Regulations 8 and 9 shall be construed "to include the first day and to exclude the last day thereof."

Regulation 8 deals with closed season in Zone No. 1, or Breeding Zone, and gives dates within which the migratory game birds may be killed in the various northern states. While uniformity has been earnestly sought, some notable variations have been made, evidently to meet local natural conditions or in deference to existing state laws.

Regulation 9 takes up the subject of killing migratory game birds in Zone No. 2, designated as "Wintering Zone." Here also it appears to have been found impracticable to make absolutely uniform regulations for all the states; and the uninformed may ask, for example, why Wood-

cocks should be shot for forty-seven days in Louisiana and only thirty-one days in Georgia.

Regulation 10 explains how persons desiring to recommend changes in the regulations may do so either in person or by attorney, upon making application to the Secretary of Agriculture.

Taking it in its entirety, this is a most remarkable document, and a detailed study of the regulations it contains will serve to impress the reader with the far-reaching beneficial possibilities which lie in the McLean Law. There will probably be many changes suggested, and perhaps some of them will be adopted before the regulations finally go into effect, on October 1, 1913.

This work, which was in no sense an easy task, has been performed by the Biological Survey, the members of the committee having the subject in charge being Dr. T. S. Palmer, Assistant Chief, Chairman; Dr. A. K. Fisher, in Charge of Economic Investigations; and Prof. W. W. Cooke, Migration Expert.—T. G. P.

New England Legislation Preliminary Report

Every legislature in New England has been in session since my last annual report. The work of this Association has been confined very largely to combating bad bills, although some constructive legislation has been secured. There has been a strong tendency to enact bounty laws against Hawks, Owls, foxes, and other so-called vermin. All these laws have been combated with the exception of the one in relation to porcupines which was enacted in Vermont. There has been no great change in legislation regarding the protection of deer, although minor changes have been made in different states. Some gains have been made in the way of close seasons for fur-bearing animals.

Strong attempts were made by the enemies of the birds in Connecticut and Massachusetts to repeal the existing laws regarding spring shooting. These were

defeated after the usual long legislative fight. The shooting season for wild fowl was shortened in Maine, and that for shore birds in Rhode Island. The "omnibus" game law, passed in Vermont, makes the protection of birds in that state very nearly perfect. It carries a plumage provision similar to that in New York; also an appropriation was secured for the work of the State Ornithologist.

It is impossible in this limited space even to mention by title and number the numerous bad bills that were defeated in the several states. Massachusetts has taken a long step forward in bird protection by passing a law allowing the appointment of town bird-wardens. The salary is not limited by the statute, and any town is thus at liberty to employ a warden's full time—something which could not be done under the previous law. Undoubtedly, many towns will avail themselves of this privilege at the town meetings next year. The law was passed too late for them to take advantage of it this year.

We hope that the regulations promulgated by the Department of Agriculture, under the Weeks-McLean law, will obviate the necessity of continual fighting year after year in various legislatures over the question of open and close seasons for wild fowl, game birds and shore birds. The battle this year has been won only by persistent effort and with the coöperation of the many societies, among which may be noted the state and local Granges of Patrons of Husbandry, the Federation of Women's Clubs, and the local clubs and numerous scientific societies. The Massachusetts and Connecticut Humane Societies have helped very generously.

A strong attempt in Massachusetts to secure a law taking away protection from Gulls came very near succeeding, but finally was defeated. Information has come in since to the effect that orders have been sent out from New York for the feathers of large numbers of Gulls. It remains to be seen whether attempts will be made to fill these orders by killing the Gulls on the New England coast.

The introduction of foreign birds is

beginning to handicap bird protectionists in regard to legislation. There is a strong pressure in Massachusetts to remove all protection from Pheasants, which are doing much damage to the farmers' crops. The English Sparrow and the Starling are doing considerable injury in southern New England, and the Starling especially may be blamed for the attempts to remove all protection from Blackbirds. Starlings are associated with Blackbirds in the autumn (and also in the common mind). Many people do not distinguish one from the other, and the injury done by the Starling is attributed to Blackbirds. Grackles, or Crow Blackbirds, also, are increasing in numbers in many parts of New England, and doing some injury to corn. All this has led to a demand on the part of many farmers for the removal of protection from Blackbirds. Several bills were introduced to remove protection from Blackbirds or Starlings in Connecticut, and one, removing all protection from Blackbirds and Starlings of all kinds, at all times, everywhere in the state, passed the House of Representatives. This Association, however, succeeded in having this amended in the Senate, so that now the killing of Blackbirds is allowed only when they are engaged in destroying property. An attempt was made to allow the killing of birds only under permit from the Fish and Game Commissioners, but this failed, owing partly to the fact, perhaps, that it was impossible for your agent to be in two or more states at one time.

Your agent has been handicapped by lack of means for publicity work, and has been obliged to work from hand to mouth, raising money as the work went on. Under the circumstances, perhaps the result has been all that could be expected. A fuller and more detailed report on legislation in New England will be prepared for the annual meeting.—EDWARD HOWE FORBUSH, *Field Agent*.

Great Work in California

The Cooper Ornithological Club of California has, the past year, entered

strongly into the field of wild-life protection. Not only has this Club been particularly active but, through the efforts of the Northern Division Committee, it interested a number of other organizations in uniting to form the California Associated Societies for the Conservation of Wild Life. This occurred on November 7, 1912, and the immediate purpose of the organizations was to plan and carry into execution a vigorous legislative campaign for the better protection of the wild birds and animals of the state. These organizations and their active representatives are as follows: State Audubon Society of California, W. Leon Dawson; Sierra Club, Dr. William F. Bade; California Academy of Sciences, Joseph Grinnell; Tamalpais Conservation Club, J. H. Cutter; Biological Society of the Pacific, Prof. C. A. Kofoid; Pacific Coast Paleontological Society, Roy E. Dickerson; State Humane Association, Matthew McCurrie; Cooper Ornithological Club, W. P. Taylor.

The effect which this organization had on bird and game legislation in California this year was perfectly splendid. Despite a wide-spread indifference, as well as the active opposition, particularly of the Hotel Men's Association and certain of the newspapers, California has never seen so many changes for the better made in the game laws.

The National Association of Audubon Societies, which was pleased to contribute to this California movement, has received a final report from Mr. W. P. Taylor of the University of California, who is the acting head of these Associated Societies. From this we learn that thirteen distinctive gains were made as follows:

1. Sale of Band-tailed Pigeons and Wild Ducks prohibited (Ducks may be sold during November).
2. Shipment of protected wild game prohibited.
3. Civil service for fish- and game-wardens.
4. Propagation of wild game in captivity provided for.
5. Use for food of birds shot destroying crops prohibited.

6. Possession of plumage of wild birds prohibited for any purpose.

7. Bag-limit on Ducks 15 a day, 30 a week.

8. Bag-limit on Quail, 15 a day, 30 a week.

9. License required to either hunt or fish.

10. Provision in law that Fish and Game Commission may carry forward educational work or scientific investigation, as the necessity may arise.

11. Appropriation of \$5,000 for carrying forward educational work and scientific investigation.

12. Aliens prohibited from hunting and bearing firearms.

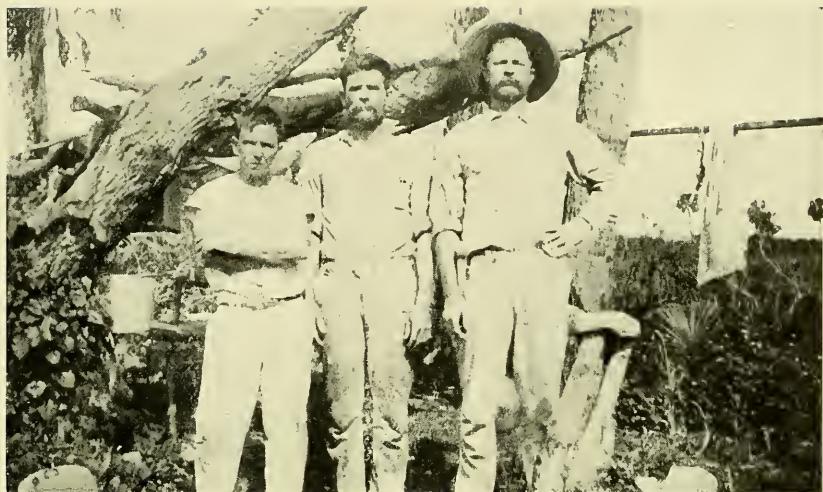
13. Absolute protection accorded the *Ralidae*, limicolaë-shore birds (except Wilson's Snipe), Band-tailed Pigeon, Wood Duck, Ibis, Sea Otter.

The above was accomplished, although much of the energy of the workers was necessarily given to defeating the attempts at adverse legislation; for efforts were made to open a season for shooting Robins Meadowlarks, Blackbirds, and to remove the so-called fish-eating birds from protection. What the bird-lovers of California achieved is not only a matter of everlasting credit to their intelligence and perseverance, but it presents a splendid example of what may be accomplished in other states.

Since the above was written, word has been received that the Governor declined to sign certain bills, thus nullifying the work of the Legislature in passing the schedules indicated above as Nos. 6, 7, 8, 10, 11 and 13. Evidently the Governor of California needs *education* along the line of bird conservation.—T. G. P.

Plume-Hunters Arrested

On May 1, 1913, an attempt was made to raid the Alligator Bay, Florida, Rookery, which is guarded by F. W. Williams, Warden, and Charles Allen, Assistant Warden. Four men entered the rookery early in the morning and commenced shooting as soon as it was light enough to



WARDENS GUARDING ALLIGATOR BAY, FLORIDA, COLONY
Charles Allen who fought the plume hunters on the left



SECTION OF ALLIGATOR BAY, FLORIDA, ROOKERY
Egrets standing on or near their nests

see. Williams chanced to be away but Allen and a boatman went in pursuit of the plume-hunters, whereupon the raiders commenced firing on them.

They returned to the shore, and Allen, securing a rifle, crawled through the swamp to a commanding position and returned the fire with about twelve shots before the plume-hunters left the rookery.

Seven Egrets and one Snowy Egret had been killed and the men had secured the plumes from five of the dead birds, but in their haste to depart left the Snowy Egret and two of the large Egrets with the plumes still unstripped.

Three brothers, by the name of Whidden, have been arrested, and Assistant Warden Allen has positively identified Haynor Whidden as one of those doing the shooting. The arrest of the fourth man is confidently expected, and trial of the offenders will be held at the September term of the Circuit Court of Alachua County.

At once, upon learning of the raid, the National Association authorized Capt. B. J. Pacetti, Inspector of the Florida Government Bird Reservations, to employ the services of a competent attorney to see that proper bail was fixed, and to push the trial to a conclusion with all possible vigor.—T. G. P.

Starlings and Sparrows

How may Starlings and English Sparrows be prevented from taking possession of nesting-boxes erected for the use of native birds, is a question asked us on an average of once every week. Any light thrown on this troublesome question, which will tend to aid in arriving at a proper solution, is therefore most welcome.

One of the letters recently received is from Dr. C. H. Townsend, Director of the New York Aquarium. Referring to his experiences with birds on his place at Greens Farms, Connecticut, he says:

"We put up our Bluebird boxes early in March, and the Starlings were soon noticed entering them. The Bluebirds arrived about the middle of the month and examined the boxes, but, as the

Starlings were generally in the vicinity, they soon disappeared and have not since been seen.

"As I had put up the boxes for Bluebirds, I began to consider how to circumvent the Starlings, and decided to kill and measure one. Fortunately the cat came along with a fresh bird, probably caught in the barn where they roost. I bored holes in a thin piece of wood and soon got the gage of the bird's body. It stuck fast in a one-and-five-eighths-inch hole, so I plugged the two-inch holes in the boxes and bored others of one-and-five-eighths-inch size.

"I ordered a fine house for Purple Martins, but am not hopeful of keeping the Starlings out of it by the same tactics. Martins are larger than Bluebirds, and a one-and-seven-eighths-inch doorway might not accommodate their big wings. If anyone gets an opportunity to gage the body of a Martin, the information will be acceptable to lovers of native birds in the Starling belt.

"During the nesting season of *native* birds, our cat goes into imprisonment. The household fully understands that if the cat gets out during this period his scalp will adorn my belt. Six nests of fledgling birds of various species were destroyed on our place last year by neighbors' cats, and they may have taken all there were. I have no compunctions about shooting, trapping and poisoning cats allowed at large in May and June. People who will not shut up their cats during the birds' nesting season deserve to lose them."

Junior Work in the South

The school year which recently closed was attended with a larger enrollment of Junior Audubon members in bird-study classes in the southern schools than in either of the two previous years since the plan was first inaugurated. Twelve thousand, eight hundred and fifteen children sent in their fees of ten cents, and received in return ten of the Association's educational leaflets, ten colored plates, ten out-

line drawings and an Audubon button. This small fee paid only in part the actual cost of the material furnished them, the difference being subscribed by one of our very greatly interested members.

The following is a complete record by states, and shows the number of classes formed, as well as the number of pupils enlisted in each instance.

State	No. classes	No. members
Ala.	16	280
Ark.	5	119
Fla.	132	2,567
Ga.	39	763
Ky.	62	1,122
La.	7	138
Md.	20	372
Miss.	12	272
N. C.	32	617
Okla.	14	263
Porto Rico.	1	97
S. C.	11	196
Tenn.	81	2,083
Tex.	21	646
Va.	112	1,865
W. Va.	51	1,415
Total.	616	12,815

It affords us much satisfaction to announce that Mrs. Russell Sage, who has almost entirely supported this work, has within the past few days forwarded her check for \$5,000.00, to insure the continuance of the plan another year.

Junior Work in the North

Readers of *BIRD-LORE* may recall that two years ago one of the members of the National Association, impressed with the unexpected results being achieved by the Junior work in the southern schools, contributed five thousand dollars, in order that the same efforts might be tried with school children in the northern sections of the country. We found the pupils here even more responsive, and that year 19,365 were enrolled in bird clubs. This good friend of the birds, and likewise of the children, at once, upon receiving a final statement of the season's work, sent a check for a like amount to be used the past year. Early in April, 1913, it became apparent that the subject was being taken

up so extensively by school authorities that our available funds would soon be exhausted, and, in fact, two thousand dollars additional would be necessary to complete the year. Upon learning of this, our benefactor, whose name I regret to say we are not at liberty to make public, provided the necessary amount.

The following is a complete record by states of the organization accomplished by this support the past school year.

State	No. classes	No. members
Cal.	6	166
Can.	13	290
Colo.	12	245
Conn.	38	704
Del.	5	91
Idaho.	2	28
Ill.	123	2,808
Ind.	117	2,794
Iowa.	48	984
Kans.	11	155
Me.	15	279
Mass.	129	2,705
Mich.	135	2,950
Minn.	87	1,919
Mo.	35	795
Mont.	1	20
Neb.	11	275
Nev.	3	132
N. H.	31	588
N. J.	372	8,326
N. Y.	58	1,136
N. M.	5	137
N. D.	12	277
Ohio.	235	5,247
Ore.	5	95
Penn.	89	2,137
R. I.	51	2,100
S. D.	6	91
Utah.	2	20
Vt.	12	206
Wash.	12	227
Wis.	112	2,334
Wyo.	4	91
Total.	1,797	40,342

Bear in mind that all of these thousands of children not only received systematic instruction on the habits and activities of birds, but were thoroughly drilled in the importance that birds are to mankind, and the profound necessity of preserving them. All well-wishers of the Audubon movement will be pleased to learn that the Secretary has recently received the gratifying assurance that our generous unnamed friend will provide a fund of

Ten Thousand Dollars the coming year, to carry forward and increase this great work of instructing the rising generation on the theme of bird study and bird protection.—T. G. P.

List of Contributors to the Egret Fund

Below is given a list of the contributors to the Egret Protection Fund since the last issue of *BIRD-LORE*.

Previously acknowledged..... \$5,880 26
 Adams, Mrs. A. G..... 500 00
 Adams, Miss Emily Belle..... 1 00
 Albright, J. J..... 5 00
 Allen, Oscar F..... 1 00
 Ames, Miss Harriet S..... 3 00
 Anonymous..... 102 00
 Anthony, Miss Emily J..... 1 00
 Arrison, Mrs. J. M..... 2 00
 Baldwin, Miss Mary A..... 1 00
 Barry, Miss Anna K..... 2 00
 Baxter, Miss Elizabeth K..... 1 00
 Beckwith, Mrs. L. F..... 5 00
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 Ensign, Charles S..... 1 00
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Amount carried forward..... \$6,668 26

Amount brought forward.....	\$6,668 26
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Graham, Mrs. Benj.....	1 00
Grout, A. J.....	1 00
Grosjean, Mrs. Ray O.....	2 00
Hage, Daniel S.....	2 00
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Meyer, Miss Heloise.....	15 00
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Parsons, Miss Mary W.....	5 00
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Pratt, Dr. Fred H.....	1 00
Pulitzer, Miss Constance.....	2 00
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Spaulding, Edward.....	2 00
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Amount carried forward..... \$7,058 26

Amount brought forward.....	\$7,058	26
Thaw, J. C.....	5	00
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		—
	\$7,148	26

New Members

From May 1 to July 1, 1913, the Association enrolled the following new members:

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Brooks, Miss Fanny
Chase, Mrs. Philip A.
Parsons, Miss Mary W.

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Auerbach, Joseph S.
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Bezner, F. O.
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Blake, Arthur
Blake, Mrs. Francis
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Bradford, Miss Elizabeth F.
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Caesar, Henry A.
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Comstock, Miss Ethel C.
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Cuthbertson, Miss E. B.
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Fraser, Miss J. K.
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Gilman, Miss Claribel
Gilmore, Clinton G.
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Harrington, Miss M. E.
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Hayes, Mrs. Orrill
Heard, Dr. Mary A.
Heath, John A.
Heyman, Mrs. M.
Hood, C. H.
Hooper, Miss I. R.
Hoyt, Gerald L.
Jewell, Miss Edith
Johnson, Herbert S.
Jones, Miss Emma C.
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Knowlton, Miss Gertrude W.
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Lewis, Mrs. Frederic E.
Lewis, H. D.
Lichtenstein, Paul
Little, Miss Alice A.
Lobenstine, Mrs. William C.
Locher, M. McClure
Lyon, Mrs. Cecil
Marston, Howard
Martin, Mrs. Mary F.
Maxwell, Miss Matilda
Morse, Miss Margaret F.
Mosle, Mrs. A. Henry
McAlpin, C. W.
McLean, J. E.
Nazro, Mrs. Arthur P.
Osborn, John B.
Paige, Mrs. H. R.
Pearce, Rev. William P.
Pell, Robert and John
Pope, Mrs. Albert
Porter, Miss Juliet
Quint, Mrs. W. D.
Rackemann, Charles S.
Rich, William L.
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 Silsbee, Miss Katherine E.
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 Slocum, Miss Anna D.
 Slosson, Mrs. Annie Trumbull
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Notes from Field and Study

How valuable the suggestions of an Audubon member may be to the officers of the National Association in their endeavors to direct their efforts along useful lines is well illustrated in the case of the anti-importation provision in the Tariff Bill now pending in the United States Senate. Dr. Henry Oldys, the well-known lecturer and a member of the District of Columbia Audubon Society, wrote the Secretary a long letter last December in which he called attention to the fact that the Tariff Act would shortly be revised, and urged that the Association seek to have inserted in one of the schedules a measure to prohibit the importation of feathers. Seeing at once the possibilities that lay in such a proposition, the matter was quickly taken up with the result that a hearing was granted by the Ways and Means Committee of the House of Representatives late in January. Since the inception of the plan, no one has worked harder for its success than has Dr. Oldys.

A BILL to establish a State Game Warden system, supported by a hunter's license tax, was recently enacted by the Legislature of Florida just prior to its adjournment. The law, which was drafted by Hon. John H. Wallace, State Game Warden of Alabama, closely follows the Alabama law, which has proven so acceptable to the people of that commonwealth. While the bill was pending, Miss Katharine H. Stuart of Virginia, who had been lecturing over the state under the auspices of the State Audubon Society, visited Tallahassee and, in company with Mr. Wallace, who arrived the same day, addressed a joint session of the two houses of the Legislature on the merits

of the measure. The opponents of the bill never rallied from the effects of the earnest arguments of Miss Stuart and the eloquent appeals of Mr. Wallace.

Thus end the attempts which the National Association and the State Audubon Society have repeatedly made during the past eight years to secure this most important piece of state legislation.

MR. C. E. Brewster, Game Law Expert of the United States Biological Survey, has recently accomplished some most gratifying results in the matter of prosecutions in the Federal courts for the shipping of Quail in violation of the Lacy Act. Mr. Brewster goes out single-handed in search of flagrant violators of the law, collects the evidence, turns it over to the office of the Solicitor of the Department of Agriculture, and when the cases come up for trial appears in person with his evidence and testimony.

His efforts of late have been directed chiefly against the shippers of Quail in Virginia and North Carolina, who forward by express their products to northern markets. As an example of what this energetic government agent is doing, the following quotation is given from a letter under date of June 20, 1913.

"I have just returned from Roanoke, Virginia, where we succeeded in indicting forty-five persons charged with shipping game in interstate commerce in violation of the Federal Law. A great many of the accused went into court and immediately entered a plea of guilty, and we actually collected nearly one thousand dollars the day the indictments were returned."

When we remember that neither Virginia nor North Carolina has a state warden system worthy the name, we can appreciate how exceedingly important it is that the Biological Survey of the Federal Government is in a position to throw itself into the breach and check this widespread game-shipping industry in that territory.

THAT splendid and prolific writer, Ella Wheeler Wilcox, has recently been having

some very pertinent things to say regarding women who adorn themselves with aigrettes and other birds' feathers. In one of her series of suggestions to women she says:

"Tell the milliner, dear lady, to fashion you the most exquisite hat possible out of nature's and art's inanimate articles. Suggest ideas to her; and endeavor to produce something which shall be so beautiful it puts to shame the miniature butcher-shops which other women sport. Talk this subject to your friends, and to your enemies, and make it familiar to the minds of all women. Refuse to belong to a club that does not consider this question one of importance to the progress of woman. Make the women who attend your church ashamed of wearing dead birds. Refuse to believe in their religion until they cease to aid the cause of Murderous Millinery."

IN a recent number of *Collier's Weekly*, Mr. Arthur E. McFarlane, under the title "The Business of Arson," makes the following interesting comments:

"One day in January, 1912, I was sitting at a William Street window with a big New York insurance man.

"'Do you notice,' he asked, 'anything about the women's hats?'

"There was this to notice: with the exception of ostrich plumes, almost every hat was destitute of feathers.

"'Sure!' said the insurance man sorely. 'The Audubon Societies—with a lot of help from Paris—have done that. For about two years the wholesale milliners haven't been able to *give* feathers away. And if you'd been getting the losses, you'd think that every feather west of the Mississippi had been burned by now.'

"'Within a month, in fact, after Paris had set its ban on feathers, three feather factories burned in New York. But again taking our four years, one insurance company reports five such losses in 1908, eleven in 1909, fourteen in 1910, and, despite many cancellations, twelve in 1911. Two companies give loss ratios, respectively, of 80.6 and 93 per cent for

the last two years. Three companies merely answer that they are no longer insuring feathers. In 1911, the fine plumage destroyed in one New York feather fire was worth \$65,000 (in insurance); in another, more than \$100,000. And a 1912 feather fire, by spreading, caused a total loss of about \$660,000. In none of these fires, and in none of those to be mentioned specifically below, was there any evidence whatever of incendiarism. As far as the writer knows, all were perfectly honest. And we make no insinuation that they were otherwise."

IT is with very great sorrow we have to announce the death, on June 19th, 1913, at her residence, 341 South 18th Street, Philadelphia, of Miss Lucy Hunter Baird, daughter of the late Professor Spencer F. Baird, Secretary of the Smithsonian Institution, and one of the early supporters of the Audubon movement. Miss Baird was buried alongside of her father and mother in the family vault at Oak Hill Cemetery, Washington, D. C., on June 23, 1913.

For many years Miss Baird has been a member of the National Association, and has annually made a contribution to its support in memory of her father.

WHAT can be accomplished by an earnest and enthusiastic teacher under the stimulus that is so well furnished by the plan of Junior Audubon classes is admirably illustrated by the case of Miss M. J. May, of Elizabeth, N. J. She writes, in part, as follows:

"Both boys and girls have been very much interested in the work of the Society. They have looked forward eagerly to the receipt of the next paper, and have been anxious to relate their various outside observations, and have brought in a number of newspaper clippings for the scrapbook. Hardly any of the recent legislation accounts have escaped them.

"As most of the class joined the Audubon Society, I received permission from Mr. Richards, the principal of the school, to use one reading period a month of

forty minutes in length, in which to read and discuss the leaflets furnished the Society. Later, we used two a month, as we had not devoted any time to this purpose during the fall and winter.

"One of the boys picked up a young Starling in the yard, and brought it in. I took this opportunity to compare it with the Grackle, having a life-sized picture of the same. We noted the points of difference, such as shape, color, beak, tail, and eyes. As both the Starling and Grackle congregate together here, in the fall, I thought it best to impress the difference between the native birds and the foreign.

"The Woodpeckers, both the Downy and Hairy, together with the Blue Jay, formed the topic of our bird talks during the winter months. In March, we took up the Robin, Bluebird and Song Sparrow. In April, we noted the Meadowlark, Grackle and Red-winged Blackbird. In May, the Oriole, Bobolink, and Barn Swallow were considered. In June, the Goldfinch and Kingfisher were taken up by the class.

"I mention the above work in connection with the shore-birds, as it awakened a very keen interest in the children, from both a biological and geographical standpoint. In fact, I find that the best work done in geography is done in connection with the living world. I know the children have had awakened in them an interest in the outside world which they will carry throughout life.

"During the winter, several Woodpeckers were noted by the children, and during the spring migration, among the fruit trees in the surrounding yard, an Oriole, Catbird, Thrush and Flicker were noted and identified."

Miss May has also sent in some very charming and attractive booklets prepared by members of her class, the text, written in composition form, comprising what they had learned from the Educational Leaflets and other sources. The booklets were illustrated by the colored plates from the leaflets, and pictures clipped from newspapers and magazines, and were bound in artistic paper covers.

New, Revised Edition of the

HANDBOOK OF BIRDS of Eastern North America

By FRANK M. CHAPMAN

Curator of Birds, American Museum of Natural History

With Plates in Colors and Black and White, by LOUIS
AGASSIZ FUERTES, and Text Illustrations by
TAPPAN ADNEY and ERNEST THOMPSON-SETON

The text of the preceding edition has been thoroughly revised and much of it rewritten. The nomenclature and ranges of the latest edition of the "Check-List" of the American Ornithologists' Union have been adopted. Migration records from Oberlin, Ohio, Glen Ellyn, Ill., and Southeastern Minnesota, numerous nesting dates for every species, and many biographical references have been added; the descriptions of plumage emended to represent the great increase in our knowledge of this branch of ornithology; and, in short, the work has been enlarged to the limit imposed by true handbook size and brought fully up-to-date.

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The subjects of distribution, migration, song, nesting, color, food, structure and habit, intelligence, and allied problems are here treated in a manner designed to arouse interest and stimulate and direct original observation.

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561 Pages. Cloth, \$3.50 net. Flexible Morocco, \$4.00 net

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By FRANK M. CHAPMAN

With 800 drawings by C. A. Reed

This work with its concise descriptions of specific characters, range and notes, and colored figure of each species, may be well described as an illustrated dictionary of North American birds.

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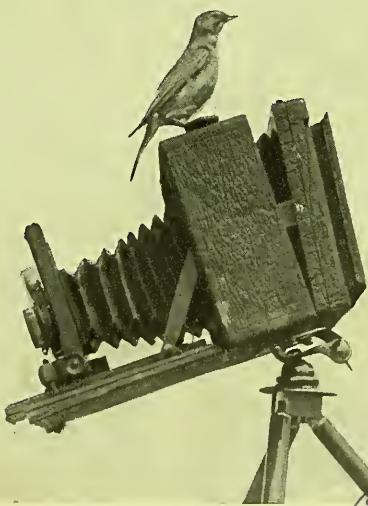
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Bird-Lore



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September - October, 1913

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AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT

NOTICE TO MEMBERS; THE FEATHER PROVISO, T. G. P. ENGLAND TO PROHIBIT THE IMPORTATION OF BIRD PLUMAGE; CORNFIELD DEVASTATED BY GRASSHOPPERS (ILLs.); NEW MEMBERS; NEW CONTRIBUTORS; CONTRIBUTORS TO THE EGRET FUND; COMMITTEE ON BIRD-HOUSES, ARDONIA, N. Y. (ILLs.); JUNIOR AUDUBON WORK, T. G. P.; EGRET HUNTERS PUNISHED.

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1. HARRIS'S SPARROW, Adult Male

2. HARRIS'S SPARROW Adult Female

3. GOLDEN-CROWNED SPARROW, Adult Male

4. GOLDEN-CROWNED SPARROW, Adult Female
(One-half Natural Size)

Bird = Lore

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With Asio in the Greenwood

By FLORENCE MERRIAM BAILEY

LONG-EARED Owls surely do not come under the head of prairie birds, but the large lakes of North Dakota have partial borders of hardwood that add many species to a fauna that might more appropriately be dominated by Prairie Chickens. Stump Lake, formerly a part of the great Devil's Lake chain, has such a hardwood border, furnishing goodly cover within easy reach of the small mammals that abound on the prairie; a circumstance that is taken advantage of by many families of both Hawks and Owls.

Among these, a pair of Long-eared Owls made their home in this timber last year, only a few rods from the farmhouse where I was staying. And now as I think back over long days spent on the open shore of the lake watching Ducks and Gulls, and wandering over sunlit prairies watching for 'Chickens,' the memory of that Owl's nest brings all the refreshment of cool, green woods in midsummer, and the intimate delights of quiet hours passed within the charmed family circle of Asio, one of the quaintest of Owl personalities.

Only one of the parent birds was ever seen at a time, and, as the two cannot be distinguished by plumage, there was always a question. Was it the father or was it the mother guarding the nest? Aggravating as it was, the chief charm of these Birds of Wisdom is that they do leave something to the imagination—sphinxes by day, shadows by night.

A dolorous appearance Asio presented when first seen standing on the edge of her black stick-nest—let us say *her*, for convenience—long ears erect, brown body bedraggled by rain; and great yellow eyes staring down with horror upon the invader of her home. When the invader looked away a moment, the invaded improved the opportunity to vanish. She may have flown, she may have flattened herself down in the nest—an odd trick she had, as I discovered later; the wide crotch in which the nest was placed helping to make her invisible from the foot of the oak, twenty feet below. At all events, one whitish downy Owlet was the only visible member of the family.

Another time, when a dog that was roaming around under the tree

sneezed, two Owlets rose in the nest, with comical wisps of erect ears and blackish streaks marking eyes and bill. Five young there proved to be on June 15, when their landlord, the owner of the big wheat farm, climbed to the nest to investigate. The Owlets already had the instinct of self-preservation, and snapped their bills at him ominously.

While the farmer was at the nest, Asio, who had flown off on our approach, flew back to the top of a dead tree nearby. When anxious, as now, the strong lines of the white V over her bill intensified her drawn owlish expression. She was indeed a somber bird in the shadow, for it took a good light to bring out the warm tawny tone of the facial disk and the rich ochraceous tinge of the brown-streaked breast. How big and dark she looked on a bare limb! Seeing three people at the foot of her nest tree, and one up in the tree, the terrified parent broke out into loud startling cries, uttered in a thin nasal tone and tense with anxiety:

Quant, quant, quant, quant, quant.

Judged by ordinary bird calls, this was a most singular cry; and, as I found afterward, the Asio repertoire includes a variety of queer notes, of strange unbird-like noises. *Wook-wuk-wak*, *wook-wuk-wak-wak*, *wook-wuk-wuk* were among them; and, in watching the nest from day to day, other variations were heard, all quaint and curious and delightfully full of flavor.

Two days after the discovery of the five young Owlets, I took my campstool to the woods and made the family a long visit. Asio was on the nest when I arrived and, though apparently sound asleep, quickly flew out to a branch to inspect me; after which she flew away, perhaps in the vain hope that I would follow. While she was gone, one of the Owlets sat up in the nest and wriggled around, as if trying to plume its down, which had begun to show suggestions of vermiculation. Meanwhile a fuzzy brother (?) Owlet sat nearby, with eyes shut, looking drollly like a china cracker-box with the cover on!

Did these heedless young ones need to be warned, or what was the meaning of the calls of the old bird when she flew back to the trees near the nest—the muffled *wuff, wuff, wuff*, and the raucous *wuk-wuk-wak-wak?* Whatever it meant to the brood, the birds of the neighborhood took alarm at the cries. Big Wings was abroad! A Goldfinch gave its warning cry, an Oriole chattered and scolded excitedly, and a Wren flew around distractedly, adding to the hysterical outburst that, according to time-honored custom, always greets an Owl indiscreet enough to appear in public in the daytime. During all this hubbub, the downy Owlets stood at attention; comical, over-serious little fellows, staring dumbly out of big yellow eyes that seemed to look through black-rimmed spectacles.

Then came a parental *wuk-wuk-wuk*, *queck-wak-wak*, and a pair of broad brown wings passed through the greenery, followed by the smaller black wings of Bronzed Grackles. Instead of going to the nest, Asio perched on the dead tip of a vertical branch and said *whoof, whoof, whoof, whoof*; but when

I raised my field glass—probably feeling too conspicuous—she flew to a branch in the dense top of a large oak.

After sitting there for a time, her calls grew less excited, softer, as if she were thinking of quieting the Owlets in the nest, and finally there came such a sleepy *wuk-wuk-wuk-wuk* that the old Owl seemed just dropping off for an afternoon nap. How quiet and peaceful it was there in the green woods, with the old Owl softly crooning to her brood! And how comforting it was to be allowed to sit there unmolested in sight of the nest, when out in the open the Marsh Hawks whose nest I was watching were treating me as a



LONG-EARED OWL
Photographed by H. W. Nash, Pueblo, Colo.

Kingbird does a Crow. Imagine the Hawks going to sleep while I was in sight! When I was beginning to feel like one of the family, my campstool creaked, and the old Owl, whom I had supposed dozing, instantly turned her head and craned her neck—the picture of alertness. She was not worrying about me, though. The next moment, to my great astonishment, she darted to the ground as swiftly as a Kingfisher dives for a fish he has been carefully locating from above. A shriek—and then a silence! Up she flew, surrounded by a noisy mob of Bronzed Grackles, three Orioles and a Blue Jay. When the excitement had subsided a little, the Blue Jay flew off with a sad reflective cry. Such conduct does not look well—in another—especially if you have a callow

brood nearby. And yet the victim was probably a wood mouse, or some such small vermin devoted to destruction by altruistic man!

Where had Asio gone when the mob left her? I twisted and turned and bent over trying to spy her among the leafy branches, only to discover her bent double staring down at me. But still she did not remonstrate with me. The following day, while on the shore, I heard the muffled *woof, woof* in the woods. But this time, before I could slip in, Big Wings slipped out, and I found only the fuzzy young staring down at the cows whose bell was jangling under the trees.

At the foot of Asio's oak, the next afternoon, I found a large dead mouse near a fallen branch that apparently served as dining-chair, and on whose bark I had previously discovered a delicate tidbit that suggested liver of mouse. On the ground I was glad to find two of the large 'pellets,' ejected by the mousers—oblong pellets that look like cocoons, and are made in the Owls' crops, where the soft nutritious flesh is worked off the bones and sent on down the alimentary canal, while the bones and fur are worked into balls with the fur on the outside, to be thrown out—ejected—as useless waste; useless to the bird, but most useful to the naturalist who would study the Owl's bill of fare. The bills of fare of *Asio wilsonianus*, as hinted at by this and eight other pellets picked up before the young deserted the nest, added testimony to published statistics proving the Owls inveterate mousers, for the pellets contained bones of only one bird but those of nine mice and a ground squirrel. At this rate, five hungry Owlets would make great inroads upon the mouse population.

One of the Asio brood, on June 21, a week after the discovery of the nest, was found sitting on a branch two or three trees away from the nest oak. Alas! it was the beginning of the end. The original family was proving so interesting that it gave me a pang. The Owlet had flown down from the nest to within ten feet of the ground, and sat his branch with the non-committal cracker-jar-on-the-shelf look. His white breast was now distinctly vermiculated, producing a grayish effect. One erect wisp of ear gave a comically lopsided, dishevelled air to an otherwise serious and reputable appearance. Were pugnacious brothers responsible for the absence of the second wisp?

The little stranger to the world, though seeming so alone in the green-wood, was being carefully guarded from a neighboring tree-top on this his first venture. A low, reassuring *woof, woof, woof*, eloquent of maternal care and tenderness, was repeated a number of times; but to this was added a strongly accented *wow'-wa*, and an emphatic, if not peremptory, *woof-woof-week*. Whatever the interpretation of these calls, little 'One-ear' finally turned on his branch, grasping it firmly with a pretty white-furred foot, so facing his parent; which was certainly better for purposes of quick understanding and prompt obedience.

One of Asio's favorite day roosts was the big oak a few rods from the nest,

but probably in sight of it. When I came in and sat down nearby her, one day, she called and craned her neck to see me, but soon accepted me with her usual charity as her harmless, though inquisitive neighbor. When quiet, she gulped as if ejecting a pellet, after which she shook herself, showing her full big-feathered figure. When I came obtrusively near, she flew to a branch in the sun; but, that not being to the liking of an Owl in the daytime, after turning to look over her shoulder, she flew back to a branch in the shade. Once, when sitting on a lower limb that apparently did not please her, she kept raising her face to look up in the top of the tree, with the droll effect of flattening her ears.

Asio was in her favorite oak when I stopped in, on June 27—about two weeks from the time that the nest was discovered—and called as usual in the strange, stirring tones that to my ears had become as grateful as weird strains of Norwegian music. She had need to call now, for her family were scattered, apparently only one of the brood being left in the nest. One-ear was not to be found, but another venturesome Owlet was discovered on a dead branch in the sun. When I walked up in sight, this little Two-ears sat up and took notice. He folded his wings close about him and drew himself up tall and thin, as the old ones are said to do, but as Asio had never taken the trouble to do for me. Then, greatly to my surprise and pleasure, he threatened me, fluffing up his feathers till he was as round as a puff-ball, when, spreading his wings at his sides and leaning down with bright yellow eyes upon me, he made small, threatening noises, with many snappings of the bill—a menancing bogey, surely! Let those with no memories of sharp beak and claws stay at their risk!

A week afterward the old Owl brought her family to hunt about the barn. When I first heard her familiar voice, I hurried to the window and, to my delight, discovered my old friend from the woods perched on top of a telegraph pole by the house. At her call the dogs ran out and stood at the foot of the pole, barking. As they looked up at her, she looked down at them. She was used to their voices, but apparently they made her nervous, for, after fidgeting about a little, she flew off. Later in the evening the low whistle of the young was heard down by the barn. Were One-ear and Two-ears both there?

The following night, the familiar big flapping wings and round head crossed from the woods to the granary, where the old Owl lit on the peak of the roof and sat silhouetted against the sky.

“It can get plenty of rats there,” the farmer’s mother announced with satisfaction. From the granary Asio flew back to the barn, where also rats were plenty, and from the thin squealing cries of the Owlets it was evident that they were on hand for supper.

The family were in the woods near the barn, a few nights later, which was the last time I ever saw them. It was so nearly dark we had to feel our way about the low second growth which, in the gloom, seemed deliciously full of mysterious voices and shadowy forms that flitted on ahead of us. When at

last one of the Owlets flew up into a high tree, to our great satisfaction it let us approach below. We stood motionless straining our eyes to see it, and before long were rewarded by the appearance of Big Wings. She had come to feed it. We peered through the gloom more eagerly than before. What next? There were four other hungry Owlets to be fed, and perhaps we should at last see both parents! This was really the only time of day to find out anything about Owls. But—let who will interrogate the sphinx—Big Wings and Owlet arose and spread their wings and, taking the direction of the heavier timber of the old-nest ground, flew out of sight in the darkness!

With Apologies to Mr. Kipling

When the Warbler in the tree-top warbles to his silent mate
 Till the opera-glasses catch him and the field-key gets him straight,
 It's a cinch to classify him by the speckles on his tail,
 But the female of the species is more puzzlin' than the male.

When the Bob-o-link goes bobblin, o'er the meadows, lush and green,
 E'en the dullest can't mistake him, if he's heard, or if he's seen;
 But his sober-sided mistress bothers students on her trail,
 For the female of the species is more puzzlin' than the male.

When the Tanager flits flaming through the woodland's tangled tops,
 Every dolt-head marks his passing, and can name him ere he stops;
 But his mate glides by unheeded, goes unknown o'er hill and dale,
 For the female of the species is more puzzlin' than the male.

As with Oriole and Redstart, Bob-o-link and useful hen,
 So it is with bigger bipeds—even so it is with men.
 Though her plumage is more brilliant, yet the truth will still prevail
 That the female of the species is more puzzlin' than the male.

Contributed.



The Sharp-Tailed Grouse in Manitoba

By JOHN WOODCOCK, Bethany, Mass.

With a photograph by the author

THE Sharp-tailed Grouse, or Prairie Chicken, as it is usually called in Manitoba, is one of the commonest of our winter birds. While driving along by the snow-covered stubble fields, broken at frequent intervals by small bluffs of willow or poplar, one can usually count on seeing several flocks of these interesting and handsome birds, either busily scratching for grain around the straw-stacks, or feeding upon the fruit of the rose or snowberry bushes. Although they are among the wildest of birds during the latter part of the shooting season, in the winter, one may, if he is driving, pass within thirty or forty yards of a flock without disturbing a single individual.

In a winter like the past, with only a few inches of snow, the Grouse can find plenty of food in the fields without coming near the buildings. But in a severe season like the winter of 1910-11, when the snow lay deep on straw-stacks and stubble-fields, they come quite close to the farm buildings, and I have seen them within a few feet of our back window.

We have an old tumble-down log building near our stables, that had once been used as a shelter for young calves during the summer. Just outside the window of this old place, I scattered a few handfuls of grain and chaff. The Grouse soon found this food and came regularly to it, but they arrived about sunrise and stayed for only a short time; consequently I could not get a photograph of them, as the light was not strong enough for snapshots.

On February 19, 1912, I went to set my camera up about sunrise; but the birds were there before me, and flew away as I approached. I set the camera in position, and attached a long thread to the shutter, in case they returned while I was away at dinner. Nothing had come to the food by 2 P.M., and I was beginning to think that it was not of much use waiting. I had just thrown my glove on the ground and was focusing the camera on it, just to pass the time away, when, to my surprise, the reflection of a Grouse appeared on the ground-glass. It was running rapidly toward the camera, and, by the time I had loaded a plate into the camera, several Grouse were picking up the grain. The first exposure was rather a failure, as $\frac{1}{25}$ of a second was too slow to catch the swiftly moving heads of the feeding birds. With all speed I slipped in another plate, and set the shutter for another attempt; but, peeping through the sacking with which the camera was concealed, I saw that the Grouse had heard the slight noise, and, with heads raised, were searching for the cause. So I made the exposure immediately, and when the shutter clicked again they all walked slowly away, jerking their stiff, pointed tails nervously up and down. That was my last chance for that day, and indeed for the season, as a thaw had set in, which uncovered some of the stubble-fields giving the birds a fresh supply of food.

SHARP-TAILED GROUSE



The season for shooting Grouse in Manitoba begins on October 1, and lasts for one month. It provides a bag limit of twenty birds a day, or one hundred in a season. The Game Laws are, I believe, fairly well observed, though a few people seem to think they can shoot Grouse at any time so long as they are not found out, saying as an excuse for doing so, "If I don't shoot them, somebody else will." Prairie fires during the nesting season must destroy hundreds of nests every year, besides lessening the suitable nesting-sites. Since the rural telephone lines have been erected, it is no uncommon occurrence to find Grouse that have been killed by striking the wires.

A few years ago I often saw the Goshawk chasing the Grouse, but I have not noticed any of these Hawks the last few winters. I particularly remember on one bright, still, frosty morning, hearing a peculiar noise almost like a piece of rag being ripped in half. Looking up, I saw the cause; five Grouse were flying like bullets overhead, followed at a distance of fifty yards by a large Goshawk. Just as they passed me, one of the Grouse darted to the ground and hid in some bushes, while the others kept straight on followed closely by the Hawk. The Grouse did not seem to gain on the Hawk, though the latter seemed to be flying quite leisurely, while the Grouse appeared to be going at top speed.

At night the Grouse burrow under the snow, and I have often been startled by their sudden exit when I must have been almost stepping on them. Perhaps the Coyotes may profit by this habit the Grouse have of sleeping in the snow; but the birds must be well protected from the cold, and also from Horned Owls, so the snow-blanket has its advantages as well as drawbacks.

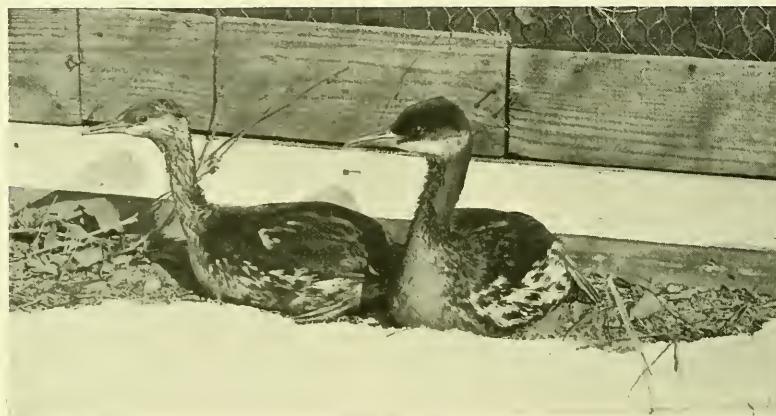
Notes on a Pair of Holbœll's Grebes

By MAUNSELL S. CROSBY, Rhinebeck, N. Y.

THE winter of 1911-1912 was very severe in New York State and the ice on the rivers and lakes became unusually thick. By the second week in February the Hudson was frozen over nearly to its mouth, and no open water remained in the lakes of the western part of the state. A number of waterfowl winter on the latter regularly, and, for the first time in years, they were forced to fly elsewhere in search of sustenance. From miles around this region they gathered wherever a little water appeared, and there interested people scattered food for them. The various species of Ducks were able to subsist on these provisions, although great numbers of them died, but such fish-eating birds as the Grebes were unable to find any nourishment. Holboell's Grebe seems to have been unusually common, eleven live ones and seventeen dead having been recorded from one part of Cayuga Lake. ('Auk,' XXIX, p. 440.) Those that were strong enough attempted to fly to a warmer climate, and ten were recorded between February 9 and 15 as far

away as Portland, Conn., ('Auk,' XXIX, p. 233) where they had dropped exhausted on their way to Long Island Sound.

On February 14, a neighbor, while driving along the high-road, two miles north of Rhinebeck, N. Y., saw a Holbœll's Grebe lying in the snow beside the road. Thinking it to be a Duck, he got out of his buggy and was much mystified at the strange aspect of the bird. It was nearly frozen and could not even

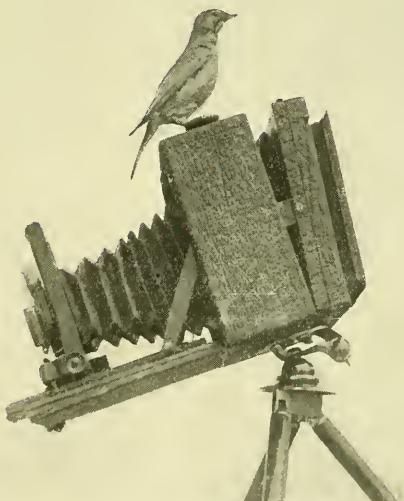


HOLBŒLL'S GREBES

walk, though it pecked vigorously at him when he put it in his wagon. A short distance further he found another, and took both home with him, where he put them in a chicken-coop. I learned of their capture, and my neighbor kindly let me take them. I communicated with the New York Zoölogical Park, and meanwhile kept them in a box-stall in the stable, where I fed them on frozen smelts. They seemed to relish these, and next day I was able to procure a number of live minnows, which I put in a tub of water in the stall.

The Grebes, which, by the way, were male and female, recovered readily in the warmth of the stable, and were soon able to waddle about the floor and even climb into the tub to catch the minnows. When wet, their plumage would become bedraggled, especially about the head and neck. They became livelier as time went on, and did not seem to be afraid, although pecking vigorously and most tellingly when handled. They had a loud and peculiar cackle, resembling both a guinea-hen and a barnyard Goose. When walking, they turned their toes out and their 'knees' in, and sometimes helped themselves along by waving their wings or digging the points of the primaries into the ground. When progressing in this manner, they would end by falling violently forward, and would then sit up abruptly and look around with an amusing expression of indignation at their ignominious predicament. The female was much more pugnacious than the male, while the latter made up for his lack of courage with his voice.

After several days' rest, they were photographed, crated, and shipped to the Bronx, where they arrived safe and sound, only to find that eleven others of their kin had been sent down before them by various other captors. (Zoölogical Society Bulletin XVI, p. 864.) Unfortunately, I heard later that the severe experience they had been through eventually proved too much for them, for one died on March 17, and the other on the 27th.



A BIRD PHOTOGRAPHER
Horned Lark, photographed by Guy A. Bailey, Geneseo, N. Y.

An Opportunity Interrupted

By ARTHUR A. ALLEN, Ithaca, N. Y.

With photographs by the author



"PEERED OVER AT THE APPROACHING
HAND"

it pleases him, to the great pines and hemlocks, to huge granite boulders, to cold flowing streams.

The Blue-headed Vireo comes to us at Ithaca in the second large wave of the spring migration during the latter part of April. This year, to be exact, it was April 26, the same day upon which arrived the Spotted Sandpiper, the Chimney Swift, the Least Flycatcher, the Black-throated Green and Yellow Warblers, the House Wren, Towhee, Brown Thrasher, and Whip-poor-will. He was over a week ahead of his congeners—the Warbling, Red-eyed, and Yellow-throated Vireos. Frequently he forms the vanguard of this wave, and then he is welcomed as the herald of excitement to come. Ordinarily he stays with us for about two weeks or until the middle of May, and then passes further north to breed. On very rare occasions he stays with us to raise his young.

It was on the second of May this year, just six days after his first arrival, that I was arrested by the song of a Blue-head along one of our shaded paths that course the shore of a small lake. Stopping to listen to him, a subconscious attention, I noticed that he had something in his bill, and soon, to my surprise and pleasure, he flew to the low branch of a hemlock and began weaving it

THE Blue-headed Vireo is not a common bird. Even during those periods of its migration when it is most numerous and when its numbers may exceed those of a truly common species, there is something in its manner, its mellow note, its clean-cut, well-groomed appearance, that forbids the use of the word common. It is a rare bird. There is something in the atmosphere about it which demands our attention, that rings in its rich song and renders melodious its scolding chatter. It is not that he is really such a good songster, not that he is so uncommon, but that his song breathes of the great, wide out-of-doors—the woods, the deep, untrdden forest. His is no monotonous, all-day job. He sings, when

about the outer twigs. It was a cobweb and he had begun to build his nest. I watched him while he sang at his work, every now and then returning with a fresh supply of cobwebs. For some time I did not see the quiet female as she sat on a higher branch, and then only because of some slight attention on the part of the male. She did not seem at all concerned with the home-building, and showed no signs of helping with the work.

A rather conspicuous place had been chosen for the nest, scarcely seven feet from the ground, and not more than fifteen from a much-traversed path. Fearing that I might attract too much attention to it, I moved on, and did not go near the place again for four days, when I examined the nest from a little distance with glasses. On the outside it now seemed quite complete, but as yet contained very little interior decoration. The outer basket was composed almost entirely of cobwebs, with small squares of white paper dropped by some careless school-boy. There seemed to be a much higher percentage of cobwebs than is found in the nests of the other species of Vireos.

Three days later, a week after the starting of the nest, I found it complete and containing one egg, that of a Cowbird. I was in doubt as to what to do. The Vireo had seen the egg, I had found him on the edge of the nest inspecting it when I arrived. Did he think it one of their own, and would he desert if I should remove it, as do many birds when the first egg laid is stolen? Or, did he recognize it as a Cowbird's, and would he desert, as do some birds, because the Cowbird had laid its egg first? With most birds, the attachment for the nest, before the first egg is laid, is a rather uncertain quantity and not to be depended upon. Birds like the Redwing which show the greatest attachment for the nesting site, nesting time, and again in the same bush or small area of swamp land as each nest is destroyed, very readily desert if the nest is merely discovered before the laying of the first egg. I, therefore, debated long and seriously whether I should remove the Cowbird's egg from



"A FALSE BOTTOM BUILT IN OVER THE COWBIRD'S EGG"

the nest of the Vireo. Finally I decided it was better to let Nature take her course, and allowed the egg to remain. It proved to be a wise decision.

The next morning when I felt in the nest, the lining of the bottom was all disarranged and the egg was gone. I feared the worst, yet disliked to think that this altogether convenient opportunity to watch the home-life of a bird so interesting was being snatched from me. I felt in the nest again, and this time with greater success. The loose straws were the last touches on a false bottom which had been built in over the Cowbird's egg. I left immediately,



"TWO MORE COWBIRD'S EGGS HAD BEEN SLIPPED INTO THE NEST"

fearing that the birds might return and find me there. I did not wish to give them any reason for desertion.

Although I passed by frequently during the next five days, I resisted looking into the nest because each time one of the birds was on it. Three times in the morning and twice in the afternoon, the male bird was incubating, but only once did I find the female in her proper place. Either I always struck the male bird's hour at home, or else he was getting more than his share of the domestic duties. I began to listen for some note from the female that might be interpreted as "votes for women," and credited her with being on the nest the one time only for performing the single duty that she could not turn over to him.

I also wondered if it were natural for incubation to begin immediately upon the laying of the first egg, or whether the nest were not being covered to keep out more unwelcome derelicts. I was a little surprised, on the morning of the fifth day, when I found that two more Cowbird's eggs had been slipped into the nest, and now lay by the side of three of the Vireo's own. It offended my equanimity and sense of justice to see them there. I matched up three little Vireos against two fat Cowbirds, and at once disposed of the Cowbird's eggs. The next morning I was rewarded by the appearance of a fourth egg of the Vireo.

The male bird was incubating when we approached. I had not taken occasion to flush the birds from the nest before, and little realized their confiding nature. I stood below the nest and reached up to it with my hand. Instead of fluttering from it, as normal birds would on such occasions, he merely craned his neck and peered over at the approaching hand, seemingly more with curiosity than fear. Slowly I reached toward him until my fingers rested upon his bill, and then I touched him on the chin and on the top of the head. I was stroking a wild creature without causing it alarm. I had suddenly acquired the magic touch, and no longer was I an ordinary mortal. Now I could walk through the woods and the animals would understand me. The wild creatures would come from their dens and the birds would fly down and talk to me. Scarcely believing my own eyes and the touch of my fingers, I felt that I must have photographic evidence. I rushed back for my camera and was soon again at the nest with a companion. The camera was of the reflecting type and required both hands to manipulate it. Would the bird understand, and transfer his allegiance just for these few minutes while I could take the picture? Would he? I came back to earth with a jolt for I was no better than the next fellow. Slowly my companion reached up to the nest and touched him upon the bill. Then he grasped the branch below the nest and drew it down until the bird was on a level with his face. If anything would test a bird's nerve that would, and still the Blue-head remained at his post. With a staring monster six inches from his very eyes, with its talons about him, he still clung to the nest. It was not until he was given a sudden start by the breaking of a twig that he left. Then he fluttered off a few feet, but, instead of scolding as we expected, he began to sing. It was not exactly a song of contentment, however, he was excited and he sang his very best. This brought the female, and she did the



"A STARING MONSTER SIX INCHES FROM HIS VERY EYES"

scolding for the family. It was a more musical chatter than that of the other Vireos, however, with its sharp edges worn smooth.

How seldom changing nature foreshadows itself! When we returned, the next day, something had happened. There were but three eggs in the nest, instead of four, and, though the bird did not mind our presence and allowed us to touch him as usual, he would not endure the great glaring lens. The camera was a terrible cyclops worse than the demon man, and no amount of patience would bring either bird upon the nest as long as the camera was in place. Perhaps they had had some horrible experience overnight with Owl or squirrel, during which the egg was lost, and with which they associated this strange three-legged creature with one great eye. Anyway, we were forced to remove the camera and watch them return to the nest without taking a single picture. We planned to return the next day with a blind. But the next day was too late. We felt calamity in the air when we approached. The bird was not upon the nest, the eggs were cold and there were but two left. The two cold eggs told their story. The conspicuous nest, the abundant Owls, Crows, and squirrels had been too much for the confiding nature of the Vireos. It had been a rare experience, but, like all such, was too good to last. The birds probably nested again, but I was not fortunate enough to find the second nest. The opportunity was gone forever.



A PAIR OF COWBIRDS
Photographed by Guy A. Bailey, Geneseo, N. Y.

The Migration of North American Sparrows

TWENTY-FOURTH PAPER

Compiled by Prof. W. W. Cooke, Chiefly from Data in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES

(See Frontispiece)

HARRIS'S SPARROW

The summer home of the Harris's Sparrow was for many years one of the unsolved problems of North American birds, and even now that the bird is known to breed at the edge of the timber from Hudson Bay to Great Bear Lake, its eggs have not yet been secured or seen. From this summer home, it comes south in the fall along a very narrow migration path, the middle of which approximates closely in the United States to the meridian of 96°. Probably ninety-five per cent of all the birds of the species follow this restricted path to winter in Texas, Oklahoma and southern Kansas. A few birds stray from their fellows, and, as will be seen in the following tables, have been noted irregularly from Ohio to California.

An interesting peculiarity of the migration of the Harris's Sparrow is the long wait after the first spring advance. The birds become common along the Missouri River in northwestern Iowa soon after the middle of March, and yet it is not until early May that they are noted a few miles farther north in southeastern South Dakota and southwestern Minnesota. The dates suggest the probability that these March birds have wintered unnoticed in the thick bushes of the bottomlands not far distant, and have been attracted to the open country by the first warm days of spring.

SPRING MIGRATION

PLACE	Number of years record	Average date of spring arrival	Earliest date of spring arrival
Central Missouri.....	9	March 13	February 14, 1911
Canton, Ill.....			March 14, 1894
Indianola, Ia.....	3	March 12	March 9, 1902
Sioux City, Ia.....	5	March 18	February 27, 1906
Dunbar, Neb. (near).....	3	March 3	February 3, 1900
Syracuse, Neb.....	6	March 10	March 1, 1904
Badger, Neb.....	4	April 23	April 18, 1900
Columbus, O.....			April 27, 1889
Sheridan, Ind.....			May 4, 1907
Holly, Colo.....			May 10, 1898
Southeastern South Dakota.....	6	May 9	May 3, 1884
Heron Lake, Minn.....	4	May 7	May 3, 1895
Lanesboro, Minn.....	6	May 11	May 9, 1891
Lake Andrew, Minn.....	3	May 6	May 5, 1896
Minneapolis, Minn.....	3	May 11	May 9, 1874
White Earth, Minn.....	3	May 13	May 6, 1881
Grand Forks, N. D. (near).....	4	May 7	May 5, 1904
Antler, N. D. (near).....	7	May 13	May 10, 1908
Aweme, Manitoba.....	16	May 8	May 2, 1895

SPRING MIGRATION, continued

PLACE	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Pilot Mound, Manitoba.....	6	May 10	May 8, 1911
Indian Head, Sask.....	3	May 11	May 9, 1910
Osler, Sask.....			May 14, 1893
Flagstaff, Alberta (near).....	4	May 19	May 14, 1910
Hay River, Mack. (near).....	2	May 19	May 14, 1908
Arctic Red River, Mack.....			June 1, 1911

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
San Antonio, Tex.....	2	March 18	March 20, 1891
Gainesville, Tex.....	5	April 7	May 9, 1885
Central Missouri.....	8	May 6	May 13, 1854
Chicago, Ill.....			May 19, 1897
Elkhorn, Wis.....			May 15, 1909
Indianola, Ia.....	5	May 6	May 22, 1904
Grinnell, Ia.....	4	May 12	May 16, 1887
National, Ia.....	2	May 15	May 16, 1909
Sioux City, Ia.....	5	May 14	June 6, 1910
Onaga, Kans.....	20	May 13	May 28, 1909
Syracuse, Neb.....	5	May 15	May 23, 1905
Lanesboro, Minn.....	3	May 18	May 19, 1888
Minneapolis, Minn.....	4	May 17	May 19, 1906
Southeastern South Dakota.....	3	May 23	May 25, 1890
Northeastern North Dakota.....	3	May 30	June 2, 1907
Knowlton, Mont.....			May 24, 1907
Okanagan Landing, B. C.....			April 30, 1911
Aweme, Manitoba.....	15	May 21	May 28, 1907
Osler, Sask.....			June 2, 1893

FALL MIGRATION

PLACE	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Aweme, Manitoba.....	16	September 22	September 13, 1899
Brooks, Alberta.....			October 2, 1909
Southeastern South Dakota.....	7	September 16	September 7, 1889
White Earth, Minn.....			September 15, 1880
Fort Keogh, Mont.....			September 22, 1889
Lanesboro, Minn.....	7	September 27	September 22, 1891
National, Ia.....	4	September 28	September 23, 1911
Indianola, Ia.....	3	September 26	September 20, 1899
Palmer, Mich.....			September 30, 1894
North Freedom, Wis.....			October 3, 1903
Chicago, Ill.....			October 6, 1894
Battle Creek, Mich.....			October 12, 1894
Southeastern Nebraska.....	5	October 8	October 3, 1904
Onaga, Kans.....	21	October 8	September 28, 1902
Central Missouri.....	8	October 19	October 10, 1894
Gainesville, Tex. (near).....	6	November 7	November 2, 1877
Kit Carson, Colo.....			October 9, 1907
San Clemente Island, Calif.....			October 15, 1907

FALL MIGRATION, continued

PLACE	Number of years' record	Average date of the last one seen	Latest date of the last one seen
Fort Franklin, Mack.....			September 26, 1903
Fort Resolution, Mack.....			September 27, 1907
Aweme, Manitoba.....	15	October 9	November 4, 1907
Fort Custer, Mont.....			October 21, 1885
Southeastern South Dakota.....	4	October 21	October 31, 1909
Meridian, Wis.....			October 10, 1892
Lanesboro, Minn.....	8	October 14	November 22, 1906
National, Ia.....	3	November 1	November 4, 1911
Indianola, Ia.....	3	November 12	November 17, 1903
Central Missouri.....	4	November 17	November 27, 1901
Southeastern Nebraska.....	3	December 5	December 8, 1900
Chilliwack, B. C.....			December 2, 1911

GOLDEN-CROWNED SPARROW

Breeding in Alaska and northern British Columbia, the Golden-crowned Sparrow migrates for the most part near the Pacific Coast and winters in western California. It is a late spring migrant, arriving at Tacoma, Washington, average, April 24, earliest April 20, 1909; Vancouver, B. C., average April 24, earliest April 18, 1908; Okanagan Landing, B. C., average May 7, earliest May 4, 1911; Yakutat Bay, Alaska, May 7, 1908; Portage Bay, Alaska, May 9, 1882; Kowak River, Alaska, May 23, 1899. The last were recorded from southern California, average May 6, latest May 16, 1911, near Corvallis, Ore., average May 7, latest May 22, 1884. Stragglers were noted at Loveland, Colo., February 23, 1889, and at Salida, Colo., April 19, 1908.

In the fall migration the Golden-crowned Sparrow appeared at Chilliwack, B. C., September 13, 1888; Newport, Ore., September 15, 1900, near Berkeley Calif., average September 26, earliest September 16, 1886; southern California, average October 15, earliest September 26, 1896. It was noted at Grand Cache River, Alberta, August 31, 1896, and in the West Humboldt Mountains, Nev., October 7, 1867. The last noted at the Kowak River, Alaska, in 1898 was on August 21, and at Homer, Alaska, September 18, 1901.



Notes on the Plumage of North American Sparrows

TWENTY-THIRD PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Harris's Sparrow (*Zonotrichia querula*, Figs. 1 and 2).—The male and female of the species are alike in color, and adults in winter differ from adults in summer only in having the cheeks buff instead of gray, and the flanks and back somewhat browner.

The nestlings (known only from three specimens in the American Museum, taken by Seton and Preble on Artillery Lake, Mackenzie, August 7, 1907) closely resemble nestling Song Sparrows. At the postjuvenile molt the body feathers and wing-coverts are renewed, the tail and wing-quills being retained, and the first winter plumage is acquired by the first week in September. This, as Fuertes' drawing (Fig. 2) shows, differs from the adult winter dress mainly in having the throat largely white instead of black (some specimens show more or less black on the throat), the black being restricted to a broad necklace on the breast, and in having the black of the crown largely obscured by brownish or grayish edgings.

The spring (prenuptial) molt begins in March. It appears to be largely restricted to the head, neck, and anterior parts of the body, and to be of less extent in the adult than in the immature birds. After the breeding plumage is acquired there is but little change in the color of the bird's plumage.

Golden-crowned Sparrow (*Zonotrichia coronata*, Figs. 3 and 4).—In the female of this beautiful Sparrow the golden-yellow crown-patch averages duller and its bordering black stripes are more narrow and less intense than in the male, but the difference between the two is so slight that the sexes cannot surely be distinguished in life by color alone.

The only nestling I have seen (taken in the Kenai Mts., Alaska, August 9, 1901) has nearly completed the postjuvenile molt, but enough of the juvenile plumage remains to show that the breast is streaked, while the upperparts resemble those of a Song Sparrow at the same age. The body plumage and wing-coverts are in full molt, and the wings and tail are probably all that is retained of the nestling plumage.

The first winter plumage (Fig. 4) differs from the breeding dress mainly in the color of the crown, the ashy hindhead being now the color of the back; the yellow patch is so obscure as to be at times barely evident, and the broad black borders are but faint lines. The back is like that of the adult, but the throat and breast are washed with brownish, and there are indistinct lines at the sides of the throat. Adults in winter more nearly resemble adults in summer, but have the markings of the crown duller. The spring (prenuptial) molt, which begins about April 1, appears to be restricted to the head, throat, and breast, which now acquire the colors of the breeding bird.

Notes from Field and Study

Birds That Nest at Tamakoche

Tamakoche, an Indian word meaning "my own country," is the name of the writer's home. The place is situated three miles from the thriving little city of Atlantic, Iowa, on the divide between two small streams. There still remains a small grove of native timber surrounded by open fields and meadows. As a naturalist would be expected to do, every attraction has been provided for the birds. Fruit of every kind hardy in the region is growing so that there is an abundance of both cultivated and wild fruit through a long season. The list includes about fifty varieties of apples, peaches, plums, cherries, grapes, pears, gooseberries, currants, raspberries, blackberries, and other cultivated fruits; elderberries, mulberries, sumac, chokecherries, blackcherries, and numerous other wild fruits, nuts, etc. Fifteen acres of timber and underbrush are fenced with a high woven-wire fence, and no animals allowed to pasture therein. During the growing season the undergrowth is so dense that one can with difficulty force his way through, and during winter it furnishes splendid protection for hundreds of Sparrows and other winter birds. This enclosure is preserved expressly for the birds and wild flowers.

The location being high, and the nearest water a small stream half a mile distant, few water-birds are included in the list, and these (the Kingfisher and Green Heron) do not nest strictly within the limits of the writer's grounds. Neither does the list include nearly all the birds native to the region. Many more, including various Sparrows, Flycatchers, and Warblers, as well as the larger birds of prey, etc., are to be found nesting nearby, and probably numerous species not included in this list have nested unnoticed on our grounds.

Birds are very numerous here at almost all seasons, and one can usually find as

many birds here within the limits of a few acres as will be seen in half-a-day's drive through the surrounding country. One intent on the study of ornithology can usually find fifty to one hundred nests, within a few hours' time, during the summer season. Not all the birds listed nest here every year, although most of them do.

1. Wood Thrush. A regular visitor, nesting in the grove and in the preserve.
2. Robin. A common summer visitor.
3. Bluebird. Entirely disappeared for a time after the coming of the English Sparrow. Now coming back, to occupy the tomato-cans, put up in numerous situations on fence-posts, under eaves, etc.
4. White-breasted Nuthatch. Common in the preserve. Frequently seen about the grove and orchard.
5. Chickadee. A common resident.
6. Catbird. Nests in the blackberry patch, and underbrush of the preserve. Common, and a delightful singer.
7. Brown Thrasher. Common, and very tame. Nests in the underbrush and in the vines about the house.
8. House Wren. One of our most common birds. They occupy many of the tomato-cans, which have proved so popular with the Bluebirds, and various other nooks and crevices about the buildings. From a dozen to twenty families are reared annually.
9. Yellow Warbler. Prefer the apple-trees for nesting-sites.
10. Maryland Yellow-throat. Common, but rather shy.
11. Redstart. To be seen only in the deep shadows of the large trees in the preserve. Very shy, and not very common.
12. Barn Swallow. Occasionally nesting about the buildings, but getting rare, owing probably to the persecution of the English Sparrows.
13. Bank Swallow. A small colony usually to be found nearby.
14. Scarlet Tanager. Now rare, but usually a pair is to be found in the pre-

serve and may occasionally be seen about the house.

15. White-eyed Vireo. Common, with its pendent nest placed in the under-brush.

16. Black-throated Bunting. Very common in the meadow.

17. Goldfinch. A summer favorite.

18. Rose-breasted Grosbeak. Common in the orchard.

19. Indigo Bunting. Loves the quiet of the preserve.

ern limit of its Iowa range, the Cardinal has been a regular resident for the past five or six years.

26. Meadowlark. Common in the fields. Sings from our dooryard trees.

27. Baltimore Oriole. Hangs its nest from the branches of the elm.

28. Orchard Oriole. Rears its family in the apple tree near the kitchen door.

29. Cowbird. Flocks of them follow the family cow about the pasture while the Towhee, Vireo, and other birds, raise their



A FIFTEEN-ACRE BIRD PRESERVE

20. Towhee. Common in the preserve and wild garden.

21. English Sparrow. The one bird, aside from the Cooper Hawk, that is unwelcome. They are constantly pursued, but a few always manage to remain.

22. Field Sparrow. Common in the preserve, also in the field and garden.

23. Chipping Sparrow. A summer representative of the Tree Sparrow.

24. Lark Sparrow. Common in the fields.

25. Cardinal. Although near the north-

families at the expense of the rightful heirs.

30. Bronzed Grackle. Seldom satisfied to nest so far from the water. Common at the homes of farmers near the ponds and streams. Occasionally nests with us on the hill.

31. Blue Jay. Common in the orchard. Usually on good terms with other birds, although one occasionally forms the bad habit of pilfering other nests.

32. Crow. Nests in the preserve, and commonly along the streams a little way off.

33. Prairie Horned Lark. A bird of the open fields. Nests very early.

34. Kingbird. Nests in the orchard and in the big elms. A welcome visitor to our apiary, in spite of its unsavory reputation as bee-eater.

35. Crested Flycatcher. Loves the quiet of the preserve, though on one occasion one nested in a box I had put up for Martins. (This however happened in another location before we came to Tamakoche.)

36. Phoebe. Formerly common about the outbuildings. The Sparrows have succeeded in driving them away entirely, the past few years.

37. Wood Pewee. Very common in the preserve.

38. Ruby-throated Hummingbird. Our only representative of this diminutive family.

39. Chimney Swift. Always nest in our chimney.

40. Whip-poor-will. Formerly common, now only occasionally remain with us.

41. Downy Woodpecker. Common in the preserve. As yet, will not be induced to occupy our boxes.

42. Red-headed Woodpecker. Common in the grove about the house and sometimes occupies the boxes we have provided. (See *BIRD-LORE*, March, April, 1911.)

43. Flicker. Very common, occupy the nest-boxes every year.

44. Belted Kingfisher. Nests in the high bank between the preserve and the river.

45. Yellow-billed Cuckoo. Common in the preserve and sometimes in the orchard.

46. Black-billed Cuckoo. A regular summer visitor. Rather shy, but has a good appetite for caterpillars.

47. Screech Owl. Common, occupies our boxes regularly all winter, but retires to the preserve to raise the family.

48. Cooper's Hawk. Nests along the streams nearby, but frequents our preserve and poultry-yard for food. The Hawk most responsible for the general distrust of the birds of prey.

49. Red-tailed Hawk. Nests in the

preserve, and feeds on rodents, for the most part, caught in the surrounding fields.

50. Sparrow Hawk. Occupied one of our boxes one year. Very proper in their conduct.

51. Mourning Dove. Still come to the orchard and preserve, though not so abundant as formerly.

52. Bob-white. Formerly came about the house and whistled from the garden fence, but have been almost exterminated by hunters and Cooper's Hawks.

53. Green Heron. Common along the streams. Nests in plum thickets, as a rule.

—FRANK C. PELLETT, *Atlantic, Iowa*.

A Study of Mockingbirds

Around our home, in Buena Vista, in southern Alabama, is an interesting colony of Mockingbirds which has afforded us much pleasure.

During the latter part of March, 1912, a pair of these birds commenced building a nest in an immense cloth of gold rose vine which runs along the entire length of our front veranda.

We left home March 23, and for some weeks the house was closed. When we returned early in May, the eggs were hatching. While the little birds were preparing to leave the nest, their parents began to construct a second home in an oak tree about thirty yards in front of the house.

They fed the young in the nest in the rose vine, and worked on the nest in the oak at the same time, singing as lustily all the while as if they had each just found a mate. However, for some reason, they did not finish the second nest.

This year we have three Mockingbird nests in the red oaks, and four nests in the water oaks surrounding our home, also one in a scuppernong vine in the orchard, which joins the yard.

But the pair which, this year, has given us so much happiness in watching is one that built first in a huge water oak just outside the front gate, and, afterward, in the cloth of gold rose vine on the front veranda.

During the third week in June, the young birds hatched in the oak. On June 29, while we were sitting on the veranda, we saw the birds commence building their second home. All day long they worked hard. The male bird assisted in constructing the framework, but when that was done he left the remainder of the building to the female. Occasionally he would, in answer to her peculiar call of *ree-e-e*, softly and sweetly intoned, bring her a piece or two of building material and then flit away again.

During the process of building, the female sang and chirped as she worked. The male would sit nearby, or flit about, singing loudly but sweetly. His singing gave one the impression that he was filled with the very joy of living, and was endeavoring to voice that joyousness in his songs.

The birds would work on the nest industriously and continuously for two or three days, then for several days they would seem to do little or no work.

On July 19, just twenty-one days from the time the building of the nest was commenced, the nest was finished, and that morning the first egg was laid. Oftentimes the female would sit on or by the nest and call *jo-ree-ee* and the male would always answer her nearby. On the night of July 23, she stayed on the nest for the first time.

During the period of incubation, both birds were very quiet. The male industriously fed and cared for the female while she was sitting. In bringing food, he would come so quietly that, unless we watched, we would not know of his coming.

Sometimes, after he had sat awhile on the edge of the nest, he would put his head down into the nest and emit a faint *chip chip*. He evidently remained very near the nest, though many times unseen, all the time; for, if anyone stepped out upon the veranda or entered the gate, or if 'Buster,' our cat, appeared near, he never failed to come immediately, and would scold soundly until the apparent danger was removed. Truly the male Mockingbird is a faithful sentinel.

An amusing incident occurred a few days after the female commenced sitting. One afternoon a heavy rain fell and, although the nest was ideally located for protection against rain and sun, the little mother got her feathery coat damp. As soon as the rain was over, she flew off of the nest and stationed herself on the front gate-post, to dry. While there, she kept up a continual fussing, acting very much like a sitting hen, only her quarrelsome notes were somewhat in miniature. And once, while drying, she attacked a passing Jay as ferociously as if she had been a giantess waging battle with a dwarf.

At noon on August 5, just thirteen days from the day we first found the bird sitting, we chanced to go to the door, and saw four wee heads with mouths wide open projecting above the sides of the nest.

Immediately after they were hatched, the parent birds began the task of feeding the young. We put figs, hard-boiled egg, rice and egg omelette, and young 'dirt-daubers' on the gate-post for them. They never failed to carry some of this food to their young. They also went to a cotton-field, some four or five hundred yards distant, to get grasshoppers for them. They would from time to time bring various other kinds of insects and articles of food for them. On August 13, the young left the nest.

Frequently during the day we have seen as many as eight Mockingbirds at one time in the fig bush and around the veranda. We are endeavoring to keep these lovely songsters with us, and are trying to tame them. At first they were shy and apprehensive, but they are now becoming more trustful and gentle.—
IDA FINKLEA and ANNA L. MORRIS,
Buena Vista, Ala.

A Swallow Incident

On August, 8, 1913, I saw an incident of Swallow life which was new to me, and may be so to some of your readers. I was on the piazza, with half a dozen other persons, watching the twenty-four Barn Swallows which had lived in the barn all

summer, and trying to make out whether they caught flies or mosquitos in their raids on the piazza, when suddenly a large flock of Swallows came over the nearest hill, and swept over the barn and the wide meadow, like a great net to scoop up our birds, when they flew back over the hill again, with all our Swallows among them. Ten minutes later, two—a pair—came back and began carrying food into the barn, and these two are the only Swallows to be seen here now. I have not known them to leave so early before nor have I ever seen them start.

The two Swallows which returned to feed their young were joined, two days later by two more, and three days after that the young left the nest and are flying over the meadow now with the old birds, making ten in the flock—CAROLINE GRAY SOULE, *Shelburne, N. H.*

Evening Grosbeak at Fairfield, Maine

Fairfield, Maine, in the season of spring 1913, proved to be a most valuable and interesting field for bird students. On March 2 a flock numbering twenty, unusual birds were seen feeding on seeds of woodbine at the step of the piazza of a house in a thickly settled locality. The birds were entirely without fear, and soon lit on the floor of the piazza, going next to vines over the window.

The striking color of brilliant yellow marked the birds as rare winter visitants. Telephones were quickly utilized, and a bird student reached the spot in five minutes, to find that the flock had taken flight. The beautiful visitors were followed the length of the street, and were soon found in the top of a maple tree, feeding upon the new buds. The whole twenty were counted—five males, the remainder females. The followers did not hesitate to name their prize the Evening Grosbeak. The next morning, at seven o'clock, the flock appeared at the same house, apparently for breakfast. They stopped twenty minutes, and then moved on. The third morning, as if in token of friendliness, they flew at half-

past six to the window-sill of the one who identified them; there they fed, as before, on woodbine seeds and maple seeds that had lodged on the sill of the window and the roof of a nearby piazza. A favorite perch was a telephone wire extending from one corner to the side of the house; eight would be on the wire at once. They all fed heartily, the females, seeming the more greedy of the flock, often taking seeds from the males' beaks. The birds did not care for bits of meat, apple, and grain, that had been put out for winter birds. No continuous song was heard, but often a soft little note from the low throat that resembled the note of the Bohemian Waxwing. Often at noon the flock appeared again, selecting small spots of bare ground and the gravel walk for feeding-places.

For afternoon visits they came at two o'clock, making a short stay. As nearly as could be learned, they chose an evergreen growth back of the town for night shelter. Other homes were visited at random, but the birds were constant to the two places first favored. It was, most assuredly, a pleasant sound to hear of a spring morning—a whirr of wings, a soft chorus of little notes, then all that beauty of form and color just outside one's window-sill. Almost any day the flock was expected to enter the room. It was a great privilege to see the birds. No one enjoyed them more than a body of two hundred and fifty school children—children who are trained to know bird friends and to protect their lives. For three weeks this great happiness was at hand; then, with the coming of warmer days, the Evening Grosbeaks returned to their Canadian home. It is a fact that a second visit will be one of the strongest hopes of the children (and a few "grown-ups") of Fairfield, Maine.—HARRIET ABBOTT, *Fairfield, Me.*

Evening Grosbeak in Ontario

I was interested in an article in BIRD-LORE about some Evening Grosbeaks seen in Massachusetts. I should like to let you know of a flock of the same birds

that lived in the pine trees around our place during the month of March and the beginning of April, 1913. There were about forty or fifty birds in the flock. They lived on the buds of the maple trees and on the young tender ends on the pine trees. The flock was made up of nearly all females. It is a very rare sight to see these birds in Ontario, although the Pine Grosbeak is a frequent visitor in the winter.—ROBERT B. CHILTON, Cobourg, Ont.

Two Interesting Bird Records from
Clarendon County, S. C.

On January 15, 1909, while driving along a country road, I was attracted by a twittering in the bushes by the roadside, and several dull-colored little birds became visible. At first I thought them to be Goldfinches in their winter plumage, but closer investigation proved that they were Pine Siskins. There were six of them, feeding among the alders and sweet gum bushes. This is the first record I have for this bird. In South Carolina it is very erratic in its movements. That distinguished observer, Mr. Arthur T. Wayne, of Mt. Pleasant, has reported it in great abundance during the winter of 1896, and it has been seen by several persons during 1909. On June 15 of the same year, I had the good fortune to see a male Swainson's Warbler and to hear its song. This event occurred in the heart of a swampy tract of woodland. I had emerged from the swamp into a small, dry part of the woods, grown up with large pines and surrounded on all sides by the swamp. A small brown bird flew up about fifteen feet from me, and perched in some vines. He remained here several minutes, and I positively identified him as Swainson's before he darted away into the thick woods. His manner was deliberate, and he reminded me of a Hermit Thrush in his movements except that he did not flit his wings after the manner of the 'Swamp Angel.' He uttered his song—a series of loud, ringing notes—which had something truly inspiring about it. It is possible that this bird was

breeding in this woods at the time, as there were wet thickets in abundance and also canes.—EDWARD S. DINGLE, *Summerton, S. C.*

The Building of a Robin's Nest

With a view of ascertaining some facts concerning the building of a Robin's nest, I lately devoted a day, in some respects a tedious one, to this end.

Overnight I chanced to see the two birds viewing a building-site on a beam outside a very heavy wooden structure. Upon closely examining the spot, I found a few straws and grasses, the merest nucleus of a nest, perhaps not ten pieces in all. With my glasses I reached the spot at 6.15, the following morning Sunday, May 11, 1913, at which time no further work had been done. The following notes are the result of my observations. Observed constantly (literally) from 6.15 A.M. to 5.05 P.M. Subsequently from 5.45 P.M. until dark.

The first trip was made by the female, closely followed by the male, at 6.40 A.M. Nothing was done after 5.05 P.M., as, on leaving for 40 minutes at that time, I placed a spider's web in such a position that the birds must disturb it if they visited the nest. During the period of observation (almost 11 hours), the male made 86 visits to the nest with material, and the female 108.

On every journey, practically, the female brought larger loads than the male, and twenty-two more of them. The actual shaping of the nest was done entirely by the female, the male usually dropping his load haphazard on the edge of the structure.

Some of the loads brought by the female were extraordinarily large and clumsy, so much so that often she appeared from a front view to be a flying bunch of straws and excelsior.

On several (at least four) occasions, the male appeared to tire of standing holding his load, while his mate shaped the nest to her liking, and, so, dropped it and hurried off for another.

The materials for the nest were almost entirely collected at a point 150 yards distant from the nest (the city dumping-ground), and in plain view with my glasses. This would make the total journeying of the male about 14 miles, while the female flew about 18 miles. The day was fine, though windy.

The, to me, rather extraordinary fact is that by 9.30 A.M. of the following day an egg was laid. The extreme rapidity with which the nest was completed may possibly be accounted for by the pressing necessity of a receptacle for the egg.

Some slight addition may have been made to the nest before I saw it on the second morning but, if so, it was too small to be recognized by one.

The nest with the egg weighed 10½ ounces. In it were subsequently hatched and reared three young.—BERNERS B. KELLY, *Great Falls, Montana.*

Nocturnal Songsters

On the evening of May 31, 1913, I was quietly sitting on the porch of our house at High Point, N. J., which is four miles from Port Jervis, N. Y., the same distance from Milford, Pa., and two miles from Colesville, N. J. I had been listening for some time to the call of the Whippoor-will and, as the bird was quite close to me, I could plainly distinguish that peculiar un-bird-like sound that precedes the familiar "Whip-poor-will" note.

I was suddenly surprised at 9.30 by hearing the trill of a Chipping Sparrow, which was quickly followed by two or three notes from a Red-eyed Vireo. For a while all was silent and I did not expect to hear any more song, but at 9.45 not only did the Chipping Sparrow sing twice and the Red-eyed Vireo give a few notes, but they were joined by the penetrating note of the Ovenbird.

I was very much interested in hearing these three diurnal birds so late at night, but no doubt one bird awakened the other, as all three calls came from the same general locality. Once before I had heard an Ovenbird call at the same hour, as was

also the case with the Chipping Sparrow, for both the Song and Chipping Sparrows frequently sing during the night, but never before had I heard the Red-eyed Vireo. Robins occasionally call, and I have heard one as late as ten o'clock. In most of these cases the night was one which was brightly illuminated by moonlight.—JOHN DRYDEN KUSER, *Bernardsville, N. J.*

The Song Period of the Brown Thrasher

In the educational leaflet on the Brown Thrasher, in the August number of *BIRD-LORE*, Mr. Pearson says of the bird: "In common with many other singing birds, the worry and responsibility of domestic life . . . do not, to any notable extent, lessen the force or frequency of his singing."

This statement will not hold true for this locality (Somerset Co., Pa.).

The birds arrive with us from April 4 to April 20, and are in nearly full song at the time of arrival, although the song does not attain its perfection until the latter part of the month. This continues without interruption until about May 20, at which time the female is usually sitting.

Thenceforth there is gradual diminution in both the volume and the frequency of singing, so that by the first week in June songs are rare and of brief duration, and later than the fifteenth the bird is practically silent, so far as song is concerned.

This is in decided contrast to the habits of its relative, the Catbird, which remains in full song throughout July and well into August.

During the past seven years, I have found the above to be the case, with very little variation from the dates given, and have always regretted that the fine song of this species may be heard for so brief a period only.

It would be interesting to learn if observers from other localities have noted the same brevity of song period, or if the habits of the birds differ in different localities.—ANSEL B. MILLER, *Springs, Pa.*

Book News and Reviews

BREWSTER'S WARBLER (*Helminthophila leucobronchialis*) A HYBRID BETWEEN THE GOLDEN-WINGED WARBLER (*Helminthophila chrysoptera*) AND THE BLUE-WINGED WARBLER (*Helminthophila pinus*). By WALTER FAXON, mem. Mus. Comp. Zool. XL, No. 6, August, 1913, pp. 311-316.

In BIRD-LORE for May-June, 1911 (p. 155), Mr. J. T. Nichols (whose initials, through an oversight, were omitted from his review) summarized the contents of a paper by Walter Faxon on Brewster's Warbler, which included Dr. Faxon's personal experience with these birds in a small swamp, at Lexington, Mass. The present paper contains the results of additional and most fruitful studies of these birds and their near allies in the same locality, and is so filled with significant facts and relevant comments on them that one feels tempted to quote it entire.

Briefly, Dr. Faxon appears to have solved the puzzle which since 1876, when William Brewster described "*Helminthophaga leucobronchialis*," has held the attention of ornithologists. Aptly enough, the answer which he now gives us confirms the theory advanced by Brewster only four years after he had named the bird, namely that Brewster's Warbler is a hybrid between the Golden-winged and Blue-winged Warblers.

Theory, however, is one thing and fact quite another; and Dr. Faxon supplies facts which apparently fully justify his "Satisfaction of demonstrating the true nature of Brewster's Warbler, removing the question forever from the realm of conjecture."

In a word, he found a typical male Golden-winged Warbler mated with a typical female Blue-winged Warbler, and kept their young (number not stated) under observation from June 15, about two days after they had left the nest, until they "all grew up to be Brewster's Warblers."

The same season a male Brewster's Warbler was found mated to a female Golden-wing and of their young one "grew up to be a typical Brewster's Warbler, while the other, its own brother, became a typical Golden-wing." These two birds and one from the brood first mentioned were banded, and a beginning was thus made for the study of succeeding generations.

We cannot help wondering how many years ago we might have had these data if we had earlier substituted the glass for the gun and collected facts instead of feathers.—F. M. C.

THE BIRDS OF VIRGINIA.* By HAROLD H. BAILEY. With 14 full-page colored plates, one map, and 108 half-tones taken from nature. Treating 185 species and subspecies; all the birds that breed within the state. J. P. Bell Co., Inc., Lynchburg, Va. 8vo. xxiii+362 pages.

Very appropriately, this handsome volume is dedicated to the author's father, H. B. Bailey, a Founder of the American Ornithologists' Union, whose son, either through inheritance or training, and probably as a result of both, has worthily followed in his father's footsteps.

Only the species believed to breed in the state are treated, but the four faunas (Austroriparian, Carolinian, Alleghanian, and Canadian) represented in Virginia bring a great variety of breeding birds, species as faunally unrelated as Swainson's Warbler and the Red Crossbill being here included.

In the page or more devoted, as a rule, to each species, we have its general range, as given in the A. O. U. 'Check-List,' with such modifications as the author's personal knowledge suggests, the area it occupies in Virginia, the times of arrival and departure of the migratory species, location and character of the nest and eggs, nesting dates, and some description of haunt and habit. The book thus contains much original matter, and may be

welcomed not only as a contribution to ornithological literature, but as a possible means of stimulating bird study in a state which, strangely enough, has shown but little interest in her assets in bird-life.

The numerous half-tones are from photographs of nests in nature, and the fourteen colored plates by E. L. Poole introduce us very pleasantly to a bird-artist who evidently has more than average ability.—F. M. C.

THE NATURAL HISTORY OF THE TORONTO REGION, ONTARIO, CANADA. Edited by J. H. FAULL. Canadian Institute, 1913. 12mo. 419 pp., 7 half-tones, 5 maps. Price, \$2.

Although prepared by the Canadian Institute primarily for the members of the Twelfth Geological Congress, this volume may be commended to any sectional natural history society as a model for the treatment of its local flora and fauna.

In addition to historical, ethnological and geological sketches, the work contains chapters on Climate, Life-zones, Seed Plants, Ferns, Mosses and Liverworts, Mushrooms and other Fungi, Algae, Lichens, Mycetozoa, Insect Galls, Zoölogy, Mammals, Birds, Reptiles, Amphibia, Fishes, Invertebrates other than Insects, and Mollusks, Mollusca, Insects and their allies.

The Chapter on Birds (pp. 212-237), by J. H. Fleming (who also writes on mammals) forms a list of 292 species and subspecies, with brief annotations on their manner of occurrence and comparative numbers.

An authoritative work of this kind should not only arouse, stimulate and concentrate interest in the study of nature in the region to which it refers, but it makes a capital book of reference for faunal naturalists everywhere.—F. M. C.

The Ornithological Magazines

THE WARBLER.—The Seventh Volume of 'The Warbler,' published September 1,

1913, at Floral Park, N. Y., is the first to be issued since October, 1910. It contains 34 pages of text, and two colored plates, the first of which figures the eggs of the Knot, the second, the immature plumage of the Carolina Paroquet.

The articles include 'A Theoretical Analysis of the Colors of Familiar Warblers,' by John Treadwell Nichols, who concludes that the colors of these birds "are by no means a haphazard product of evolution, but are controlled or determined by natural selection, or some other force which is constantly adapting the bird to its complicated environment," a view susceptible of several interpretations; 'A Nesting Season in Nova Scotia,' by Harold F. Tufts; 'A Collecting Trip to Little Diomede Island,' by Johan Koran; 'Notes on the Nesting of Bobwhite at Flowerfield, L. I.,' by John Lewis Childs, where it is a pleasure to read this bird is so abundant that seven nests were found "within a radius of one hundred feet" of a certain cedar grove, in 1912; 'The Depredations of Cats on Muskeget Island,' by G. K. Noble, where the work of bird protectors is evidently being undone by creatures which know no law; 'Wilson's Plover,' by Henry Thurston; and 'Notes on Long Island birds,' by Childs, Thurston, Nichols and Murphy.—F. M. C.

THE CONDOR.—The July number of 'The Condor' contains five general articles, two of which are rather comprehensive studies. The shorter papers comprise an account by Kennedy of 'A Nest of the Dusky Horned Lark,' containing three young birds, found in the Lower Yakima Valley, Wash., on March 26; Hanford's notes on 'Sierra Storms and Birds,' in 1912, which is supplementary to Ingersoll's paper on this subject in the May number; and Huey's observations on 'The Band-Tailed Pigeon in San Diego County' in 1910, 1911 and 1912, which add several breeding records to those already published.

Dr. Shufeldt contributes 'An Introduction to the Study of the Eggs of the North American Limicole,' based on the

extensive private collection of Edward J. Court, of Washington, D. C. The paper is well illustrated with six full-page plates of eggs representing 20 species and 54 specimens of typical American and European Shore Birds. The eggs were originally photographed natural size, but have been reduced in reproduction to "slightly less than natural size." It is unfortunate that the exact amount of reduction is not definitely stated as $\frac{1}{8}$, $\frac{3}{4}$, or whatever it may be.

Dawson's 'All-day Test at Santa Barbara' is an interesting running account of a "bird horizon" made May 5, 1913, between 4:37 A.M. and 8 P.M., when 108 species and 4,195 individuals were recorded. These results were attained by the use of an automobile, which made it possible to visit a number of points, and thus cover a good deal of country in the course of the day. Comparison is made with the bird horizon of Lynds Jones and two other observers, near Oberlin, Ohio, on May 13, 1907, when, by the use of a trolley, points 30 miles apart were visited, and a list of 144 species recorded. It is questionable whether the best results are obtained by making a continuous wild rush between daylight and dark from one good bird locality to another, identifying and recording subspecifically every note and every glimpse of feathers, in the sole effort to secure as large a list of species as possible. And what of the accuracy of results when Sandpipers, Linnets, and Redwings are recorded by hundreds, when only 8 Meadowlarks and 4 English Sparrows were observed in comparison with 40 Black-headed Grosbeaks? Rather, it would seem, that combined observations of several persons in a definite area, where each could take time to cover his territory thoroughly and follow up and observe the various birds, would give a better idea of the number of species and individuals present on a given date. Let us have more bird horizons from Santa Barbara and elsewhere, made without recourse to automobiles and trolleys, omitting all doubtful species, with more attention given to the relative abundance of the

common birds, and with less anxiety to record the largest number of species observed by one individual.

In one of the brief notes Figgins points out the fact that Gambel's Quail is probably an introduced species in Colorado, and "has no rightful place in the list of native Colorado birds."

The number closes with a Directory of the names and addresses of 6 Honorary, and 421 Active Members of the Cooper Ornithological Club—an increase of 11 members during the past year.—T. S. P.

THE WILSON BULLETIN.—The June issue (Vol. XXV, No. 2) of this journal of field ornithology, contains, as its leading article (pp. 49-67), a well-made and well-recorded study of the 'Nesting Behavior of the Yellow Warbler (*Dendroica aestiva aestiva*),' by Harry C. Bigglestone. The nest was studied *in situ*, from a blind which, when the eggs hatched, was moved to within two feet of it. From this point of vantage, the young were under observation by the author and a corps of volunteer assistants, for 144 hours and 53 minutes, during which time they were fed 2,373 times. These figures give some conception of the care and detail with which this study was made. As a result we have an actual addition to our knowledge of a common species and an important contribution to the study of animal behavior. We commend this paper particularly to ambitious field students.

Further articles in this number are by Lynds Jones on 'Some Records of the Feeding of Nestlings,' a Preliminary List of the [144] Birds of Northern Passaic County, New Jersey,' by Louis Kohler, the publication of which might with advantage have been deferred until its author had observed such common species as the Winter Wren, Blue-headed Vireo and others; 'The Cardinal and Brown Thrasher,' by Marion E. Sparks; 'The Extermination of the Wild Turkey in Clayton County, Iowa,' by Althea R. Sherman, where but few individuals were killed after 1854; 'Notes on the Sage Hen,' by S. S. Visher, various 'Notes' and Reviews.—F. M. C.

Bird-Lore

A Bi-Monthly Magazine

Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN
Contributing Editor, MABEL OSGOOD WRIGHT
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Bird-Lore's Motto:

A Bird in the Bush Is Worth Two in the Hand

THE Thirty-first Annual Congress of the American Ornithologists' Union will be held at the American Museum of Natural History, November 11-13, 1913. No one who ever attends an A. O. U. meeting is absent from succeeding ones if he can possibly be present. These annual reunions are as different from the gatherings of other scientific societies as birds are from other forms of life. They are pervaded by an atmosphere of enthusiasm and good-fellowship which, merely from a social point of view, makes them in the highest degree enjoyable, while the opportunities they afford for the acquisition of information in every department of ornithology are almost as wide as our knowledge of birds.

Great libraries and collections are available, papers on a wide variety of ornithological subjects are read and discussed, and workers from many fields may be appealed to for advice or information. Indeed, the friendships formed at these A. O. U. congresses, while they have had no record in official program or report, have exerted no small influence on the progress of ornithology in America.

The Congress this year promises to be of exceptional interest. As a central point, New York usually draws a large attendance. Several of the members who expect to be present have but lately returned from distant lands laden with specimens, photographs, information and experiences of the highest value and interest. One

who has passed a year in the Antarctic will have a tale to tell such as even regular attendants of the A. O. U. have rarely heard. Other papers, treating of more familiar birds, will make a more direct, and possibly even a stronger appeal. Indeed, by far the most valuable and interesting study presented at the last A. O. U. Congress had for its subject one of our commonest species.

The hotel headquarters at the "Endicott," on Eighty-first street, facing the Museum square, are convenient and the rates reasonable. The annual subscription dinner will be held at this hotel, while the Linnaean Society will entertain the visiting members daily at luncheon. An informal evening reception will probably be held in the laboratories of the Museum's department of ornithology, giving an opportunity to examine the large accessories which have lately been made to the study collections of the Museum, as well as to those of several private collections which are deposited there. Arrangements will doubtless also be made for special visits to the New York Zoölogical Park, which now contains the finest aviary in the world, and to the New York Aquarium.

So one might continue to detail the attractions which make up an A. O. U. program and still miss the most important part of every A. O. U. meeting, if he failed to mention the stimulating influences of contact with others of kindred tastes. In spite of an ever-increasing number of bird students, the local ornithologist is generally more or less isolated from others of his kind with whom he may exchange experiences. Consequently, when once at least each year he finds himself in a group of a hundred or more persons, everyone of whom is just as keen an "observer" as he is, the cumulative effect of such sympathetic association is as exciting as a May migration "wave."

Every bird student should seek to ally himself with this organization, to which he owes more than he realizes. Information in regard to proposals for membership may be obtained from J. Dwight, Jr., Treas., 134 West 71st St., New York City.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the editor, at 53 Arlington Avenue, Providence, R. I.

A SUMMARY OF PRACTICAL SUGGESTIONS

As vacation days come to a close and the year ahead begins to urge its duties upon us, two questions present themselves to the thoughtful mind, the answer to either of which might bring success along the lines of nature-study work in which we are engaged.

The first question relates to the work of the year just now past and may be stated briefly and without circumlocution. How far has nature-study in our schools fallen short of the goal set for it by leaders of the movement? To be able to analyze conditions, and to understand exactly where the sources of failure in teaching nature-study lie, is a big step ahead in handling the problem which confronts every Audubon Society and every Board of Education.

So far, this question is answered differently in different localities, and, as yet, very little real unity as to methods of teaching nature-study has come to the surface. In one state the value of a trained supervisor is demonstrated; in another it is discredited. In one place nature-study is taught as a separate, prescribed subject; in another it is combined with some unrelated branch, usually more or less at the discretion of the teachers in charge.

In few places is it placed on a basis of equality with studies of equal rank, while in many places it is entirely neglected.

If all Audubon Societies and interested teachers would take time to consider the situation in their respective vicinities, and report clearly and concisely upon the same, either to state superintendents of education or to some magazine like *The Nature-Study Review* or BIRD-LORE, where the facts could be made public, a decided advance might take place not only in teaching nature-study, but also in putting it within the reach of those who are no longer in school.

The second question relates to the work of the year just ahead of us, and it too has reference to methods and conditions of work. What has or has not already been done in the past is no measure or criterion for the future.

Suggestions have been made in this Department, from time to time, that an annual or bi-annual nature-study conference be held in each state for the benefit of teachers; that traveling-collections of nature-study pictures, as well as of books upon nature, be put within the reach of every rural as well as urban district; that Bird and Arbor Day be made an occasion for promoting particular interest in nature-study throughout every community; that school-

children be given an opportunity to develop civic pride by assuming some responsibility in cleaning up waste ground, destroying insect pests, and attracting birds to their homes; that, everywhere, bird-study be correlated with school-gardens, agriculture, horticulture, and economic entomology; that *from* the schools, practical methods of dealing with nature be communicated to clubs and granges; that *in* the schools, nature-study be taught in a systematic, though spontaneous manner—not as a detached, isolated subject, but as a comprehensive, interrelated branch, touching at many points most of the studies now required in the ordinary grade curriculum.

One of the main difficulties of this whole matter was carelessly put recently by a thoughtful woman, who has children to educate, and who has served as chairman of the school-committee in the town in which she lives. Referring to the movement for introducing nature-study into the general school curriculum, she remarked: "I haven't as much faith in this nature-study idea as some people have." Now the reason for her lack of faith was not that nature-study had been tried in the schools of her vicinity, but that she herself did not have any clear idea of what nature-study means.

The first and best service to render to your community is to help people get a correct notion of the ground covered by this important study. Perhaps no one has yet formulated an adequate definition of nature-study in words. John James Audubon, Gilbert White, Henry Thoreau, John Burroughs, John Muir, and many other true nature-lovers, have tried to tell us what the value of first-hand nature-study really is.

It might throw some light upon the question to re-read the story of Audubon's life, and the observations of White and Thoreau in limited areas, as well as the pleasant converse held with birds, flowers and mountains, set down in the delightful annals of Burroughs and Muir.

We deplore the fact that the children of to-day are wanting in the physical vigor and native perception of their pioneer forefathers; that they lack initiative and originality, brought up as they are in an atmosphere of mechanical toys and devices, which distract their attention, but do little to sharpen their wits.

No better word can be said for nature-study than that it is a corrective for these drawbacks of modern life. Taught properly, it trains the senses, particularly sight and hearing, gives enjoyment, delights the mind, stimulating it to meet unexpected situations responsively and effectively, and, best of all, it employs the body in outdoor exercise which is at once healthful and absorbing.

Even indoor nature-study is highly to be commended for the benefit which schools and "shut-ins" of all kinds receive from it; for, strangely enough, our modern ideas of education shut the child indoors, away from the great, beautiful open, year in and year out, during two-thirds at least of the period of youth.

One of the best demonstrations of the value of indoor nature-study may be seen at the American Museum of Natural History, in New York City, when the

class for blind children meets. At first glance, the group of twenty or thirty sightless boys and girls seems sadly disheartening; but, once their sensitive fingers set to work on the birds and animals placed within their reach, the air is surcharged with expectancy, each face becomes eager, a smile betokens discovery, everywhere contentment and joy brighten the features, the long, narrow study-table *becomes a world of new ideas*, and even the most casual onlooker cannot help becoming inspired and quickened.

Do not deprive this generation, or any other, of the invaluable privilege of becoming acquainted with nature, if possible at first-hand, but, in any case, of knowing something of the real world.—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XI: Correlated Studies, Reading, Arithmetic and Botany

WHAT THE BIRDS DO IN AUTUMN

The season of nesting is over, and the cozy cradles of the birds are left empty, to toss about in the fall winds or to be beaten and torn by storms. Only a few, those which are placed in sheltered nooks or are built most securely, will last throughout the winter. The firmly woven nest of the Baltimore Oriole may sway back and forth from some bare limb throughout the winter, but the dainty, shapely cradles of the Vireos soon become weather-beaten and shrunken, if not entirely dislodged from their supports, and even the solid, bulky nests of the Robins and Thrushes early have a loose, water-soaked or broken appearance. The Phoebe and Barn Swallow which so often build in protected places, on a beam or shelf under cover, will have no difficulty next spring in locating the identical site where they reared their young this season, but many other birds will find no trace of their nesting-site—at least no trace apparent to human eyes—upon their return.

Nevertheless, you need not be surprised to find your bird-neighbors gathering nesting-material and constructing their cradles in nearly, if not the same places where you found them this year, provided the sites they prefer have not been changed or altogether done away with. It will be a pleasant and instructive task to collect some of the old nests now, for study in the school-room or at home; but perhaps it will be better not to disturb the nest of the Phoebe, since this species seems to build over the old cradle in many instances instead of making a new one from the start. Possibly you can guess the reason why, when you compare such a nest with that of a Vireo or Sparrow.

At no season of the year do the movements of birds become more mysterious and hard to follow than in the autumn, or, to be more exact, in the month

or so just succeeding the nesting-period; for we must not forget that birds do not all nest at the same time. Before the young are fully grown, ready to start on their long southward journey, there appears to be a brief season of family life among many migrating species, when the parents still keep near the newly fledged young out in the open, bringing food in some cases, or finding congenial feeding-areas for them. Although the birds which have nested in any particular locality may remain there several weeks after the young are able to fly, they stray about at some distance from the abandoned nest, as the search for food and inclination may dispose them to do, until the period of molt comes on. It is probable that this period lasts some time, for of course, the birds even of a single species do not all molt at exactly the same time. The Yellow Warbler or Red-eyed Vireo which has sung so energetically near your window all through the summer suddenly becomes silent for a week or more, although not far away other birds of this kind are likely to be singing. It is a period of drooping, discomfort, and sickness almost for the birds until fresh plumage is attained, when a brief but intermittent song-period may follow before our feathered friends leave for the winter.

Just how to study birds to the best advantage at this time it is rather difficult to say. If you have been so fortunate as to really become acquainted with your bird-neighbors through the summer, then you will be prepared to judge which ones are actually leaving your neighborhood, and which ones are passing through it.

On Long Island, the bird-population, along the North Shore at least, is increased by the arrival of the Solitary Sandpiper as early as the third week in July; while along the South Shore, by the last of the month, the Semipalmated Sandpiper and Plover of the same name are present in considerable numbers, and an occasional Great Blue Heron, or even a Loon, may be seen in suitable localities.

Other shore- and water-birds, if not already this far south on their regular migration-route, follow shortly, until in early August quite a variety of travelers are added to the list of permanent and summer residents. It is a time for keeping eyes and ears open, since daily surprises await the constant observer.

Not only from the north, but also from the south, visitors may come. An immature Little Blue Heron or an Egret Heron, though rare, is not an improbable transient for a brief sojourn.

In northern Vermont, as August wanes and the real summer days give place to fitful weather, the birds become shifting and uneasy. One may chance upon a bevy of Bluebirds and Crested Flycatchers one day, a flock of Vesper Sparrows by the roadside, with a stray Nuthatch flying aimlessly from tree to fence-rail, as though uncertain of its destination, and scattered groups of various species feeding and exploring here and there. For a few days, Goldfinches—perhaps a late-nesting pair—call almost monotonously in one place,

while in another they roam in small flocks from weed-stalk to thistle with accustomed grace and sociability.

The alert Song Sparrows still dodge about the bushes and roadside; out in the fields, a few dignified Crows are searching for insects; the easy-gliding Marsh Hawk skims over the lowlands with watchful eye, while from the limb of a dead tree nearby a small Flycatcher darts out—The Alder, so far as one may judge by form and color.

Phœbes, for the most part silent, abound on fences and wires, jerking their tails as usual; but there is no sign of the Least Flycatcher which all summer has made itself known by its oft-reiterated call, *chebec*. The Ruby-throated Humming-bird has not gone yet, for it visits the beds of nasturtiums, poppies and scarlet runner about the door daily, occasionally uttering a thin, wiry *chit-t-t-t*, especially if disturbed by an intruder of its own kind. Its stay will be brief now, however.

The Hairy Woodpecker, in company with Chickadees and White-breasted Nuthatches of more stable disposition, keeps at its accustomed work in the woods; but though the Blue Jay's noisy, familiar call now and then strikes the ear, there is a strange silence everywhere, and a deserted appearance out-of-doors, in striking contrast to the busy hum of spring and early summer.

The Savanna Sparrow is still here, and the Kingfisher, if that flash of wings along the narrow stream is not misleading, but the Swallows have been gathering together and leaving for some time. The Robins, too, seem to be flocking, though occasionally a single individual is seen feeding leisurely, as though winter were never to be reckoned with.

A sudden, golden flash brings a thrill of joy, as one, then two male Baltimore Orioles flash by, females or young in their train; but the joy is short-lived, and a feeling of loneliness comes over one as the feathered folk make ready for departure. The pine tree of the North seems very far away from the palm tree of the South.

But how glad we should be that not all of our birds leave us at this season. The cheery Junco has already begun to arrive, to swell the ranks of winter residents. It will not be long until the Tree Sparrow and the Pine Siskin come also; and when the snow flies we may expect the merry Snowflakes and Red-polls, with Crossbills, and possibly the rarer Pine Grosbeak. Indeed, there is so much to look for and to enjoy at any season of the year that we need not complain when summer is over, and autumn frosts turn the leaves and nip our late-flowering plants.

One cannot help wondering, as the seasons pass, whether birds do not have a sense of changing conditions, in spite of their fluffy feather covering which protects them so well both from cold and heat. We feel the difference between August warmth and November chill, and all vegetation feels it too, and shows it, except the evergreen trees and ground-pines, the mosses and lichens, and such hardy growths. Why not the birds, too? It has been thought by some

observers that they do; still, there must be other causes for their departure in the fall, though just what these are is not definitely known. The more we learn about the food-habits of birds, the nearer we may come to the truth, because food is the first chief necessity for the existence of any organism.

The food of most birds varies somewhat with the seasons, and with the locality where they are individually distributed. In general, any single species seems to have a preference for certain kinds of food, and usually this preference is governed by some special adaptation for getting particular foods. Although a Downy Woodpecker in one locality might happen to sample a mulberry in July, it would be odd enough to think of Downy Woodpeckers everywhere living on mulberries, because Woodpeckers, as a family, are fitted with special tools for getting boring-insects and larvæ from under the bark of trees.

It would be even more difficult to imagine Warblers and Vireos chiseling for food, as the Woodpeckers do, although both of these families of birds seek their food on and about trees or shrubs. Neither one, however, eats fruit with much more relish than the Woodpeckers, at least in localities where insect-food to their liking is abundant. Indeed, I have watched a variety of seed- and insect-eating birds regale themselves in midsummer upon mulberries and cherries, but never once have I chanced to see a Vireo or a Warbler touch these fruits. A Red-eyed Vireo of my acquaintance visited a dogwood bush regularly until it was cut down, and most industriously nipped off the small, dry, purple berries. Very likely, other Vireos may relish a change from their accustomed diet of insects; I do not happen to know, which is all the more reason that I should watch Vireos, and Warblers as well, in different places and at different times of the year. A great deal remains to be discovered by the patient observer.

And this leads to the suggestion that we begin our study of birds this fall by taking up *the different kinds of food available* for them in our own vicinity. In order to really get at something definite, we would do well to catalogue these foods in a simple way as follows:

A TABLE OF FOODS AVAILABLE FOR WILD BIRDS.

Vegetable Food.	Insect Food.	Animal Food, not including Insects.

In filling out this table, it would be a help to classify the different foods by describing their *condition* at the time they are eaten by birds. Thus, under vegetable food there are buds, blossoms, leaves, seeds and fruits in great variety; under insect food, eggs, larvæ, pupæ and adult insects, while under animal food, there are immature and adult worms, mollusks and sand-fleas, etc.; among *invertebrate* creatures, besides field-mice, gophers, moles, prairie-dogs,

spermophiles, frogs, lizards, fishes, etc., in all stages of growth, among *vertebrate* ones. When you begin to work out this table, you will be greatly surprised, no doubt, to find out how very little you know about the relation of birds to other forms of life.—A. H. W.

SUGGESTIONS

1. Collect a few nests, air thoroughly or disinfect with gasolene, and put each carefully in a box with a cover to keep out the dust, or in a glass-sided case. Label neatly, giving the name of the tree or shrub or the location where the nest was found, its height from the ground and the name of the species of bird which occupied it, if you are sure of this point.
2. Collect seeds of various kinds, particularly weed seeds, and label them in separate boxes for study later. A good way to put up seeds is to glue a few on to a white card, with a pressed leaf of the plant from which the seeds came. A still better way is to cut two pieces of cotton wadding of exactly the same size and fit over a stiff piece of cardboard. Arrange the seeds and leaves on the wadding, and place over either side of this exhibit pieces of glass cut to match the card-board. Passepourt the edges securely, and label the mount or make a type-written description of its contents for future reference. A series of mounts made in this way, using old negatives, which can be obtained at slight expense from any photographer, make a valuable addition to the school-room equipment, if numbered and carefully labeled.
3. Examine the nests collected with reference to the materials used in their construction, consider their durability, and review the preceding exercise, to see what kind of nests it would be impossible to preserve or to collect ordinarily.
4. Look up the habits of the European Cuckoo and compare them with those of the American Cuckoos. Study the food-habits of these birds, and also the winter and summer food of the Chickadee.

5. Correlate bird-study with arithmetic, this fall, by computing some of the distances traveled by birds in their migration south. For example, compute the distance from Alaska to Central America, via the Mississippi River and the Gulf of Mexico; from the Great Lakes to Cuba or Jamaica; from the Hudson Bay region to Mexico; from the Arctic Circle to South America, etc.; following out the principal routes of migration used by the birds. (See *BIRD-LORE*, Vol. XV, No. 2, p. 124.)

References: Some New Facts about the Migration of Birds, by Wells Cooke. Yearbook of the U. S. Dept. of Agriculture, 1903. A Lesson on Squirrels and Chipmunks for Elementary Grades, by Anna B. Comstock, in *The Nature Study Review*, Sept., 1913. Nature Month by Month, by Ernest Ingersoll, in *The Outlook*, Aug. 23, 1913.

FROM YOUNG OBSERVERS

Friendly Birds

The accompanying photograph shows the degree of tameness exhibited by the Chickadees during the past winter. They took food from the hand from the start, a fact which led me to believe that some of them had visited my feeding-station the year before, and by a little coaxing were induced to take a nut held between the teeth. I believe they recognized me from other members of the family, as they showed particular friendliness toward me. When I approached their feeding-station, they would fly to meet me, and

fearlessly alight on head or shoulder, and continue to search for something to eat. While cracking nuts for them, they often came dangerously near the hammer in order to secure the prizes, which were eaten immediately or hidden in some crevice for safe-keeping. At times they seemed exceedingly jealous, as it was seldom that one bird would tolerate having another eat from the hand at the same time. However, on very cold mornings, I have had several birds on each hand at once. These birds often exhibit much intelligence, as the following examples show. Once I put a nut down inside the wristlet of my mitten, to see if Chickadee would find it. After hopping



A FEARLESS CHICKADEE

up my arm several times and back again, he spied it, and, after much wrenching and tugging, dislodged it and carried it away. On a subsequent visit I noticed that this bird went to the wristlet of my mitten in search of food, which showed that he had not forgotten. Another time, while standing inside the house watching the birds at their feeding-station, one of them flew down and hovered in front of the pane behind which I was standing. After repeating this several times, I concluded that he was coaxing for something to eat, so I procured some nuts and fed him. He evidently knew that it would have the desired effect, for the trick was repeated many times. As spring advanced, they grew suspicious and shy, and by April their visits ceased altogether.—
H. BROWNING LOGAN (age 16), *Royalton, Minn.*

[Observations from the live bird are always welcome and Master Logan seems to have solved the problem of how to attract wild birds. It is of interest to know that the Chickadee was well known to some of our North American Indians and named by them in their own tongue. Indian children, so the annals of these peoples tell us, were crooned to sleep with stories of the birds and beasts. Very few persons today, probably, possess the keen eye and attentive ear of the savage, and this is one of the reasons why nature-lore is more difficult for civilized races to attain.—A. H. W.]

A Pet Road-Runner

On April 13, while playing near a creek bottom with some boys, after the adjournment of Sunday School, I came upon an old shattered-looking nest, about seven feet from the ground, in an almost inaccessible tangle of mesquites, little oaks, streckberries, and little elms. I took no special notice of it, however, until, upon going up to it as near as possible, I noticed a long, iridescent tail sticking up parallel to the limb on which the nest was situated. Upon shoving in farther, the bird raised its head, put up its crest, and left the nest, at the fearful rate for which this bird is noted. Of course I then determined to see the contents of the nest, for it was the first one I had come across.

I did not especially enjoy the thought of tearing my clothes, or skin either, for that matter, but in I started. After breaking innumerable vines and rubbing cobwebs out of my eyes, I found myself near the nest, and, upon putting my hand in carefully, I discovered that there were ten rather large-sized eggs. I had heard that they were white, but I was bound to see them, so I lifted myself up as best I could, and secured a rather pleasing knowledge of their looks. It was indeed a nest full, and I would not have been surprised if some had blown over the edge in one of these Texan winds. But they did not, and on April 14, the day after, on returning, I was delighted to find two of the birds hatched. They looked exceedingly hungry, and tried several times to swallow my little finger. Their mouths were blood-red, and their black-skinned bodies were covered with long white hairs. On April 15 there were three birds; while on April 17 there were eight birds, and only two eggs.

During this time I rarely saw the parent birds, but once or twice I heard the peculiar clapping or rolling noise, made by putting their mandibles together and apart at a fast rate.

By this time the more mature birds had also learned the sound, although they were but about five inches long. However, from the first, they made an incessant mosquito-like buzzing, which signified hunger. I say incessant, for I never remember a time when they were not hungry.

For nearly a week I did not visit the nest, but, on going, I found only two very fine large Chaparrals; the rest had been lured away by the parent birds.

Being very desirous of having one of these queer birds for a pet, I took one from the nest, with the intent of raising it from that time on. Being doubt-

ful as to what to feed it, I was relieved when I noticed an inch of tail of a six-inch wood-lizard protruding from its mouth.

This bird had rows of blue blood quills all over it, but a white hair remained on the tip of each. Not a single feather had appeared, although some of the quills looked ready to burst.

After taking it home, I put it in a bucket, with coarse straw in the bottom and a board on top, so it would not wake up before I did. Upon waking, however, I lifted the board, and its large mouth was wide open for food. I gave it a horned frog, which it took whole. It was too weak to stand upon its bluish legs yet, so I kept it in the bucket till I thought it was old enough to get around by itself. On this same day I fed this little seven-inch bird four crickets, a Cardinal which was found in a snake, a green lizard, a piece of bread soaked in milk, another horned frog, and four young English Sparrows, which had died from the effects of falling from their nest.

The next morning I was pleased to find that the tail and the primary blood quills had commenced opening. It was indeed a queer creature, its tail reminding one of a Mot-mot, with the long quills, and small bursted tips. It readily took food from my hands, and, as I remember, it never refused to eat until it grew more aged. However, it grew, and always seemed to enjoy its diet. On this day I gave it three horned frogs, two pieces of bread soaked in milk, seven crickets, one lizard, one snake about eighteen inches long, which the bird took whole with apparently little effort, although it was indeed hard to imagine where it all went to, a part of a Bartramian Sandpiper, and three English Sparrows.

On April 23 the tail had grown one and one-half inches long, while, previous to this, the blood quills had burst all over, and the hairs had even left those feathers which had first come into sight. They kept leaving the throat, breast, and rump continually, and the shoulder hairs left first. The wings grew very fast, and my bird began the fine art of raising its crest. Its legs, too, had grown firmer, and it began to toddle around a little. On the next day the tail grew another half-inch, and the quills burst so much that there was but a little part in sight. I fed the bird the remains of some meat, three English Sparrows, and seven crickets.

From this time on, its hunger seemed to grow less extreme, although it still seemed to me to consume an enormous amount. My pet was truly getting pretty now, as the hairs had left all the feathers save those on the head, belly and back. It raised its crest continually, and was quite tame. The naked patch on the side of the head was getting reddish now,—it was formerly blue. The bird particularly liked to come to me when I lay on my side and called to it; but, though I made up a dozen names, I never regularly called it anything but "Birdie." The tail grew on an average of nearly three-quarters of an inch a day, and the beautiful blue and violet iridescence appeared as it grew longer.

The manner of eating was very peculiar and interesting. The bird would flap its wings incessantly, open its mouth, lower its head, and come at me in a manner which was truly alarming at first; but, as I grew more used to its ways, it showed nothing but a rather spoiled character, for every time I came near, the bird seemed hungry. One instance, especially, I remember. On May 1, in the middle of the night, my Road-runner came to me, although only a few minutes before he had been asleep in a small locust which grew in its cage.

While it was young it never bothered the other tame birds and animals, and it took quite a while for it to learn to pick up anything. As soon as it did learn this, however, it was better than a dozen picture-shows to watch it for a half-hour. It would spy a lizard and begin an amusing game of tag,—which meant life or death to the lizard, but only a nibble to the bird. Very rarely would it miss them, although at first it was difficult for it to keep track of them. If by chance it did miss one, it looked so queer that it was positively ludicrous. When it had finished every lizard in the road, it commenced on grasshoppers. From the first this bird ate the hopping ones, but it took practice to capture the large flying ones. Upon seeing one, it would walk sidewise up to the insect, and when it sprang into the air, the Road-runner jumped into the air gracefully in front of it, and captured it on the way down. The bird very seldom missed grasshoppers in this way, but it usually never cared about them if it did. As my pet grew older, it began on snakes,—and woe unto them! No one knows how many it had done up in a fine style. Nothing in the animal line escaped it,—tarantulas, scorpions, mice, birds, snakes, sow-bugs, beetles, horned frogs, lizards, rats, beef, and small chickens, were all devoured whole. It made a special fuss over chickens and wasps. This bird truly seemed intelligent beyond expression. Scorpions were always attacked at their tails; so were wasps, while tarantulas and other things were attacked at their heads. It was very particular to kill caterpillars, and it always ate the legs off a tarantula before eating the rest of the body. I never knew a more interesting creature, and, at this time, a half-hour walk with it is a continuous round of surprises.—GEORGE MIKSCH SUTTON, 11th grade (age 15), *Ft. Worth, Texas.*

[The foregoing history of a baby Road-runner is quite unique in the columns of this Department, and the information given will be of value to all of our readers. Although grouped with the Cuckoos, the Road-runner differs greatly in habit from other members of its family. Our common Cuckoos lay few eggs, and make separate nests for their young, but several Road-runners may use the same nest, which explains the large number of eggs Master Sutton found.

The food of the common Cuckoos, also, is chiefly insectivorous, and this group of birds is perhaps as beneficial in its habits as any that could be named. The food of the Road-runner, as described above and by other observers, is largely carnivorous, although insects are no doubt included in its diet under normal conditions.

We shall look forward to a continuation of this particular Road-runner's history with interest.—A. H. W.]



CATBIRD

Order—PASSERES
Genus—DUMETELLA

Family—MIMIDÆ
Species—CAROLINENSIS

National Association of Audubon Societies

THE CATBIRD

By WITMER STONE

The National Association of Audubon Societies

EDUCATIONAL LEAFLET No. 70

Most of our familiar American birds were named by the early settlers after well-known birds of the Old World to which they seemed to bear some resemblance. Sometimes these hardy pioneers were correct in their ideas of ornithological relationships, but more often they were wrong, and consequently we have Flycatchers, Larks, Redstarts, Blackbirds and Warblers, that have no close relationship with similarly named birds of Old England. The Catbird, however, stood forth as a distinctive character of the New World, with no counterpart in the land across the sea, and, as in many cases of bird christening, they named him after the character of his voice, which recalled to them the mewing of a cat.

Even in America, the Catbird stands apart in a class by himself, so far as characteristics and color are concerned. We have learned, of course, that he has been named *Dumetella carolinensis* by the ornithologists, that he is placed in the family Mimidae, and is related to the Mockingbird and Thrashers, but perhaps not so very closely after all. His drab plumage, black cap and tail, and rusty under tail-coverts, at any rate, form a combination of colors not found among other 'Mockers,' nor indeed, in any other North American bird, while the deep blue eggs of the Catbird differ entirely from those of the Mockers and Thrashers, and recall those of the Thrushes, to which family, indeed, it would seem that the Catbird has some kinship. Through the Thrashers, on the other hand, he traces relationship with the Wrens, having the same short, rounded wing and long tail, while his tarsus is composed of distinct plates, and not welded together into a boot, as in the Thrushes.

Not only is the Catbird's plumage distinctive, but it is not subject to variation. Wherever he is found, he presents the same appearance, and there is no tendency to respond to the climatic conditions prevailing in different parts of the country, and to break up into light and dark races, or large and small forms, as is the case with the Song Sparrow and certain other species. Nor does the Catbird present seasonal or sexual changes in dress, as do many of our birds. The young, in the nestling or 'juvenile' plumage, are perhaps a little darker on the back, and have a slight tendency to dusky mottling on the breast, while the feathers, as in all young birds, are more loosely constructed; but, apart from this, Catbirds—male, female and young, winter or summer—are alike.

Doctor Coues, I remember, in his classic account of the Catbird, refers to him as distinctly commonplace, and there seems to be something about the bird that deserves this epithet. He is so familiar to everyone, so associated with everyday scenes and occupations, that he seems almost a part of them,

and occasions none of the enthusiasm that the brilliant plumage of the Scarlet Tanager or the clear notes of the Wood Thrush arouse. And yet, when we stop to consider him, there is something very dear to us in the homely presence and the sometimes harsh voice of the Catbird. The confidence that he seems to show toward man by establishing himself about the house, in dooryard, garden, or orchard thicket, his apparent interest in everything that is going on, even though it border on inquisitiveness, and his song, low-pitched and erratic though it be, all endear him to us.

Every old garden has somewhere about it a shady thicket of lilacs, mock-orange, or some similar shrubbery in a niche by the back porch, perhaps, or behind the greenhouse, or over in the corner where the fences come together; and it is with such a spot that the Catbird is most closely associated in my mind. His song comes bubbling in through the open window, and let us but step outside and stroll down the garden path, and the Catbird is at once close at hand, full of curiosity and nervous anxiety, uttering at frequent intervals that harsh, irritating, complaining cry. Following along from bush to bush, inquisitive and persistent, he seems bent on knowing the business of the intruder, and anxious to enter his protest against the intrusion. When the house cat selects some comfortable spot in the old garden for an afternoon nap, the Catbird is immediately at hand, and will mount guard by the hour with a continuous fire of harsh, monotonous, though utterly futile protests, so long as puss remains on the field. Perhaps, however, he may have good reason for his anxiety, for back in the heart of that shrubbery his nest is no doubt located, lodged firmly among the branches, built of twigs, dead leaves and plant-stems, and neatly lined with fine rootlets, holding perhaps four deep blue eggs which his mate is patiently incubating. The number of eggs varies sometimes to three or five, and about the middle of May we find the clutch complete and incubation begun; though there is usually, I think, another brood raised later on in June.

As the visitor passes out of his domain, the Catbird is back again among the lilac bushes and, casting all anxiety to the winds, he ruffles out his plumage, droops his wings, and there gurgles forth that peculiar medley of liquid notes and harsh tones that go to make up the Catbird song. In the character of his song he shows his relationship to the Mocking-bird and the Brown Thrasher; but, while the three songs have something in common, they possess great individuality, and cannot be confused. During his vocal performance, the Catbird strikes one as almost ridiculous. The notes follow one another so unexpectedly, and the whole pose of the bird, his earnestness and entire satisfaction, seem somehow out of keeping with the result. But there is much that is pleasing, much melody, in the Catbird's song if we but give it consideration. It is not a loud song; not one that commands our attention, and not in a class with songs of Thrushes and Grosbeaks or the best Sparrow songs, but it is well suited to its surroundings, to the cool shade of deep shrub-

bery and the tangle of damp thickets, and it takes a prominent place in the wild-bird chorus. The Catbird is by no means restricted to the garden shrubbery, but is equally at home down in the vegetable-patch, among the grape-arbors, in the blackberry briars, bordering the orchard, or down the lane that leads to the spring-house; and, as you stroll along the old sunken road in the early evening, one or more Catbirds are constantly in attendance, darting along the rails of the decaying snake fence or perching for a moment on the top of one of the uprights, ever full of interest in your movements.

Out in the spring-head swamp, too, bordered with blackberry bushes and wild plums, and overgrown with alders, spice-wood, and fox grapes, we find Catbirds. As we penetrate the shady interior, bending below the green canopy and springing from tussock to tussock, we meet with the familiar protesting cry, the same apparent inquisitiveness to know what we are up to, and in among the dense tangle of grape-vine and green brier, we may find the nest as securely placed as in the garden shrubbery. Once, I remember, while exploring the swamp, I made a little squeaking noise with my lips placed against the back of the hand, such as is often employed to attract birds, and in a moment I had a small mob of excited Catbirds all around me, more than I supposed could possibly be within hearing. Indeed, these swampy thickets probably harbor more Catbirds than any other location, notwithstanding the fact that in my mind the bird is more intimately associated with the dooryard of the farmhouse. Indeed, the swampy thickets and bushy borders of streams were probably the original home of the Catbirds before the advent of man, and it is in the spring-head swamp that I usually hear them first, and here, too, at the height of the breeding season, that we get their song at its best.

In autumn they lose much of their individuality, mingling with other birds which at that season form loose, irregular flocks, shifting from place to place, scouring the thickets and low trees for berries and seeds of all sorts.

The Catbird's summer range extends across the continent east of the Rocky Mountains, while it occurs also in parts of Washington, Oregon, Idaho, and British Columbia. From southern Manitoba, central Ontario, and southern Quebec, it ranges nearly to the Gulf coast, and is found also in Bermuda. It winters from our southern states to the Bahamas and Cuba, and through Mexico to Panama. Occasionally, as far north as New Jersey and southern Pennsylvania, or even New England, we come across an isolated Catbird that is wintering north of his usual range, located in some sheltering woodland tangle of greenbrier, or among the dense growth of bayberry bushes on the coast. Here he manages to subsist on such berries as the autumnal migrants have passed by, or upon the stray insects that are coaxed forth on the mild days of winter by the warmth of the mid-day sun.

At Philadelphia, the first Catbird arrives in the spring between April 15 and 24, and they are generally distributed by the 29th. In the autumn, the last one has usually departed by the middle of October.

There is a certain amount of feeling against the Catbird in some parts of the country on account of the fruit and berries that he consumes. As a matter of fact, however, fruit does not constitute a very large proportion of the Catbird's yearly food. The reports of the Department of Agriculture show that 44 per cent of its food consists of insects and three-fourths of this are made up of ants, beetles, caterpillars, and grasshoppers. Of the 56 per cent of vegetable food, only one-third consists of strawberries, raspberries and blackberries, and many of these are the wild varieties. The other two-thirds are made up of berries of the dogwood, wild cherry, sour gum, elder, greenbrier, spice-wood, black alder, sumac, and poison ivy—plants of the shady swamps and fence rows, where the Catbird so frequently makes his home.

We see, therefore, that the Catbird is of enormous value to the farmer as an insect-destroyer, while the charges against him as a fruit thief dwindle in the light of scientific investigation and can be largely dismissed by a little care in providing some of his favorite wild food. To quote Doctor Judd: By killing the birds, their services as insect-destroyers would be lost forever, so the problem for us is to keep both the bird and the fruit. We need have no hesitancy in placing the Catbird fairly in the class of beneficial birds. When we see him searching about the ground in his favorite thicket, we know that he is seeking out the many harmful insects that lurk there, and we need not begrudge him an occasional berry from the garden; since, if he should become a nuisance, we know how to draw him away from mischief. Considering the amount of food that a farmer provides for his crops in the form of fertilizer and manure, it seems strange if a little food cannot be provided for the birds, without whose constant guardianship crops of all kinds would be utterly wiped out by the insect hordes. Unfortunately, Catbirds seem to have become scarcer than formerly about our gardens and dooryards, due, I think, to the tendency toward that form of modern gardening which demands close-cropped lawns and well-trimmed shrubbery, with no layers of dead leaves among which wild birds may scratch, or tangles wherein they may build their nests.

Let us bear in mind the needs of the Catbird when we care for our grounds, and leave him a corner in which he may find a shady thicket sufficiently dense to be congenial. It would be to me a poor garden indeed that did not have some retreat from which I could hear that harsh complaining cry of the Catbird, when I chanced to stroll by. Every bird note brings back to us some association, some memory of the past, and with the cry of the Catbird there comes before my mind's eye the old garden with which, as a boy, I was so familiar. I see the thicket of lilacs and mock-oranges, and the gooseberry bushes bordering the path, the spreading boughs of the apple trees with the sunlight filtering through; the smell of ripening fruit is in the air, and the stillness of a quiet summer afternoon is broken only by the hum of insects and the complaining voice of the Catbird from his shady retreat.

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City

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Any person, club, school, or company in sympathy with the objects of this Association may become a member, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

\$5.00 annually pays for a Sustaining Membership
\$100.00 paid at one time constitutes a Life Membership
\$1,000.00 constitutes a person a Patron
\$5,000.00 constitutes a person a Founder
\$25,000.00 constitutes a person a Benefactor

Notice to Members

The regular Annual Meeting of the National Association of Audubon Societies will be held at 10 o'clock A.M., on Tuesday, October 28, 1913, at the American Museum of Natural History, West Seventy-Seventh Street, New York City.

The past year has been one of great activity on the part of the Association, and it is believed that the reports to be presented will be of particular interest to all bird protectionists.

We trust that members will bear in mind the date of the meeting and make every possible effort to be present.

T. GILBERT PEARSON, Secretary.

The Feather Proviso

The fight to prohibit the importation of wild birds' feathers into the United States is over, and the victory is won!

On September 2, the Democratic Caucus of the Senate voted to restore to the Tariff Bill the House provision which was passed at the earnest solicitation of the Audubon Societies and the New York Zoological Society, and which has since had the support of many other societies and countless thousands of individual workers throughout the country.

It will be recalled that the Democratic majority refused to accept the House provision on this point, and, after first

mutilating the feather proviso almost beyond recognition, finally eliminated the entire clause with the exception of Heron "aigrettes." Thus the matter stood until August 16, when Senator George P. McLean, of Connecticut, made a most forceful and exhaustive speech in support of his amendment to restore the House feather proviso in the Tariff Bill. His address brought forth many favorable comments from Senators, and some adverse remarks as well.

One of those who took issue with Senator McLean was the Hon. James A. Reed, Senator from Missouri, who, in speaking of the killing of Egrets, unburdened himself as follows:

"I really honestly want to know why there should be any sympathy or sentiment about a long-legged, long-beaked, long-necked bird that lives in swamps, and eats tadpoles and fish and crawfish and things of that kind; why we should worry ourselves into a frenzy because some lady adorns her hat with one of its feathers, which appears to be the only use it has." And, again: "If the young are then left to starve, it would seem to me the proper idea would be to establish a foundling asylum for the young, but still let humanity utilize this bird for the only purpose that evidently the Lord made it for, namely, *so that we could get aigrettes for bonnets of our beautiful ladies.*"

Think what a distorted mind and heart

this poor man, James A. Reed, must have inhabiting the body which has been granted the breath of life for a time by the same God who created the Egrets, and who doubtless gives as much heed to the cries of the dying young birds as He does to the heartless utterances of the ignorant Senator!

Senator McLean and others interested in the bird-protective measure had little to fear from a man of the caliber of Reed. Our greatest opponent has been Senator Hoke Smith of Georgia, who is astute, plausible, forceful and altogether an influential figure in the Democratic councils in Washington. Senator Smith has fought the feather proviso with all his might ever since the Tariff Bill came over from the House, and he admitted in the Senate that he personally framed the wording of the change made by the Senate Finance Committee. At the same time, he has not been at all modest in claiming great credit for the passage of the State Game Laws of Georgia, which he declares shows that he is a true believer in bird protection.

In the printed records of the Senate, it is written that, seeking to justify his threatened attack on the measure, he had the following statement inserted therein: "In doing so I wish to say that I shall do so from the standpoint of one as much interested as anyone else in birds and their protection, and with a record, perhaps, of almost as much accomplished in that line, so far as my own state is concerned, as anyone has accomplished in his state."

To explain this subject a little more fully, it may be enlightening to state that this same Georgia law, for which Mr. Smith takes such *crédit* to himself, contains a little clause *expressly permitting the importation of birds' feathers into Georgia for millinery purposes*. This is the only state in the Union which has such a provision in its statutes, and the facts here given seem to indicate that Smith has long been an active champion of the feather trade.

When the Georgia law was being considered by the Legislature of that state,

the National Association of Audubon Societies opposed this feature with all its might, and expended hundreds of dollars in a perfectly fruitless effort to have this feather clause stricken out of the bill. Some mysterious power thwarted all our efforts. So far as we have ever been able to discover, there is nothing on record to show that Hoke Smith has ever done one thing to discommode in any way the people who make money by the sale of the feathers of slaughtered birds, and his home town, Atlanta, is the largest millinery feather center in the South today.

But Senator Smith and his friends, the milliners, have at length been brought to a standstill by that terrible force which all politicians fear—the roar of an angry and outraged public sentiment. Never before, of recent years at least, has the United States Senate been deluged with such a flood of letters and telegrams from indignant constituents on any subject as that which poured into Washington this summer demanding favorable consideration of the anti-feather importation proviso in the Senate.

The result was that Senator Simmons of North Carolina, Chairman of the Finance Committee, recalled from the Senate the feather section "for further consideration." He again referred it to his Sub-Committee which had previously undone the House proviso. This committee, consisting of Smith of Georgia, Johnson of Maine and Hughes of New Jersey, met on Sunday, August 31, and voted to stand by their former decision to allow the milliners to continue in their nefarious work of importing birds' feathers. The Finance Committee so reported to the Democratic Caucus, which met on the night of September 2. As to what happened then, let us read what the *Washington Post* had to say on the subject the next morning:

"For five hours last night Democratic senators fought out the question of whether or not the plumage of wild birds should be permitted to be imported into the United States. The senate committee had first agreed to a modification of the drastic

prohibition of the House. This modification was denounced by the Audubon Society and other lovers of birds, anxious to stop their slaughter, as tending to make the House provision absolutely ineffective.

"The fight for the House provisions was led by Senators Lane and Chamberlain of Oregon. The caucus at first decided to stand by the committee. *The two Oregon senators bolted*, and others supported them. Party managers then found the spirit of insurgency too strong, and the House paragraph was adopted. This absolutely prohibits the importation of the plumage of wild birds except for scientific and educational purposes."

The next day, September 3, the Senate passed the proviso without opposition.

It is now expected that President Wilson will sign the Underwood-Simmons Tariff Bill by October 1, which will be the last formal act necessary to make all the provisions of the bill into law.

Every man, woman and child who has contributed money to this campaign, or who has written a letter, sent a telegram, or spoken a word in this great fight for the birds, has had a part in bringing about the glorious victory.—T. G. P.

England to Prohibit the Importation of Bird Plumage

A Government measure to prohibit the importation of the feathers of wild birds into Great Britain was recently reported favorably by the committee having the matter in charge, despite the most frantic efforts of the London Feather dealers. It was received by the House of Commons and by them ordered printed on August 4, 1913.

As this bill is attracting widespread attention and will probably become of historic interest to many, it is here reproduced in its entirety:

A BILL to prohibit the Importation of the Plumage and Skins of Wild Birds, and to amend the enactments relating to the Protection of Wild Birds, and for other purposes incidental thereto.

Be it enacted by the King's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same as follows:

1. (1) Subject to the exceptions in this Act contained, a person shall not import into the United Kingdom the plumage of any wild bird, and accordingly section forty-two of the Customs Consolidation Act, 1876, shall be read as if there were included in the table of prohibitions and restrictions therein—

"The plumage of wild birds as defined by the Importation of Plumage (Prohibition) Act, 1913, subject to the exceptions contained in that Act."

(2) A person shall not have in his possession or be concerned in selling the plumage of any wild bird which has been imported in contravention of this Act, or which, having been allowed to be imported on the ground that it is being put to a certain use or intended to be put to a certain use, is being put to some other use; and if any person has in his possession or is concerned in selling any such plumage, he shall be liable on conviction under the Summary Jurisdiction Acts to a fine not exceeding five pounds in respect of the first offence and twenty-five pounds in respect of the second or any subsequent offence, and the court before whom he is convicted may order the forfeiture or destruction of any plumage in respect of which the offence has been committed.

2. (1) The following plumage is excepted from the prohibition on importation under this Act:

(a) The plumage of birds for the time being included in the schedule to this Act:

(b) The plumage of birds imported alive:

(c) The plumage of birds imported under a license granted under this Act for the purpose of supplying specimens for any natural history or other museum, or for the purpose of scientific research:

(d) Plumage forming part of wearing apparel being bona fide the property of, and actually in the personal use of or

intended for the personal use of, any person entering the United Kingdom:

(e) The plumage of wild birds ordinarily used as articles of diet and imported for that purpose.

(2) His Majesty may by Order in Council from time to time add the name of any bird to the Schedule to this Act or remove the name of any bird from that Schedule.

(3) The Board of Trade may grant a license under such conditions and regulations as they think fit to any person to import specimens of birds for any natural history or other museum, or for the purpose of scientific research.

(4) Any importer claiming an exemption under this section for any plumage on the ground that it is to be put to a certain use shall deliver to an officer of Cus-

toms and Excise, if required by any such officer, on importation a written declaration of the purpose for which it is imported.

3. Where the court is satisfied, in any proceedings under this Act, that any plumage is the plumage of a bird which is never or rarely found alive in a wild state in the United Kingdom, the plumage shall be deemed to be imported in contravention of this Act unless the contrary is proved.

4. An Order may be made by the Secretary of State, or the Secretary for Scotland, or the Lord Lieutenant of Ireland, under sections eight and nine of the Wild Birds Protection Act, 1880, and sections two and three of the Wild Birds Protection Act, 1894, and section one of the Wild Birds Protection Act, 1896, which give powers with reference to the



Corn Field Devastated by Grasshoppers

Photograph made in Alfalfa County, Oklahoma, in June, 1913, by F. S. Barde. The great grasshopper plague in Oklahoma in June and July, 1913, destroyed thousands of acres of flourishing crops.

Sparrow Hawks are great destroyers of grasshoppers, but the Legislature of Oklahoma has thus far refused to pass a law to protect them.

protection of wild birds and their eggs, without any application or representation from the council of any county or county borough.

5. In this Act—

The expression "plumage" includes the skin or body of a bird with the plumage on it;

The expression "sell" includes exchange and let out on hire;

The expression "importer" has the same meaning as in the Customs Consolidation Act, 1876.

6. This Act may be cited as the Importation of Plumage (Prohibition) Act, 1913, and shall come into operation on the first day of January, nineteen hundred and fourteen.

New Members

From July 1 to September 1, 1913, the Association enrolled the following new members:

Life Member.

Alms, Mrs. Eleanora C.

Sustaining Members.

Alvord, Mr. George B.
Benson, Jr., Mr. E. N.
Betts, Mrs. F. H.
Bishop, Mr. J. G.
Brown, Mr. G. F.
Burr, Mr. Winthrop
Butterworth, Mrs. Wm.
Comstock, Mr. Walter J.
Connor, Miss Charlotte, M.
Dane, Mr. R. W.
Delano, Mrs. W. W.
Dorrance, Mr. Samuel M.
Emmel, Miss Lydia F.
Fahnestock, Mr. William
Farrington, Miss Elinor
Garrett, Mrs. Mary S.
Gillmore, Mr. Frank
Greene, Miss Caroline C.
Holway, Miss Harriet S.
Hubbard, Mr. W. P.
Jaques, Mr. H. P.
Law, Rev. Marion
Logan, Mrs. Walter S.
Loring, Mrs. Charles M.
Mitchell, Dr. Mary P.
Morse, Mr. William F.
Northrop, Mrs. E. S.
Pierrepont, Mrs. R. S.
Pollock, Mrs. William
Post, Mr. A. S.
Putney, Mrs. William B.

Sustaining Members, continued

Pyle, James McAlpin
Rhoades, Miss H.
Rice, Mr. H. L.
Schreiter, Mr. Henry
Searle, Mrs. Sarah F.
Selfridge, Mrs. G. S.
Seuff, Mrs. Charles H.
Smith, Mr. F. E.
Solley, Dr. John B.
Sparrow, Mrs. E. W.
Stearns, Mr. Charles H.
Stimson, Mrs. C. E.
Stoddard, Prof. Francis Hovey
Struthers, Miss Mary S.
Sullivan, Mrs. Emily S.
Tappan, Mrs. Walter H.
Taylor, Miss K. L.
Thayer, Mrs. John Adams
Thomas, Miss Marion P.
Thompson, Mr. Charles D.
Todd, Mr. Thomas
Vaillant, Miss Maria J.
Van Winkle, Miss Mary D.
Walker, Mrs. Gustavus A.
Ward, Mrs. Cabot
Ward, Mr. Sidney F.
Warner, Mr. Frederick W.
Wells, Miss Elizabeth L.
West, Mrs. James E.
Wheelock, Mr. William E.
Wheelwright, Mrs. A. C.
Whitcomb, Mr. P. W.
Willets, Miss Amelia
Williams, Mr. David
Wood, Mrs. John D.
Woodman, Dr. John
Wright, Mrs. E. K.

New Contributors

"A Friend"
Allison, Mrs. Mary D.
Anonymous
Arrison, Mrs. Annie D.
Bennett, Mrs. Charles G.
Brooks, Miss Martha J.
de Haas, Miss
Foot, Mrs. Homer
Phinney, Miss M. A.
Rayner, Mr. Edward R.
Reynolds, Dr. S. U. B.
Sheppard, Miss Margaret
Upson, Mrs. Henry S.
Verplauch, Mrs. W. E.
Witham, Miss Ina F.
Woolley, Mr. J. V. S.

List of Contributors to the Egret Fund

Below is given a list of the contributors to the fund for Egret Protection and the support of the anti-importation proviso in

the Tariff Bill, from July 1 to September 1, 1913.

Previously acknowledged.....\$7,148 26
 Abbott, Holker.....1 00
 Adams, C. Q.....10 00
 Adams, Miss Emily Belle.....1 00
 Adams, Mrs. George E.....500 00
 Agar, Mrs. John G.....3 00
 Allen, Mr. Oscar F.....2 00
 Althouse, H. W.....5 00
 Ames, Mrs. J. B.....5 00
 Anderson, F. A.....1 00
 Anderson, George J.....2 00
 Anonymous.....102 00
 Anthony, Miss Emily J.....1 00
 Auchincloss, Mrs. E. S.....5 00
 Audubon Society of Vermont.....5 00
 Ault, L. A.....10 00
 Averill, Miss F. M.....1 00
 Babson, Mrs. Caroline W.....1 00
 Bailey, Theodore L.....5 00
 Baldwin, William H.....2 00
 Barhydt, Mrs. P. Hackley.....10 00
 Bartol, E. F.....5 00
 Baxter, Miss Lucy W.....5 00
 Beech, Mrs. Herbert.....10 00
 Behr, Herman.....1 00
 Berlin, Mrs. D. B.....1 00
 Biddle, Mrs. Clement M.....5 00
 Birch, Hugh T.....5 00
 Bissell, Mrs. P. St. G.....2 00
 Blanchard, Miss Sarah H.....25 00
 Boggs, Miss M. A.....5 00
 Bole, Ben P.....5 00
 Bolling, Mrs. Raynal C.....5 00
 Bond, Miss Mary Louise.....1 00
 Bonham, Miss Elizabeth S.....3 00
 Bonham, Mrs. Horace.....5 00
 Bowdoin, Miss Edith G.....25 00
 Bowdoin, Mrs. George S.....25 00
 Bowdoin, George S.....50 00
 Brackett, Mrs. I. Lewis.....3 00
 Braman, Mrs. Dwight.....10 00
 Brent, Mrs. Duncan Kenner.....2 00
 Brewer, Edward M.....10 00
 Brewer, Miss Lucy S.....5 00
 Bridge, Edmund.....5 00
 Bridge, Mrs. Lidian E.....10 00
 Brooks, Mrs. Peter C.....25 00
 Brooks, S.....5 00
 Brown, Mrs. C. S.....10 00
 Bruen, Frank.....2 00
 Burgess, E. Phillips.....2 00
 Butler, Allen, Jr.....2 00
 Button, Mr. Conyers.....10 00
 Butler, Miss Virginia.....10 00
 Cady, Walter G.....1 00
 Carse, Miss Harriet.....2 00
 Case, Mrs. James B.....10 00
 Casey, Edward P.....5 00
 Christian, Miss Elizabeth.....1 00
 Christian, Mrs. M. H.....2 00

Amount carried forward.....\$8,135 26

Amount brought forward.....\$8,135 26
 Christian, Miss Susan.....5 00
 Cimmins, Mrs. Thomas.....5 00
 Clarke, Mrs. Charles D.....2 00
 Clarke, Mrs. E. A. S.....3 00
 Clarke, Miss Lilian Freeman.....10 00
 Cobb, Miss Annie W.....2 00
 Codman, Mrs. James M.....1 00
 Cole, Wm. R., Jr.....1 00
 Colon, George Edward.....2 00
 Conner, Miss M. A.....5 00
 Convers, Miss C. B.....3 00
 Crafts, John W.....5 00
 Crittenden, Miss Viola E.....1 00
 Crosby, Maunsell S.....5 00
 Cross, Mrs. R. J.....25 00
 Curtis, Misses L. A. & Mildred 3 47
 Curtis, Mrs. Louis.....5 00
 Cushing, Miss Margaret W.....1 00
 Cutter, Dr. George W.....1 00
 Cutter, Ralph Ladd.....10 00
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 Davis, Miss Lucy B.....1 00
 Davis, Miss E. F.....2 00
 Davis, William T.....5 00
 De Forest, Mrs. Robert W.....25 00
 Delano, Miss Julia.....30 00
 Dennis, Miss M. H.....3 00
 "E. F. D.".....1 00
 Dudley, Miss Fannie G.....10 00
 Eddison, Charles.....10 00
 Edwards, Miss L. M.....2 00
 Ellis, Wm. D.....10 00
 Ellsworth, Mrs. J. Lewis.....1 00
 Emerson, Elliot S.....2 00
 Essick, William S.....2 50
 Estabrook, Arthur F.....10 00
 Ettorre, Mrs. F. F.....1 00
 Fairchild, Mrs. Charles S.....5 00
 Fergusson, Alex. C.....1 00
 Fitz-Gerald, Miss Katharine.....1 00
 Foot, James D.....2 00
 Foster, Mrs. Cora D.....1 00
 Fox, Charles E.....5 00
 Frothingham, John W.....10 00
 Gannett, W. C.....5 00
 Gault, B. T.....1 00
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 Gilman, Miss Clarabel.....4 50
 Gladding, John R.....10 00
 Godefroy, Mrs. E. H.....5 00
 Graham, Mrs. Benj.....1 00
 Grant, H. T.....5 00
 Gray, Miss Isa E.....20 00
 Greene, Miss Caroline S.....1 00
 Greer, Miss Almira.....5 00
 Grout, A. J.....1 00
 Hage, Daniel S.....1 00
 Hager, George W.....1 00
 Hale, Thomas, Jr.....1 00
 Hallett, Wm. Russell.....5 00

Amount carried forward.....\$8,462 73

The Audubon Societies

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Amount brought forward	\$8,462	73	Amount brought forward	\$8,930	73
Halsey, Mrs. Edmund D.	5	00	McConnell, Mrs. S. D.	5	00
Hamilton, Mrs. J. S.	1	00	Nesmith, Miss Mary	5	00
Harris, Miss Frances K.	5	00	Nice, Mrs. Margaret M.	3	00
Haskell, Miss Helen P.	20	00	Noyes, Raymond	2	00
Hay, Mrs. John	25	00	O'Connor, Thomas H.	10	00
Haynes, Miss Louise de F.	5	00	Opdycke, Mrs. Emerson	5	00
Hazen, Emily H.	2	00	Oliver, Dr. Henry K.	10	00
Hearst, Mrs. P. A.	50	00	Opdycke, Leonard E.	5	00
Henderson, Alexander	2	00	Parker, Edward L.	50	00
Hering, W. E.	5	00	Parker, Mr. Herbert	25	00
Heydt, Herman A.	1	00	Parsons, Miss Mary W.	10	00
Hodenpyl, Anton G.	25	00	Pfaffmann, Miss Mary	1	00
Hoe, Richard M.	10	00	Phelps, Miss Frances von R.	10	00
Hoe, Mrs. Richard Marsh	10	00	Phillips, John C.	25	00
Holt, Mrs. R. S.	10	00	Phillips, Mrs. John C.	25	00
Hooker, Miss Sarah H.	2	00	Phinney, C. G.	2	00
Hooper, Miss Mary C.	1	00	A. J. P.	20	00
Hopkins, Miss Augusta D.	1	00	Porter, Miss Elizabeth B.	1	00
Howe, Dr. James S.	5	00	Post, Mrs. Charles A.	5	00
Howe, Mrs. J. S.	15	00	Powell, Mrs. S. A.	5	00
Hunt, Dr. Emily G. & Sisters	5	00	Powers, Arthur G.	1	00
Hunter, Mrs. W. H.	1	00	Pratt, George Dwight	5	00
Hurd, Miss Elizabeth	10	00	Puffer, L. W.	1	00
Hutchinson, Mrs. Charles	5	00	Putnam, Dr. James J.	3	00
Ireland, Miss Catherine I.	5	00	Randolph, Coleman	5	00
Jackson, Miss Marion C.	10	00	Raymond, Charles H.	10	00
Jackson, P. N., Jr.	5	00	Redfield, Miss Julia W.	1	00
Jennings, Dr. Geo. H.	2	00	Rhoads, S. N.	1	00
Jones, Charles H.	5	00	Richardson, H. H.	5	00
Jordan, A. H. B.	10	00	Richardson, Mrs. M. G.	5	00
Joslin, Ada L.	2	00	Ricketson, Walton	1	00
Jube, Albert B.	2	00	de la Rive, Miss Rachel	4	00
Keep, Mrs. Albert	5	00	Robbins, Miss N. P. H.	5	00
Kennedy, Mrs. Augusta M.	1	00	Robbins, R. E.	10	00
King, Miss Helen	1	00	Robinson, Mrs. J. C.	5	00
Kuhn, Mrs. Frederick	1	00	Rogers, Mrs. Hubert E.	25	00
Kuser, John Dryden	5	00	Sabine, Dr. Geo. K.	1	00
Lee, Frederic S.	10	00	Savage, A. L.	5	00
Lemmon, Miss Isabelle McC.	1	00	Saville, Mrs. A. H.	1	00
Livingston, Miss A. P.	10	00	Schweppé, Mrs. H. M.	2	00
Mackey, Oscar T.	5	00	Schurz, Miss Marianne	5	00
Mager, Gus	1	00	Scofield, Miss Helen	5	00
Mann, Miss J. Ardelle	3	00	Sears, William R.	75	00
Mansfield, Miss Helen	5	00	Sellers, Howard	5	00
May, Miss Eleanor G.	3	00	Severance, Mrs. P. C.	2	00
Mellen, George M.	1	00	Shannon, Wm. Purdy	5	00
Merrill, Miss F. E.	20	00	Shepard, Mrs. Emily E.	5	00
Merriman, Mrs. Daniel	10	00	Shepard, Sidney C.	10	00
Merritt, Miss Edna	1	00	Simpkins, Miss M. W.	5	00
Metzger, Mr. William T.	3	00	Small, Miss Cora	2	00
Meyer, Miss Heloise	50	00	Smith, Adelbert J.	2	00
Migel, Mrs. M. C.	5	00	Smith, Mrs. C. B.	5	00
Miller, E. L.	2	00	Smith, C. E.	1	00
Millns, J. T.	2	00	Smith, Mrs. Mary P. Wells	1	00
Minot, William	2	00	Smith, Stanley W.	15	00
Morrill, Miss A. W.	5	00	Snow, Elbridge G.	5	00
Morris, Miss Anna I.	2	00	Somers, L. H.	1	00
Mosle, Mrs. A. Henry	10	00	Spaulding, Edward	5	00
Motley, James M.	10	00	Spong, Mrs. J. J. R.	25	00
Mudge, E. W.	25	00	Sprague, Dr. Francis P.	20	00
Mundy, Mrs. Floyd W.	5	00	Spring, Anna Riker	5	00
MacGregor, Miss Elizabeth T.	2	00	Squires, Mrs. Grace B.	2	00

Amount carried forward \$8,930 73

Amount carried forward \$9,456 73

Amount brought forward	\$9,456	73	Amount brought forward	\$9,666	73
Stanley, Mrs. Mary R.	1	00	Winslow, Miss Maria C.	5	00
Stanton, Mrs. S. G.	2	00	Winsor, Mrs. Alfred	5	00
Stetson, Francis Lynde	25	00	Witherbee, Miss Elizabeth W.	1	00
Stevenson, Miss Anna P.	5	00	Wright, Miss Mary A.	2	00
Stick, H. Louis	5	00	J. S. Y.	5	00
Struthers, Miss Mary S.	5	00	Young, William H.	5	00
Thayer, Mrs. Ezra R.	25	00	Zabriskie, Andrew C.	5	00
Thayer, Mr. John E.	25	00			
Timmerman, Miss Edith E.	2	00			
Titus, E., Jr.	3	00	Total	\$9,694	73
Tower, Miss Ellen M.	5	00			
Tucker, William F.	2	00			
Ulman, Mrs. Carl J.	5	00			
Van Dyke, Mr. Tertiuss	5	00			
Van Wagener, Mrs. G. A.	1	00			
Vietor, Dr. & Mrs. E. W.	5	00			
Walker, Miss Mary A.	1	00			
Wasson, E. A.	1	00			
Watrons, Miss Elizabeth	1	00			
Weld, Rev. George F.	2	00			
Wetherill, W. H.	1	00			
Wheeler, Wilfrid	2	00			
White, Horace	5	00			
Whitney, Miss Ellen F.	1	00			
Willard, Miss Helen	5	00			
Willcox, Prof. M. A.	25	00			
Williams, Mrs. C. Duane	25	00			
Willard, Mr. John W.	10	00			
Williams, Geo. F.	3	00			
Williams, Mrs. Sydney M.	2	00			
Winslow, Miss Isabella (In Memoriam)	5	00			
Amount carried forward	\$9,666	73			

Letters from Field Workers

JUNIOR AUDUBON WORK

It is just possible that some of the readers of BIRD-LORE may not have fully grasped the importance of the work being done by the National Association and the State Audubon Societies in the matter of teaching children the pleasure and profit to be derived from systematic bird study and bird protection. We receive many communications from teachers, telling of how they make use of the Audubon material furnished them and their pupils. The following is a quotation from one of these letters which was written by Miss Flora Malcolm.

"I wish to thank the Association for the help we have received during the year.



COMMITTEE ON BIRD HOUSES, ARDONIA, NEW YORK AUDUBON SOCIETY

"Last fall my school at Ardonia, N. Y., formed an Audubon class. We devoted one hour each week and held a regular meeting each month. To this period we devoted two hours. Feeding-boxes were put up on school grounds and at pupils' homes and fifteen bird-houses were put up at school, and not *one* of the class of forty failed to put up bird-houses at home. Great interest is shown by parents as well as pupils.

"This is a locality where birds have been wantonly killed by Italians, and I am sorry to say by some families who are fruit-growers. I know of one case by the school where thirty Robins were killed in one day during the grape season. One of these men this year said that he intended to kill every Robin he could. He killed five, and through our class he was given a good lesson. The others took the hint or changed their views, as there is no shooting about the place except now and then by an Italian from the city. My brother caught one Italian with a Robin, still alive, in his pocket; he had just shot it, but, before we could get word to the game-warden and get him here, the Italian had left for parts unknown.

"With forty pairs of sharp eyes and forty little bird-loving hearts, a great deal can be done to protect our birds.

"All these boys and girls are farmers' children. Everyone at the close of school voted to continue the work in the fall."

Thus we may see some of the things accomplished by one Audubon class. It may be considered a fair example of what was done by the members of each of the *two thousand four hundred and thirteen Junior Societies* organized in the United States, Canada, and Porto Rico, during the past year.—T. G. P.

Egret Hunters Punished

Under date of June 24, 1913, Mr. B. J. Pacetti, of Ponce Park, Florida reported as follows:

"I have today caused the arrest of a man named Loftin in Daytona for killing plume birds, and had him placed in jail, in default of two hundred dollars, to

appear at the criminal court. I have two charges against him, one of killing three birds on May 5, and another of killing four on May 12. I have three good witnesses who saw him with the birds, and it is a clear case against him, but I would suggest that, if possible, we employ Attorney Sams to assist in the prosecution."

Mr. Pacetti was at once authorized to employ the services of the attorney to represent the National Association in the prosecution of the case.

Attorney Sams, of Deland, Florida, writes under date of July 28 as follows: "I beg leave to advise that we have disposed of the Loftin cases by pleas of guilty in both instances, and the court gave him the maximum penalty in each case. This, however, is only twenty days, ten days for each offense. I was sure the penalty would be more than this, but I have spent a good deal of time, as has the County Solicitor, in looking up the law on the proposition, and the only statute we can find under which punishment can be imposed is Sec. 3759 of the General Statutes. . . ."

Starlings Again

Miss Louisa Crawford, of Bridgeport, Conn., gives the following Starling notes:

"We have a large maple tree in our yard right near the house and in a wind-storm last winter the tree was broken off. In the spring a pair of Flickers sent the chips flying and made a hole in the stump that was left. They raised two broods. The following spring the Starlings came back. In the meantime a pair of Starlings had raised a brood in this same nest. The Flickers finding the old home occupied, put up a strong fight. We all thought they won out, but soon the ground around the tree was covered with chips. They had started to build a 'down stairs' flat. They had it completed when another pair of Starlings took possession. There was battle again with two pair of Starlings against one pair of Flickers. Of course the Starlings won. How can we drive off these intruders? They are noisy, dirty and apparently not of much use."

Educational Leaflets

Brief Life Histories of North American Birds, Written
by Prominent Ornithologists and Published
by the National Association of
Audubon Societies

Each four-paged leaflet is accompanied with an accurately colored illustration of the bird treated, also an outline drawing for coloring. These Leaflets, complete, are sold for two cents each if five or more are ordered at once. Discounts are given on orders of five hundred or more of one subject.

List of Leaflets

1. Nighthawk	27. Indigo Bunting	49. Chimney Swift
2. Mourning Dove	28. Purple Finch	50. Carolina Wren
3. Meadowlark	29. Herring Gull	51. Spotted Sandpiper
4. Upland Plover	30. Snowflake	52. Least and Semi-pal- mated Sandpipers
5. Flicker	31. Song Sparrow	53. Horned Lark
6. Passenger Pigeon	32. Barn Swallow	54. The White Egrets
7. Wood Duck	33. Tree Swallow	55. Downy and Hairy Woodpeckers
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By FRANK M. CHAPMAN

Curator of Birds, American Museum of Natural History

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Ross Agassiz Gitter

1. BROWN-CAPPED ROSY FINCH, Male
2. GRAY-CROWNED ROSY FINCH, Female
3. GRAY-CROWNED ROSY FINCH, Male
4. BLACK ROSY FINCH, Male
5. ALEUTIAN ROSY FINCH, Male
(One-half Natural Size)

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Vol. XV

NOVEMBER—DECEMBER, 1913

No. 6

Impressions of the Voices of Tropical Birds

By LOUIS AGASSIZ FUERTES

Illustrated by the author

FIRST PAPER—THE WRENS

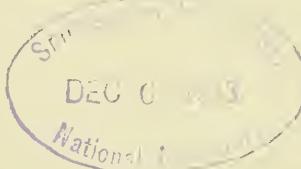
[EDITOR'S NOTE.—Readers of BIRD-LORE who have been privileged to hear Mr. Fuertes imitate the calls and songs of birds are well aware that his ornithological talents are not confined to his exceptional ability to portray their forms, but that he possesses also a keen, accurate, and sympathetic ear, with a gift for interpretation which enables him to reproduce birds' voices with surprising accuracy.

During recent years, as the artist of various American Museum expeditions to tropical America, Mr. Fuertes has met many species of tropical birds in life, and his impressions of their songs will be given in a series of papers, of which the present is the first.—F. M. C.]

ROUGHLY speaking, Wrens' songs improve in direct ratio with the humidity and darkness of their haunts. This, at least, is the vivid impression one gets from a field acquaintance with the tropical genera, *Heleodytes*, *Donacobius*, *Thryothorus*, *Henicorhina* and *Pheugopedius*.

So far as I have been able to discover, all the Cactus Wrens except *Heleodytes bicolor* (which also differs in several other respects), are possessed of only a harsh, vigorous, and impertinent scold—a sort of angry, chattering noise, more or less closely imitated by pressing the tongue against the roof of the mouth and forcing the air out of a small opening behind the back teeth! All the speckle-breasted Cactus Wrens species have this note, and, so far as I know, no other that approaches a song, much less a Wren song. Our own southwestern species simply repeats a lazy, cross *rrrr*, *rrrr*, *rrrr*, while the Mexican bird, *Heleodytes zonatus*, seems to try to yell "brak-a-co-ax," rapidly repeated, but still in the unmistakable Cactus Wren burr. If song is of any value as a phylogenetic character, *Heleodytes bicolor* certainly deserves to be lifted out of the prying and ill-natured group it now graces, and set down somewhere near the big Wren-Thrashers of the genus *Donacobius*,* for it shares

**Donacobius* is a Wren-like Thrasher or Thrasher-like Wren which is usually placed in the family Mimidae.



with them a loud, liquid song, which is not given by the male alone, but by both sexes at the same time.

This counter-singing by the female, so far as I am aware, is not generally known among birds, but it is certainly practised by this species, as well as by all forms I know of *Pheugopedius*, *Henicorhina*, and *Donacobius*. In all these cases the birds sit close together, the male a little above the female, and his song is usually louder and more brilliant than hers. *Heleodytes bicolor* gurgles a loud,

clear, oriole-like "Keep your feet wet." The female, three inches below and a little to one side, parallels this advice with an evenly timed "What d'you care?" in perfect unison, usually, with the reiterated phrases of her mate. *Donacobius* does it somewhat differently, as the female only says "wank, wank, wank," while the male sits just above and sings almost exactly like a Cardinal, or a boy whistling loudly to his dog, *hui, hui, hui*. If the male gives only three phrases, so with the female; if, however, the male repeats his whistle a dozen times, the female begins and ends in exact time with him. This curious habit I verified a number of times. Still more interesting is the fact that both sexes of *Donacobius* possess an inflatable sac of bright



BLACK-CAPPED WREN-THRASHER
Donacobius atricapillus

yellow skin on the sides of the throat, which, when the bird sings, puffs out to the size of a cherry, and is a very queer and conspicuous character. When singing, they look down, hump up the shoulders, puff out the neck, and give their strange duet from the top of a marsh weed or dead bush, and



WOOD WREN
(*Henicorhina leucosticta*)

then, Wren-like, drop down into hiding.

All the *Pheugopedius* Wrens are gifted with the most astonishingly loud and clear whistles. A wonderous *thrushy* quality is theirs, with an unbelievable range in the form and forte of their songs. Both sexes sing, usually, close together, and when one is hushed in the deep silence of the fern-filled forest of the humid mountains, tense for the tiniest *pip* of a Manakin or the mouse-like run of an Ant-thrush, it is enough to raise one's hair when, right in one's ear, explodes a loud, astonishingly clear "bloong-wheee-rip-wheeeoo," rapidly repeated, frequently seconded by a

less showy "We'll whip you yet" of the female.

It would be hard to describe a tangible difference between the songs of *Pheugopedius* and *Henicorhina*. Certainly there is no such difference in volume or range as the tiny size of the latter would lead one to suppose. For the diminutive wood Wrens are by no means always distinguishable by their songs from their larger cousins, and the variety and timbre of the notes of one genus is as endless as in the other. While no description or literal syllabification can do much to bring up an "audital image" of a birdsong, my notes, written only for my own recollection, have these cryptic bits as the framework upon which I hook my remembrance of *Henicorhina* songs: "Y'ought to see Jim, Y'ought to see Jim," "But Mary won't let you" (repeat four times), "Whip-wheéoo, correéoo."

Perhaps no songs heard in the tropics are so characteristic, or make such a strong impression on the mind and desire of a naturalist, as these romantic and mysterious Wren songs. They assail the ear while riding along the mountain trails, and are the unending goal of many a sweltering still-hunt through the mosquitoful but otherwise Sabbath-still forest. For me, at least, a deep,

humid mountain-forest never ceases to have a hushing, even oppressive, effect. Awed and tense, I find myself a foreign and discordant note in the giant stillness. With this half-guilty feeling, and hushed by the stern green silence, hypnotized, as it were, into a sort of subjective identity with the Sunday-like vacuum of sound and keyed to a nervous expectancy in tune with the heavy odorous stillness, the sudden singing of any of these brilliant-voiced wood Wrens is sufficiently startling to make one recoil, lumpy-throated, and it is often more than a mere second or two before the readjustment into the normal frame of mind can be made.

The Wrens of the genus *Thryophilus*, which are closely allied to our Carolina Wren, deserve a high place in the scale of singers. I think the Colombian species* are the most versatile and surprising singers in the entire family; and this is indeed high praise, for few if any birds, of their size, can surpass the Wrens in volume and brilliancy of tone.

**Thryophilus rufalbus*, *T. leucotis*, and *T. albipectus bogotensis*.

A Hermit Thrush in Winter

Forsaken in a cold, unfriendly land,
Alone and watchful, striving hard to live,
To juncos' merry twitter sensitive;
No happy company helps thee to withstand
The frost, no cheerful mate nor singing band.
The melody which thy rich throat can give,
Its poignant loveliness, is fugitive;
Thy soul was for a gentler climate planned.

As when a youth, in whose young heart
The love of beauty only now has sprung,
Compelled to live in some unlovely place,
Midst lonely hills, from all his friends apart,
Grows inarticulate, thy voice, which rung
Through summer woods, is silent for a space.

—GEORGE LEAR.



NESTING-SITES OF TROPIC-BIRDS IN THE HOLES OF A LIMESTONE CLIFF

The Tropic-Birds of Bermuda

By KARL PLATH, Chicago

With photographs by the author

A SLIM, snowy white bird, with long streaming tail, gracefully winnowing its way through the air with rapid wing-beats. This was my first impression of the Tropic-bird, one of the most attractive of the many attractive sights of Bermuda. Locally, the Tropic-birds are known as 'Long-tails' or 'Boson-birds' and, though not so abundant as they were ten or fifteen years ago, when they bred in the Bermudas by the thousands, they are still quite common, and may be seen from February to October. They are also found and breed in the Bahamas, Antilles, and other islands of the subtropical and tropical Atlantic. After their nesting time is over, the Bermuda Tropic-birds migrate to more southerly latitudes.

The Bermudas are the northern breeding ranges of these birds, and they are most abundant on the rocky cliffs along the south shore. They spend much time in the air, and may be seen flying in graceful curves, sometimes swooping in a spiral, with half-closed wings, to the surface of the water, and often alighting there after a skim over the waves. In the water they sit very high, with their tails held well above it. They frequently utter their peculiar cry, which varies—sometimes a rasping *t-chik-tik-tik* or *clik-et-click-et*; again, the noise produced by several birds in the air reminds me of the noise of a greaseless axle on a wagon-wheel.

Their manner of flight differs from most sea-birds; the wings move much more rapidly, and at a distance one might easily mistake them for Pigeons, as

their long tails are not then conspicuous. Against the blue of the sky their plumage is dazzling; but see them against the dark background of a cliff, and they appear of a beautiful pale green, due to their glossy plumage reflecting the bright emerald of the water below.

The Tropic-bird selects its nesting-site without regard for safety from marauders, except that they are all well above the high-water mark of the tide.



YELLOW-BILLED TROPIC-BIRDS BROODING YOUNG

place, for in every case the long tail-feathers were forced forward over the bird's back, due to the snugness of the nests. These two feathers are the central ones of the twelve forming the tail, and the longer usually averages seventeen or eighteen inches in length. Sometimes they are longer, and I have seen several that were but little less than twenty-two inches. They drop out easily after attaining full growth, and often are seen ornamenting the otherwise perfectly bare nests.

During the month of May, I found the birds in all stages of breeding. Some

Many nests are inaccessible, owing to their being situated near the tops of lofty cliffs, but the great majority of those I saw (between two and three hundred) were placed in various sites on low islands. Some were in plain view on wide ledges of rock, while others were at the end of long winding tunnels. On one of the islands of Castle Harbor, I found them in the deep grass and also under small cedar-bushes. The birds are about the size of Pigeons, and it seems curious that a bird with so long a tail should select so seemingly uncomfortable a nesting-

had just started to lay, while others had young birds two weeks old. They lay but one egg, about two and a quarter inches long and rather broad. It is of a peculiar light purplish color, with profuse chocolate-brown spots, especially at the larger end. The time of incubation is twenty-eight days, as proved by a fresh egg hatched in an incubator. The young bird is covered with long white down, with dark-colored bare skin between the eyes over the bill, which is yellowish.

The old birds seem perfectly fearless while on their nests, and make no attempt to leave them. I took advantage of this and made two paintings and several sketches from birds on their nests. The two birds which I used as subjects had recently hatched their eggs and were most satisfactory models—



YELLOW-BILLED TROPIC-BIRD ON NEST

keeping close to the original pose for nearly three hours in each case. The young were very restless, and would stick their fluffy heads from under the mother's satiny breast. She would often chide them, as it were, with a guttural croak, and move her body so as to cover them more securely. To see the young birds, or the egg, as the case might be, I frequently had to lift the old bird off its nest, which I could not do without decided protest. It would utter a very loud peevish cry, and strike viciously with its powerful, sharp beak.

Seeing them at such close range, I had splendid opportunity to study their coloring. Though these are called the "yellow-billed" Tropic-birds, I found the yellow beak the exception. I counted but nine or ten with yellow bills; all the others had beaks of a bright orange-red, inclining to yellow at the gape and deepening to vermillion on the ridge of the upper mandible. The plumage is exceedingly glossy, having a luster like satin, which gleams with a

silvery light from the darkness of their caves. The general color is pure white, with the exception of jetty black markings on head, wings, and flanks. The shafts of some of the wing-feathers, as well as those of the tail, are also black.



EGG AND 'NEST' OF TROPIC-BIRD

trifle smaller than her mate and her tail is less, as that of the males is about thirty-eight inches. I frequently saw one of the pair enter the nest on which his mate brooded, and after the two had been there a few minutes the relieved bird would depart for recreation or food.

A native who was caretaker of a large island and its close neighbors in Castle Harbor very generously showed me many varied nest locations. According to his observations, and they are not to be doubted, some of the birds at least return to their original nests

year after year. A wire ring fastened to a bird's leg proved this to be a fact. The breeding season extends from April to August, as in the latter month newly hatched young and birds ready to fly are seen. The first feathers of the young Tropic-bird are quite differently marked from the adult. The color is white, with numerous curved black bars on head, nape, back and wings. The black areas on the wings are well defined, and the two central tail-feathers are a trifle longer than

The iris is bluish black, and the short legs flesh-color with the webs black. Some birds are delicately tinted with a beautiful salmon-pink, which varies as to location. One unusually beautiful specimen had this tint quite decided on the scapulars and long tail-feathers. The tint was fainter on the nape. Others were faintly tinged on the sides of the neck, and many had no pink at all—particularly the yellow-billed birds which, though breeding, had not attained their full color development, which takes three years. A few pairs consisted of both red- and yellow-billed birds. The female is a



TROPIC-BIRD TEN DAYS OLD

the others. The bill is yellow with a dusky tip. The favorite food of the Tropic-bird is small fish and squids, which are afterwards regurgitated for food for the young. This is also a favorite bait used by fishermen, and for this reason the abundant 'Long-tail' is not especially popular.

I also found a few nests of the Audubon's Shearwater, which is extremely rare here and not often seen. In the many visits I made to the nests at all hours of the day, I never saw the old birds. Most of the nests contained a large, downy young bird, and an egg which usually was cracked and spoiled. They were placed in crevices of the limestone rocks, and the Tropic-birds had nests close about them. The young Shearwater is of a pretty maltese gray, with white underparts and black-and-white feet.

One of the noticeable features of the Tropic-bird is its inability to walk upright or to stand up on its legs; a fact which is not generally understood by taxidermists, who usually mount the bird standing on its feet like a gull.

The usual gait is an awkward waddle, or it proceeds in a series of hops. I have also seen them push themselves along by means of their feet. Before launching in the air, they creep awkwardly, with much flapping of wings, to a suitable height, and then drop, sometimes in the water, before regaining their equilibrium, when they are among the most graceful of sea-birds.

"The Old Maid" Gull

By WILL O. DOOLITTLE, Munising, Mich.

THE protection afforded to animal and bird life by Grand Island, the large preserve located north of the Upper Peninsula of Michigan, in Lake Superior, is especially appreciated by the water-birds, and the shores of the island shelter the homes of great numbers of Loons, Gulls, Ducks, and various species of Limicolæ.

The Herring Gulls, in particular, show their appreciation of the island as a home where they may live and rear their young undisturbed. They are plentiful at almost any point on the island's rocky shores, and at Gull Point, near the extreme north end, their weird cries are continuous, and there are few of the rocky ledges that do not bear the nests of these strong-winged birds.

Having spent a summer at a forestry school camp on Grand Island, the opportunity for study of the water-birds was almost unlimited, and much time was given by the writer to the Gulls. But one individual bird made particular claim to our attention. Not far from our camp on the 'Thumb' of the island there is a wreck of a large vessel. It had been dashed against the rocks during a fierce driving storm from the north, and for over half a decade the hull has been riveted upon the shore of the 'Thumb.' Over its sides can be seen the lake trout sporting in deep pockets of emerald, clear water. I spent no little time

leaning over the sides of the wreck, angling for the fish, and it was here I made my acquaintance with this particular Gull.

Dreamily gazing into the water, I was startled by a shrill, harsh cry close to my ears, and a rush of air as some object passed close to my head. After an involuntary recoil, I observed the angry bird, as it swooped out across the lake and then returned to make another dash in my direction. There were no other Gulls in the vicinity, and the repeated near-assaults by the furious bird led me to suspect a nest near or upon the boat, so I began a search which proved fruitless. While I lingered near the wreck, the bird did not cease its worried cries nor its swift darts in my direction.

During the few weeks following, the members of the camp were favored with many acts of courage by this Gull. One day a Loon was riding the waters of the lake about a quarter of a mile from the camp, when, from "her" retreat near the wreck, the Gull came sailing at full speed and made a spirited dash straight for the Loon. But the quickness of the Gull's attack was insufficient for the Loon dived with the usual alertness of its kind in times of danger, and the Gull struck the water with a velocity which would have stunned a bird less accustomed to alighting upon the surface of the water. As soon as the Loon arose, the Gull renewed the attacks, and they were repeated many times, always with the same result, until the Loon evidently wearied of the game and departed.

The following day two of the students went past the wreck in a large row-boat. The size of the craft did not dismay the Gull, and immediately she set out in hot pursuit, fanning the faces of the young men with her long wings. She would not touch them, but could have been struck by an oar with ease, in any of her repeated dashes in the direction of the rowers.

The peevish vigilance of the Gull, and her persistent attacks upon anyone or anything that invaded her self-abrogated precincts, finally became tiresome, and, as she seemed to have no mate and many searches of both wreck and rocks brought to light no nest, the students styled her "The Old Maid" and looked upon her as a nuisance.

Often in the dead of night she could be heard uttering her angry notes, and one morning, after an unusually noisy session, we found the body of a dead Gull upon a large, flat rock that lies in the water in front of our camp. Its neck was broken, and its presence there was something of a mystery, but the activity of "The Old Maid" led us to believe that she was responsible for the death.

She had two distinct calls: one of anger, which she employed the more frequently, and one of alarm, which occasionally served to bring several other Gulls to the spot; but, after soaring around for a few minutes, they would leave, and we began to think that she was an outcast from her own kind.

The Red-breasted Mergansers were numerous on the shores of the 'Thumb,' but they found no peace within the lines of that part of shore and lake which

the quarrelsome Gull seemed to have set apart for her own. One day she was routed, however, by the union of forces of two of those Mergansers. They were some distance apart, and "The Old Maid" had been making alternate attacks upon them and had driven them quite a distance out upon the lake. Then she settled herself upon the water for a rest. The two Fish Ducks came together and, seemingly by common consent, swam rapidly in her direction. She did not see them until they were upon her, and before she arose she received a sharp stroke from the bill of one of the Ducks. It must have sapped a little of her courage, for she did not renew the attack and commenced to sound her alarm note. It was but a few minutes afterward, however, when she was seen in pursuit of a Great Blue Heron, which she had discovered perching in one of the large trees close to the wreck.

And so the summer passed—the Gull always on the offensive and belligerently on the lookout for invaders. I often tried to take her by surprise and so discover any nesting-place she might possibly have, but always she seemed to come from the water or from a large rock a little distance beyond the wreck. My failures led me to accept the belief of the students that the Gull was insane, and oppressed by the delusion that she had a home and family when she had none.

But one morning, a few days before we broke camp, I discovered that our opinions were wrong and that we had misjudged her, for out from under the wreck swam a young Gull of several weeks' growth, and attended by the fond mother, no longer "The Old Maid."

She was no less quarrelsome, however, and on this occasion she was aided in her defensive efforts by the Gulls that had heretofore seemed to ignore her. I permitted her to teach the Gull-child the world's mysteries without molestation from me, and the site of her nest remains unknown.



The Present Status of the Heath Hen

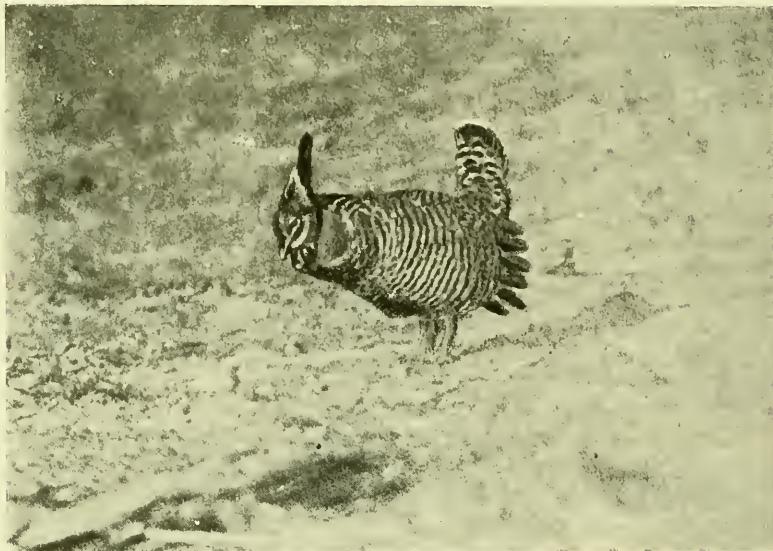
By GEORGE W. FIELD

Of the Massachusetts Fish and Game Commission

With photographs by the author

FOR the details of legislation and of efforts to protect the Heath Hen, and for the general facts in regard to its distribution and decline, the reader is referred particularly to the summary of the results of previous observers which is given in Forbush's 'Game Birds, Wild Fowl and Shore Birds,' pages 385-393, the writer's sketch on the Heath Hen in *BIRD-LORE*, Vol. IX, No. 6, 1907, and the reports of the Massachusetts Commissioners on Fisheries and Game.

Six years' experience prove that the protected reservation is an efficient method for increasing the numbers of this Grouse without artificial propagation. Solely as a result of setting aside an extensive area adapted to the feeding and nesting habits of the birds, with an efficient patrol, the development of local public sentiment, and destruction of enemies through the efforts of one game-keeper, a part of whose time has been used in developing and increasing food crops for the birds, the estimated increase of the birds is as follows: In May, 1907, careful observation disclosed only twenty-one birds; and in January, 1908, between forty-five and sixty. In 1909, the number was estimated at two hundred, and in 1910, at three hundred. The largest number in sight in one place at any one time has been over ninety. It is not unusual to see flocks of twenty and thirty.



HEATH HEN 'BOOMING'

Enlarged and retouched

In the summer of 1910 and winter of 1910 and 1911 there was a notable decrease in the birds. Numerous skeletons were found, some plainly indicating the work of Hawks, others of cats, and some were without obvious clue to the source of their destruction, so that in June, 1911, probably not more



STROKING A SITTING HEATH HEN

than one hundred and fifty birds were in existence. Since then, however, the increase has been rapid. In 1912, there were estimated three hundred birds, and at present the number is probably between four and five hundred. They are found over a wider area and in larger numbers than for a generation.

The work on Martha's Vineyard was undertaken under very inauspicious circumstances. The birds were too far reduced to secure immediate and rapid increase. Stray cats from summer resorts three miles away, are a persistent menace, and their destruction can be accomplished only with the coming of the snow, when tracking and trapping become relatively easy. Probably as a result of forest fires, as will be indicated later, the number of male birds is largely in excess of the hens. From observations, April, 1910, we believe that there were approximately ten males to every hen. On this account, the breeding increase has been relatively slow. However, the results have been sufficient to indicate that the reservation method is practicable, and necessary for the maintenance of all species of Grouse, notably the Ruffed Grouse, the Sage Hen and other western species.

The most important factors in the destruction of the Heath Hen may be noted as follows:

1. Forest fires, which, during the breeding season, swept over the island, frequently three years in every five. The first act of the Commissioners, therefore, in accepting the responsibility of the work, was to develop a system of 'fire-stops' in the form of a cross, in such a way as to divide the oval interior of the island into four divisions between the main roads. Further, a checker-board system of lanes, thirty feet wide, which serve not only as secondary fire-stops but, when planted with various species of grain, sunflowers, clover, etc., serve as feeding-places in close proximity to the scrubby covering of dwarfed white oak, blueberry and sweet fern, has been begun.

This will ultimately divide the central portion of the island into squares of about thirty acres each. Gunners, either when rabbit-hunting or crossing the island to the gunning stands on the South Shore, formerly shot the Heath Hen, particularly during the winter when, perched upon the tops of scrubby white oaks, they offered a conspicuous mark. The development of local public sentiment has stopped this.



HEATH HEN

Note the neck-tufts which are erected in the preceding picture.

able environment, and are very deadly to the birds.

3. The presence of considerable numbers of Hawks, particularly Red-tailed, Red-shouldered, Sharp-shinned and Marsh Hawks. Examination by Dr. A. K. Fisher of the Biological Survey of a series of forty-two stomachs of Marsh Hawks killed on the reservation disclosed the presence either of young Heath Hens or of insectivorous birds in all except three. As the Marsh Hawk is generally regarded as beneficial, Dr. Fisher points out that this species on Martha's Vineyard has acquired a perverted appetite. This is possibly due to the fact that the peculiar environment of dense scrubby

2. The annual crop of house cats brought to the island by summer cottagers and then left behind for convenience, or deliberately, to avoid responsibility of humanely ending one or more of their nine lives, taken out into the interior of the island and there dropped. On account of mild winters and abundant food, these cats find very favorable

vegetation so effectively protects the mice that the Hawk is forced to turn to birds.

In general, the island is very favorable for maintenance of birds on account of the fortunate absence of foxes and raccoons. The Heath Hen is particularly hardy in its feeding habits and large size, which make it possible to withstand the inclement weather. In winter, it feeds normally upon insect pupae, dried berries, acorns, checkerberry leaves, clover and grain, and, when the snow is on the ground, eats considerable quantities of the terminal buds of the pitch pine and its needles, cutting them off with a scissors-like action of the bill in the same manner as does the Spruce Grouse.



HEATH HEN ON NEST

Few nests have been found, even in spite of the most extensive and careful search. In only one instance have we been able to find a nest otherwise than by flushing the bird. In 1911 not a nest was found. June 5, 1912, our Deputy Leonard, after a most prolonged and diligent search, found a nest with four eggs covered with oak leaves. This apparently discloses why these nests are so difficult to discover. To minimize the chances of abandonment, this nest was not again visited until June 12, when the hen was seen to be on the nest. Doubtless incubation had begun. The bird was not disturbed. On June 18, it was decided to ascertain the number of eggs without alarming the hen. The nest was visited cautiously, but, after three successive visits, the bird, at a distance, was seen to be on the nest each time, and was

not disturbed. On June 21, the nest was visited, the hen was seen to stand up, and eight eggs were counted, but the bird was again undisturbed. On June 28, the photographs were made. Up to this time, extreme caution had been taken to avoid any risk of driving the bird from the nest by near approach, and the visits were infrequent.

When the bird leaves the nest, the eggs are covered with leaves, after the well-known habit of the duck family.

Further, the bird sits so closely on the nest that it is dislodged only by very active effort.

Deputy Leonard had no difficulty in approaching the bird and, as the photographs indicate, of 'chucking her under the chin.' She fought the approach of the hand in the same manner as a setting hen, ruffling her feathers, opening her beak and striking viciously. This attachment for the nest indicates why forest fires have been so destructive to the species.

The birds on the reservation have not been disturbed by human beings since 1907; yet when not on the nest they are very wary, but, believing

A HEATH HEN TWENTY-FOUR HOURS OLD

themselves unseen, they depend upon their concealing coloration for escape and so 'lie close.' On June 12, incubation was begun on the clutch of eight eggs, the smallest complete clutch reported. Incubation in this case probably began not earlier than June 9. At least eight broods of young had already hatched previous to that date. The period of incubation is twenty-four days. The young birds closely resemble their surroundings and are difficult to detect, as they hide under leaves or crouch flat on the ground, after the well-known habit of the Ruffed Grouse. They feather-out rapidly, the primaries becoming functional, so that considerable flight to escape enemies can be taken after ten days. There appears to be no change of plumage, as in the



case of Bob-white, but the pattern of the juvenal plumage is closely similar to that of the adult.

In order to localize the birds as much as possible, so that they may be the better protected, we have developed a large farm where the typical farm crops are grown for the purpose of furnishing a suitable environment for attracting the birds. Much of the grain, sunflowers and fruits are left unharvested. The fields to which the birds are the most attracted are tracts of field-corn, where at the last cultivation crimson or Italian clover is sown. The combination of a wilderness of dried corn-stalks with clover is the most satisfactory environment.



A 'FIRE-STOP'



SUMMER HAUNTS OF THE HEATH HEN
Pointing to the nest

Hen in Massachusetts shows clearly the ineffectiveness of partial and belated legislation, and the effectiveness of the reservation plan, backed by law enforcement, to save a species in imminent danger of extinction. If we expect to preserve the Heath Hen and increase its numbers, however, we must do very much more than we have yet done to that end. More wardens or game-keepers must be employed; other state reservations must be secured, and the birds introduced and protected upon them until it becomes possible to exchange birds between different localities and thus add new vigor to the breeding stock. All the money expended by the state authorities in rearing

To secure the maintenance of these birds for all time, it is necessary to acquire at least five thousand acres of land, and the effort is now being made to secure them. The situation has been well stated by our State ornithologist, E. H. Forbush, who says:

"The history of the Heath



A FOOD-LANE

Pheasants and other foreign game-birds might far better have been used in re-establishing this hardy native game-bird in its original haunts from Cape Cod to the Connecticut Valley.



WINTER HAUNTS OF THE HEATH HEN

for the Heath Hen. Why have we so long neglected the opportunity to propagate and multiply this indigenous species? The survival of the Heath Hen upon the island of Martha's Vineyard, after it has been extirpated elsewhere, leaves its fate in the hands of the people of Massachusetts. Let us hope that they will accept this trust, and spare no pains to preserve this noble game bird and restore it to its former range."

My Bird Neighbors

By MRS. L. H. TOUSSAINT, Rio, St. Lucie Co., Florida

MY BIRD family usually consists of eight Florida Jays, six Florida Blue Jays, one Brown Thrasher, five pairs of Cardinals, four Mourning Doves, three pairs of Towhees, about a dozen Grackles, one pair of Woodpeckers, a covey of Quail, and a Sandhill Crane. These I feed regularly; of course, there are many others in the orange grove that are not so tame. Then we have numerous small birds that devour the worms on mulberry trees. My Jays and other birds are very tame. We buy crackers wholesale, wheat, corn, unroasted peanuts, and grape-nuts for the birds. The Cardinals, Towhees, and Quail love the wheat; all eat crackers; the Crane and Jays eat corn; the Grackles eat crackers, and always soak them in water before eating; they also eat table scraps. I like to have the flocks of Grackles arrive in the fall, they so often bring visitors with them, generally Red-winged Blackbirds. Peanuts are the Jays', Cardinals', and Towhees' speciality. The Jays will take them out of my apron-pocket. I always carry nuts with me, as I am sure to meet the birds somewhere. The Cardinals fly to the windowsill, and if they see me inside, chirp for peanuts, then they fly to the door. They are always the last to come for supper, and I am sure I could get them to eat from my hand if the Jays were not so jealous that they will not allow it.

"The Heath Hen belongs to this country. It has been fitted by the natural selection of centuries to maintain itself abundantly in southern New England. It is superior in every way to any foreign game-bird that we are likely to introduce. As the forests are cut off and the land thus unfitted for the Ruffed Grouse, it becomes better fitted

My Crane eats raw meat, fried pork, and sometimes crackers, but his favorite food is grape-nuts soaked in milk and formed into pellets; he also eats insects.

My garden and greenhouse are always full of birds. I feed them and they hunt insects for me. My greenhouse is made of laths, and the birds can fly in from top or sides; when I am working there they keep me company. The Jays fly on to my head or shoulder and beg, and if I don't pay attention to them they pull my hair and pinch my ears, or pull the hair-pins out of my hair, until I give them peanuts. When I sprinkle the plants, they fly back and forth through the spray. They sit on top of the shed for me to give them a shower-bath, fluff their feathers and stay until they are soaked. When I turn the water on the Crane, he dances.

The Florida Jays are most intelligent. If I give them a whole peanut and then hand them a kernel or two, they will look at the kernels, lay the whole peanut in my hand, take the kernels back in their throat, and then take the whole peanut. The Jays are not afraid of snakes; I have seen them alight on a snake and pick it and scream. When one gives the danger-signal, the others all fly to him and join in the uproar, showing us where the snake is. One day, while killing an adder, one Florida Jay was on my head and



'JACK,' OUR SANDHILL CRANE

another on my shoulder, both screaming with excitement. I have found the Florida Blue Jay the hardest to tame, but I succeeded after a great amount of patience in coaxing them to perch on my hand for peanuts; when they brought their young, it did not take two weeks to tame them.



A PAIR OF PET EGRETS

Birds have dispositions like people; some are so gentle and sweet, others regular little bullies; they tease each other and play, and they love to be flattered.

My Cardinals bring their young here to be fed, and when they can feed themselves the old birds leave and I see nothing of them for several weeks; when they come back and chase the young ones away to "shift" for themselves.

I had a very tame Woodpecker which was fond of peanuts; he would sit or hang on my little finger, while a Jay sat on my thumb, taking cut peanuts from my palm. One day I noticed that he had difficulty in eating and, on examination, I found that his tongue was broken in half, the lower part being

so swollen he could not swallow. Before we could devise means to help him, he disappeared.

Jack, my Sandhill Crane, and I go to the grove almost every morning to hunt insects. He digs into the ground the length of his bill and brings out fat grubs, which apparently he hears beneath the surface. On one occasion he dug out a mole and killed it. We have a large variety of spiders that live in holes in the ground; when Jack sees one of these holes he chuckles and makes a dive for it. Our negroes are all very fond of Jack, and he has his favorite among them. When this man is hoeing, Jack follows him to get the insects he turns out, talking and chuckling all the time. He has a great variety of calls, and when hungry grunts or utters a fretting note; when he is pleased, he chuckles; and he spreads his wings and hisses like a goose when a Buzzard, Osprey, or Eagle flies by. We talk to him as we would to a dog, and he seems to understand us. About once a week he goes flying and, after circling around the place, lands in the grove and waits for us; or sometimes walks back when, if the sand is hot, he stands in his bath-tub to cool his feet. Every evening before he goes to bed he dances, and the more we applaud the more active he becomes.

One of our friends had a pair of Egrets. He found the two young in the nest; the mother bird, with six other bodies, lay in a heap with wings and plumes taken. He raised the birds and had them a long time. One sickened and died, the other must have lived four years longer, when he was killed by a Horned Owl.



How to Make a Thrashery—Begin Now

By MABEL OSGOOD WRIGHT

IF winter is late in coming, the leaves hang persistently on the oaks and beeches, and the frost has not made the vines too brittle, there is something that you can do in early December that may lure a wonderful musician to your bit of ground next May.

Time was when the Wood Thrush, Catbird, Rosebreast, and Brown Thrasher were classed with the shy and elusive birds that seldom left dense thickets or wood edges. It is years since Wood Thrushes became regular garden lodgers, and rival Catbirds sang their mocking bravuras from opposite clothes-poles, building nests in the syringas that border the path. Still the Thrasher held aloof. On his first arrival, a single bird, or at most a pair, would scratch about among the leaves that collect around the shrubberies, then would follow a brief period of wonderful song from the very top of a half-dead ash tree not too close to the house, but no more would be seen of the birds until the next spring.

One year, some old pea-brush was left in a heap between garden and field, quick-growing vines seized upon it, and it was meshed into something like a wild tangle. At any rate, the Thrashers thought it genuine and built a nest there, placing it about two feet above the ground. As the male is usually careful to choose a perch from which to sing at a wise distance from the nest, so the parent birds took great pains to go around 'Robin Hood's barn,' in their trips to and from their pea-brush home. "If here, why not in the garden itself?" I thought, and then I made a tour of the possibilities within sight of the house itself.

It was late autumn, the time when, the garden being put in order, there is a little breathing-space for cutting old wood from the shrubberies, and shortening long shoots that are sure to be weighed down and broken by snow and wind. One rather shabby-looking group of shrubs had been selected for special attack, a straggling flock of the prune-leaved spirea, with double white flowers like tiny roses ('Bridal Wreath' was, I think, the name given it in the old garden from which mine came). This spirea, by means of tap-roots, walks along and, if the soil be good, sticks out its elbows and quickly appropriates the surrounding country. Every third year this particular tangle had to be thinned out, and this was its third year. Before ordering wholesale slaughter, I drew near, to see what other plant wanderers had joined the gypsy band, and helped make an almost impenetrable thicket between the flower-corner and the house itself.

Amid the sharp, straight shoots of spirea were raspberry canes, lilac suckers, several wands of sweetbrier, young tartarian honeysuckle, cornels, and black cherries—all telling that the thicket was a favorite perch for birds. Around this, stretched like arms, long vines of wistaria were clasped, and

when I tried to pull them away, a sharp barberry thorn plucked me by the sleeve.

As I stopped to free myself, something whispered in my ear: "Here is what you are looking for, a perfect Thrashery, all ready made and waiting. All you have to do is to protect this place near the ground from cats, for they will not be able to force themselves through higher up."

Instead of cutting and pruning, I called the man-of-all-garden-work to help me build, and some lengths of fence netting with a barbed wire top and bottom were pushed between the bushes close to the ground and wired together, until a space of some twenty feet was enclosed. The meshes of the wire were sufficiently wide to admit a large bird, but nothing more.

The first season nothing happened; perhaps because there was still a large white cat about the garden, who hunted only by moonlight, or before dawn, and was therefore a difficult mark. Early this spring, however, she fell a victim to an irate chicken-raiser, and by the last of May I was aware that my thrashery was being prepared for summer residents, even though the singer of the family had moved from the ash to the tip-top of a cedar in an adjoining field.

I respected the Thrasher's desire for seclusion, and did not meddle; but what was my surprise, one morning about the fourth of July, to see hopping about on the lawn close under the shelf of bird food, five Thrashers, three unmistakably young birds, all showing no more fear than so many Robins. In a very few days they came to the shelf itself, and from the variety they chose softened dog biscuit, berries (we always put on the bird-shelf the berries rejected when picking them over for the table), and bits of cake.

This feeding was kept up all through the August molt, during which one of the old birds, entirely bereft of its tail, would come daily and, when satisfied, flop back into the bushes as if ashamed. In middle September they disappeared for a time, but returned for a week, not leaving for good until the first frost that came with the full of the October moon.

So tame they became that, one morning, a Blue Jay, Starling, Robin, Catbird, Song Sparrow, and two Thrashers were feeding side by side on the shelf within a few feet of the dining-room window. Ah, yes, we feed the Jays, and by keeping them well fed their thieving temperament is held in check. As a proof of this,—before we fed them they were set upon by other birds, now they are accepted on an equal footing.

This autumn, when you are tempted to be very neat and to drive away your plant gypsies by pruning, stay your hand and bind them into cat-proof thrasheries instead; for in there you may also entertain, quite unawares, a pair of Maryland Yellow-throats, or that tantalizing ventriloquist, the Yellow-breasted Chat.

The Migration of North American Sparrows

TWENTY-FIFTH PAPER

Compiled by Prof. W. W. Cooke, Chiefly from Data in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES

(See Frontispiece)

ALEUTIAN ROSY FINCH

As its name implies, the Aleutian Rosy Finch has its principal home on those islands, whence it ranges north to the islands of Bering Sea and east to the western part of the Alaska Peninsula. It breeds and winters on that region, though in the latter season some individuals straggle east as far as Kodiak Island.

GRAY-CROWNED ROSY FINCH

The tops of the high mountains above timber-line are the chosen summer homes of the Gray-crowned Rosy Finch. Here it is found in a long narrow belt that includes the highest peaks from east-central Alaska to western Alberta; on the White Mountains and the southern Sierras of east-central California.

The individuals of this species that breed along the coast mountains of southeastern Alaska, and south to the higher peaks of Washington and northern Idaho, have been separated under the name of Hepburn's Rosy Finch.

During the winter, both these forms spread over much of the lower parts of the mountains south to Colorado and California and east on the plains to Manitoba and Nebraska. Flocks often contain birds of both forms, but in the Rocky Mountains and on the plains the Gray-crowned is the more common, while to the westward the Hepburn's becomes commoner, though even as far west as southeastern Oregon the Gray-crowned is often as abundant as Hepburn's.

The birds begin to descend to the lower parts of the mountains in September (September 20, 1870, Uintah Mountains, Utah), but rarely appear in the foothills before early October. Some dates of fall arrival are: Big Sandy, Mont., October 1, 1900, October 3, 1906; Terry, Mont., October 18, 1903, November 1, 1904; Anaconda, Mont., October 29, 1910; Lewistown, Mont., October 30, 1899; Laramie, Wyo., October 25, 1898; Magnolia, Colo., November 27, 1895; Park County, Colo., November 26, 1910; Camp Harney, Ore., November 8, 1875. The above dates of fall arrival all refer to the Gray-crowned race, but the other form migrates at approximately the same time.

The return movement begins in February, and the last birds leave Nebraska the latter part of that month; the last was noted at Camp Harney, Ore., March 22, 1876, and at Salt Lake, Utah, March 21, 1850; Terry, Mont., March 13, 1904; Columbia Falls, Mont., April 6, 1893; Banff, Alberta, April 7, 1903, April 18, 1908; Stony Plain, Alberta, April 16, 1908, and April 3, 1909. The type specimen of this form was taken on the Saskatchewan plains in May, but this is unusually late for the bird to be away from the mountains.

BLACK ROSY FINCH

The least known and the rarest of its group is the Black Rosy Finch, which inhabits in summer the peaks above timber-line of the highest mountains in central Idaho, southwestern Montana, western Wyoming, and northern Utah. Thence it descends in the winter to the foothills of eastern Montana, eastern Wyoming, and central Colorado.

The first heavy snows, in the summer home of this bird, come early in September, and it is forced to descend into the valleys, where it was found September 6, 1911, at Crystal Creek, Wyo., already 3,000 feet below its breeding range. By September 20, it had reached the foothills of the Uintah Mountains, Utah, but it has not been noted in eastern Montana at Terry at an earlier date than November 1, 1903, while it does not reach the southern limit of its wandering until January—Colorado City, Colo., January 14, 1879, and St. George, Utah, January 21, 1889. The last one leaves this southern part of the winter home in April—Colorado Springs, Colo., April 4, 1874, and Sulphur Spring, Colo., April 6, 1907.

Summer comes so late in the elevated regions of the nesting-site that on May 27, 1911, at Anaconda, Mont., when the local breeders were busy with their household cares, the Black Rosy Finches were still in flocks, and still in the valleys, some 4,000 feet below their intended breeding grounds, though these latter were probably less than two hours' flight distant.

BROWN-CAPPED ROSY FINCH

One of the most restricted of all the breeding ranges of North American birds is that of the Brown-capped Rosy Finch, since it nests only on the highest peaks of the Rocky Mountains of Colorado, where it is scattered in small parties over the few square miles that rise above 12,000 feet. A few birds probably breed under similar circumstances in northern New Mexico.

The height of the breeding season is the latter part of July; in August young and old range to the summits of the peaks, picking insects off the snow. By the last of October or early November, they descend to timber-line, and remain there through the winter, except as they are driven a little lower by the severest storms. At the same time a few come into the lower valleys almost to the base of the foothills. These birds of the foothills usually return to the mountains in March, the last being seen at Rifle, Colo., March 12, 1902; Ouray, Colo., March 13, 1907, and Sweetwater Lake, Colo., March 23, 1898, but stragglers have been noted at Canon City, Colo., as late as May 15.

Notes on the Plumage of North American Sparrows

TWENTY-FOURTH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

The species of the genera *Leucosticte*, *Fringillauda*, and *Montefringilla* are so closely allied that Sharpe places them all in the last-named genus, which, thus constituted, contains twenty-five species and sub-species of which no less than twenty are found in the Old World, chiefly in the mountains of Asia. Our species, therefore, have doubtless entered North America through the Aleutian Islands and Alaska, whence they have extended southward along the summits of the Coast Range to California, and the Rocky Mountains to New Mexico.

Mr. Fuertes's plate accurately represents these birds, but their characteristics may be summarized as follows, it being understood that females average somewhat duller than males:

1. General color dark chocolate; nape and cheeks gray. **Aleutian Rosy Finch** (*Leucosticte griseonucha*).
2. Reddish brown, nape only gray. **Gray-crowned Rosy Finch** (*Leucosticte tephrocotis tephrocotis**).
3. Reddish brown, nape and cheeks gray. **Hepburn's Rosy Finch** (*Leucosticte tephrocotis littoralis*).
4. Reddish brown, no gray on head. **Brown-capped Rosy Finch** (*Leucosticte australis*).
5. Brownish black, nape only gray. **Black Rosy Finch** (*Leucosticte atratus*).

Material is lacking to describe the molts and seasonal plumages of these five forms. It is more than probable, however, that the description of one will serve for all, and the appended outline relates, therefore, chiefly to the Gray-crowned Rosy Finch.

In juvenal plumage, Rosy Finches are dull rusty gray below, browner above, with no crown cap, no rose in the body plumage, and but little in the wings or tail; the greater coverts and inner wing-feathers are conspicuously margined with buffy or brownish.

At the postjuvenile molt, all the body plumage and lesser wing-coverts are lost, the rest of the wing-feathers and the tail being retained. The bird now has the black cap with gray margin; the lesser wing-coverts are rosy, and the plumage in general resembles that of the adult in winter, except for the buffy instead of rosy margins to the greater wing-coverts and inner wing-feathers.

*Mr. Joseph Grinnell ('Condor,' XV, 1913, pp. 26-79) separates the Gray-crowned Rosy Finch of the Californian Sierras from the Gray-crowned Rosy Finch of the Rockies as a new race under the name *Leucosticte tephrocotis dawsoni*, and comparison of specimens from Eldorado County, California, with others from Alberta, in the American Museum of Natural History, supports his views.

The nature of the spring molt, if any occurs, is not revealed by the specimens at my command, but the indications are that at the best it is limited, the differences between summer and winter plumage being due to wearing off the grayish tips of the winter plumage and a fading of those that remain. In August, the birds become surprisingly worn, when one considers that at this season they live chiefly in the open at the border of snow, and in September the postnuptial molt occurs. This, as usual, is complete, and the bird acquires a plumage which resembles that of the first winter but has a greater amount of rose in the wings, the greater coverts as well as lesser, and the inner feathers as well as outer, being bordered with this color.

From adult summer plumage this winter plumage differs in grayish margins of most of the underparts and brownish of the back. A change also occurs in the color of the bill, which is black in summer but yellowish or brownish in winter.

Bird-Lore's Fourteenth Christmas Bird Census

BIRD-LORE'S annual bird census will be taken as usual on Christmas Day, or as near that date as circumstances will permit. Without wishing to appear ungrateful to those contributors who have assisted in making the census so remarkably successful, lack of space compels us to ask each census-taker to send only *one* census. Much as we should like to print all the records sent, the number received has grown so large that we shall have to exclude those which do not appear to give a fair representation of the winter bird-life of the locality in which they were made.

Reference to the February, 1901-1913 numbers of BIRD-LORE will acquaint one with the nature of the report of the day's hunt which we desire; but to those to whom none of these issues is available, we may explain that such reports should be headed by a brief statement of the character of the weather, whether clear, cloudy, rainy, etc.; whether the ground is bare or snow-covered, the direction and force of the wind, the temperature at the time of starting, the hour of starting and of returning. Then should be given, in the order of the A. O. U. 'Check-List' a list of the species seen, with exactly, or approximately, the number of *individuals* of each species recorded. A record should read, therefore, somewhat as follows:

Yonkers, N. Y. 8 A.M. to 12 M. Clear, ground bare; wind west, light; temp., 38°. Herring Gull, 75. Total, — species, — individuals.—JAMES GATES.

These records will be published in the February issue of BIRD-LORE, and it is particularly requested that they be sent the editor (at the American Museum of Natural History, New York City) not later than December 28. *It will save the editor much clerical labor if the model here given and the order of the A. O. U. 'Check-List' be closely followed.*

Notes from Field and Study

The Arctic Three-Toed Woodpecker in Illinois

While walking by a group of pines on our country place near Glenview, Illinois, about thirty miles northwest of Chicago, I noticed a bird hard at work hunting food at the top of one of these pines. The bird was evidently a Woodpecker, but a kind of Woodpecker I had never before seen. The visitor's sooty-black back and orange-yellow crown proclaimed him new to this region. "Looking him up" disclosed his identity, the Arctic Three-toed Woodpecker.

Since that date (September 12) he has been seen nearly every day by many people. It is not at all difficult for us to know when he is near, for the forceful strokes of his big bill are clearly audible a long way off, and are different from those of any other Woodpecker. That we are honored by his presence is probably explained by the fact that our place has a large number of pines. It is very seldom that he hunts for food on any but pine trees. He braces his six toes firmly against the trunk of a Scotch pine and rips off pieces of the flaky bark. Thus it is easy to tell where he has been at work, for the tree is of a much brighter color on account of this energetic habit. The bird is remarkably tame, and permits his admirers to come within twelve feet of him, seeming to totally disregard their presence.—ROBERT REDFIELD, JR., *Chicago, Ill.*

Notes on the Whip-poor-will in Missouri

May 3, 1903, while strolling at random through a woodland in Lafayette County, I chanced upon a pair of Whip-poor-wills. June 12, I flushed one of the birds in the same place, and, encouraged by her protests, succeeded in scaring up a young one not more than half grown, its dark form,

bobbed tail, and swift noiseless flight as it hurried away, suggesting a bat. June 15, the parent bird made every effort to decoy me away from the place, but my search for the young bird was unsuccessful.

June 1, 1904, I found a pair of Whip-poor-wills in the identical spot of the year previous. They stayed there all summer and bred. I visited them several times, always finding the parent bird, but was not fortunate in finding the eggs. June 12, however, I flushed both parent birds and two young ones well grown. All hastened away among the trees on silent wings except one parent bird that remained behind to distract my attention.

My only opportunity of visiting these woods in 1905 was May 2, when curiosity impelled me directly to the former haunt of the Whip-poor-wills, where I immediately found a pair of birds, as in previous years. It might be well to state that this was the only pair of Whip-poor-wills seen in this region during the periods mentioned, though search was made of all the woods in the surrounding country, and I have speculated much as to whether it was the same pair year after year, or was this particular spot so peculiarly suited to their needs that any pair happening that way in the spring would naturally choose it and settle there for the summer? Be that as it may, I am inclined to think it the same pair, which, true to the homing instinct, returned to their old haunts.

June 14, 1908, having previously heard the Whip-poor-will in Swope Park, Kansas City, I selected a wooded ridge across the eastern part of the park as its probable haunt and began a systematic search. Having covered about half the woodland, on the highest portion of the ridge the familiar brown form lifted from the leaves ahead of me. I searched minutely for eggs or young, all to no purpose. The bird lingered near, sometimes on a tree branch, sometimes on the ground, her wings hanging limp, her body apparently

palsied from some mortal hurt, uttering the while her protesting "purt, purt, purt," making of herself a sight pitiable to see, but for the knowledge that this was all a ruse to lead me from eggs or nestlings. Wishing to see to what extent the bird would employ her feigned hurt, I followed her. She responded eagerly, leading me on and on, away through the woods, always keeping a safe distance between us. Her elation at the success of her deception was plain. How far she would have taken me I don't know. When I thought it wise to turn back, she would have had me follow on. As I deliberately returned to the forbidden spot her agitation increased visibly, and flying ahead of me she attempted to lead me on by. I sat down on the leaves fifty yards away, and when no wile of hers would move me she settled among the leaves where I had first flushed her. Waiting fifteen minutes, I approached her with a rush, determined to see the precise spot from which she arose, and, was it a leaf, disturbed by her flight, that slid along for six inches or so only to settle down on the other leaves? No, scrutiny disclosed a buff brown chick, sitting unmindful of me, apparently asleep on the buff brown leaves. Had it not made that one little forward move as the mother left it, the chances are that I should never have found it.

The protective scheme was perfect. The little downy body flattened against the leaves of similar color, itself like a leaf in outline, tapering toward the tiny bill that might have been a leaf stem. No wonder I had never succeeded in finding Whip-poor-will chicks before! And it occurred to me with something of pain how easy it might be in searching, to set one's foot on the invisible little chick, still as a mouse, crush out its life, and never know the tragedy of which one was unwittingly the cause.—EDGAR BOYER, *Tyro, Kan.*

Horned Owl Killing a Skunk

What there is about the skunk that appeals to the appetite of the Horned Owl

I cannot say. Perhaps it is with him as with some of us and our favorite varieties of cheese, that the taste is much better than the smell. At any rate, it is a well-known fact that the Owl chooses the skunk as a common, if not a favorite, article of diet. I doubt, however, if many persons have had the opportunity that came to me of seeing an Owl in the act of skunk-killing.

One morning, late in the autumn, I was driving through the woods, when I heard a disturbance in the dry leaves at a little distance from the road. I stopped my horse and, as I looked in the direction of the sound, saw something struggling on the ground. As I drew near, I saw clearly the cause of the disturbance. A few feet in front of me was a large Horned Owl in a sort of sitting posture. His back and head were against an old log. His feet were thrust forward, and firmly grasped a full-grown skunk. One foot had hold of the skunk's neck and the other clutched it tightly by the middle of the back. The animal seemed to be nearly dead, but still had strength enough to leap occasionally into the air, in its endeavors to shake off its captor. During the struggle, the Owl's eyes would fairly blaze, and he would snap his beak with a noise like the clapping of your hands. Neither the bird nor his victim paid the slightest attention to me, though I stood quite close. How long since the Owl had secured the death grip I do not know, but there was no doubt about his having it. The skunk could no more free itself from the Owl's claws than it could have done from the jaws of a steel trap. Its struggles grew less and less frequent and at the end of about fifteen minutes they ceased altogether. Then the Owl loosed one foot, settled himself in a more comfortable-looking position, and appeared ready to enjoy the spoils of his battle. This I did not permit him to do however, not because my sympathies were with the skunk, but because I do not approve of the murderous habits of the Owl.—G. NORMAN WILKINSON, *Freehold, N. J.*

Black Tern at Martha's Vineyard,
Mass.

There was quite a remarkable flight of this species September 6 and 7, 1912. My observations were made on the east coast between East Chop and Katama Bay. About two hundred individuals were seen each day. They were mostly juvenile birds, only one black-breasted adult being noticed, and this one kindly flew about eight feet above and directly over my blind. The blackish spot near eye and the grayish sides of breast were noticeable when the young birds were flying near, and their flight was zig-zag and irregular at times, reminding one of the flight of the Night Hawk. While these birds flew over the ocean beach and water considerably, they seemed to prefer the fresh ponds and salt lagoons. The Common Tern was plentiful at the same point, but spent more time over or near the ocean. I remained at the beach two weeks, but observed the Black Terns only on the two days mentioned. A northeast storm preceded their appearance by a day or two. Possibly after leaving the sloughs of the Canadian prairie country, these birds followed the Great Lakes and the St. Lawrence River to the sea, and the storm drove them down the coast in numbers.

The Black Tern occurs along this coast at times during the fall migration; but I have never observed it in such numbers before, although I have spent many weeks on the island since 1895.—CHARLES L. PHILLIPS, Taunton, Mass.

Hooded Warbler in Boston

On Thursday, October 2, 1913, shortly after 12 o'clock, I was searching a silver maple in the Public Garden, Boston, to ascertain whether there was anything there besides Blackpoll and Myrtle Warblers, which seemed very numerous. Suddenly, I heard a little song, just a few notes, but very clear, sweet, and sprightly, especially for this season of the year. I started, for I knew I had never heard *that* song before! Looking quickly in the

direction whence it came, I saw a beautiful little bird with outspread tail fluttering in the air in front of a low branch of the tree which I had been examining. Almost immediately he was hidden behind the leaves, but so incessant was his motion, as he hopped about among the lower branches, that I caught sight only of bits of him here and there as he momentarily came into view, only to vanish again, and again to reappear. My first thought, on seeing an olive back and yellow breast with a touch of black somewhere about the head, was of a Maryland Yellow-throat; but, no, this bird had a black throat, and bright yellow cheeks—much more yellow than its underparts, although those were by no means dull. Neither could it be a Black-throated Green Warbler, for it was yellow, not white, underneath, and the black throat, instead of parting in the middle like little curtains, was rounded like a bib. Again, there was a jet-black cap, set jauntily on the back of his head, and, extending to the nape of his neck. There were no wing-bars, and no streaks on breast or sides.

I had got as far as this in my study of the elusive beauty when I saw an acquaintance approaching who is a fellow-enthusiast. I beckoned to her to hasten, but lost my bird! We scanned every branch of the trees in the vicinity, but could see nothing of him, until, just before I left the Garden, I discovered him on a silver maple very near the one on which I had first seen him, but my companion was not close at hand, and, in trying to call her, I lost the bird again.

On my return to my office, I searched for my bird in Nuttal's 'Birds of the United States and Canada,' and, although no picture is given, I came to the conclusion that I had seen a Hooded Warbler. I could hardly wait until I got home at night to consult Reed's 'Bird Guide,' and there, on page 175, I found a perfect picture of the bird, as I remembered him.

The next morning I went into the Garden early before going to business, and saw my bird again on the same tree on which I had last seen him the day before.

This time I saw more plainly the white outer tail-feathers, three on either side of a dark band in the middle, and the fan-like opening and shutting of the tail, as the beautiful creature made his little fly-catcher-like darts in and out among the leaves.

I was sure enough then to telephone to the Brookline Library, where the Brookline Bird Club has the use of a part of the bulletin board, that a male Hooded Warbler had been seen in the Garden near the corner of Beacon and Charles streets.

When I met my acquaintance at noon, she was a little incredulous; for, though my description seemed to apply, she was sure that the Hooded Warbler never came here.

While we were hunting for it, Mr. Forbush, the State Ornithologist entered the Garden, and courteously inquired of my companion whether she had seen anything new and interesting. She told him what I had seen, and just then the bird popped into sight. Mr. Forbush pronounced him an old male Hooded Warbler, and said that it was seldom one saw such perfect plumage at this season of the year.

I spread the news as far as I could among my bird-loving acquaintances, as I wanted everybody who was interested to have this unusual opportunity. Friends saw him on Saturday and on Sunday in the same location, and I saw him again this noon (Monday) while a fine mist was falling.

Several people have seen him, but, so far as I know, I was the first to discover him, and the only one who has heard him sing.—(MISS) EDITH MCLELLAN HALE, *Brookline, Mass.*

A Late Goldfinch

On October 6, 1913, while in the field observing birds, I was surprised to see how exceedingly close a certain Goldfinch in the winter plumage allowed me to approach the thistle upon which it was perched, uttering a continual series of chirps, hisses, squeaks, and other calls characteristic of the species. Not until I

was almost within arm's reach did it make any attempt to leave, and then fluttered only a few feet farther on, to another thistle. Looking about for the attraction to this particular spot, I soon discovered a nest in a young maple sapling about five feet from the ground. And such a nest! Never before have I seen the nest of any wild bird in such filthy condition. Not only the exterior of the nest, but the leaves of the tree all the way to the ground, and the ground itself directly under the nest, were simply covered with hard, dry excrement. More out of curiosity than anything else, I bent the tree gently over to examine the interior of the nest, when, to my amazement, out fluttered a small bird, which up to that time had crouched concealed in the bottom of the nest. I pursued the youngster, and upon taking it up in my hand found it to be a nestling Goldfinch, almost fully fledged but yet unable to fly. Carrying it back, I examined the interior of the nest, and found it in the same filthy condition as the exterior. Placing the youngster in it, I looked about for more of his kind, but none were to be seen. Only the one bird had left the nest and no others were found in the vicinity. The one parent bird staid nearby all the while chirping and scolding, but the other was nowhere to be seen. Late that evening, while passing the site on my way home, the nestling was perched upon the edge of the nest, while the parent sat on a thistle nearby, chirping softly. Early the following morning I visited the spot with the intention of banding and photographing the young, but alas! it was gone. Neither parent nor young was found, and, although no sign of violence was in evidence, I cannot help but think that some mishap befell the doubtless semi-orphan of a late summer's hatching.

—DELOS E. CULVER, *Philadelphia, Pa.*

A Broken Wing and a Friendship

Letters received from time to time have furnished the data upon which the following account is based.

In the spring of 1908, a female Robin

with a broken wing came to the yard of my father, Mr. R. T. Stephenson, who resides at Scio, Harrison County, Ohio. He and the other members of his family are fond of birds, and make a practice of feeding them daily. This unfortunate bird, of course, claimed their especial attention, and came to rely upon them for food and protection. She remained on and near the premises all the summer and became quite tame, at least as tame as the average domestic fowl. Though the condition of her wing gradually improved, it had not entirely returned to its normal strength when, in the early autumn, she disappeared.

About February 12, 1909, a Robin was heard chirping in the yard, and, to the surprise of all, the bird which had been befriended the preceding season came directly to her former benefactors, and, without fear, accepted the crumbs they threw to her. The broken wing seemed entirely healed, and it was only through her lack of fear and the familiar manner in which she conducted herself that she was distinguished from other Robins; but there seemed to be no question whatever as to the identity of the bird. She remained during the spring, and nested somewhere in the vicinity. In due time she brought her family of three young birds to the yard; after two or three days the latter disappeared, but the mother continued in the neighborhood during the remainder of the summer.

In the early spring of 1910, and again in 1911, at the time the Robins customarily make their appearance, my father and sisters had the pleasure of welcoming their little feathered friend after her season's wanderings, and each time recognized her by the fearless and expectant manner in which she came to them for food. There is no record of the bird having appeared in 1912, and, upon inquiry, I find a difference of opinion as to whether or no she came at all; if she did come it was only for a week or two in the early spring.

In the current year, the bird did not put in an appearance at the usual time, and it was supposed that she had at last

perished. But in the early part of July she was seen standing expectantly outside the window, and, when fed, she exhibited the usual confidence toward her human friends. For the first three days she ate ravenously, and showed no fear as crumbs were thrown to her and fell about her; after that she seemed less hungry and ate with the other birds from a platter of food provided for them. For several days, another Robin, perhaps her mate, was seen in the yard; this one displayed the normal fear and timidity, and did not remain long in the neighborhood.

This season the pet Robin, as we have come to designate her, is showing distinct signs of having passed the prime of Robin life, for her plumage is faded and rusty; she lies on the ground in the yard, basking in the sunshine, with one wing and leg outstretched, with head thrown back and with bill wide open, somewhat after the manner of a domestic hen.

The story of this Robin is, it seems to me, interesting as showing the remarkable degree to which the faculty of memory is developed in this species. With one possible exception, during five successive seasons, this bird has, after an absence of five months or more, returned to the same place, and each time has remembered not to fear the persons who befriended her the preceding seasons. This individual is also remarkable in that she has evaded her enemies and survived the rigors of climate, handicapped a part of the time by a broken wing, during a period of at least six years; for she could not have been hatched later than the season of 1907.—L. W. STEPHENSON, *Washington, D. C.*

A Roasting-Pan Full of Hot Birds

This is what a lady of Columbus, Ohio, testifies to having seen, when she dropped in unexpectedly at noon one day to see a friend. Not only that, but the friend admitted that one of the birds was a Cardinal, one a Baltimore Oriole, and another a Catbird. The proof of this pudding was not in the eating, however, but in the attraction of the dish, for the

roasting-pan was a little, old, black affair, which her friend had filled with water and placed under a tree where any hot bird might take a cool bath. In the pan was an Oriole splashing about, a Cardinal perched on the edge was waiting his turn, and a Catbird on the other side was inquisitively eyeing them both.

Had an artist been painting the picture, she said, he would most likely have arranged the gray Catbird to come between the orange-colored Oriole, and the scarlet Cardinal; but nature had stained the wet orange feathers of the Oriole red, brightened them with a flash of sunlight, and produced a pan of flaming hot birds.—LUCY B. STONE, *Columbus, Ohio.*

Notes on the Robin

A pair of Robins in May, this year, nested on my bedroom windowsill. The first egg lay uncovered night and day for four full days, and cool ones. Three of four hatched. The first bird came out of shell on Sunday, May 25. At 1 P.M., that day, I saw all four eggs unbroken. About 3 P.M., I heard the female leave the nest 'clucking,' and found the youngster. At 4 P.M., that is not more than three hours at most after emerging from the shell, I saw the young bird raise its head and open its mouth upon hearing the mother-cluck of the female.—P. M. FOSHAY, *Montclair, N. J.*

A Tanager in Washington County, Maine

On the afternoon of May 21, my brother saw a Scarlet Tanager in an apple tree near the house.

We watched it through the field-glass for a time, gradually approaching the trees until we could see it perfectly without the glass. It flew from one to another of the apple boughs and once or twice into another tree, but did not seem to be at all frightened, as it remained in the trees near us until we went away. Next morning it was in my cousin's apple trees, and all during that day it remained about the

neighboring houses. This was the first time that any of us had seen this beautiful bird, and we have all been watching for it since, hoping that it had a mate and would nest here; but it has evidently gone elsewhere.—WINIFRED HOLWAY PALMER, *Machias, Maine.*

A Friendly Chickadee

Although I had fed the Chickadees in winter for several years, none of them were tame enough to feed from the hand until the spring of 1906. A pair were nesting in one of my bird-boxes, and, as I was standing near the nest, one of the birds came toward me. I threw a piece of nut to it, which it picked up and ate. Then I held a piece on my finger-tips, and it came almost without hesitation and carried it off; this was repeated several times. Two days later he would perch on my finger and take a nut from between my teeth, or would sit on a branch and let me touch him while he was eating a nut. 'Chickadee' was a perfect gentleman; he would always give his mate the first piece of nut and then come to me for another for himself. I tried several times to get her to feed from my hand, but she would not come near, until the day the young left the nest, when, after a good deal of coaxing, she came several times.

The nest was built of green moss, lined with soft cow-hair. I looked at it one day, after I was sure it must contain eggs, and found the sides of the nest torn to pieces and no sign of eggs; nor were the birds in sight. My thought directly was that something had destroyed the eggs. I began to examine the nesting material, when I was surprised to find nine eggs, about two inches under the surface. On later observation, I decided that this must be female's way of protecting her eggs when she was away. Thirteen eggs were laid in this nest, three layers deep, which was an unusual number. Though they were hatched successfully, only three young left the nest alive. It had rained for about three days, and old 'Chickadee' came to me frequently, looking very small and miserable

in his water-soaked plumage. I gave him any insects I could find, but I think it must have been impossible for him to find food for so many little ones in that cold, wet weather. This was probably when most of the young died. They all remained in the neighborhood for a few days after the young left the nest; then they disappeared, and we did not see 'Chickadee' again until late in September. He was very neatly dressed when he returned, quite a different-looking bird than the

liked to feed him, when they came to spend the day at our house. The picture shows a little niece of mine, just giving him a peanut. I tamed several more Chickadees that winter; eight out of twelve, as nearly as we could count, were quite tame.

It was rather amusing when I took the .22 rifle to shoot rabbits! After the first shot was fired, I was attended by several Chickadees. They made aiming almost impossible, for every time I raised the



A FRIENDLY CHICKADEE

ragged one we used to feed in the spring, but unmistakably the same in manner.

He grew very tame that winter, and would often swing head downward from the peak of my cap, or cling to my lips and peck at my teeth. If I held my hand out with nothing in it, he would always hop to my thumb, and peck the nail two or three times, then hold his head on one side, and look into my eyes, as if to ask me what I meant.

My sister's and brother's little children

rifle, one or two birds would perch on the barrel completely hiding the sights.

In 1907, 'Chickadee' and his mate nested in a new box, near the old nesting-site; this, I believe, was quite successful. In 1908, they nested somewhere near, but I could not find the nest. In 1909, one of my boxes was used with success; but in 1910 they nested in a tree half a mile away; this nest was destroyed. In 1911, one of my boxes was used, and the young were nearly ready to fly when a sad accident happened to 'Chickadee.' Some

of the water that salt pork had been boiled in was standing near our back-door, a scum of white fat on this was attracting large numbers of flies. We think poor old 'Chickadee' must have alighted on the treacherous fat to catch flies, and his weight broke it through, as his tiny body was found floating in the grease, quite dead. We were very sorry, as he had been with us so many years, and was so tame, though he had never been caged. I have tamed quite a number of Chickadees since, but none have shown such confidence as my little friend.—JOHN WOODCOCK, *Bethany, Mass.*

Rare Winter Birds in Massachusetts

On January 8, 1913, in company with a friend, I visited Lynn Beach and Nahant, to see what birds were about. We found an immense flock of Herring Gulls gathered along the beach (it was about half tide), and among them several Great Black-backed Gulls were prominent. Our attention was soon attracted to one bird different from the rest. It was somewhat larger than the Herring Gulls, all white except the bill and legs, which were of a sort of flesh-color, the tip of the bill being dark. The white was not pure but slightly yellowish. We had a good chance to examine it with glasses from a distance of only four or five rods. This description tallies exactly with the Glaucous Gull, as given in Brewster's "Birds of the Cambridge Region." He calls this the immature plumage, but Dr. Townsend, in "Birds of Essex County," calls it the "old age" plumage. All authorities agree, however, that the Glaucous Gull is rarely seen here, and this is my excuse for this item.

The unusually mild winter up to February 1 has apparently tempted some birds to stay with us longer than usual.

Four Fox Sparrows seem to have settled down for the winter in the Arnold Arboretum, Boston. I have seen them several times, the last being January 19. I have not been there since then.

December 21, I found a Brown Thrasher

in the Arnold Arboretum, but he did not seem to be very lively. I fear the cool weather was too much for him.—EDWARD H. ATHERTON, *Roxbury, Mass.*

Henslow's and Savanna Sparrows on Long Island

Great South Bay, Long Island, is a large body of water stretching far to the east from Fire Island Inlet, its only opening to the ocean. At its eastern end it becomes comparatively narrow, and then broadens again into the East or Moriches Bay, a brackish body of water, with negligible rise and fall of tide. On July 6, 1912, at Mastic, in company with Mrs. Nichols, the writer paddled in a canoe from the narrows between the two bays, up a small creek full of mud shallows and turtles, to a wet, fresh meadow where pink orchids were growing among the grasses. On one of some more-or-less isolated bushes in this meadow was a little round Sparrow singing its peculiar unfamiliar song, *sque-zeek!* Closer approach identified it with certainty as the Henslow's Sparrow. The writer has no doubt that it was breeding, though the species is little, if at all, known as a breeding bird on Long Island.

On June 28, 1913, also at Mastic, the writer stopped to examine some Grasshopper Sparrows at a little open golf-course bordering on Moriches Bay. He chanced to bring his binoculars to bear on a bird which was chipping from the summit of a fence-post, evidently with nest or young close by, and was surprised to find it a Savanna Sparrow, a species whose breeding on Long Island is little known. It was examined closely, leaving no question as to its identity. On July 5 we landed at the same point and found two of them. They were worried by our presence, and we started to search for the nest, when one flew to a patch of bare sand and pointed out a young bird of the species. It had much the same sharp marking as the adult, its breast was strongly yellowish, sharply striped with black, and its tail squarish and ridiculously short. It

sat on its heels on the sand, its two pale-colored legs stretched out, and, when pursued, flew low and swiftly, but rather weakly, would drop into the low growth and disappear, and was finally cornered against the water and caught in the hand. There could be no mistake in the identity.

Evidence of the presence of these two lesser Sparrows in the Long Island breeding avifauna seems worth placing on record. They will probably be found to breed here more commonly than has sometimes been supposed.—JOHN TREADWELL NICHOLS, *Englewood, N. J.*

An Albino Pewee at Montclair, N. J.

I have been much interested in watching, for a week past, an albino Pewee, and should like to know if anyone else has reported it from Montclair. The bird looks perfectly white as it dashes out after insects, except for a soft lemon-yellowish white underneath, and the slightest dusky tips to its wings. All the other birds seem to notice that it is different, especially the Sparrows and the Blue Jay.

Another Pewee is often with it, giving the dreamy Pewee call.

I am inclined to think the albino is a bird of the year, as it is very fearless and unafraid.—KATHARINE R. HEGERMAN, *Montclair, N. J.*

Problems in the Local Distribution of Birds.

It would seem that the Blue-gray Gnatcatcher is a regular migrant, in very small numbers, in Central Park, New York City, though by good observers a few miles westward in New Jersey it has never been noted. The Gnatcatcher is not known to breed north of southern New Jersey, and the yearly recurrence of the species further north is remarkable. The most plausible explanation seems to be that somewhere in southern New York or New England, probably in Connecticut, there exists a small isolated breeding colony of the species.

It has long been known that the Ken-

tucky Warbler is a regular summer resident along the banks of the lower Hudson River, and in southern Connecticut, a small colony of the species absolutely cut off from its main breeding range further south, though there is no dearth of apparently suitable woodland in the intervening country. Certain other species of Warblers, the Hooded and the Perula in particular, have a curiously broken distribution in the Middle States. In other parts of the country there are doubtless the same inconsistencies in distribution and the plotting of the breeding areas and migration routes of such species present an interesting field for the local bird-club or the individual worker.—W. DeW. MILLER, *Plainfield, N. J.*

Thirty-first Annual Congress of the American Ornithologists' Union

The Thirty-first Annual Congress of the American Ornithologists' Union was held in New York City, November 10-14, 1913.

At the Business Meeting of Fellows, held at the Explorers' Club on the evening of the 10th, the following officers were re-elected:

The three vacancies in the list of Fellows were filled by the election of Mr. W. L. McAtee, of Washington, D. C., Mr. Joseph Maillard, of San Francisco, California, and Mr. Waldron DeWitt Miller, of New York City.

Walter L. Rothschild, of Tring, England, was elected an Honorary Fellow, and Sergius N. Alpheraky, of St. Petersburg, Russia, and Dr. Edouard Daniel Van Oort, of Leyden, Holland, were elected Corresponding Fellows. The following five Members were elected: Dr. Rudolf M. Anderson, of the Stefansson Arctic Expedition, Dr. Arthur A. Allen, of Ithaca, New York, Dr. W. H. Bergtold, of Denver, Colorado, W. Lee Chambers, of Eagle Rock, California, and George Willett of Los Angeles, California. There were also elected 150 Associate Members.

The public sessions of the Congress were held November 11-13, at the American Museum of Natural History, and

were attended by 120 members of the Union, of whom no less than twenty-eight were Fellows, a larger number of Fellows than has ever before attended a Congress of the Union.

The Members of the Union were entertained at luncheon daily by the Linnaean Society. On Tuesday evening, November 11, an informal reception was given the Union by the American Museum of Natural History, in the laboratories of the Department of Birds, and the Annual Subscription Dinner of the Union was held at the Hotel Endicott, on Wednesday evening, November 12. On Friday, November 14, in response to an invitation of the New York Zoological Society, many members of the Union visited the Aquarium and the Zoological Park.

PROGRAM

The Work of a Village Bird Club. By Ernest Harold Baynes, Meriden, N. H. (30 min.)

Experiments in Feeding Hummingbirds During Seven Summers. By Althea R. Sherman, National, Iowa. (20 min.)

A Plea for the Conservation of the Eider. By Dr. Charles W. Townsend, Boston, Mass. (15 min.)

A Study of the Feeding of Nestlings. By Lynds Jones, Oberlin, Ohio. (20 min.)

In Memoriam: Philip Lutley Sclater. By Dr. Daniel Giraud Elliot.

The Problem of Gliding Gulls. Illustrated by lantern-slides. By William Palmer, Washington, D. C. (25 min.)

Some Observations on the Nesting of the Pied-billed Grebe. Illustrated by lantern-slides. By Arthur A. Allen, Ithaca, N. Y. (15 min.)

Birds of the Bogotá Region of Colombia. Illustrated by lantern-slides. By Frank M. Chapman, New York City. (40 min.)

Bird Groups at the Field Museum of Natural History. By Wilfred H. Osgood, Chicago, Ill. (15 min.)

Some Migration Phenomena. By Lynds Jones, Oberlin Ohio. (20 min.)

Notes on the Nesting Habits of the Northern Violet-green Swallow (*Tachycineta*

thalassina lepida), at Seattle, Washington. By S. F. Rathbun, Seattle, Wash. (10 min.)

Persuading the Robins to Nest near Our Homes. By Mrs. E. O. Marshall, New Salem, Mass. (10 min.)

Alexander Wilson, 1766-1813, and some Wilsoniana. By Dr. Witmer Stone, Philadelphia, Pa. (20 min.)

The Present Status of Wild Swans in Montana. By E. S. Cameron, Marsh, Montana. (20 min.)

A Forgotten Plumage Character of the American Scoter. By Dr. Jonathan Dwight, Jr., New York City. (15 min.)

Bird Banding Activities; Season 1913. By Howard H. Cleaves, New Brighton, N. Y. (20 min.)

Wild Fowl Studies in Northern Manitoba. Illustrated by lantern-slides By Herbert K. Job, West Haven, Conn. (45 min.)

The Musical Method *versus* the Syllabic Method of Recording Bird Songs. By Robert Thomas Moore, Haddonfield, N. J. (15 min.)

Crossing the Andes of Peru. Illustrated by lantern-slides. By Wilfred H. Osgood, Chicago, Ill. (60 min.)

Some Ornithological Aspects of the Federal Migratory Bird Law. By Dr. T. S. Palmer, Washington, D. C. (20 min.)

Notes on Nighthawks. By Harry C. Oberholser, Washington, D. C. (30 min.)

Bird Studies on James Bay. By W. E. Clyde Todd, Pittsburgh, Pa. (15 min.)

The Present Condition of the Aviary of the New York Zoological Society. By C. William Beebe, New York City. (15 min.)

Birds of the South Atlantic. Illustrated by lantern-slides. By Robert Cushman Murphy, Brooklyn, N. Y. (40 min.)

Through the courtesy of Mr. Robert W. Priest of the Gaumont Company Limited of London, there was a special exhibition of the motion pictures of Antarctic life taken by Mr. Herbert G. Ponting, F. R. G. S., the official photographer of the last British Antarctic Expedition under Captain Scott.

Book News and Reviews

NORTH AND SOUTH: Notes on the Natural History of a Summer Camp and a Winter Home. By STANTON DAVIS KIRKHAM. G. P. Putnam's Sons. New York and London, 1913. 8vo. viii + 286 pages. 48 half-tones from photographs.

As an heir, in common with other nature lovers, to such part of the earth's surface as opportunity permits him to claim under a "rambler's lease," Mr. Kirkham writes here of two quite unlike bits of his heritage,—one "a summer camp on the shore of Canandaigua Lake," the other "a winter home in South Carolina." "If I succeed in reflecting," he says, "the spirit of the Lake Country of New York and of the Coastal Plain of the South, in so doing I shall bring their salient features together for comparison, remembering that they are but different parts of one and the same estate in Nature."

Of the fauna and flora of these two localities the author evidently has more than a passing knowledge. Birds, particularly, attract him; "Indeed," he writes, "the world is a trifling affair, easily forgotten when one is absorbed in the society of birds," and of them he writes with the knowledge of a technical ornithologist and the sentiment of a poet; and through descriptions, both objective and subjective, there runs a vein of introspective philosophy which clearly raises his book above many worthy but painful efforts to give form to emotions which struggle vainly for effective utterance.

It is natural that writing, the success of which depends so much on not what is seen, but how it is seen and what impression it creates, should reveal rather more than less of the personality of the writer, through which the reader sees whatever he may describe, whether it be a flower, a mountain, or a bird's song. Reading thus Mr. Kirkham's book, we wish we could detect a somewhat more tolerant spirit toward those who, lacking his insight, or imagination, are still, according to their lights, drawn toward the same altar at which

he worships. "Ornithology," he writes, "like everything else, will be just as commonplace as the mind that pursues it. When one has counted all the birds he has seen in a day, 'collected' some eggs, and made his uninspired record, he has merely reduced the subject to the level of his own thinking, and might as well, it may be, have devoted his time to the hens." All of which proves, if it proves anything, that Mr. Kirkham's experience with "uninspired" bird students has not brought him into touch with those who, far from reducing "the subject" to their level, are, as bird lovers, so immeasurably raised beyond the level of their normal existence that they seem, in fact, to be two persons in one.

To describe, no matter how truly and eloquently, the beauties of nature and the charms of bird-life, and then to assure us that these are only for the elect, is discouraging to most of us, to say the least.

—F. M. C.

SAND DUNES AND SALT MARSHES. By CHARLES WENDELL TOWNSEND, M.D., Boston. Dana, Estes & Co., 1913, 12mo. 311 pages. 91 half-tones, 2 line cuts.

"For the last twenty-years," Dr. Townsend writes, "I have spent most of my vacations at Ipswich, and have made brief visits there as often as I could at other seasons, while almost twenty years before that the birds of this Massachusetts coast began to claim my attention."

It is not alone of birds that Dr. Townsend writes, the dunes and marshes themselves, their vegetation, mammals, and characteristic forms in lower groups are also treated. The result is a manual of shore and marsh life which avoiding formal presentation, is eminently readable and informing. As its author well says: "The formation of sand dunes and salt marshes is much the same the world over," and his volume has, therefore, far more than local value. Particularly should it appeal

to those for whom sea and shore have even a stronger fascination than the forest primeval. The numerous photographic illustrations of more than usually difficult subjects are admirable.—F. M. C.

STOWE NOTES, LETTERS AND VERSES. By EDWARD MARTIN TABER. Boston and New York. Houghton, Mifflin & Co., 1913. 8vo.

The author of this intimate, personal record of close sympathetic association with nature lived from 1887 to within a few months of his death, in 1896, at Stowe, New Hampshire. There he came in search of health, but, if his quest failed, we find no note of failure in this volume compiled from his journals and letters. Rather does every page reflect an artist's joy in the beauties of nature, and a naturalist's keen interest in wild life, particularly birds. Where, for example, will one find a more eloquent tribute to the song of the Hermit Thrush than is contained in the following lines: "When I am dead and buried, or dead and burned, I think something of what was once me will respond at the first spring song of the thrushes. It is the immortal voice that speaks to something dumb and nameless in the human breast, and is answered by a dumb and nameless yearning.

"It conveys a kind of immortality upon the listener—it comes out of an immeasurable past, and carries the soul into an immeasurable future. They sing in blissful eternity.

"Wonderful notes!

"Like the precious moments in life and in art that are thrilling with emotion, full to the brink of tears, notes so varied, clear, and full, or faint as an echo lisping softly, like a comment on the thrilling sweetness of the last, sometimes high almost to shrillness, and again uttered low and with a melodiousness ineffable.

"It is not so much like the answering notes of birds, as like a converse of happy spirits.

"There's nothing of the mirth of bird songs in this one, neither joyousness or

hurry, but something serene and infinely sweet, that is neither joy, nor sorrow. The notes fall deliberately, as if there were a consciousness on the part of the singers of the precious quality of their utterances—golden drops from the very fountain of all sad delight and chastened joy."

Possibly these glowing words, so obviously the outpouring of a full heart, reveal to us the character of their author even more clearly than they do the charm of the birds' song of which he writes.—F. M. C.

THE PHYLOGENETIC VALUE OF COLOR CHARACTERS IN BIRDS. By WITMER STONE. *Journ. Acad. Nat. Sci. Phil.*, XV. 2nd. Ser., 1912, 313-319; 1 pl.

Dr. Stone, in that fair, impartial manner which characterizes his writings, here calls attention to certain inconsistencies on the part of the systematic ornithologist, who, in attempting to segregate closely allied species in different genera, uses now one character, now another, ignoring color; when, in fact, it may be of greater phylogenetic value than variations in the shape and size of bill or relative length of rectrices on remiges.

"Furthermore," he truly remarks, "the tendency [among systematists] is constantly toward a greater refinement of genera, differences are being magnified and resemblances neglected, and search is always being made for slight so-called structural differences and not for characters which will bind several genera together into one genetic phylum."—F. M. C.

The Ornithological Magazines

THE AUK.—With the October issue, this journal completes its thirtieth year of publication, easily maintaining during this considerable period its prominent place among a host of ornithological journals the world over. Attention may well be called, in this and in other issues, to the valuable department of 'Recent Literature' containing reviews and bibliog-

graphy covering foreign as well as domestic publications. Its preparation can be no slight task for the industrious editor.

The opening article, carefully prepared by Messrs. A. H. Wright and Francis Harper, bears the title 'A Biological Reconnaissance of Okefinoke Swamp: The Birds.' It is well illustrated with characteristic views of the region and accompanied by a folding map. 'Notes on Offshore Birds,' by Mr. J. T. Nichols, follows, and hidden under this caption the problem of the sailing bird is discussed. We find also several sight records of the rare Black-capped Petrel (*.Estrelata hasitata*). Mr. H. W. Wright has a long second paper on 'Morning Awakening and Even-Song.' The birds would be astonished if they knew the hours they kept, and they seem to be almost as regular in their songs as are the Cuckoos of the clocks. Mr. Henry Oldys has committed to musical notation 'A Remarkable Hermit Thrush Song.' This is really the higher mathematics of bird song where most of us cannot follow, but we may well take the exception to the statement that "the bird expresses itself in human music." Rather, the bird expresses itself in its own music, which human musicians attempt to appropriate.

'Some Seasonal Notes on Long Island Birds,' by Messrs. Henry Thurston and H. S. Boyle, are of considerable local interest, as are 'Notes on the Occurrence and Nesting of Certain Birds in Rhode Island,' by Mr. H. S. Hathaway, and 'Birds New or Rare to the Fauna of Maine,' by Mr. Arthur H. Norton. There is also 'An Annotated List of the Birds of Sanborn Co., Southeast-central South Dakota' by Mr. S. S. Visher. 'Cory's Least Bittern at Ithaca, N. Y.' is an account, by Mr. Arthur A. Allen, of a specimen captured alive. The photographs of this extremely rare bird are unique. At page 578, Mr. J. C. Phillips records 'A Crested Canada Goose,' of which there is a drawing in the text, and an item on 'Hummingbirds'

'Eyelashes,' by Mr. H. K. Coale, seems worthy of mention.—J. D., Jr.

THE ORIOLE.—'The Oriole' is published by the Somerset Hills Bird Club, at Bernardsville, New Jersey, under the editorship of John Dryden Kuser. Number 1 of Volume I (August, 1913), in addition to several articles by members of the club, including two by the editor, on the Passenger Pigeon and Solitary Sandpiper, contains 'Hints on Bird Study,' by W. DeW. Miller, 'Feathered Martyro,' by C. William Beebe, and 'Two Rare Snipe [Purple Sandpiper and Bartramian Sandpiper] near New York City,' by Wm. H. Weigmann.

Colored plates of the Passenger Pigeon, Chickadee, Cardinal, and Mallard, from the Leaflets of the National Association of Audubon Societies, add to the attractiveness of this publication, to which, and the Club it represents, we wish the fullest measure of success.—F. M. C.

Book News

Witherby & Co., 320 High Holborn, London, W. C., announce the publication by subscription (price 25s.) of a monograph of the Gannet by J. H. Gurney. Mr. Gurney has devoted years of research to the preparation of this work which will contain over 600 pages, a greater number we believe than have ever before been devoted to the biography of a single species.

W. L. McAtee (in 'Bird Enemies of the Codling Moth,' Yearbook of Dept. of Agr., 1911, pp. 237-246) states that entomologists "are almost unanimous in declaring birds to be the most efficient natural enemies of the pest." His paper presents the data on which this belief is based. For example, J. E. Buck, is quoted as writing that in Virginia, counts of over 400 cocoons observed on apple trees revealed the fact that. . . . birds had destroyed fully 85 per cent of the worms."

Bird-Lore

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 Devoted to the Study and Protection of Birds
 OFFICIAL ORGAN OF THE AUDUBON SOCIETIES
 Edited by FRANK M. CHAPMAN
 Contributing Editor, MABEL OSGOOD WRIGHT
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

IN THE annals of bird-protection, 1913 will be forever memorable as the year in which were passed the most important and far-reaching measures for the conservation of bird-life that have ever been enacted. Both are federal laws, but both are not only national but international in their scope. The Shiras-Weeks-McLean Migratory Bird Law should insure birds which winter south of the United States an undisturbed journey, so far as man is concerned, across our territory to their breeding-grounds in Canada. The law prohibiting the importation of plumage should exert a most salutary influence in protecting the birds of countries beyond our jurisdiction. Let us hope that their rulers may be induced to emulate the example America has set them.

The passage of these laws does not imply that the legislative battle is over. The enemy is routed, but not annihilated, and in due season will doubtless return to the attack. Meanwhile we may focus our efforts on spreading a knowledge of the value of birds to man. Small use is it for us to conserve and increase our capital in bird-life unless we may hope for some interest on the investment; and this interest is to be gained by bringing to the people a knowledge of birds in nature. Already, through the donation of Mrs. Sage and an anonymous giver (unquestionably a bird-lover who would make it possible for others to enjoy the delights which come with even a passing acquaint-

ance with birds), the National Association of Audubon Societies has been enabled to inaugurate a systematic plan of bird study in coöperation with schools, which seems destined to exert a greater and more widespread influence than we at present can realize. In 1911, 10,595 children were enrolled in these Junior Audubon Classes. In 1912 the number, through an increased appropriation for the work, was increased to 29,369, and in the year ending October 28, 1913, it had grown to 53,157. In three years, therefore, 93,121 children have received sufficient instruction in bird-study to acquaint them in a general way with the beauty and usefulness of birds. Incidentally, through the payment of a ten-cent fee required for entrance to Junior Audubon Classes, these children have contributed \$9,312.10 toward the work of the National Association, and through the leaflets and buttons which are given them they are brought into definite touch with an organization to which they may look for information, should they desire to extend their acquaintance with birds.

It is a splendid undertaking, the extent of which is limited only by the amount available for its development. Probably the day will come when the Association can devote the greater part of its time and income to educational work, when resident teachers may be themselves instructed and stimulated by a corps of traveling lecturers, and when courses of instruction may not be limited to the lower grades. Then, indeed, shall we be making proper use of the talent which too long has remained hidden.

EACH year sees an increase in BIRD-LORE's size, and we find that the volume which closes with this December number contains about 100 pages more than the first two volumes combined! The much greater cost of manufacture makes it inadvisable to print a larger number of each issue of the magazine than the subscription list calls for, and in view of this fact we call attention to the publishers' note on the second page of this number.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the editor, at 53 Arlington Avenue, Providence, R. I.

THE HOME, THE SCHOOL AND THE AUDUBON SOCIETY

From a country town in Minnesota comes a most welcome proof of practical co-operation between the parents of the community, the pupils of the grade school, and the Audubon Society, in the form of a school scrap-book on birds, made by a pupil in the fourth grade, the evolution of which is thus described by a teacher of the school.

"In the July-August number of *Bird-Lore*, I notice a short article on what the children of Elizabeth, N. J., have done in their Audubon Society. It makes me anxious to let you know that here in this little country town, the children have become so interested in birds that the fathers and mothers and grandmothers have become interested too, and contribute many pleasing articles from their farm papers for the children to put into their scrap-books. The object of the books is not to make beautiful books, but a kind of "bird guide" for each child; and I believe they have served as such, for the children are very familiar with birds of which they knew almost nothing. The pictures and little pamphlets [Educational Leaflets] sent out by the Audubon Society were great incentives for each child. Before our Audubon Society was started, I think that birds had never been taught in the school.

"It is really wonderful to hear the children tell about the birds, their nests, and the occupants of their bird-houses. At my home, I have kept a "feeding-tree," and often of Sundays, the children come in numbers to see the Downy and Hairy Woodpeckers, Nuthatches and Chickadees.

"In the spring, I asked the school board to have eight bird-houses put up, four for Bluebirds and four for Wrens. They did so, and also had a splendid big Martin-house made. One Friday I got together what material I could, and out of the forty children in the school, at least twenty made bird-houses. The houses made of hollow pieces of stove-wood proved very good Bluebird-houses. Chalk-boxes made good Wren-houses.

"I have noticed that at nearly every farm or home out here, there is some sort of a bird-house, some of which have been put up by mothers interested in the study since the bird-club started."

No further word is necessary to show that in this town bird-study in the school, in charge of a sympathetic and energetic teacher, together with the aid of the Audubon Society has reached the parents in the homes as well as the pupils in the school. Such an ideal condition of affairs might easily exist

in the majority of rural communities, if teachers, pupils and parents could find a common interest in bird- and nature-study.

The scrap-book method of putting together systematically material about birds or any other subject is especially valuable in country schools, where the time spent on any one study is more or less left to the discretion of the teacher. Even in large, crowded, city grade-schools, this method may be successfully used. Aside from the interest which it stimulates in the pupils, it is valuable for the training it gives in orderly and compact arrangement of material.

In connection with drawing and art-work in the schools, "beautiful" scrap-books can be made, as a teacher in a Rhode Island factory town demonstrated. In this instance, each pupil made an entire book from cover to cover, besides drawing or putting in colored illustrations, and various hand-painted or written material. The time allowed for this work covered the bird-study period weekly throughout an entire year, but the teacher could truthfully say the work never dragged, for the pupils looked forward to their scrap-book work with the utmost pleasure.

In schools where bird-study is thus delightfully associated with agreeable tasks and home interest, a public exhibition of the scrap-books might give added zest to the work.

Perhaps, if any moral need be drawn from the foregoing experiences, it would be to the effect that work and play combined toward an absorbing end, are better and more successful incentives to thorough work in the school-room, and cordial good-will on the part of parents, than the "prod" and discipline method of former days.—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XII: Correlated Studies, Drawing, Spelling and Reading

HOW BIRDS ARE FITTED TO GET THEIR FOOD

Thus far in our study, we have been concerned only with certain *external* conditions, that have more or less to do with the determination of the distribution, migration and nesting-habits of the birds of North America. Viewed from the standpoint of geography and physiography, our continent is seen to be broken up into so-called *life-zones*, that is, into areas where the conditions are such that not all forms of life thrive or survive equally well in them. Climate in relation to temperature and humidity is probably the most important factor in determining these unstable areas, although other distinctive factors, such as altitude, forestation, water-supply, rock-formation and depth of soil present great variation in different localities, and have much to do with the presence or absence of birds and other forms of life in any particular place.

A birds' map of America, let us remember, would have no lines of division into states and territories, but, rather, imaginary lines indicating roughly where temperature and moisture vary beyond certain limits; when snow and ice, for example, give way to coniferous forests, and these in turn, to tillable land and milder climate, and so on, through constantly changing conditions, from the Arctic region to the tropics.

Everywhere on this map of the birds, instead of cities and towns, would be marked different food-supplies and the location of water. The great variety of these supplies might lead one wholly unfamiliar with birds to suspect that a great variety of birds also must exist, which is exactly the case although the inference should not be drawn that external conditions, or *environment*, are the cause of this striking variation.

Without attempting to discover the causes of *variation*, which would be far from our purpose, let us begin to study into the subject of the *adaptation* of different birds to different foods in the localities which they frequent. Food, as we know, is the first necessity of any newly hatched fledgling, and we may therefore go quite naturally from the last exercise, in which the kinds of food-supplies available for birds occupied our attention, to the bills of birds which are the chief tools of the latter for getting food.

It would be entertaining and very much worth while to pass in review the bills of all the different kinds of birds in the world, if we had time. Since this is not practicable, let us make a list of the species that have been described in the Educational Leaflets during the last two years or so, and study them in connection with the adaptation of bills to food.

Such a list, systematically arranged would include the

Order	Name of Species.	Order	Name of Species.
I.....	Tufted Puffin.	XVI.....	Chimney Swift.
	Crested Auklet.		Ruby-throated Hummingbird.
V.....	Emperor Goose.	XVII.....	Horned Lark.
VII.....	White Egrets.		Yellow-headed Blackbird.
	Green Heron.		Rosy Finch.
IX.....	Least Sandpiper.		Alaska Longspur.
	Semipalmated Sandpiper.		Cedar Waxwing.
	Spotted Sandpiper.		Catbird.
	Hudsonian Curlew.		Brown Thrasher.
X.....	Bobwhite.		Carolina Wren.
	California Quail.		White-breasted Nuthatch.
	Ruffed Grouse.		Red-breasted Nuthatch.
	Willow Ptarmigan.		Tufted Titmouse.
XV.....	Hairy Woodpecker.		
	Downy Woodpecker.		

These species offer sufficient variation in bills and food-habit to clearly illustrate the principle of adaptation.

The first thing to keep in mind is the *use* of the bill. At first sight almost anyone might think that the bill of a bird is a horny nose or the hardened lips

of a mouth, but it is not simply these, for its use shows that it is more like a hand than either a nose or a pair of lips, although the nostrils perforate its upper half and the mouth opening is through it. A life-long student of birds, Dr. Elliott Coues, said: "The bill is hand and mouth in one—the instrument of *prehension*. As hand, it takes, holds, and carries food or other substances and, in many instances, *feels*; as mouth, it tears, cuts, or crushes, according to the nature of the substances taken." At another time we may learn the story of fossil birds, some of which had teeth, but now we can only notice that modern birds have neither lips nor teeth, and that the bill is their most important tool in getting food.

The reason for this is not far to seek, because the arms and true hands of the bird have been reduced to *flying* and not *handling* appendages. The bill or beak, therefore, is the only convenient hand left, except the feet and claws, which may serve at times to grasp food. The tongue assists the bill by sucking or drawing into the mouth the food particles which the latter picks up.

The beak is sometimes used as a hand in another way as, for example, by holding the bird to a support to help it to climb, a use well illustrated in the parrot family. Owls sometimes snap the upper and lower parts of the bill together rapidly to frighten an intruder, while Woodpeckers tap and rap a musical tattoo on hollow trees, or eave-spouts in the mating-season. A very common use of the bill is to preen the feathers, and nearly all birds use it also as a nest-building tool. The varied ways in which it is employed for this latter purpose are remarkable, and worthy of the closest observation.

It would seem that such a variety of uses might explain any kind of bill found among birds, but such is not the case. Look at the picture of the Tufted Puffin. Here is a type of beak wholly unlike any we have yet mentioned. It is made up of a considerable number of plates or segments, which are molted periodically, much as a snake sheds its skin or a lobster its shell.

All this apparently superfluous part of the bill has no explanation except as an ornament, for the Puffin is mainly a fish-eating species, having little need of a heavy, crushing beak.

And this leads us to the fact that the bill of a bird is a fairly good index to the food-habit of its owner. If you will look carefully at the pictures of the species listed above, you will see the truth of this statement for yourselves.

The broad, rather flat bill of most of the Ducks, Geese and Swans is fitted with strainers on both sides, which act automatically when the two parts of the bill (upper and lower mandibles) are shut together.

The seeds and roots of water-growing vegetation make up a considerable part of the diet of these birds, but, along with such delicious tidbits, much mud and water are scooped up, which readily run out through the strainer edges of the bill, as it shuts to with a mouthful of food. Tipped up on end in the water, a Pond-Duck or Goose may seem to be merely standing on its head when in reality it is feeding.

A few Ducks called 'Sawbills' are fish-eaters, capturing their prey under water. Their bill differs a great deal from that of the vegetarian Geese, being long, slim and narrow, with fine saw-edges in place of strainers.

The Egrets and Herons are largely carnivorous, feeding on frogs, eels, small fish of different kinds and reptiles. The strong, pointed spear-bill of these birds is used with the greatest precision. It is a lesson in painstaking perseverance to watch a Heron deliberately stalk its prey at low tide or in fresh-water marshes. A long wiggling eel has no chance, as a rule, once it is caught in a Heron's bill. Other species belonging to this Order, the Bitterns, Ibises, Storks and Spoonbills, are quite as interesting in habit and structure.

The Sandpipers, as you may recall, belong to our largest Order of birds, the so-called shore-birds. In this Order, a seemingly endless variety of bills occur, as, for example, long and straight, long and curved up at the end, long and curved down; medium in length and straight or medium and curved to the right; spoon-shaped or formed to act like forceps or probes; short and stout, in fact almost every kind of a bill which would be useful in obtaining food along the shore either under the water, or at the tide-line below or above the surface, among crevices and rocks, or even in moist woodland or on grassy prairies. Compare the bill of the Sandpipers with those of the Phalaropes, Oyster-catchers, Woodcock, Curlews, Avocet and Plovers. The bill of the Woodcock is unusual because of its flexible, *feeling* tip.

Bobwhite and its relatives, the Grouse and Ptarmigan, belong to an Order of quite different habit. These are ground-feeding species, for the most part, varying their diet with the season, instead of migrating long distances to find suitable food, as do the Shore-birds, Herons, Ducks and Geese. Seeds, insects, wild berries, buds and tender tips of bushes are sought after by these game-birds and, as we shall see later, man owes much to them, since they rid the fields of great quantities of injurious insects and weeds. The Ptarmigan is more restricted in its diet than the southern representatives of *gallinaceous* birds, for, during the long winter of the far north, it can find practically little else to eat than the buds and shoots of the dwarf willow and alder. The bill of a wild *gallinaceous* bird resembles that of our common barnyard fowl, a probable sign of kinship, and we learn that centuries ago the domesticated hen and cock roamed wild in the jungles of India and other parts of Asia and the island of Java. It is characteristic of seed-eating birds to have a stout bill, shaped for crushing or cracking the husk or shell which surrounds the seed-kernel.

Those of our readers who live in the northern part of the United States should remember to feed the Bob-white when the deep snows come, and wherever this useful bird is found it should be protected.

From the *gallinaceous* birds to the Woodpeckers is a long step, so far as feeding habits and bills are concerned. Of all the species mentioned in the

list above, the Woodpeckers seem to use the bill most like a workman's tool. We often hear this type of bill likened to a chisel, drill, or pick-axe, but hidden away in the recesses of the skull is a still more remarkable tool, the tongue, which darts like a spear, moves shavings out of a cavity like a brush and, by means of its rough surfaces, in some cases, aids in trapping insect prey. The tongue of a Woodpecker seeks food which the bill could not get at, and brings it within reach of the strong mandibles,—a peculiarity of this wood-boring group. Perhaps a more striking illustration of adaptation could not be found, although the Swifts and Hummingbirds present very remarkable examples of adaptation of bill to food habit.

Look at the frail, tiny bill of the Swift, and the long, slender, tube-like bill of the Hummingbird. One hawks through the air with closed mouth, snapping up mites of insect-food, which it stores in its capacious mouth-pouch; while the other probes flowers for insects and sweet juices, or, at times, catches its food in the air and about leaves.

The tongue of the Swift is small and not particularly noticeable but the tongue of the Hummingbird is modified most wonderfully as well as the bill. A study of the tongues and bills of Hummingbirds, together with the flowers which form their chief source of food-supply, would reveal many strange and unsuspected adaptations.

The remaining species in our list belong to the Order of Perching Birds (*Passeres*), and among them are tree-loving as well as ground-feeding species. The Finch and Longspur are seed-eaters, and consequently have the stout, conical, seed-cracking form of bill. The Nuthatches have a rather long, tapering, slender bill, suited to dislodging insect prey from the bark of trees, or of hiding nuts and seeds in crevices and hacking it open with the bill, a peculiar habit which has given them their common name.

The Brown Thrasher has a somewhat unusual bill for a perching bird, in that it is not only noticeably long but also decidedly curved, although not so much so as that of our Western Thrashers. Newly hatched Thrashers have a straight bill at first, just as young Flamingos do, a suggestive fact, indicating that the food habit may change with the development of the bird. Perhaps you can discover for yourselves whether this statement is true.

And now, when you go outdoors and look at the trees with their waving leaves and age-ringed bark, or at the seed-bearing herbs and berry- or nut-bearing shrubs, or at small animals and the host of insects and invertebrate creatures which crowd every nook and corner of nature, do not forget that these make up the regular diet of a great variety of birds, that are fitted by almost every device one might think of for getting these food-supplies rapidly and easily.

In general, the bill of a bird is formed on the principle of a *cone*, the tip of which is capable of handling small food particles with great precision and delicacy, while the base is built for strength to crush or grasp large particles.

The parts of the bill are the upper and lower mandibles, and these may be about equal in length, or one may exceed the other, or they may even curve in such a way as to cross each other.

Only species of most unique food habit could obtain any food at all with crossed mandibles. The seed-eating Crossbills, which extract the seeds from the cones of evergreen trees, by forcing off the scales which hide them, are able to secure food with this awkward kind of bill; but any bird of a different food habit, which may be hatched deformed with respect to a crossed bill, is not likely to live.

The unhatched bird while in the shell, grows a small knob or drill on the upper mandible, called the "egg-tooth," by means of which it nicks a hole in the shell and forces its way out. This curious little tool is lost soon after the bird is hatched, since it is no longer needed. Perhaps you can look at a baby chick just out of the shell and see the egg-tooth.—A. H. W.

SPELLING EXERCISE

external	precision	principle	Egret
determination	perforate	appendage	Curlew
distinctive	physiography	mandible	Longspur
inference	variation	invertebrate	Quail
practicable	adaptation	Gallinaceous	Puffin
domesticated	environment	Auklet	Passeres
superfluous	prehension	Ptarmigan	

SUGGESTIONS

- What birds have a hooked bill?
- What birds have the lower mandible longer than the upper?
- What birds have very long bills?
- What birds have very short bills?
- Can you name a bird that uses its bill like a chisel? A sieve? A spear? A trowel? A needle? A hammer? A scythe? A nut-cracker?
- What is the soil depth in your locality?
- Make a collection of different kinds of soil.
- How much rock-formation can you see above the surface of the ground?
- Can you tell whether there are ledges below the surface?
- Do you know where the highest and the lowest places are?
- Where are the wettest and the driest places?
- How much land is covered with forests as compared with what is cleared?
- How much land is cultivated as compared with what is wild?
- What is the average annual rainfall?
- Does it vary much in adjoining localities?
- What are the lowest and the highest temperatures during the year.
- Study the direction and velocity of the wind during different months of the year.
- What wild food for birds can you find at this season.
- What places do the birds most frequent as cold weather approaches?

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peckers and The Bird Book, by Fanny Hardy Eckstorm. The Tongues of Birds, and The Tongues of Woodpeckers, by F. A. Lucas. Handbuch der Biologie der Wirbeltiere, pp. 486-514, by Hilzheimer, M.

FROM ADULT OBSERVERS

“Buzz Fuzz”

Dear little “Buzz Fuzz!” He looked just like a little ball of white cotton the day we found him on the ground under the big oak tree. Father said, “Oh! look at that poor little chicken,” but when I picked him up in my hand I saw that it was an Owl. And such an Owl as he proved to be! He had fallen out of the nest, and there was no possible way for his poor father and mother to get him back into it; or for me either, for the nest was too high, and I was afraid to have any boy go out on the limb for fear it would break with him. So I lined a little strawberry basket with soft cloth and put him in it, and for all he knew it was his soft, warm nest in the hole in the big oak, because he was not old enough to have his eyes open as yet. Every night I would run the little basket up in the poinciana tree in front of the cottage, and his father and mother would stuff him with bugs and different kinds of flies that they caught in the air. After his little stomach was well filled, I would take him down and bring him into the house, for fear a cat might go up in the poinciana tree and eat him. If he got hungry through the day I gave him bread and milk, of which he seemed to be very fond. After a while little feathers commenced to cover him, his eyes came open, and he began to look quite like a little owl. He would try to get out of his basket when I put it up in the tree, so I had to make him a new house. I took a shredded-wheat box and cut a little hole just large enough for him to look out of, and for his father and mother to feed him through. This I put in a little wooden box, with the brass from an old wash-board tacked over the top for a roof, to keep out the rain. I ran him up in the oak tree among the nice cool leaves of the wild fig that grows in the lower limbs of the oak, and he staid there quite contentedly for a time. We would see his father and mother sitting in the edge of the hole high up on the oak limb. They got quite ugly after a time and would fly down and bite anyone coming through the front gate to the house. As Buzz Fuzz was thriving very well on bread and milk, eggs, rice, grasshoppers, flies, etc., we did not put him out in the tree any more. The other baby Owl in the nest was getting large enough to fly, so one night they took him and flew away, and we did not see anything more of them for quite a while.

Buzz Fuzz seemed very happy. He got to be more of a day bird than a night bird. He would play around the screened veranda all day and sleep nights. We had a little shelf and perch put high up in the corner of the veranda for him, and also his little house made of the shredded-wheat box. He always liked that, and would go in there if he wished to sleep in the daytime.

I put a soft old table napkin in for a nest, and it was laughable to see him drag it out and bring it to the edge of the shelf, give it a good shaking, and then drag it back into the box again, just as though he was making up his bed. Father and he got to be the greatest kind of friends. His room was Buzz Fuzz' favorite place to stay. He would play with the things on his writing-table for hours at a time, dragging the pens, pencils, etc., from one place to another. A rubber band was another favorite plaything and a little tum-tum drum, also a little whisk-broom holder on the wall. He would sit up in it, then go down head first and fly from one thing to another, just like a little shaver in mischief. He got so he would not eat anything unless it was put on the dresser in Father's room. When he was hungry, he would fly to the screen door and ask to go in just as plainly as a bird possibly could do. When the door was opened, he would fly to the dresser for something to eat. One night I was giving him a drink from a little punch cup, and he kept putting his head into it. I said: "Look at Buzz Fuzz, he acts as though he wanted to take a bath." "I didn't suppose an Owl ever took a bath, did you?" "No," said Father, "but give him some water and see if he will take a bath." So I set the washbowl on the floor and put some water in it, and he flew on the bowl and hopped down into the water and ducked his head, flapped his wings, and threw the water all over the carpet. After that, he had a bowl of water every day, and got to be a veritable Englishman about his bath. We were all very fond of him, and he seemed to be very affectionate. When Father was reading his paper Buzz Fuzz would sit on the back of his chair and play with his hair and pull his ears for an hour at a time; then he would crawl under his coat and go to sleep. Early in the morning, just as it was getting light, he would come into my room and come up to the bed and make a funny squeaking noise. I would take him up and put him under the covers, and he would lie down on his side, stretch out and go to sleep, almost like a little human.

It seemed as though he thought that if he was going to leave bird-land and live with people, he would try to be just as nearly like people as he possibly could. Another favorite trick of his was hiding. He knew his name just as well as we did, and when we could call: "Buzzy, Buzzy, Buzz Fuzz," he would not answer; but, after we had looked all around for him, he would call and there he would be in the top of the hanging lamp, way up to the ceiling in the part that coils the chain, or behind a picture or under some piece of furniture. He would look as mischievous as though he knew he had fooled us. He was quite a bird now, with soft gray feathers, very prettily marked, and with little horns on his head. Sometimes, if things did not go just to suit him, he would get quite angry, and scold and snap his eyes, but never tried to bite. He was the pet of the family and very sad were we when he left us. One day he commenced to droop and did not look like himself. For two or three days he sat around and would not fly or eat. I took him up and found that his wings were sore. He was in the habit of playing around the

big Rayo lamps, running around the base, moving his head this way and that, and acting as though he saw another bird in the shining surface of the lamp. He had never tried to go near the light, so we never thought of his getting burned. But he must have flown over the flame and burned his wings. He lived only a few days, and we buried him near the fence under the date-palm. We missed him very much, and will never forget the dear little fellow. It makes me sad even yet when I hear his people calling to each other in the oak tree. They came back again this year and made their nest in the same old place. Only a few weeks ago they were teaching three little Owlets to fly and take care of themselves. And, oh! the bugs and insects they will destroy if they are not killed by some bad boy, or rather, by some boy that does not really intend to be bad, but does not understand how much good even a little Owl will do. Only a few nights ago I was lying on the couch looking at the moon, when a big roach ran across the screen wire in the moonlight. It got about half way when down darted a little Owl and Mr. Roach was no more.

I have written what I could remember of our little pet and his family, to please a kind lady that loves birds as I do, and also, in the hope that it will be read by boys and girls.

If we only realized what good the birds do in this beautiful world of ours, we would never kill one of the bright little things, but do everything we could to protect them and help them to live.—*A FRIEND OF THE BIRDS, Cocoanut Grove, Dade County, Florida.*

[To have an experience like the one described above is to discover a new world. The comradeship of a bird is quite a different thing from that of a dog or a cat. Even the domesticated canary is a wild creature as compared with pussy. There are people who are glad to take the trouble of bringing up a baby bird, if chance throws one in their way, and there are others who find their way out into the world of the birds, and who love to spend hours watching the feathered folk about their daily activities. These are the people who learn by actual contact with nature and the birds, instead of from books. Perhaps the story of "Buzz Fuzz" will make you think it worth while to hunt up the wild life about you. Man needs to be a friend and not an enemy to nature. As Christmas-time draws near, it is beautiful to remember that long ago the shepherds of Judea loved their flocks, and that man's greatest Friend was familiar with the foxes in their holes, the birds of the air, and the lilies of the field.—A. H. W.]

FROM YOUNG OBSERVERS

The Bird Story

My mother and I take great interest in the birds.

There have been a number of Doves that have lived in our barn, and Mr. G.'s this winter. I have fed them bread crumbs many times, and they are such pretty birds one can not help but like them.

Auntie and I have had a piece of meat hanging on a tree, so that the birds could help themselves to it. The birds will come and peck away at

it, and they seem to enjoy it so much, and I have spent lots of time watching them.

We had cups of water for them to drink out of until it got to be such cold weather.

One Sunday morning I saw a little Nuthatch go into a bird house and get its breakfast, and then it came out again. They are such nice birds, I think. I have seen a Woodpecker several times. They like to pick up the crumbs, too.

I have seen just one Robin this winter.

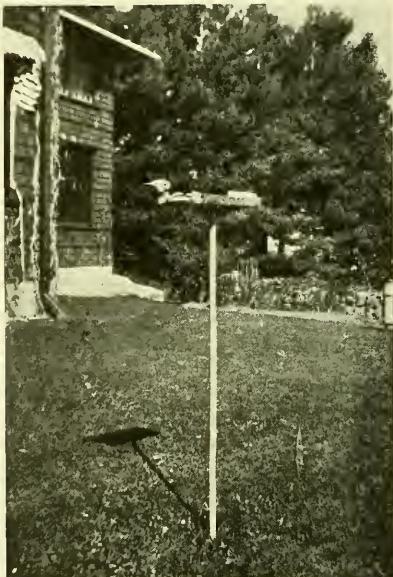
There have been so many Sparrows that I think they have kept the other birds away, but I have fed them, for I didn't like to see them hungry. Lots of them pick away at the meat every day.

I have so much enjoyed feeding the birds and watching them eat, this winter, that I shall try and see how much I can do for them after this.—
GERTRUDE M. YOUNG (aged 9). Third grade.

[This little glimpse of feeding wild birds at home during the winter shows how easily and naturally one may acquire the habit of making home grounds attractive to the few feathered folk which frequent the locality in cold weather. Better yet, it shows how much true pleasure may be had by the simplest means. An indoor study of the food habits of the birds which visit a winter lunch-counter would add interest to the outdoor observations made in this connection.—A. H. W.]

Feeding Wild Birds in Winter in a Large City

One day last summer, my brother made me a bird-box and we put it in our front yard. It was filled with birdseed and nuts, and a bowl of water put in one corner. Finally, after about a week, I happened to look out and saw a pretty little Chickadee on the box, eating as fast as he could. This is a snapshot of the Chickadee.—FRANCES GLESSNER, 1706 Prairie Avenue, Chicago.



MY CHICKADEE

Winter Bird Feeding

The day after Thanksgiving I made a small bird-house. I did not have any luck until January 12, 1913. A pair of Nuthatches kept coming in their turn to the house after fried cake. One Nuthatch acted afraid, as if someone was going to catch him. He would light on the roof, go down one corner, and

on the porch, look to one side and then to the other, put his head in the door, pull it out, look to one side and then go in, grab something in a hurry and come out. He might run down the post and then fly away or fly from the porch.

Two days later, a pair of Downy Woodpeckers came to the house. They would go into the house in their turn and stay about four minutes at a time. Our teacher, Miss B—, told us that they liked pork. I tied a piece under the house, so it couldn't get wet. The Woodpeckers seemed to like it. The Nuthatch liked the crumbs best.

About the first of February a neighbor gave me a large beef-bone. I tied it up in the pear tree. A few mornings later a Nuthatch was eating it, with his head pointed down. A Woodpecker was eating at the same time, with his head up.

The English Sparrow commenced to bother about February 8.

Tuesday morning on February 25, a little Nuthatch out on the ground was singing as I was playing on the piano.—LEO GILLESPIE (aged 12). Fifth Grade, *Concord, Mich.*

[The observation of the positions taken by the Nuthatch and the Woodpecker respectively, while feeding, is good. It is often easier to identify birds by their form and position while feeding, flying or at rest than by their plumage. The recognition of birds depends largely upon familiarity with their characteristic habits and motions. Winter is an excellent time to begin bird-study, because only a few birds are in evidence then.—A. H. W.]

My Robin

Robin, Robin, fly away,
Soon will come a colder day.
Rain, and frost, and snowy weather,
Wind, and sleet, and ice together;
Worm, and bug, and seed all covered,
As if by snow-pinions hovered;
Grain all stacked up in the dormer;
Fly away to regions warmer.
I shall miss your cheerful lay,
But my Robin must away.

Robin, Robin, why delay?
You will suffer if you stay.
You must go, I know not whither,
Long and hard your journey thither.
Gone, the Song Thrush from the hedges,
Goose, and Plover from the sedges.

Gone, the Oriole so gay.
Robin, haste, and fly away.

—By EMMA L. MILLER, Los Angeles, California.

THE TUFTED TITMOUSE

By FLORENCE MERRIAM BAILEY

The National Association of Audubon Societies

EDUCATIONAL LEAFLET No. 71

Emerson's poem, "The Titmouse," deals with the hardy Black-capped Chickadee in the snow-clad northern woods, but the gray Tufted Titmouse, which frequents the vine-draped woods of the middle and southern states, is much the same friendly, cheerful little bird.

In winter, when few birds are to be heard, the loud, cheery whistle of the 'Tomtit,' as it is sometimes called, makes the leafless woods seem alive again.

In spring, when the arbutus and the jessamine bloom in the Voice South, the voices of the trio to which he belongs—Cardinal,

Carolina Wren, and Titmouse—keep the woods ringing with their songs. When heard for the first time in their daybreak or late-afternoon chorus, it may well puzzle one to tell which songster is which. But, by remembering that the characteristic note of the gray Tomtit is the two-syllabled *pe-to, pe-to, pe-to*, or *Pe-ter, Pe-ter, Pe-ter*, in distinction from the three-syllabled *whee-u-dle, whee-u-dle*, or *tea-ket-tle, tea-ket-tle*, of the brown Carolina Wren, and that they are both quite different from the smooth, long-drawn *cue, cue, cue*, and the spirited whistles of the handsome red Cardinal, the principal songs of the three birds can soon be recognized.

But the Tomtit is by no means bound down to one stereotyped song. For, though seeming so practical and businesslike as he hunts over the branches, he hides a great variety of feelings under his pretty Quaker dress. These are expressed, as they are with many birds, either by small notes or eloquent tones and variations in the characteristic song. These emotional outbursts are really much more important than the stereotyped song in the life of the bird, for they take the place of talk in the family of the musician.

They are best heard at the nest, where you may perhaps listen to a variety of small talk, such as the infantile, lisping notes of the hungry brooding bird coaxing her mate to feed her; the tender note of her mate calling her to come to the door for the food he has brought; pretty conjugal notes of greeting and farewell; the chattering scold and cries of anger, anxiety and terror heard when enemies threaten; sharp notes of warning to the young, and wails of grief when harm has come to the nestlings. Such notes, given emphasis by vivacious, eloquent movements and gestures, interpret the thoughts and feelings of these intense little feathered folks almost as clearly as elaborate conversations do the emotions of less demonstrative human beings.

The various songs of the Tufted Titmouse have been carefully described by Nuttall, the old ornithologist, who says that "the Peto" and the Carolina



TUFTED TITMOUSE

Order—PASSERES

Family—PARIDÆ

Genus—BAEOLOPHUS

Species—BICOLOR

National Association of Audubon Societies

Wren were his "constant and amusing companions" during a winter spent in the solitudes of the southern states.

After writing that "the notes of the Peto generally partake of the high, echoing, clear tone of the Baltimore Bird," Nuttall describes what he calls peevish notes, "uttered in anger at being approached," answered perhaps "by some neighboring rival, against whom they appeared levelled in taunt and ridicule, being accompanied by extravagant gestures." These notes were given in a low, hoarse, "harsh voice, and in a peevish tone exactly like that of the Jay and the Chickadee *dāy-dāy-dāy-dāy*, and *day-dāy-dāy-day-dāit*," sometimes becoming low and querulous. '*Tshica-dee-dee* and *kai-tee-did did-dit-did* were other variations.

"Later in the season, in February," Nuttall goes on to say, "when in the lower part of Alabama the mild influence of spring began already to be felt, our favorite, as he gaily pursued the busy tribe of insects, now his principal food, called, as he vaulted restlessly from branch to branch, in an echoing, rapid voice, at short intervals, *petō-petō-petō-petō*. This tender call of recognition was at length answered, and continued at intervals for a minute or two; they then changed their quick call into a slower *pētō pētō pētō*; and now the natural note passed into the plaintive key, sounding like *que-āh que-āh*; then, in the same breath, a jarring note like that of the Catbird, and in part like the sound made by putting the lower lip to the upper teeth, and calling '*tsh'vah, tsh'vah*. After this the call of *kerry-kerry-kerry-kerry* struck up with an echoing sound. . . . At length, more delicately than at first, in an undertone, you hear anew, and in a tender accent, *pēto pēto pēto*. In the caprice and humor of our performer, tied by no rules but those of momentary feeling, the expression will perhaps change into a slow and full *peet-peet-a-peet-a-peet*, then a low and very rapid *ker-ker-ker-ker-ker-kerry*, sometimes so quick as almost to resemble the rattle of a watchman. At another time his morning song commences like the gentle whispers of an aërial spirit, and then becoming high and clear like the voice of the Nightingale, he cries *keeva keeva kēeva keeva*; but soon falling into the querulous, the *day-day-day-day-day-dait* of the Chickadee terminates his performance. Imitative, as well as inventive," Nuttall continues, "I have heard the Peto also sing something like the lively chatter of the Swallow, *leta-leta-leta-letalit*, and then vary into *pētō-pētō-pētō-pētō-pētō* extremely quick."

In conclusion, Nuttall says that while the song of the Peto is confined to these "simple, playful, or pathetic calls, yet the compass of voice and the tone in which they are uttered, their capricious variety, and their general effect, at the season of the year when they are heard, are quite as pleasing to the contemplative observer as the more exquisite notes of the summer songsters of the verdant forest."

The varied notes and tones of the Titmouse easily interpret its changing moods, but an additional clue to its state of mind is given by its use of its

crest. For, though it generally deserves the name it is sometimes given—"the top-knot bird"—on occasion when preoccupied in hunting for its dinner, or forcing itself to brave danger, it may change its expression entirely by flattening its crest until, except for a point at the back of its head, it is almost as round-headed as a Chickadee.

Like Emerson's Chickadee, the Tomtit

"Shows feats of his gymnastic play,
Head downward, clinging to the spray."

but it is dinner rather than gymnastics he is thinking of. Leaves, and cracks and crannies of bark he is examining with microscopic care for insects or their eggs or larvæ.

When not hunting insect eggs, like a Chickadee, the Tomtit may be cracking nuts like a Bluejay, hammering away at one held firmly under his foot.

Food Beechnuts, hazelnuts, chinquapins, or even acorns, he accepts cheerfully. Wild berries, such as those of dogwood and Virginia creeper, are also taken in their turn, and in their proper season, grasshoppers, beetles, cutworms and caterpillars form a large part of his diet. Boll-weevils and scale insects, two of the worst insect pests of the country, are sometimes eaten by him; while his nearest relatives in California and the Southwest take an active part in destroying such dangerous enemies of man. The Titmice do good by eating the insects, and also by carrying them to their voracious young in the nest.

The nest of the Tomtit, like that of the Chickadee, is almost always in a ready-made hollow, very often in a deserted Woodpecker's hole, especially in that of the Red-bellied Woodpecker, in localities where it **Nest** is to be found in abundance. On rare occasions, the Tomtit, it is said, excavates its own nest.

To line the hollows, the birds carry in a variety of materials. For foundation, they sometimes use grasses, strips of bark, and Spanish moss, filling in with a lining of soft materials such as feathers and hair. Where do they get these soft furnishings? That is one of the many interesting things to find out. A hair-gatherer was once seen, as the observer supposed, trying to drive off a red squirrel. But field-glasses told a different story. The squirrel lay resting on a branch and the Titmouse "would approach cautiously from behind and catch at its tail." The industrious bird kept doing this until it "had collected quite a mouthful of the hairs with which it flew off to a hole nearby, where it was deposited!"

The observer does not tell us whether the squirrel was asleep or whether it remonstrated with its small neighbor; but it all shows that there are a great many surprising things to be seen and heard in the woods.

While the Tomtit usually nests in a hole in a tree or stump, one eccentric bird has been found building in a bunch of Spanish moss. When a violent

storm came, her eggs were blown onto the ground. But, as the observer says, "undismayed, she began to work again in the same bunch of moss." Her mate did not approve of this, and "would fly into a hollow near at hand and whistle for her." It did no good, however. She went and looked into the hole he had picked out, but then went back to the moss, working rapidly and carrying "huge mouthfuls at every trip." It was all in vain. When her eggs were laid another storm came and both eggs and nest were found on the ground. The nest besides dry leaves, hair, sedge, and feathers, contained snake-skins!

All of which goes to prove that birds are not all alike, any more than people are; that it is never safe to say *always* and *never* about birds' habits, and that in watching birds it pays to keep one's eyes and ears wide open.

The eggs that the Titmouse lays vary in number from five to eight, and they are white, marked with brown. The dependence of the Tomtits on holes in trees for nesting-sites is illustrated by a case in Missouri, Eggs where the "hard and gnarled black jacks" failed to afford the necessary hollows, and where, consequently, Titmice and birds of similar habits were missing. When nesting-boxes were put up for Bluebirds and Wrens, a pair of Tomtits appeared and took advantage of them, raising a brood in each.

Not only do the Titmice need holes to nest in in summer, but to roost in in winter; for, unlike most birds, the hardy little fellows do not go south in fall, but spend the winter where they have passed the summer. Like Emerson's Titmouse, they might read us an excellent moral:

Live out-of-doors
In the great woods, on prairie floors.
I dine in the sun; when he sinks in the sea,
I too have a hole in a hollow tree.
· · · · ·
For well the soul, if stout within,
Can arm impregnably the skin.

Classification and Distribution

The Tufted Titmouse belongs to the Order *Passeres* or Perching Birds, to the Family *Paridae*, and the Genus *Baeolophus*. Its scientific name is *Baeolophus bicolor*. It is found from Nebraska, Iowa, Illinois, Indiana, Ohio, Pennsylvania and New Jersey, southward to central Texas, the Gulf coast and Florida; and occasionally as far north as the southern parts of Wisconsin, Michigan, New York and Connecticut.

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Illinois	MISS MARY A. HARDMAN, Academy of Sciences, Lincoln Park, Chicago
Indiana	MISS ELIZABETH DOWNSHOUR, 2307 Talbot Ave., Indianapolis
Iowa	MRS. WILLIAM F. PARROTT, 302 Franklin St., Waterloo
Kansas	PROF. AUSTIN H. LARRABEE, Wichita
Kentucky	MR. VICTOR K. DODGE, Lexington
Louisiana	MRS. PERCIVAL WRAIGHT, 460 Pine St., New Orleans
Maine	MR. ARTHUR H. NORTON, 22 Elm St., Portland
Maryland	MISS MINNA D. STARR, 2400 North Charles St., Baltimore
Massachusetts	MR. WINTHROP PACKARD, 234 Berkeley St., Boston
Michigan	MRS. ANNA WALTER, Marcellus
Minnesota	MR. J. W. FRANZEN, Public Library, Minneapolis
Mississippi	MR. H. G. McGOWAN, Columbus
Missouri	President MR. H. R. WALMSLEY, 318 Keith & Perry Bldg., Kansas City
Nebraska	MISS JOY HIGGINS, 544 South 30th St., Omaha
New Hampshire	President MR. E. J. BURNHAM, R.F.D. 1, Manchester
New Jersey	MR. BEECHER S. BOWDISH, Demarest
New York	DR. F. A. LUCAS, American Museum of Nat. History, New York City
North Carolina	J. W. CHESHIRE, Raleigh
North Dakota	President PROF. W. B. BELL, Agricultural College
Ohio	MISS KATHERINE RATTERMAN, 510 York St., Cincinnati
Oklahoma	MISS ALMA CARSON, Guthrie
Oregon	DR. EMMA J. WELTY, 321 Montgomery St., Portland
Pennsylvania	MISS ELIZABETH W. FISHER, 2222 Spruce St., Philadelphia
Rhode Island	MR. H. L. MADISON, Park Museum, Providence
South Carolina	MR. ALBERT R. HEYWARD, Columbia
Tennessee (East)	MISS M. M. WOODWARD, Knoxville
Tennessee (West)	President DR. R. B. MAURY, 1566 North Parkway, Memphis
Texas	MRS. M. B. DAVIS, Waco
Vermont	PROF. CARLETON D. HOWE, Morrisville
Virginia	President MRS. W. E. HARRIS, 1039 West Grace St., Richmond
West Virginia	MISS HATTIE M. ALLEMAN, 2403 Dudley Road, Parkersburg
Wisconsin	MR. ROLAND E. KREMERS, 1720 Vilas St., Madison

Annual Meeting

The annual meeting of the National Association of Audubon Societies was held in the American Museum of Natural History on October 28, 1913.

The reports of the Secretary, Treasurer, and Field Agents, given at that time, are

published in full in another part of this issue of BIRD-LORE.

Mr. Arthur H. Norton, President of the Audubon Society of Maine, and recently elected as the Association's Field Agent, for that state, gave a most interesting report on the bird colonies protected by the Audubon wardens along

the coast of his state; Mr. Howard H. Cleaves, New York, spoke in detail of his trip, the past summer, among the bird colonies on the coast of South Carolina; Miss Elizabeth W. Fisher, Secretary of the Audubon Society of Pennsylvania, told of the work, the past year, in that state; Mrs. Mabel Osgood Wright discussed at length the subject of the destructiveness of cats to the wild-bird life of the country. Her views on the subject of taxing cats with an object of restricting their number appeared to meet with a hearty support of all present.

Dr. J. A. Allen and Dr. George Bird Grinnell were re-elected members of the Board of Directors.

The activities of the Association, the coming year, will be directed along the same general lines as heretofore. It is planned to take up one or two new fields of endeavor, announcement of which will probably be made later.

The following officers were elected: Mr. William Dutcher, President; Dr. T. S. Palmer, First Vice-President; Dr. F. A. Lucas, Second Vice-President; T. Gilbert Pearson, Secretary; Dr. Jonathan Dwight, Jr., Treasurer.

At its annual meeting, the Board of Directors passed a resolution offering a reward of \$250 for the apprehension and conviction of the man who killed Mr. John C. Reinbold, a game-warden of New Jersey, in the event that the man now under arrest charged with such killing should not prove to be the guilty party.—T. GILBERT PEARSON, *Secretary.*

President William Dutcher

Just before the annual meeting of the Association on October 28, a typewritten copy of the year's report was forwarded to President William Dutcher, at his home in Plainfield, New Jersey.

It will be recalled that it is just three years since the beginning of Mr. Dutcher's illness. I think the following extract from a letter received from Mrs. Dutcher will be of interest to members:

"I want to tell you that today Mr.

Dutcher, with his cane as the only aid, walked from the dinner-table, picked up your report, opened it, and gave me to understand that he wanted me to write you how much he longed to be at the meeting today. If his speech had been restored to him, he certainly would have been with you, for I intended to take him to the meeting by automobile. He is pleased beyond measure at the progress the Association is making. On reading your report to him, his enthusiasm was intense."—T. G. P.

The New Feather Law

The new Tariff Act which went into effect October 3, and which prohibits the importation into this country of the feathers of wild birds, is apparently being enforced rigidly. For several weeks the New York daily papers have contained many articles regarding the words and actions of indignant ladies who found it necessary to give up their aigrettes, paradise plumes and other feathers, upon arriving from Europe.

At this writing, the customs officers have advised this office that they have received positive instructions from the Treasury Department in Washington to allow none of the prohibited feathers to enter the country under any circumstances. People bringing in prohibited plumage are being given the privilege of surrendering them to the officers of the port, who destroy them, or to export them immediately from the country.

There is little doubt but what the cries of resentment and opposition raised by the distressed ladies along our New York water front will be quickly heard abroad, and it will surely deter other women from attempting to wear birds' feathers to this country. In no better way could we advertise to the world the fact that the United States is now the leader in the matter of wild-bird protection, and that the time has come when the barbarous traffic in the feathers of wild birds shall no longer receive legislative sanction and encouragement in this country.

The effect of the new law is being shown in a number of interesting ways. With this there is reproduced an advertisement of the "Audubon hat." This was torn from a paper dated October 5, 1913, two days after the new plumage law went into effect, and marks a new epoch on the subject of millinery advertisement in this country. One of these hats was



THE 'AUDUBON HAT' NOW BEING EXTENSIVELY ADVERTISED IN THE NEW YORK PAPERS

sent to our office for inspection, and a photograph of it worn by a model is herewith also reproduced. The hat is surely becoming in every way. On the inside it bears the label, "Audubon Hat; Save the Birds."

A copy of the new national feather law has been prepared by the Association, and may be secured by anyone making application at the office.

Letters from Abroad

In addition to the energetic campaign that the Association has waged in behalf of federal and state bird legislation, it has, so far as conditions would permit, encouraged and coöperated in similar developments in Europe. Many congratulations on the success of the plumage proviso in the Tariff Law have come from abroad. Mr. Frank E. Lemon, Honorable Secretary of the Royal Society for the Protection of Birds, writes:

"An official letter will reach you from the office of this Society, but I must in addition write personally to say how greatly rejoiced we are that the Bird Protection Clause of the Tariff Law has passed and is in operation.

"The United States of America have set a splendid example to the rest of the civilized world, and I think that before long we may in this country have followed suit. Unfortunately, we have not enthusiastic and determined public opinion behind us, as you

evidently have; everyone wishes to have birds protected, but are apathetic and lacking in energy on the subject.

"With hearty congratulations, believe me to be, Yours truly."

Miss L. Gardiner, Secretary of the Royal Society, sends the congratulations of that Society in the following terms:

"At the meeting of this Society's Council on Friday last, I was directed to con-

vey to the National Association of Audubon Societies the most hearty and enthusiastic congratulations of the Society on the splendid success achieved by the Association and by the New York Zoölogical Society, in securing the adoption of the Plumage Clause in the United States Tariff Bill. Their congratulations are also extended to all other humane societies of the states which have aided in this

workers for the cause. They heartily trust that Great Britain will be the first to follow the lead thus given, by the passing of the Government Bill now before the country for prohibiting all importation of the plumage of wild birds into the United Kingdom.

"With cordial greetings, I am, dear Mr. Pearson, Yours very sincerely."

Mr. L. Haehnle, President of the Bund

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nally im-
stock or
President and Treasurer.

or sea,
the volume
AGENCY was in the
of 1912, with capital
Henry Reinhardt is
class of appointment only. Dr. Swinburne, #
West 26th st., corner Broadway, New York. To
Riverside 2695.

Today, under the auspices of
The Audubon Society

protection for the bird is being preached broadcast, and the Audubon Society has sanctioned the use of its name to the maker of these Audubon Hats—hats in the newest shapes, hats in the gayest colorings, hats in the richest of trimmings, hats whose beauty derives an added charm from the humanitarian motive, as expressed in Freedom for Feathers.

Tomorrow we formally present to the women of New York an exclusive collection of the

New Audubon Hats
at \$5 to \$15 each

wherein beauty is achieved without robbing the feathered kingdom of its plumage.

ADVERTISEMENT APPEARING IN THE DAILY PAPERS OF
NEW YORK CITY SINCE OCTOBER 5, 1913

great movement; but they feel that the lead lay with the Audubon Societies, whose long fight has been contemporary with our own, and they share the deep grief of your workers that the President of the Association, Mr. Dutcher, is not able to share in the triumph for which he worked so ardently.

"The Council believes that your example is one which Europe must and will follow, and that you have strengthened the hands and the hopes of all other

Für Vogelschutz, Stuttgart, Germany, writes:

"We were very happy when we got the cable that the plumage clause had been adopted by the Senate. We congratulate you most heartily on the great victory you have won; you must have spent a great deal of work and money on the campaign.

"At the annual meeting of the Society for Medical and Scientific Research, at Vienna (Versammlung Deutscher Aerzte

und Naturforscher, the most important scientific society of Germany), a resolution was passed asking the government to bring in a bill prohibiting the importation of the feathers of wild birds, following the precedent of the United States.

"It might interest you that on August 1, 1913, the government of the German colony of Samoa issued a law prohibiting the killing and catching of nearly all wild birds except seven species. But these measures will not be of much use so long as we have no law prohibiting the importation to the home country.

"From January 1, 1914, till January, 1915, the exportation of skins and feathers of Birds of Paradise out of the German part of New Guinea will be prohibited. We hope that this measure will not be reversed in 1915."

The Benighted Italian

Warden Wilbur F. Smith, of Norwalk, Conn., reports that during last summer he heard that an Italian, one Julie Putie, had been eating Robins for dinner, and conducted an investigation.

While talking with Putie about how they kill and eat small birds in Italy, the Italian became communicative, and

showed Warden Smith where he had removed a Robin's nest from a maple tree. He had taken the young birds, that were about ready to fly, to his shack, and fried them over an open fire without removing either heads or feet.

Putie was much surprised to learn that he must go to town, and reluctantly parted with \$20.41 in the local court.

List of Contributors to the Egret Fund

From September 1 to the close of the fiscal year, October 20, 1913:

Previously acknowledged.....	\$9,694	73
A Friend.....	1	00
Astor, Vincent.....	25	00
Barnes, R. M.....	5	00
Barron, Mrs. George D.	2	00
Bonham, Mrs. E. M.	25	00
Clinch, Mrs. Edward S.	5	00
Cope, Mrs. Francis R.	2	00
Craft, Miss Laura F.	2	00
Cummings, Mrs. K. L.	1	00
Curtis, Mrs. A.	25	00
Dana, Mrs. Charles E.	5	00
Davis, Dr. Gwilym G.	3	00
Day, Stephen S.	5	00
Doering, Mrs. O. C.	10	00
Dunn, Mrs. Houston	5	00
Garick, Jr., James P.	1	00
Harkness, David W.	2	00
Havemeyer, Jr., Mrs. H. O.	150	00
Amount carried forward.....	\$9,968	73



INEXPENSIVE APPARATUS FOR ATTRACTING BIRDS
Manufactured by Prof. H. M. Howe of Bedford, New York

Amount brought forward.....	\$9,968	73
Hosmer, Mrs. Estelle dePeyster	10	00
Jenkins, Miss L.	5	00
Johnston, John White.....	35	00
Keim, Thomas D.	1	00
Lovering, Mrs. Q. W.	1	00
Moore, Mrs. E. C.	1	00
Moore, Henry D.	10	00
Moore, Robert Thomas.....	5	00
Morgan, Miss C. L.	5	00
McCormick, Mrs. R. Hall....	5	00
Osborne, Arthur A.	2	00
Parsons, Miss Katharine L....	2	00
Patton, Mrs. Margaret S.	5	00
Pegram, Mrs. Edward S.	5	00
Pepper, Mrs. William.....	5	00
Poage, Miss Alice	1	00
Shaffer, C. B.	25	00
Shoemaker, Mrs. Wm. B.	5	00
Stevens, F. E.	1	00
Troup, Charles A. S.	2	00
Varick, Mrs. Remsen	1	00
Wier, Mrs. Frederick N.	2	00
Zimmerman, M. W.	5	00
	<hr/>	
	\$10,107	73
Less error in bookkeeping; also		
transfers.....	102	50
	<hr/>	
Income to October 20, 1913... \$10,005	23	
Expenses as per Annual Rept..	9,571	45
	<hr/>	
Balance unexpended.....	\$433	78

Bird Life in Forester Island, Alaska

During the past summer, the Association contributed five hundred dollars toward the expenses of an investigation of the bird rookeries of Forester Island, in southeastern Alaska, which was conducted by Dr. Harold Heath of Stanford University, California, under the auspices of the United States Fish Commission and this Association.

Unfortunately, Dr. Heath's report was not received in time to be included in the Annual Report, as we had expected. It is hoped to print this report in full in a later issue.

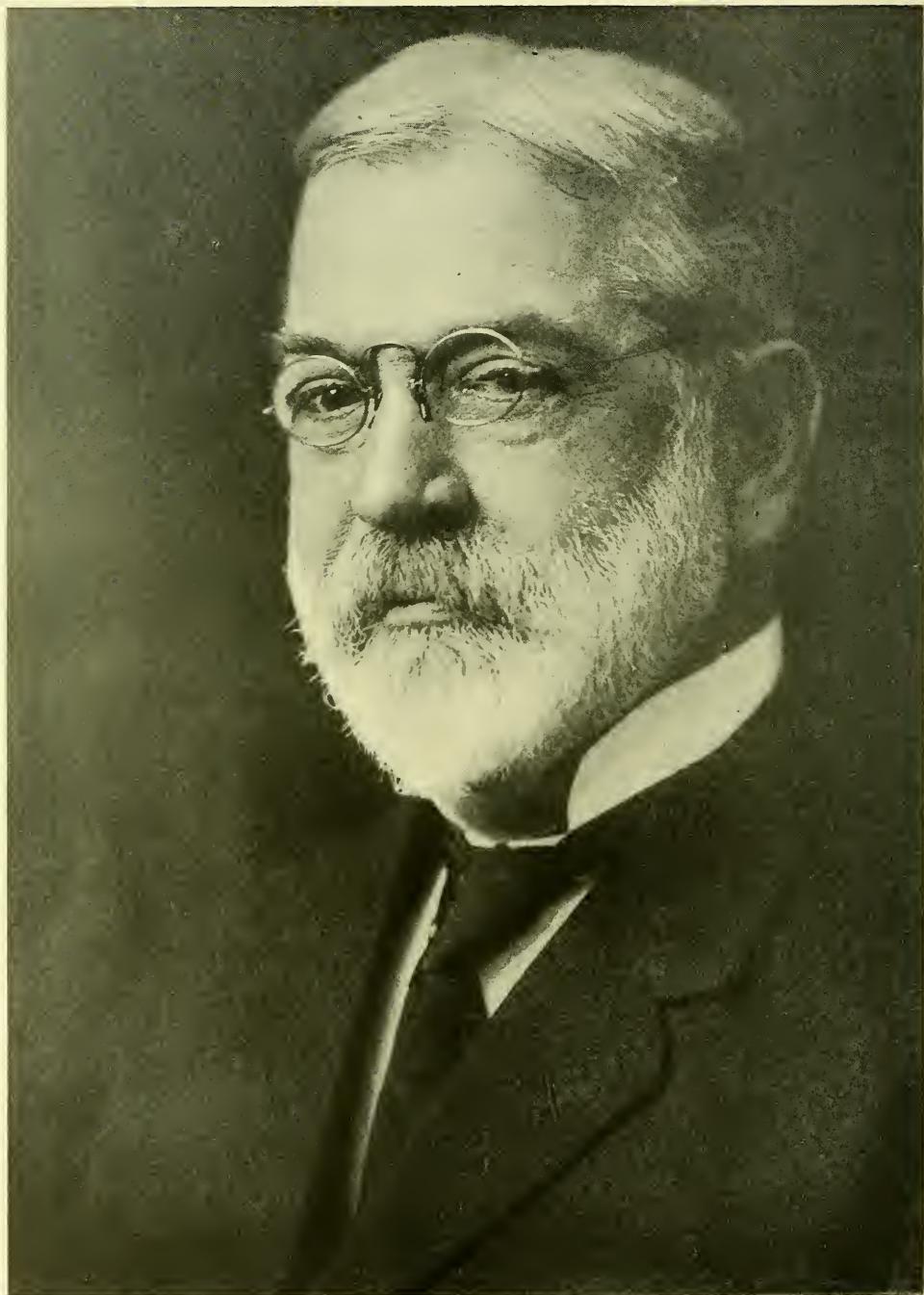
Forester Island is now a Federal Reservation and is located off the mouth of Dixon Entrance, thirteen miles southeast of Dall Island. It is four and one-

half miles in length by one mile in greatest width and rises abruptly from the sea to a height of thirteen hundred and ninety-five feet. It is covered with a dense growth of spruce and hemlock over fully nine-tenths of the surface, most of the intermediate spaces being overgrown with almost impenetrable thickets of salmonberry, elderberry, and devil's club, intermingled with innumerable moss-grown windfalls.

The native Indians report that fifty or seventy-five years ago the country was much more open than it is today, with grass-covered slopes extending to the vicinity of the shore.

It is under the control of the Forest Service, in charge of a warden detailed by the Biological Survey.

Local fishermen state that there are more land-birds on Forester Island than in any other locality of a similar size within a radius of two hundred miles. Dr. Heath fully identified twenty-one species of land-birds as follows: Duck Hawk, fairly common and breeding; Sawwhet Owl, one seen; Rufous Hummingbird, several noted; Western Flycatcher, several adults and young observed; Northern Raven, a common nesting bird; Northwestern Crow, numerous; Crossbill, several flocks noted; Oregon Junco, a few observed and one nest with young found; Song Sparrow, species doubtful, common; Townsend's Fox Sparrow, abundant; Lutescent Warbler, several seen; Pileolated Warbler, one or two seen each week through the summer; Western Winter Wren, abundant everywhere and nesting; Tawny Creeper, a few individuals seen; Red-breasted Nuthatch, one specimen seen; Chestnut-sided Chickadee, small flocks seen; Western Golden-crowned Kinglet, common and nesting; Dwarf Hermit Thrush, common and several nests found; Northwestern Robin, a few individuals noted; Varied Thrush, common and nesting.



MR. WILLIAM DUTCHER
PRESIDENT OF THE NATIONAL ASSOCIATION OF AUDUBON SOCIETIES

Annual Report of the National Association of Audubon Societies for 1913

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EDWARD HOWE FORBUSH, NEW ENGLAND.
MISS KATHARINE H. STUART, VIRGINIA.
JAMES HENRY RICE, JR., SOUTH CAROLINA.
DR. EUGENE SWOPE, OHIO.
E. V. VISART, ARKANSAS.
WILLIAM L. FINLEY, PACIFIC COAST STATES.

REPORTS OF STATE AUDUBON SOCIETIES.

ARIZONA, CALIFORNIA, COLORADO, CONNECTICUT, DISTRICT OF COLUMBIA, FLORIDA,
ILLINOIS, INDIANA, IOWA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS,
MICHIGAN, MINNESOTA, NEBRASKA, NEW JERSEY, NEW YORK, NORTH
CAROLINA, NORTH DAKOTA, OHIO, OREGON, PENNSYLVANIA, RHODE ISLAND,
TENNESSEE (EAST), WEST VIRGINIA.

LIST OF MEMBERS AND CONTRIBUTORS.

REPORT OF TREASURER.

REPORT OF THE SECRETARY

INTRODUCTION

The past twelve months have witnessed the most remarkable gains in bird-protection which have ever been achieved during a like period, either in this or any other country.

The pioneer work, begun years ago by our President, Mr. William Dutcher, and continued without intermission by him and Mr. William Brewster, Mrs. Mabel Osgood Wright, Mr. Witmer Stone, Mr. Ruthven Deane, Hon. John F. Lacy, and others of his early associates, is now bearing fruit to a most marvelous extent. No such advance as has been made during 1913 would

have been possible but for the accumulative effect of the widespread, persistent educational effort which has long been in operation.

With prophetic eye, our great founder declared in his annual report to the Association in 1909: "It is the chief function of this Association to educate the whole mass of our fellow citizens regarding the value of wild birds, and the intimate relation that exists between them and agriculture. If we can devise some means of imparting such knowledge to that whole mass of the people, we will most surely show them that it is to their interest to preserve birds; and, when we have succeeded in doing this, the result desired—the preservation of birds—will surely follow."

Not all of Mr. Dutcher's dream has yet come true, but the great tide of public sentiment is setting strongly in that direction.

STATE LEGISLATION

The past year, legislative sessions were held in more than forty states of the Union. As usual, a large number of bills were introduced with a view to making changes in the bird and game protective laws. Those intended to weaken or break down the existing statutes were combated vigorously by bird-protectors and, with few exceptions, were defeated. On the other hand, many beneficial measures were enacted. A detailed account of accomplishments in this line will be found in the reports of the Field Agents or State Secretaries published in connection with this report. A few of the more important laws secured through the efforts of the Audubon workers may here be mentioned:

In Florida, after a long campaign, laws were enacted to establish a State Game Commission and to protect Robins at all times.

In Michigan, a law passed to prohibit the sale of Heron "aigrettes."

The Vermont laws were recodified with many beneficial changes, including a prohibition of the sale of "aigrettes."

In Pennsylvania, a campaign was organized in connection with the State Audubon Society, for the purpose of securing a law to make it illegal to sell "aigrettes" and the feathers of other birds. The importance of such a measure was of the first magnitude, as Philadelphia had become the headquarters of the wholesale dealers in bird-feather millinery since they were driven out of New York by the operation of the Audubon anti-feather law. The Association employed a special lecturer, who traveled over the state in the interests of the bill. We also rented and opened an office in Philadelphia, with Chief Clerk B. S. Bowdish in charge. From here one circular appeal after another was sent broadcast throughout the state, and the public conscience was awakened to the support of the bill. This Pennsylvania campaign cost the Association more than \$2,000, in addition to a vast amount of individual effort; but the result was worth all it cost, for the law was passed,

and the nefarious traffic in the feathers of slaughtered mother birds will no longer be permitted to flourish in Pennsylvania.

FEDERAL LEGISLATION

When, on March 4, President Taft signed the McLean Federal Migratory Bird Law, there was placed on the statute books a measure for which this Association had been working ever since the subject was first brought to public attention by George Shiras, 3rd, in 1905. While practically all organizations and individuals interested in bird-protection had been actively engaged in securing support in Congress for this bill, it is not probable that it would have passed when it did but for the energetic actions of the officers of the



CAMP OF RHETT GREEN, WARDEN OF CORKSCREW ROOKERY, FLORIDA
The Rookery begins in cypress swamp, shown in background, and extends for four miles deep into
the "Big Cypress." Photographed by T. Gilbert Pearson

American Game Protective and Propagation Association, whose recent entrance into the field of American bird-protection we warmly welcome.

The set of regulations regarding the killing of migratory birds which have since been prepared by Doctor Palmer, Doctor Fisher and Professor Cooke for the United States Department of Agriculture, and which now have the authority of law, is on the whole probably as complete as it is expedient to establish at this time. Later, it will doubtless be found possible to make certain changes and readjustments. When this is done, we hope it may be possible to extend protection to the much-persecuted Bobolink in certain states where the killing of these birds is now permitted.

Early in the year your Secretary received a letter from Mr. Henry Oldys, of Washington, D. C., calling attention to the fact that some years ago an

unsuccessful attempt was made by the Audubon workers to secure a national law to prohibit the importation of the feathers of wild birds for millinery purposes, and asking if it would not be a good chance to bring up the matter again at the present session of Congress. Your Secretary was in Washington shortly after this and, in company with Mr. Forbush, approached some of the congressmen on the subject, but received little encouragement.

Returning to New York, I made formal application to the Ways and Means Committee for a hearing, but the answer received from Chairman Underwood's secretary was not satisfactory. A circular letter was at once issued to the members of the National Association of Audubon Societies, asking them to write to the Ways and Means Committee, which was preparing the Tariff Bill, and request that your Secretary be given a hearing. The effect was immediate, and permission was granted without further delay.

Dr. William T. Hornaday, of the New York Zoölogical Society, then joined forces with us, and together we appeared before the Ways and Means Committee of Congress on January 30. By pre-arrangement, Doctor Hornaday asked that the feathers of all birds be prohibited from entry, and your Secretary stated that if we could not get this we would ask for the prohibition of the importation of the feathers of all American birds, and the feathers of all birds which resemble species found in America. This would conform in large measure with certain existing state laws. To our satisfaction, the Committee adopted the larger, clear-cut provision, and incorporated it in the Tariff Bill.

The National Association and New York Zoölogical Society then organized a nation-wide campaign for the support of the proviso, and alternately issued circulars of appeal to the public, asking people to communicate their views to their senators or congressmen. The two organizations coöperated constantly throughout the campaign. Your Secretary made several trips to Washington in the interests of the provisions, and was in close touch by letter and wire with our friends in both branches of Congress throughout the months the measure was pending.

All six of the regular field agents of the Association worked heroically in their various fields. Many of the State Audubon Societies spent much energy and money on the subject. Sportsmen's associations, women's clubs, and humane societies all did splendid work. The Association paid the expenses of a number of men who went to Washington to labor personally with senators and congressmen. Among these were Hon. Jesse Mercer, State Game-Warden of Georgia; Hon. John H. Wallace, State Game-Warden of Alabama; Mr. William Haskell, of New York, Vice-President of the American Game Protective and Propagation Association; and Mr. E. H. Forbush, of Massachusetts. Mr. Oldys worked for the measure whenever he was in Washington and spoke in its behalf when on his lecturing trips. The Association also employed two agents who worked in Atlanta to help awaken the people of Georgia to the fact that their senator, Hoke Smith, stood in need of some education

in the matter of bird-protection. It has been estimated that over 200,000 letters and telegrams were received by senators and representatives from people who favored this measure. Of great importance was the speech made in defense of the proviso by Senator George P. McLean, on August 16. Five thousand four hundred copies of this address were secured by the National Association and distributed to our members and correspondents.

The struggle was long. At times it was exceedingly animated, but was never very discouraging; for, as it has ever been in our extensive campaigns for bird-protection, we gained strength every day from the very beginning, and the enemy lost ground every day the fight went on.

No small amount of energy was expended in financing the campaign, which cost the Association something over \$2,200. And now, after an elapse of less than nine months from the time the matter was first brought to the attention of Congress, we have a federal law which absolutely prohibits the importation of the feathers of all birds except for educational purposes. Ostrich plumes and the feathers of domestic fowls are not included. This makes the United States the leader of all nations of the world in the suppression of the feather traffic!



YOUNG WATER TURKEY. ORANGE LAKE ROOKERY, FLORIDA
Photographed by P. B. Philipp.

GENERAL WARDEN WORK

During the year, the Association has investigated many complaints regarding violation of bird-protective laws. We have caused the arrest and conviction of more than one merchant in New York City for selling Heron "aigrettes" and other feathers. We have also reported to state game commissioners many cases of the illegal killing of birds. We always give careful attention to any

cases reported to the New York office, and all field agents understand that they are to do likewise.

The Association has employed, during the spring and summer, twenty-seven guards, to serve as wardens at the various important breeding-colonies of water-birds, which it has been our custom to protect. These guarded colonies are situated mainly in Michigan, Maine, New York, New Jersey, Virginia, Florida, and Louisiana. The colony birds had a most successful season. Not in years have they suffered less from the effects of storms and tides.



BROWN PELICAN ON TREE NEST. INDIAN KEY
RESERVATION, FLORIDA
Photographed by Dr. H. R. Mills

About two million birds are believed to have found a safe refuge on the islands or lakes protected by the agents the past season.

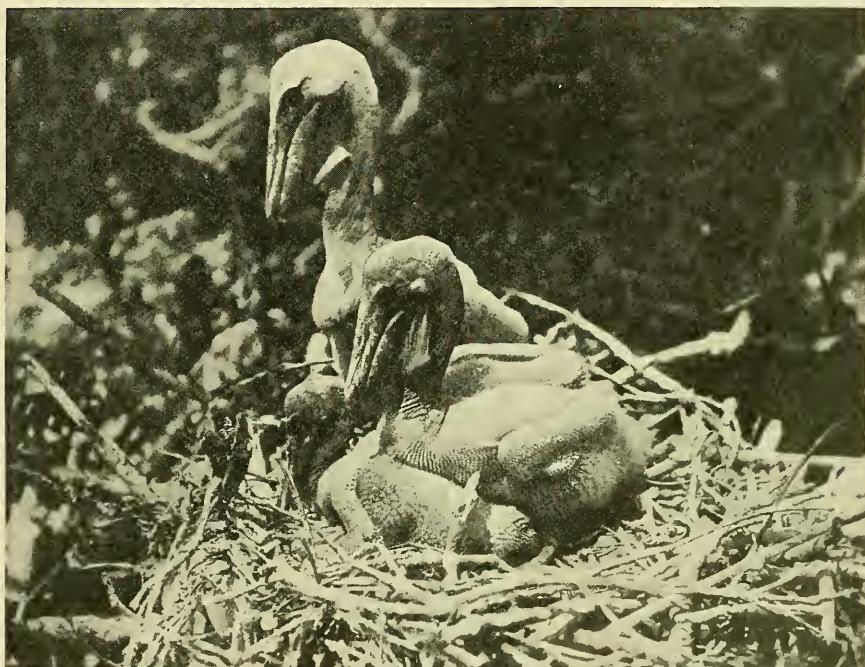
EGRET PROTECTION

Not included in the number of wardens mentioned above, are the sixteen men employed the past season to locate and protect Egret colonies in the southern states.

These birds had, a few years ago, become so rare, and so much public interest is centered in their protection, it is well to record in permanent form as complete a record of their number and distribution as possible.

In North Carolina, one colony is known and protected. It contained this year about fifty-nine Egrets and twenty-five Snowy Egrets.

In South Carolina, there are about a dozen important heronries, containing Egrets of one or both species, and a somewhat larger number of places where a few birds breed. We estimate the number of breeding Egrets in this state at 1,000, and of Snowy Egrets, 3,000.



YOUNG BROWN PELICANS IN TREE NEST. INDIAN KEY RESERVATION, TAMPA BAY, FLORIDA. NOTE DIFFERENCE IN SIZE OF YOUNG
Photographed by Dr. H. R. Mills.

Ten wardens in Florida guarded about 2,700 breeding Egrets and 1,000 Snowy Egrets. In Georgia, where our largest Egret colony is located, the number believed to have occurred there was 1,200.

Thus, from the reports of the wardens and other sources, we believe that it is not far from correct to say that during the past summer the Association protected about 4,960 large Egrets and 4,025 Snowy Egrets.

Capt. B. J. Pacetti, of Ponce Park, Florida, Inspector of Government Bird Reservations, and, in the past, one of our most active wardens, recently secured the conviction of two men who shot Egrets near Daytona. The case

of the four plume-hunters now being tried for raiding Alligator Bay Colony and firing on our warden, Charles Allen, is still pending in the courts.

JUNIOR AUDUBON WORK

For future effect, perhaps the most important work in which this Association is engaged today is the organizing of Audubon Classes among the children of the country, and giving them systematic instruction in bird-study and bird-protection.

This effort began three years ago with the first large contribution from Mrs. Russell Sage for bird work in the southern states. In this endeavor, we today have the active coöperation of a number of the state societies, particularly Massachusetts, Rhode Island, Ohio, Connecticut, New Jersey, Pennsylvania and Florida.

The splendid financial support received from Mrs. Sage, and from one other member whose name we are not permitted to divulge, has permitted us to continue and greatly increase this work the past year. As the classes are furnished with material which costs us two dollars for every dollar received from the children's fees, it would have been utterly impossible to accomplish the results we have to record but for this help. Mrs. Sage gave \$5,000 again this year, and we enrolled over 1,200 Junior members in the southern schools. There is more interest in bird-study in the northern states, and less effort is required to interest teachers and pupils. For this reason, by means of \$7,000 contributed by our unnamed friend, over 40,000 Junior members were added the past twelve months in the North. I believe the number will be even greater the coming year, as our benefactor has provided a fund of \$10,000 for this work.

ALASKA

The preparing of special material for educational work in Alaska has gone forward this year nearly to completion. Six leaflets, with colored plates and outline drawings, have been issued on Alaska bird subjects. These, together with a special article on the general bird life of Alaska, prepared by Mr. E. W. Nelson, and other material, will shortly be embodied in book form, and will be supplied to every one of the 8,000 school children of that territory.

It will be remembered that this entire undertaking is being financed by one of our loyal and liberal members, whose name we regret to say the donor insists on withholding for the present. Out of the fund furnished from the same source, Dr. Harold Heath, of California, was employed the past summer, to represent the Association as warden and special investigator to the Forester Island Government Bird Reservation off the southern coast of Alaska.

FIELD AGENTS

Six field agents were engaged by the Board the past year to give part or all of their time to lecturing and attending to other duties in connection with Audubon work in their respective territories. These were: Mr. E. H. Forbush, in New England; Mr. Wm. L. Finley, in Oregon; Miss Katharine H. Stuart, in Virginia; Dr. Eugene Swope, in Ohio; Mr. E. V. Visart, in Arkansas; and Mr. James Henry Rice, in South Carolina.

All of these rendered splendid service, and the detailed reports of their efforts will be published and distributed to members with this report. In addition to their other labors, Messrs. Forbush, Rice and Swope rendered material service in adding many names to the list of members and subscribers to the Association. In this connection, we regret to state that Mr. Forbush has found his duties as State Ornithologist of Massachusetts to have become so great that he will be unable to devote as much time to Audubon matters as formerly. The Board has, therefore, arranged for Mr. Winthrop Packard, Secretary of the Audubon Society of that state, to give one-half of his time to the work of the Association in Massachusetts.

STATE SOCIETIES

We cannot over-estimate the importance of the splendid work being done by the thirty or more State Audubon Societies. These organizations contain hundreds of the most zealous bird-lovers and bird-protectionists in the land, and their influence on the conservation of the wild life in their several states is a most pronounced fact, as is well known to all destroyers of wild life.

A strong state society has recently been formed in Arkansas. Mr. Visart and many ladies of Little Rock have been working to this end for some time, and the society was launched upon the occasion of a lecture delivered this month in that city by Mr. E. A. McIlhenny, one of our Louisiana members and a most active worker for conservation. It will be recalled that it was through this gentleman's activities that Mrs. Russell Sage became interested last year in the purchase of Marsh Island as a bird-reserve.

PUBLICATIONS

It has been the custom of the Association for some time to issue each year six new Educational Leaflets, each one giving a brief life-history of some American bird. These are always published first in our official organ, BIRD-LORE.

The past year, eleven subjects have been treated in this manner, as follows: Hudsonian Curlew, written by A. C. Bent; Ruffed Grouse, by Dr. George Bird Grinnell; Willow Ptarmigan, by Joseph Grinnell; Emperor Goose and

the Alaska Longspur, by E. W. Nelson; Crested Auklet, by Dr. C. H. Townsend; Tufted Puffin, by W. L. Dawson; Catbird, by Witmer Stone; Chickadee, by E. H. Forbush; and Green Heron and Brown Thrasher, by T. Gilbert Pearson.

In addition to the above, our first thirty leaflets issued have all been re-written and fourteen of them provided with new colored illustrations. Our entire series of Educational Leaflets has thus been rendered uniform as to appearance and manner of treatment. The cost of ten of these early subjects in which Mr. Dutcher was especially interested, was met from the income of the Mary Dutcher Memorial Fund.

GENERAL ITEMS

During the year the Association expended \$1,206.10 in coöperation with others, in the construction of a stout wire fence enclosure on the Government Niobrara Bird Reservation in Nebraska, to which a herd of bison, elk and deer have since been removed.

We purchased an island near Charleston, South Carolina, which is a famous ancestral breeding-ground for Snowy Herons, and provided funds to the Charleston Museum to replant with trees another herony which had been almost destroyed by axmen.

We have contributed to the general or special work of several State Audubon Societies and individual workers, and in other ways have sought to aid and encourage organizations and individuals engaged in wild-life preservation. We have distributed over 700,000 colored pictures of birds, and more



ON PELICAN ISLAND RESERVATION, INDIAN RIVER, FLORIDA.

NOTE PELICANS NESTING ON THE GROUND

Photographed by T. Gilbert Pearson.

than 3,000,000 pages of printed matter concerning bird-study and bird-protection.

The volume of material, in the form of books, bound leaflets, and field-glasses, sold from the office, has been more than doubled during the year. In the office, the Secretary now has the constant help of twelve busy assistants.

FINANCIAL

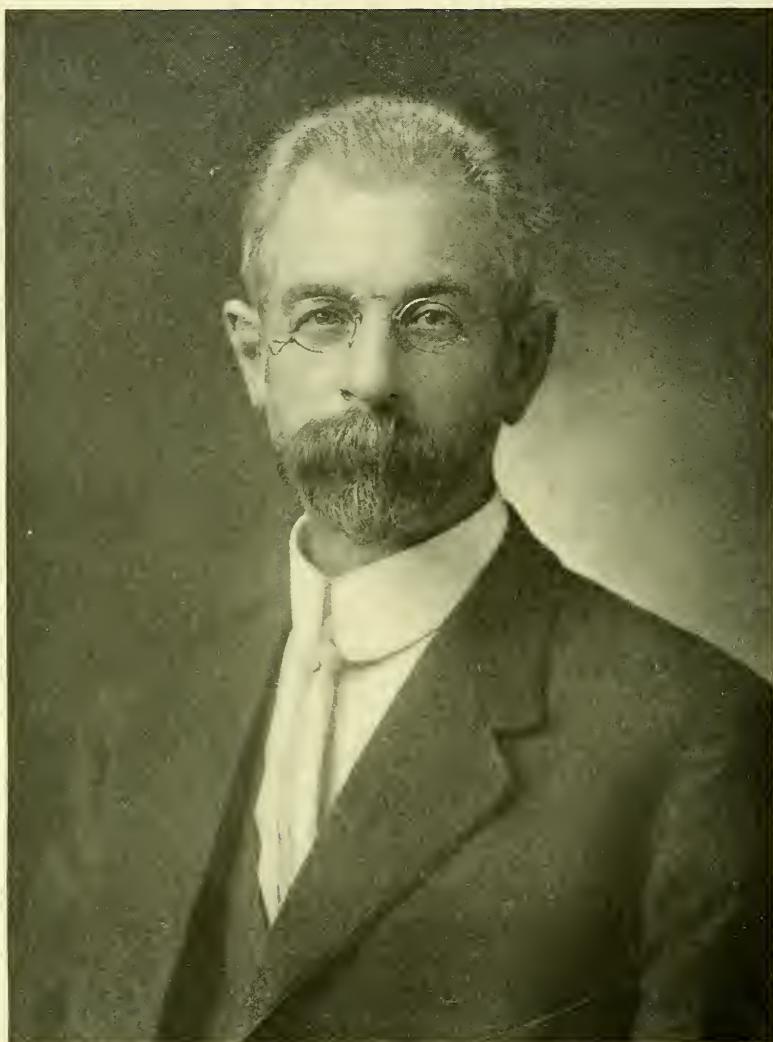
During the year, fees for 36 Life Memberships have been received, making the total Life Membership to date, 172. The Sustaining Members have increased in number from 1,625 to 2,336. The income of the Association for general expenses has amounted to over \$70,000. In addition to this, the following sums have been added to the permanent endowment fund: By gift, from the heirs of Mr. L. F. Dommerich, \$5,000; by bequest of Carolina M. Martin, \$1,900; and from Life Members, \$3,600, or \$10,500 in all. Thus it will be seen that the gross income of the Association for the year exceeded the very gratifying sum of \$80,000, which is over \$21,000 more than the income last year.

As is well known, the most difficult problem confronted by those engaged in work of the character in which we are working is the securing of sufficient funds to meet pressing needs and admit of normal growth. Much of your Secretary's time and attention is, therefore, necessarily expended in fostering this particular feature of the Audubon movement, without which it would be impossible to carry forward our various activities.

In this connection your Secretary wishes the membership to know that, as the Executive Officer of this Association, he constantly feels a deep sense of gratitude to the other officers and members of the Board for their constant and hearty personal coöperation in the great work which, three years ago, he dared to undertake; and should he, in a moment of weakness, point with pride to the fact that the income and working force of the Association has, during that time, more than doubled, he would have it known also that this has been in large part due to the kindly, sympathetic support which the Board has given his every effort.

And now a word as to the future. The passage of the splendid federal bird-protective laws the past year and the strengthening of many state laws to a point which seems to make them little short of perfect, does not mean that our troubles are at an end. These measures will doubtless be assailed in the courts, and never has there been a time when the influences of wise and earnest educational endeavor were more needed than at present.

In addition to the lines of work in which we have already engaged, there are new fields of opportunity opening before us the coming year, and the future holds much in the way of service which will call for stoutest hearts and most courageous minds.



MR. E. H. FORBUSH
FIELD AGENT FOR NEW ENGLAND

REPORTS OF FIELD AGENTS

REPORT OF EDWARD HOWE FORBUSH, FIELD AGENT FOR NEW ENGLAND

The work undertaken by your agent in New England during the year has been largely that of influencing legislation for the protection of birds. Incidentally, twenty-five lectures have been delivered to an average attendance of 218, but the legislative work in six states and that pending in Congress have occupied the greater part of the year. In order to carry on this work, it has been imperative also to raise a considerable amount of money. All this necessary labor has taken a great deal of time.

All the legislatures of New England, except that of Rhode Island, have considered many bills proposing changes in the fish and game laws. Governor Felker, of New Hampshire, in a message to the Legislature, called particular attention to the fact that there is constant juggling with the protective laws, in the following words: "There should be more stability to the fish and game laws of the state. There is no subject-matter of statutory law which is so uncertain and fluctuating as that of fish and game. The laws pertaining thereto were entirely revised in 1901, yet, in the five sessions of the legislature since that time, that chapter has been amended no less than sixty times, aside from all the new legislation upon that subject." What is true of New Hampshire is true of other states in New England, and the activities of your agent here have been largely in the direction of defeating attempts to change the bird and game laws of the several states. The Legislature of Vermont was called together in October, 1912, and the Legislature of Connecticut was in session until midsummer.

The principal bird and game legislation of Vermont is included in the codification of the fish and game laws of the state. This was drawn by experts, and was modeled somewhat after the law of New York State, which is a great advance in fish and game legislation. Your agent went over the bill carefully with others interested in the measure, and certain changes were suggested, most of which were finally adopted. The bill passed, with several amendments which do not affect its value as a bird-protective measure. It does not give protection for the Belted Kingfisher or the Starlings. This omission will not be approved by all bird-protectionists, but the bill contains a plumage provision, forbidding the use of wild birds for millinery purposes. All insectivorous birds are protected. It prohibits night shooting, spring shooting, the sale of birds and game, and the taking of nests and eggs, and is, in several respects, an improvement over any bird law Vermont has ever had.

During the legislative session in New England, many bills offering bounties on the heads of various mammals and birds were defeated in the various

states, although a bill offering a bounty on porcupines was passed in Vermont. Seven bills extending the shooting season for wild fowl were defeated, after the usual long and tedious struggle.

In Massachusetts, two bills, one to repeal and the other to amend a law which now prohibits the sale of wild game, were defeated. A bill was introduced to allow the possession of game during the closed season and, although this was apparently defeated at least twice, it was resurrected in different form and came very near passing, but was finally defeated by a disagreement between the two Houses at the end of the session. Two bills were passed allowing towns to appoint wardens, one providing for a fish- and game-warden to be compensated by the town to the extent of \$50 per year, and the other authorizing the appointment of bird-wardens by city councils or town meetings. This act allows the city or town to pay a bird-warden, and sets no limit to the amount to be paid. It was passed late in the session, but the town of Dover has appointed a warden and he is now at work. This act appears to mark a new departure in this country in the way of legislation for the protection of birds, and it is hoped that other states will follow Massachusetts.

An act "to protect the fishery of the proprietors of the New Mattakasset Creek" proved to be an act to allow them to shoot or kill Gulls in a manner approved by the Fish and Game Commissioners, within 200 yards of any part of the creek or canal maintained by the herring fishermen. The title of the bill was so misleading that its character was not recognized until it had been reported upon favorably by the committee on fisheries and game, but it was finally defeated in the Senate by a very decisive vote.

Another bill authorizing the Commonwealth to convey a state pond to a private individual was introduced at this session. A similar bill was defeated two years ago. The pond was Benson's Pond in Carver, a shallow pond which is a breeding-place of water-fowl and other birds. Such a conveyance would form a precedent under which any pond in the state could be conveyed to any individual or corporation. So much opposition developed at the hearing that the bill was withdrawn.

In Connecticut, the only legislation detrimental to birds and animals that was passed was a bill to allow the shooting of Blackbirds when doing damage to grain. Protection was removed from Starlings, both in Connecticut and Vermont, but this can hardly be considered a calamity, as the Starling is not only destructive to fruit, but drives away native birds wherever it becomes too numerous.

In New Hampshire a bill was introduced to establish the office of State Ornithologist, but failed of passage. The laws protecting fur-bearing animals were strengthened, and no really adverse legislation was passed. The disposition to restrain all dogs from running at large in the woods or fields inhabited by game-birds or ground-nesting birds has resulted in the passage of a law

for that purpose in New Hampshire. In Massachusetts several bills similarly designed have been defeated.

No one will ever know the story of the weary days and nights spent by your agent in promoting federal legislation during the year 1913. So far as can be learned, every representative and senator from New England has been in favor of national legislation for the protection of birds, except Senator Johnson of Maine. Possibly, in some way, the influence of the feather importers reached him. Among those who did wonderfully effective work in New England for the feather proviso in the Tariff Act was Dr. William R. Lord, of Dover, Massachusetts. He was one of the several Audubon workers who went to Washington in the interests of the measure. He secured reports on every senator, and presented arguments to Senators Lane and Chamberlain, of Oregon, which, no doubt, influenced them in their final stand against their colleagues in the Democratic caucus on the Tariff Bill. Mrs. E. O. Marshall, of New Salem, Massachusetts, Secretary of the State Grange Patrons of Husbandry, Committee on the Protection of Birds, and her fellow members of the committee, did very effective work not only in Massachusetts but in other states. Mr. Charles M. Gardner, Master of the State Grange, supported the cause in his paper, the organ of the National Grange, and raised up friends among the farmers throughout the land. Mrs. Emmons Crocker, of Fitchburg, Massachusetts, Chairman of the Conservation Department of the General Federation of Women's Clubs, was able to secure much influential work through the organization which she represents. The secretaries of the Audubon Societies of New England nearly all used their organizations to forward the tariff plumage proviso. It would be impossible to mention by name even a small part of those in New England who worked without ceasing to help accomplish the result finally achieved. To all are due the thanks of everyone who is at all interested in preserving the wild-bird life of the world.

It is now nearly seven years since your agent first began attempts to influence bird-protective legislation in New England. Within that time he has seen laws licensing hunters enacted in five of the six New England States, where hunters' licenses now contribute a very large sum toward the protection of birds and game. He has seen spring shooting practically abolished in every state in New England but Rhode Island, and now the federal law prohibits spring shooting throughout the United States. Gulls are now protected all along the New England seacoast, and there has been a general improvement, not only in the enactment of laws, but in the enforcement of them, and a wonderful improvement in public sentiment.

The Audubon Societies of Vermont and New Hampshire have rather stagnated during the past two years. Your agent has made some attempts to revive and reorganize them and these attempts have met with recent success.

REPORT OF KATHARINE H. STUART,
FIELD AGENT FOR VIRGINIA

During the past year, my time has been fully occupied in many and varied activities in the interest of bird conservation for the state and nation. The Junior Audubon work has been my first thought, and every energy possible bent in that direction. Our teachers have been most active in the past year. One hundred and twelve Junior Audubon Classes were formed, with a membership of 1,865. Most of these classes were in new fields, and thus our work has enlarged. I visited Winchester, Berryville, Culpepper, Harrisonburg, Round Hill, Herndon, and many other places, where good results followed my illustrated talks before schools and clubs, etc. We had a splendid meeting in Berryville, where I was introduced by State Senator J. S. Blackburn Smith, who made a strong appeal for the birds. On this occasion, I presented Mr. Smith with a picture of the Robin in the name of the National Association, as a mark of appreciation for his defense of the Redbreast before the Virginia Senate. After the resignation of Mr. J. D. Eggleston, Superintendent of Public Instruction, I went at once to Richmond, to call on his successor, Mr. R. C. Stearnes, and secure from him the same endorsement for our Junior Audubon work. Mr. Stearnes expressed his hearty sympathy and gave us a fine letter to the school superintendents, teachers and principals. In December, at the annual meeting of the Women's National Rivers and Harbors Congress, as Vice-President of that organization, I offered a resolution which was unanimously adopted in favor of active work by the forty-five state presidents, for the McLean Bill to protect migratory birds. This organization did splendid work before the Senate and House Committees, through our Legislative Chairman, Mrs. L. A. Williams, Forest Service, Washington, D.C. Each state president wrote many letters to their respective senators and representatives, urging their vote for the passage of this important bill. Our President, Mrs. Joseph Strout, of Portland, Maine, was also most active as Chairman of Legislation Maine Federation of Women's Clubs, with her senators and representatives, having a backing of not less than eight or ten thousand women, working in favor of the McLean amendment.

For the first time in the history of our Junior Audubon Classes, I called for reports of work done in the schools. About fifty teachers responded, all writing of the great interest the Junior members took in their drawings and making of bird-boxes. Feeding-tables, Christmas trees, and suet hung under wire netting, afforded fine opportunities to study the birds at close range during the winter months, and all have promised to take up this department again during the coming year. Virginia Bird Day, May 4, the birthday of John James Audubon, was generally observed in the state, and a good program sent to the Virginia "Journal of Education" by the Audubon Society.

While in Richmond, last November, at the Teachers' Conference, I visited



MISS KATHARINE H. STUART
FIELD AGENT FOR VIRGINIA

the Board of Health, and succeeded in interesting that department in our work. Dr. William Plecker, of the Vital Statistics Department, who has already done much work for the Audubon Society, will give talks through the state, in connection with his work, showing birds useful in destroying mosquitos, flies, etc., the worst enemies of human life. This is great gain to our cause. At the annual meeting, held in Clifton Forge, I was appointed for my sixth term, Chairman of Wild Life Department, Virginia Federation of Women's Clubs. At this meeting, we received the zoölogical circulars from Doctor Hornaday, of New York, and took action at once in a special resolution offered by me, in favor of the feather proviso. This resolution was printed and sent throughout our state, to our senators and representatives in Congress, and prominent women and men in every direction. In the heat of battle over the Clapp amendment, hundreds of letters were written to Senator Clapp and congressmen throughout the country, by our various club-women, and finally we appealed to President Wilson, "as Virginia's son," to "help us in our struggle to put down this barbarous custom of the slaughter of our wild birds for millinery purposes, to fill the pockets of a few New York feather-dealers." It was my privilege to represent the women of my state in all legislative work, and, when things seemed dark, I formed a committee, and, with the Hon. C. C. Carlin, of the Eighth Virginia District, went in person, and had special interviews with our own senators and others, insisting that they should not only give us their vote, but active work, in this great fight. Our senior Senator, T. S. Martin, was at this time floor leader of the Senate. Virginia certainly did her part in this great struggle and, we feel, had especial weight in the final decision.

In February, I was invited by the Florida Audubon Society, through their President, Dr. William F. Blackman, to give a course of talks in the interest of bird-protection.

After consultation with the National Office in New York City, it was decided that I could leave my work in Virginia for two months, and cover, if possible, the important points before the Legislature met. My work was most interesting, and, I trust, profitable. The many courtesies extended to me by the Audubon Society, Federation of Women's Clubs, colleges and universities, deeply touched me. My visit to Tallahassee was made just before I returned to Virginia. I called at once on Governor Trammell and presented my letter from my own honored Chief Executive, William Hodges Mann. Governor Trammell received me most graciously and gave me one hour conference, when I laid before him the conditions observed during my travels in the state, as to the destruction of forests, fish and bird life. After this delightful interview, I went to the Capitol and was recognized by senators and representatives and given courtesies of both houses. A committee was appointed and an invitation given me to address a joint session of the legislature. I appreciated this high compliment, and accepted, although a little

nervous at the thought of appearing before this august body. The night I spoke, I carried in my hand the mounted Robin, used the year before in the Virginia Legislature, when the children carried in their petitions. I opened my remarks with an appeal for the Redbreast, and then urged the club-women to cease the wearing of aigrettes and the plumage of wild birds as ornaments for their hats. This was followed by an appeal for a State Game Commissioner. Mr. Wallace, of Alabama, was the next speaker, and in a strong address put before this body the needs of the state in game-protection, and thus, through his "eloquent appeal," has won for Florida this long-desired Department of Game. It was a large assembly of distinguished men, and club-women, who came to hear us, in their beautiful Capitol, and throughout the program we had the undivided attention of our hearers.

I cannot fail to mention the hospitality extended me in their home by that splendid president of Rollins College, Dr. William F. Blackman and his charming wife, who are doing a great, grand, educational work for the state of Florida in the Audubon Society, and better still are training hundreds of young men and women for future life-work. I would also mention the courtesies extended me by Mr. and Mrs. McAdow, Punta Gorda; Mr. and Mrs. George N. Chamberlain, Daytona; Mr. and Mrs. Algernon Hayden, Orlando; Dr. H. R. Mills, Department of Health, Tampa; Mrs. Katherine Tippetts, St. Petersburg, and many others who assisted in making the way plain. I visited the "Mosquito Inlet" Bird Reservation, with Mr. and Mrs. George Chamberlain, and had the pleasure of spending the day at Ponce Park and lunching with Mrs. Paccetti, the attractive wife of Captain Paccetti, Chief United States Game Warden. I also had a visit to Orange Lake Rookery, and studied the birds at close range. Both of these expeditions were delightful, and will be so helpful in my talks this winter. On my return to Virginia, I went to Clifton Forge, to speak there and give a report of Audubon work in the state of Virginia before the Virginia Federation of Women's Clubs, and reached Charlottesville, May 4, Virginia Bird Day, when I addressed the schools of that city, and conducted two bird outings. There is great interest at the University of Virginia in bird life, and a fine chance to study bird life on the beautiful campus of that historic place.

Mr. O. S. Campbell, of New York, has purchased the historic Smith's Island, off the coast of Virginia, formerly the property of Gen. W. H. Custis Lee and family. I wrote to Mr. Campbell, urging him to make of this island a bird-preserve, and to prohibit the collection of eggs, etc., on his property. He replied, assuring me of his hearty coöperation in all bird-protection on his property, and desired to become a member of the Virginia Audubon Society, and sent me his check, which I forwarded at once to our president, Mrs. William Harris, Richmond, Virginia. In the space allowed in *BIRD-LORE*, it is impossible to give more than a glimpse of the vast work done in Virginia and Florida by your agent. It has been most enjoyable to meet so many



MR. JAMES HENRY RICE, JR.
FIELD AGENT OF SOUTH CAROLINA

delightful people interested in this work in the Old Dominion and the Land of Flowers, and thus, through you, I would say to teachers, principals, superintendents, professors, presidents of colleges, and last, but not least, the hundreds of my loved club-women, who have so graciously aided me in this beautiful work entrusted to me, thank you, one and all, and may God speed you in your splendid efforts in your respective departments of work.

REPORT OF JAMES HENRY RICE, JR., FIELD AGENT OF SOUTH CAROLINA

Through no fault of Mr. Rice, his report was not received in time to be included with the reports of the other field agents at this time. I wish our readers, however, to know that Mr. Rice has been very active in his field of endeavor the past year.

He spent much time investigating and locating the different colonies of Egrets which nest in South Carolina. He also kept track of the work of the wardens employed to guard the colonies. He was active in securing the arrest and conviction of some parties who attempted to "shoot up" one of the rookeries of breeding Egrets.

He visited Washington, D. C., in the interests of the McLean Bill for the protection of migratory birds when this measure was pending in Congress. During the heat of our campaign for the feather proviso in the Tariff Act, Mr. Rice spent a week or more in Atlanta, stirring up the people and bringing pressure to bear on Senator Hoke Smith, who opposed our undertakings on the floor of the Senate.

Mr. Rice gave many lectures in South Carolina and Georgia on the subject of bird-protection during the year. He has also been active in securing additional members for the Association. He is one of our most valued field agents, is a speaker of the highest ability, has perhaps the best scientific library in the southern states, and is a most proficient and engaging gentleman.—T. G. P.

REPORT OF DR. EUGENE SWOPE, FIELD AGENT FOR OHIO

From your field agent's point of view, the Audubon work and interests in Ohio at the close of another year look bright at present and promising for the future. Through the means of newspaper articles, circular letters, leaflets and voluminous correspondence, by some lectures, and by incessantly reminding the friends of the birds that one of their duties is to make converts to bird-protection, the Audubon Society and its aims and purposes is becoming generally understood throughout the state. Such was not the case two years ago. This alone seems an accomplishment worth while.

Valuable assistance has been given our educational work by Mr. Frank



DR. EUGENE SWOPE
FIELD AGENT FOR OHIO

W. Miller, State Commissioner of Common Schools, in publishing for us in his Arbor and Bird Day Annual some specially prepared material relating to Junior Audubon Classes. Forty thousand copies of this annual were distributed among the teachers of the state. Unfortunately, however, this distribution took place just previous to that period of days when the floods over the state diverted attention from all things else.

The Supervisors of Elementary Agriculture, Messrs. Clark, Harbourt, Ivins and Goll, have given much assistance to the Junior Audubon work, and are continuing to do so.

Cincinnati newspapers have been liberal in giving notices of meetings, and have occasionally published some edited-to-death short bird articles. As yet the editors of these several papers are not aware of the widespread interest in bird life. The Ohio "Star," a Columbus newspaper, must have special mention, and deserves our unstinted thanks for its readiness to publish a series of bird articles, which were widely copied by other papers and greatly helped in securing new and better legislation in Ohio in the interest of wild life.

Since the interest in Ohio in the wild birds began growing and spreading into corners and communities previously innocent of Audubon work, there have arisen many who are beginning to give lectures, and lantern and chart entertainments, on subjects of birds and their economic value. These workers do not always associate themselves with the Audubon Society, but their influence is helpful and their teachings correct, and it is to be hoped that their numbers will increase. Gradually they are associating themselves with the Audubon Society.

Another form of activity in behalf of the birds, that has not until this year come to notice, is the use of a single set of Audubon leaflets by the teacher to instruct a class of forty or more. These teachers are not on our records and are not secretaries, but they are certainly doing Audubon work. Questioned as to why they follow this method instead of organizing a Junior Class, where each child may have his own leaflets, they invariably answer that they hesitate to ask the children to pay ten cents membership fee, and because they are apprehensive of criticism from parents, or the school board, or both, since bird-study is not included in the course of study. These teachers are each shown how they can have their classes pay the Audubon class membership fee and use the leaflets as supplementary reading and the outlines for the regular drawing-lesson. Some have acted upon the suggestion.

The opposition that came from superintendents and principals against progressive Audubon educational work in Ohio is very perceptibly lessened. Open statements of this opposition, and discussion of it brought bird-study into notice, with the result that it is considered without prejudice, at least.

What last year appeared to your field agent as conservatism, and even prejudice against Audubon educational work among many Ohio educators, is better understood this year. There was probably not a single case of preju-

dice, only caution, and but few cases of conservatism. The hindrance to our work lies in the fact that there is a surprising lack of knowledge of the existence of an Audubon Society, and, of course, a total ignorance of its aims and purposes, and rather than admit in any way that they are unfamiliar with the organization and its work, some appear to oppose it. Opposition without reasons was at first mistaken for prejudice. This cannot continue much longer, but it makes it clear to your agent that in Ohio at least, before there can be that widespread interest and measure of public attention that Audubon educational work deserves, we must educate the educators. Some effective method of doing so should be put into operation as soon as possible.

A successful superintendent in a town that has 2,000 school children was good-naturedly and politely, but firmly, refusing to permit the organization of even one Junior Class, and your agent had dropped the matter and was about to leave; but, thinking the opinion of such a one must have value, asked him as man to man for his real reason in opposing Audubon educational work. He flared up in this manner:

"See here, sir! I don't know who that Audubon fellow is, but he must run a big business and must make a lot of money out of this in some way, to pay men like you to go about the country selling his bird pictures. You will have to get permission from the Board of Education before you can sell any in the schools of this town."

On my first opportunity, I mailed to him a short biography of John J. Audubon, and enclosed a personal note, a part of which was his own words, as just quoted.

Those unacquainted with the fact can hardly realize to what extent the Ohio floods last spring interfered with the Audubon educational work. Some orders for leaflets were lost before they reached this office; some orders that had been filled and expressed never reached their destination, and there were numerous classes partially formed with membership fees paid. Some of the teachers only waited for the stragglers to come in, and, when the flood came, instead of ordering leaflets, diverted their class fees to the flood-sufferers' funds. Numbers of others, who would have formed classes and enjoyed bird-study, were totally diverted from this by the flood.

Within the last year, there have been some interesting phases developed in state legislation touching the welfare of wild life. The State Game and Fish Commission had been abolished, and the Agricultural Commission delegated to the work previously performed by the Game and Fish Commission. A hunter's license of \$1.25 has been instituted, and, best of all, Bobwhites, Doves, and the Ruffed Grouse have been given a closed season until 1915. The law authorizes the expenditure of 50 per cent of the game funds for the purpose of restocking, and an export limit for non-resident license has been reduced by half. The Audubon interests in Ohio were influential in bringing

this to pass. With the federal protection of migrating birds, Ohio's avifauna will fare pretty well for at least two years.

Probably one of the best proofs of genuine interest in behalf of the birds was developed during the struggle at Washington to have the McLean Bill and the feather proviso become laws. Large numbers of people were so deeply interested that they not only wrote letters themselves, but volunteered to get others to do likewise; and teachers had their whole classes sign petitions, likewise their parents, and send to Washington as evidences of their deep interest in the protection of the birds.

Some superintendents and principals who did not know what was really going on at Washington, and who do not know how the country has come to regard its wild birds, looked upon the zealousness of their teachers with discouraging indifference; but, when these same teachers and classes began to receive letters from the congressmen expressing their readiness to do the best they could for the birds, the heads of these schools began to understand that the matter was worth the consideration of intelligent people. From your field agent's estimate, this fight at Washington, and what it demonstrated here, was worth far more to the cause of bird-protection, and aroused far more interest in the birds, than almost anything else that could have happened. People are asking on all sides, Why this fight over the birds? Poor Senator Reed, of Missouri, was unconsciously the spokesman for a multitude of laggard as well as perverted minds.

The Ohio Audubon Society is very grateful to the National Association of Audubon Societies for the liberal help given, in making progressive Audubon educational work possible. And there are many thousands throughout the state who are glad to have me express for them their sincere thanks to the National Association for its valiant fight at Washington in behalf of the two laws that mark this year the greatest in the history of bird-protection.

REPORT OF E. V. VISART, FIELD AGENT FOR ARKANSAS

After the adjournment of the Legislature of 1913, and no advancement made in the way of laws for the better protection of the wild life of Arkansas, it looked as though I might as well give up the fight. But after days of careful consideration, and realizing that I had been successful in creating some interest among our people, I determined to take up the work with renewed efforts, and continue until Arkansas was placed in the front ranks of wild-life protection.

Since that time I have been visiting the different counties in the state, so far as my limited means would permit, spending from two days to a week in each town, interesting the representative citizens, and showing to them, by photographs, and in other ways, the existing conditions, and urging them to talk with their representatives, and insist that they, during the session



MR. E. V. VISART
FIELD AGENT FOR ARKANSAS

of 1915, support a bill which I outlined to them, that will furnish protection, and prevent the complete extermination of our birds and animals.

In this way I have succeeded in getting some fifteen hundred leading citizens of the state to join our Association, and agree to use every effort to influence their representatives. I have also succeeded in interesting some of the leading ladies of the state in the Audubon work, and expect within the next thirty days to have this organization completed; and with the ladies who have agreed to lead in this work, I have a strong hope of some very effective work being done within the next few months.

While the conditions are yet very bad in Arkansas, I can see a decided improvement. Among the most noticeable indications is that the citizens are taking more interest in reporting violations to the officers, and, in many instances, the local officers, who are entrusted with the enforcement of the game laws of Arkansas, are becoming more active in the performance of their duties along this line.

I feel that, if I can continue the line of work that I am now carrying on, there is but little doubt that the Legislature of 1915 will give us some relief.

I find that, generally speaking, the people of Arkansas are very much pleased with the new migratory bird law, and I feel that this will be quite an encouragement to our legislators to pass state laws, furnishing protection to our native birds.

In addition to the interest being manifested by others, I find that a great many of our school teachers are devoting some time to teaching the children the great necessity of protecting the birds; and I feel that, after the organization of the Audubon Society, there will be no trouble in getting certain days set aside as Bird Day in our schools.

REPORT OF WILLIAM L. FINLEY, FIELD AGENT FOR THE PACIFIC COAST STATES

The last year or two has shown a marked improvement in the efforts of different state authorities toward wild bird and animal protection. In the past, many states have treated game-protection largely from a political point of view. They have paid little or no attention to scientific study and research. The past year has shown an organized plan of work in the Pacific coast states to secure the greatest efficiency in wild-bird and animal-protection.

In warden service, for instance, both in California and Oregon, a system of examinations is to be used for the purpose of selecting game-wardens who are capable not only of giving police service, but who are fitted to carry on research and educational work.



WM. L. FINLEY
FIELD AGENT FOR THE PACIFIC COAST

LEGISLATION

During the spring of 1913, legislative sessions were held in all the Pacific coast states. This year has proved a marked improvement over the laws of previous years. In Washington an effort was made to do away with the county system of game-wardens, and have one man in charge of game-protection work. The effort was not entirely successful, but the step was in the right direction. Although the law provides for one man as game-warden over the western part of the state, and a chief deputy game-warden to oversee conditions in the eastern part of the state, yet each county has its own wardens, and the state game-warden has more of a supervisory position, without the real authority that is needed.

In California, a number of organizations interested in the conservation of wild life joined together and carried on an active and successful campaign in the securing of better laws, and preventing the passage of measures that would have been detrimental to wild bird and animal protection.

Among the beneficial laws that were passed in California was one authorizing the Fish and Game Commission to carry on the educational work and scientific investigations. An appropriation of \$5,000 was made for this purpose. While there had been a license required to hunt, additional funds were provided for game-protection by the passage of an angling license law. Aliens are prohibited from hunting and carrying firearms.

A strong effort was made by market-keepers and hotel men to permit the sale of wild game. Although ducks may still be sold in California during the month of November, yet an effective law was passed against their shipment, which will put a stop to the large amount of game handled in San Francisco markets in the past. A closed season is provided for Rails, shore birds (except Wilson Snipe), Band-tailed Pigeons, Wood Duck, Ibis, and sea otter. The possession of plumage of wild birds, except for scientific purposes, is prohibited. Measures were passed for the propagation of wild game in captivity, and also for providing civil service for fish- and game-wardens.

A strong effort which was made at former legislatures to remove protection from Meadowlarks, Robins, and other songsters, was made again this year; but the lovers of birds were successful, as in former years.

Practically all the game laws were abolished in Oregon and an entirely new code was adopted, following the permissive form of game law, which has been used in Colorado and New York. This new code sets forth the doctrine of the state ownership of all game. It divides the state into two game districts, one west of the Cascade Mountains, the other east of the Cascades. Among some of the more important features are the prohibition of the sale of all game, except that raised in captivity; a tagging system for the sale of all game raised in captivity or imported from foreign countries; the establishment of an alien license law with a fee of \$25; the restriction of the use

of firearms by children under fourteen years of age; the seizure and sale of all dogs, guns and other implements or apparatus used in hunting or fishing illegally; a provision against the possession of plumage of native birds except for scientific purposes, and strict measures against the pollution of streams.

GAME REFUGES

Inasmuch as the advance of civilization has done away with the haunts and breeding-places of wild birds and animals, six large game-refuges, embracing 2,654 square miles or 1,698,320 acres, were established by a special act of the Oregon Legislature. These reservations are as follows:

1. The Imnaha Game Reservation, which is situated in the northeastern part of the state, and was created for the purpose of protecting mountain sheep, mule deer and Franklin Grouse. There are likely a few elk still left in the boundaries of this reservation. The area of this reservation is 560 square miles, or 358,400 acres.



ELK IN WALLOWA RESERVE, OREGON. INTRODUCED FROM JACKSON HOLE, WYOMING
Photographed by Ross Leslie

2. The Deschutes Game Reservation is situated in central Oregon, and contains 1,296 square miles, or 829,444 acres. This reservation was created for the purpose of protecting mule deer and antelope on their winter range. At the same time, it includes a good portion of the summer range of these animals, and is also the natural home of the Sage Hen or Sage Grouse.

3. The Stein's Mountain Reservation is situated in southeastern Oregon, comprising most of the Stein's Mountain range. There are $681\frac{1}{2}$ square miles, or 435,920 acres in this area. This land has been set aside for the purpose of protecting mountain sheep, mule deer, and antelope. There are still



BRANDT'S CORMORANTS ON THREE ARCH ROCKS RESERVATION, OREGON
Photographed by Wm. L. Finley

a good number of mule deer on the range, and also a large number of Sage Hens within the reservation.

4. Sturgeon Lake Reservation contains $6\frac{1}{2}$ square miles, or 4,160 acres. This area, on Sauvies Island in the Columbia River, was created for the purpose of making a resting-place for water-fowl. This was considered necessary on account of the great amount of shooting that occurs along the Columbia River.

5. Capitol Game Reservation includes the city of Salem and the land surrounding this city in Marion and Polk Counties. This area contains 56 square miles or 35,840 acres. It was created for the purpose of affording a large central refuge where game-birds may be propagated and distributed over the country surrounding.

6. Grass Mountain Reservation, situated in southwestern Oregon, in the Coast Range, was created primarily for the purpose of protecting a herd of elk. There are also many deer ranging on this area. This contains 54 square miles, or 34,560 acres.

Another very important law passed at the last session of the Legislature provided that it is unlawful to hunt or trap wild birds and animals within the corporate limits of any town, city, public park, or cemetery, or on the

campus or grounds of any public school, college or university, or within the boundaries of any watershed reservation set aside to supply water for domestic use to any city, town or community.

Another section of the same law provided that it is unlawful to shoot game from any public road or railroad right of way. The Oregon law provides that the shore of the Pacific Ocean, between ordinary high tide and extreme low tide, and from the Columbia River on the north to the California line on the south, is a public highway, so all hunting or killing of game along the beach is prohibited.

In addition to the lands set aside by special act of the Legislature, a large number of private lands have been made into game-refuges by drawing up agreements with the State Game-Warden, as provided in the game-refuge law of 1911. Large tracts of land under this law have been set aside in almost every county in the state.

One of the mistakes made at the last session of the Legislature was that the Duck season varied so widely in different counties, giving it an entire lack of uniformity throughout the state. This, however, was corrected by the passage of the federal law for the protection of migratory birds.

Every effort was made during the past year by Audubon Societies, and others interested in wild-bird and animal-protection, to secure the passage by Congress of the Weeks-McLean Bill, and also to bring to a successful termination the fight concerning the amendment to the Tariff Bill preventing the importation of plumage. In all of these measures, the Oregon Audubon Society had the active assistance of Governor West and Senators Chamberlain and Lane, as well as representatives in Congress and many other influential men in the state.

The successful termination of the plumage amendment was due, to a large extent, to the active efforts of Senators Chamberlain and Lane in the Democratic Caucus.

This is not the first time that Senator Chamberlain (who is an honorary member of the Oregon Audubon Society) has assisted in the cause of bird-protection. During the legislative session of 1909, when he was Governor of Oregon, a bill passed both branches of the State Legislature, authorizing farmers, orchardists, and gardeners to shoot any wild bird that was doing damage to crops. This would have legalized the unlimited slaughter of song-birds and other birds of economic value but for the veto of Governor Chamberlain.

EDUCATIONAL WORK

In order to secure a more active interest in bird-protection among the schools, William R. Lord, of Dover, Massachusetts, was employed during the past year, in conjunction with the Oregon Audubon Society and State Superintendent of Public Instruction Alderman. Mr. Lord gave a series of

sixty-three talks and stereopticon lectures in schools throughout various parts of the state.

Arrangement was also made with Mr. John F. Bovard, of the University of Oregon, to give a series of illustrated lectures on the habits and economic value of wild birds. These were delivered at various times during the year and in different sections of the state.

Mr. C. F. Hodge, formerly of Clark University, Worcester, Massachusetts, has been employed by the state of Oregon to carry on his plan of civic biology.



COUGAR IN TREE, OREGON. A COUGAR KILLS ON AN
AVERAGE FIFTY DEER A YEAR
Photographed by Wm. L. Finley

He will work in conjunction with the State Board of Fish and Game Commissioners, and with the State University. A part of Mr. Hodge's time will be devoted to lecturing on wild-bird-protection, both to school children and to teachers, to secure a greater interest in other phases of outdoor life.

Arrangements have also been made for the services of Mr. Bruce Horsfall, of Princeton, New Jersey, in conjunction with the educational campaign, to furnish popular illustrated material on the study of wild birds, animals, fish, and other phases of outdoor life. The idea will be to work up a complete natural history of the state in the form of leaflets which may be used for educational work.

During the next two years, a complete biological survey of the state is to be undertaken by the State Board of Fish and Game Commissioners, in

conjunction with the Biological Survey of the Department of Agriculture at Washington. The different educational institutions in the state—the University of Oregon, Oregon Agricultural College, Reed College, and others—will actively assist in the work by putting men in the field and undertaking the investigation of certain problems or districts.

ELK

During the winter of 1911 and 1912, fifteen elk were transported from the Jackson Hole country in Wyoming, and liberated on the Wallowa Forest Reservation in the northeastern part of Oregon. On account of the difficulties in transporting these animals and the long distance they were hauled, several were injured; four cows and one bull died during the winter. The increase during the spring of 1912 amounted to one calf.

During last winter, a herd of fifteen more of these animals was secured from the Biological Survey, and released in an enclosure of 2,500 acres in Wallowa County. Since that time, a number of calves have been born, and the herd has been materially increased. During the transfer from the town of Joseph to the pasture, one of the cows escaped. This animal has become quite tame, and is often seen with a herd of cattle along the foothills.

A great deal of interest has been aroused through southern Oregon, especially Grant's Pass, Roseburg, Riddle, and Ashland, in an effort to secure the introduction of elk to replace the large herds that were formerly abundant in the Cascade and Coast mountains. The movement was started at Grant's Pass to make a large game-refuge, to give these and other animals and birds more careful protection. One citizen of that locality subscribed \$500; \$1,100 was raised, and it is expected that \$2,500 will be raised at Grant's Pass to carry out this plan.

Inasmuch as the species of Coast, or Roosevelt, elk that now inhabits the Cascade and Coast mountains is not very abundant, it has been thought best to prevent their interbreeding with the elk (*Cervus canadensis*) from the Jackson Hole country.

In order to secure Coast elk to be liberated in this section of the country, Mr. L. Alva Lewis, Field Agent for the Biological Survey, recently made a trip of investigation into the Olympic Mountains. Plans are on foot to capture a number of these animals during the coming winter, and transfer them to southern Oregon.

PREDATORY ANIMALS

In various sections of the Pacific Coast, the larger predatory animals, such as cougar, wolves, and bobcats, are still abundant. These animals are causing a large amount of destruction, especially to deer and various species of game-birds. There are several packs of wolves in the Cascade Moun-

tains. They do considerable damage every year, not only to deer but to domestic animals. It is difficult to say just how many deer a pack of wolves will destroy during the winter season. These animals hunt together and are very expert at killing deer. A cougar will kill an average of fifty deer a year. Bobcats kill many fawns and game birds. It is therefore necessary that active steps be taken against these predatory animals. In some cases hunters have been employed, but the main results are expected to be accomplished through the raising of the bounties, part of which is paid out of the Game-Protection Fund. At the present time in Oregon there is a bounty of \$25 on wolves, \$25 on cougar, and \$3 on bobcats. The state also pays a bounty of \$1.50 on coyotes. In California, there is a bounty of \$20 on cougar. In Washington, the bounty is also \$20 on cougar, with a provision that \$5 may be added from the county fund.



AN OREGON WILDCAT. IN FIR TREE FIFTY FEET FROM GROUND
Photographed by Wm. L. Finley



MRS. HARRIET W. MYERS
SECRETARY CALIFORNIA AUDUBON SOCIETY

REPORTS OF STATE SOCIETIES

Arizona.—Mr. Herbert Brown, President of the Arizona State Audubon Society, died May 12, 1913. Mr. Brown was an authority on birds of the Southwest. His death is not only deeply mourned by members of our Society, but is felt by lovers of birds and animals all over the state.

Notwithstanding Mr. Brown's long illness, our Society, encouraged by inquiries from outsiders, met and outlined some interesting and to-be-hoped useful work for the coming year.

An Audubon Society was organized at Phoenix, Arizona, early last spring. Mr. F. Rogers, the State Game-Warden, was elected President. Mr. Rogers has proved himself an efficient officer in both capacities. To have the State Game Warden so active is very encouraging to Audubon workers all over the state.—*MRS. HARRIET B. THORNBER, Secretary.*

California.—The past year has, on the whole, been a successful one for the California Audubon Society.

Calls for information concerning our work have come from all parts of the state, and in response we have distributed thousands of our own leaflets, as well as those of the National Association.

In many schools, nature-study has been introduced, and we have found the teachers in these schools more than glad to have the children instructed in the value and beauty of bird life. The children have responded readily to this instruction, in several cases organizing Junior Audubon Societies. In Los Angeles, under the supervision of Director of Nature-Study, Dr. Charles L. Edwards, thirty talks and illustrated lectures were given in the schools in two weeks by Audubon workers. Many schools in other cities in the southern part of the state were also visited, as well as the branch libraries in Los Angeles. We have had more calls than ever before for our bird slides, to be used in women's clubs and organizations other than schools. In the northern part of the state, Miss Gretchen L. Libby, Educational Assistant of the Fish and Game Commission, continued her lecture work for a part of the year, also issuing a monthly Bird Bulletin to the teachers. Unfortunately, this work of Miss Libby's has been discontinued for the present on account of lack of funds.

The past year having been a legislative one, our energies have been directed toward retaining what we have already gained in bird-protection, as well as securing better protection to certain fast-disappearing species, notably the shore-birds. Toward this end, we joined with seven other organizations (Sierra Club, California Academy of Sciences, Tamalpais Conservation Club, Biological Society of the Pacific, Pacific Coast Paleontological Society, State Humane Society, and Cooper Ornithological Club) in forming the "Associated

Societies for the Conservation of Wild Life." With Dr. Wm. F. Bade, of the Sierra Club, as President, and W. P. Taylor, of the Cooper Club, as Secretary, this organization did splendid work toward educating the people regarding the value of our birds, issuing two splendid "Wild Life Calls," as well as other leaflets. A special effort was made to pass the Flint-Cary No-Sale-of-Game Bill. This bill, amended so as to allow the sale of Ducks during November, but no shipment of the same, was passed and signed by the Governor. The bill, giving absolute protection to over thirty-eight species of waders and shore-birds, passed both Houses, but was not signed by Gov. Hiram Johnson. Just why the man posing as a conservationist should have vetoed so splendid a bill is still a mystery. We rejoice, however, that the Federal Migratory Bird Bill will give protection to our shore-birds, and that the Band-tailed Pigeons have a closed season of five years.

Though occasionally there comes to us the report that someone is killing Mockingbirds to feed the cat, on the whole I feel that our efforts have never been in vain, and that, because of our labors, the people all over the state have a greater appreciation of bird life, and, in consequence, the birds are becoming more abundant in many parts of California.—HARRIET WILLIAMS MYERS, *Secretary*.

Colorado.—The Colorado Audubon Society was organized on March 8, 1913, at a meeting at the Public Library in Denver. Mr. E. R. Warren, of Colorado Springs, was elected President, Dean S. Arthur Johnson, of Fort Collins, Vice-President, and Mrs. F. A. Bushee, of Boulder, Secretary-Treasurer. The Society has nine trustees—the three officers given above, and Dr. W. H. Bergtold, Denver; Dr. R. W. Corwin, Pueblo; Dr. H. P. Johnson, Cedaredge; Mr. L. A. Adams, Greeley; Miss Anna P. Livingston, Canon City; and Mrs. Alexander C. Hitzler, Denver. The Society was incorporated in June.

The first efforts of the Society were necessarily directed towards the securing of new members, and there are now 11 sustaining members, 32 members, and 8 junior members,—51 in all.

At the time the Underwood Bill was before Congress, letters were written by the President and Secretary of the Society to Colorado's senators and representatives at Washington asking their coöperation in supporting the "Feather Proviso." Letters were also written by individual members of the Society. It is pleasant to be able to say that answers were received from the majority of our congressmen indicating that they were heartily in favor of the proviso and would support it.

The President of the Society gave two talks, illustrated by skins, in the schools of Colorado Springs, before the close of school last spring, and two of the other Colorado Springs members, Miss Robbins and Doctor Arnold, also gave talks. The Secretary also gave a talk before the Bird Club in Denver.

The Society is now making a collection of lantern-slides of birds, to be used in connection with lectures offered by its members in the future. The collection already numbers 135, and others have been promised. These slides will also be loaned to schools and to any responsible person, for educational purposes, at a nominal rental. A special effort will be made, this year, to interest children in Audubon work through illustrated lectures. There has also been some demand for such lectures from women's clubs.—*BERTHA BUSHEE, Secretary.*

Connecticut.—Another year in the history of the Connecticut Audubon Society has come to a close, and as we who have been at the heart of the work look back over the past twelve months, we feel that, if much has been undertaken, the greater proportion of our plans have fructified.

First of all, the undertaking of a more aggressive work has been decided upon. To merely stand still and hold our own is not enough; we must push forward into wider fields of action, must keep upon the very crest of the wave of bird-protection that is sweeping over the land, and, through federal legislation, making itself felt in other countries.

During the past year, there have been eight meetings of the Executive Committee, with an average attendance of ten; a goodly number when it is remembered that our Board is made up of members representing eight towns some of which have difficult railway connections.

Our work has turned in a new direction—the sending of letters and circulars to influential people in the state, whether members of the Society or not, asking their coöperation in furthering the passage of the two greatest measures concerning bird-protection that have ever been brought before the Federal Government—the McLean-Weeks Bill, providing for the protection of birds during their migrations, and the Tariff Proviso, prohibiting the importation of aigrettes, Osprey plumes, and the feathers, heads, wings, and tails of wild birds.

The scope of these measures, and the great fight through which they became laws, were graphically described at the annual meeting, October 18. Last January, a personal letter was written to each of the ninety-three United States Senators to support the McLean-Weeks Bill. Last summer, when it was learned that the feather-trade lobby in the House was making desperate effort to have the plumage proviso altered so that its power would be practically destroyed, and had succeeded in getting the ear of some conservative men who were unapproachable from a money standpoint, immediate steps were taken to secure the attention of Senator Brandegee by issuing a circular letter calling attention to the urgent need for immediate action. This was sent to nearly 1,000 citizens, asking them to write at once to the Senator.

Many replies were received promising coöperation, and we believe that



MRS. MABEL OSGOOD WRIGHT
PRESIDENT CONNECTICUT AUDUBON SOCIETY

Connecticut was heard from in such a way as to have had definite influence in the withdrawing of the proposed amendment.

We have also been ably seconded in our efforts in behalf of these bills by the press of the state, particularly the Bridgeport "Daily Standard," that being the local organ of the Society.

In addition to this work, 200 circulars bearing upon different phases were sent out at the request of the National Association.

Though we have not, this year, added to our traveling libraries, we have contributed toward the express charges of those already in circulation, as well as toward the cleaning and re-binding of those popular books that are continually showing signs of wear.

Mr. Wilbur F. Smith, a member of the Executive Committee, has amplified the talk, "Through the Year with the Birds," that he gave at the annual meeting a year ago, into a lecture for circulation, and it, together with its beautiful colored slides, has been added to our equipment of traveling lectures.

The libraries, bird charts, portfolios, etc., have been sent to eighty towns having a separate circulation of 197.

Legislative measures at Hartford have been watched for anything that might be of peril to the song-birds, and members were in attendance at the session where the bill proposing to remove protection from the Red-winged Blackbird and Bobolink, as well as from the Grackle and Starling, came up for discussion.

A leaflet concerning the cat was read at the meeting, it having been prepared for publication by Milton S. Lacey and his sister, Miss Lottie A. Lacey. This argument for licensing the cat has been printed by the Executive Committee for circulation. It is most comprehensive and fair to both sides of the problem.

The need for additional funds for the printing and distributing of literature has caused the Committee to make a change in Article IV of our By-Laws, concerning fees. It was ruled that on and after September 30, 1913, all new members (other than teachers, juniors, associate and sustaining members) should pay annual dues of one dollar.

One of the great problems now before us is just how to keep in touch with our thousands of the one-time Junior members, who are now eligible for full and active work.

At the election of officers, Mrs. Mabel Osgood Wright, the founder, was re-elected President, and Hon. George B. McLean was elected an honorary member of the Executive Committee.

There was a total of 836 new members added during the year.—KATHERINE M. SPALDING, *Secretary.*

District of Columbia.—In some ways, this is the best year that our Society has ever had. We have given three free illustrated lectures, to which

the public were invited. The lecturers this year were: Mr. Witmer Stone at our annual meeting in January, Dr. A. H. Wright at our March meeting, and Prof. W. W. Cooke at our April meeting.

Our spring bird-study classes, under the leadership of Mrs. Florence Merriam Bailey, were most successful—if the numbers attending were any guaranty. The four meetings totaled a membership of 129, of whom about 30 were teachers, about 30 Campfire girls, and 8 Boy Scouts. The bird-walks or field meetings were full of interest, as they could hardly help being with such leaders as Prof. Wells W. Cooke, Dr. T. S. Palmer, etc.

We have issued four numbers of 'Current Items of Interest,' but the work which has given us the greatest satisfaction is that our Society, acting on the suggestion of a member of our Executive Committee, Mr. Henry Oldys, was the first to think of including in the new Tariff Bill a clause prohibiting the importation of wild birds. Mr. Oldys at once communicated with twenty-five or thirty of the leading bird-protectionists of the country. Quoting from his report to our Society, Mr. Oldys says:

"A circular was issued outlining the plan and urging support of it. The Society distributed 500 copies of this circular. The National Association of Audubon Societies had 3,000 reprints made, and the Illinois Audubon Society another 1,000. The Society kept in close touch with all other workers in the general campaign, and advised and coöperated with them throughout its continuance.

"It urged the matter in lectures in a dozen states, in newspaper articles and interviews; in briefs filed with the Ways and Means Committee of the House of Representatives and the Finance Committee of the Senate; in representation at a hearing before the Finance Committee; in counsel with various senators and members of Congress, and in numerous other ways."

We are sorry to report the loss of a number of our members through removal from the city and other causes, but glad to report that, in spite of these losses, our membership is decidedly larger than it was a year ago.—HELEN P. CHILDS, *Secretary*.

Florida.—The year may well be felt to be one of congratulation to all interested in bird-protection. Not only in Florida have new laws been passed for our benefit, but the federal laws relative to migratory birds and non-importation of bird plumage will appreciably and favorably affect our state.

The creation by our last Legislature of a Fish and Game Commission, the appointment of a State Commissioner and of County Wardens, the passage of bills for the protection of the Robin, for the prohibition of night shooting, and the use of traps and bait, for the shortening of the shooting season, and the licensing of gunners, are all measures putting us in the advance guard.

The business of the Society has greatly increased in correspondence,



DR. W. F. BLACKMAN
PRESIDENT FLORIDA AUDUBON SOCIETY

distribution of circulars, leaflets, posting of laws, and the distribution of material for the Junior Classes (now numbering some 2,500—one item in this work was the sending out of 20,000 leaflets).

In coöperation with the National Association, our Society employed Miss K. H. Stuart as Field Agent for a few weeks during the winter. Miss Stuart gave talks on birds in twenty-five towns, inspiring teachers and children to form Junior Classes. Dr. Eugene Swope, of Cincinnati, has been engaged for work in the field during the months of December, January, February, and March of the coming winter.

The addition of nine members to the Executive Committee this year has greatly extended the influence of our work. In November our Society presented a paper at the annual meeting of the Florida Federation of Women's Clubs. In December, President Blackman, with Dr. H. R. Mills and Mr. Oscar Baynard, made a special trip to study conditions among the reservations and keys on the west coast.

The auxiliary at St. Petersburg has done efficient work. It aided in presenting a consensus of opinion to our Legislature on the importance of the "Robin Bill," enrolling in its support citizens, teachers, pupils, Boy Scouts, and the press. The Society was instrumental in the passage of a city ordinance, whereby cats are licensed under the same rules as dogs.

At Fort Myers, addresses before the Board of Trade were made by Dr. T. S. Palmer, Mr. C. W. Ward, and Mrs. Hanson of the Federation of Women's Clubs, resulting in new memberships.

At Cocoanut Grove, Mrs. Kirk Munro continues her good work, as also Mrs. Coulson, at Bradenton, and Mrs. Haden, at Orlando.

Mr. George N. Chamberlin of the Executive Committee, writes, in a report for the annual meeting: "Some five years have elapsed since the establishment of the Mosquito Inlet Reservation, and the increase of bird life there is very apparent in the colonies of Pelicans, Gulls, Terns, while throughout its length may be seen many varieties of Herons, Ibis, Gannets, Ducks, and other water-fowl." These reservations, while saving valuable birds from extermination, have value also as restoring one of the picturesque features of our state.

Two prizes were given for essays by High School pupils, and they are offered under like conditions another year. The Hungerford School (colored), Eatontown, has continued its bird-study; its pupils were given two prizes for essays.

We would thank the Sunshine Society and the press of Florida for their support of our efforts to secure an appreciation of our work. But, with all the promise of better conditions for the future, we should not relax our vigilance, for now it becomes our duty to aid in every possible way to establish these new laws.—*Mrs. KINGSMILL MARRS, Chairman of Executive Committee.*

Illinois.—The sixteenth annual meeting of the Illinois Audubon Society was held May 10, 1913, at which meeting the following officers were elected:

President, Mr. Ruthven Deane, Chicago; Vice-President, Mr. John M. Blakely, Chicago; Secretary, Miss Mary Alma Hardman, Chicago; Treasurer, Miss Amalie Hannig, Chicago.

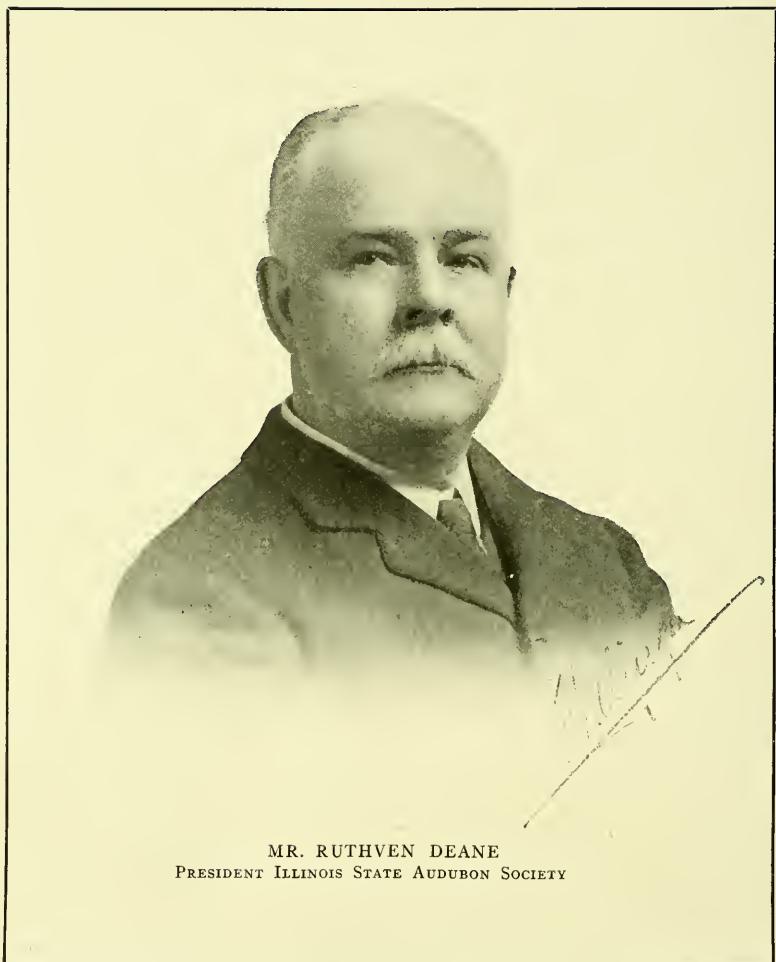
Mr. Henry Oldys was the speaker for the afternoon, and a large audience appreciated his interesting lecture on bird-protection.

The work of the Society for the past year has been characterized by some significant activities. The most important of these is the raising of funds for the placing of a lecturer in the field. At the annual meeting of the Society, in 1912, Mr. Pearson promised us that if we would raise \$500 for this purpose the National Association would meet it with a like amount, and some of our most active members immediately resolved that the amount should be raised, and we are glad to report that we have been fortunate enough to secure the services of Mr. Henry Oldys for a four-weeks' tour of the state, beginning October 20. Mr. Oldys will travel over the state and lecture before the most influential gatherings which can be assembled, and we are expecting large returns from his work.

We have also done a bit of direct bird-protection work in the way of attempting to preserve a colony of Black-crowned Night Herons which were nesting in swamp oak trees in the Sag region near Worth, about eighteen miles southwest of Chicago. The farmers, not appreciating these birds, and thinking they were destroying the young trees, were killing them off. When the facts were brought to the attention of the President, he immediately sent a check for \$25 to the owner of the land, to secure the protection of the birds. It is reported, however, that they did not appear last season, and it is feared that they were frightened away.

The gradual growth in membership has been significant. Six life members have been added during the year, which causes rejoicing, for they are our first and only life members. Thirty-seven active members, four contributing members, and two sustaining members have also been added, making a total of forty-nine new members during the year. The membership as it now stands, consists of 317 active, 12 contributing, 27 sustaining, and 6 life,—a total of 362 members. Unfortunately, there is a continual loss of members through death and moving to other states. Seven names have been removed from our list since last May. One of these has been that of Mrs. John V. Farwell, who died on August 6. Mrs. Farwell was always interested in the work for the protection of birds, having often spoken and written on that subject for special meetings. One of her lectures, entitled "Birds Afield," has been attractively published for the Society, in her memory, by Mr. Farwell. Mrs. Farwell expressed her interest in the Audubon Society by making it a legatee in her will.

The traveling loan collections of slides, pictures, and books have been used by thirty-five schools and like institutions, and the demand for these collections necessitated the making of a new one; so the Society now has



MR. RUTHVEN DEANE
PRESIDENT ILLINOIS STATE AUDUBON SOCIETY

three sets, two containing 100 slides each and the other 60. The libraries have not reached so many people as the slides, owing to the fact that they have to be left at a school for a longer period. There are now five libraries in use, and they have been sent to six schools. One teacher in Rochelle, who has been using the books, writes the following to a friend: "The children are very enthusiastic about bird-study. We went out one day this week, and are going to spend two hours tomorrow afternoon. There is a hedge quite near the school-house which is just overgrown with bushes and grape-vines, and is certainly a good place for birds which nest in bushes or on the ground. I am becoming so interested in bird-study myself that I listen to every call note and song I hear, and even send some of the children out in school-time to take observations. Even then I cannot learn so much as I should like to in a month. Those books are certainly great!"

The picture collections have traveled to twelve schools, and they also have been highly appreciated. There have been 10,893 leaflets sent out to schools and like institutions, and 3,890 to members and individuals. Twenty-five bound volumes of leaflets have been distributed among libraries in the state. Many encouraging letters have been received from the people using these collections, as the following quotations will demonstrate: "We have enjoyed the pictures, and I believe the Audubon Society is rendering a real service in furnishing them to the schools." "The children manifest much more interest in birds since we have had the pictures. I am sure they have made the acquaintance of several birds that were unknown to them before." "I feel that your Society is doing a great work, and trust that it will continue in the course." "The bird slides have been here a week, and we have made good use of them, reaching hundreds of children in La Grange and Hinsdale."

These collections have covered rather a large area in Illinois, reaching places in the southern part. Many leaflets have been sent to teachers in rural communities where birds are abundant, but where museums, public libraries and other helps in their study are wanting. The collections have not, however, reached so many schools, and are not in so great demand, as their value would warrant. Either teachers do not know of them, or else they do not realize the value of such material in their schools. Through the kindness of Mr. Parker, editor of 'The School News,' the Society has been permitted to announce its work in his paper. In this way, some teachers who would otherwise not have known of the collections have been reached, and have availed themselves of the use of our loan sets and leaflets; but we feel that much remains yet to be done toward bringing these collections into wider usefulness.—MARY ALMA HARDMAN, *Secretary.*

Indiana.—The sixteenth annual meeting of the Indiana Audubon Society was held at Logansport, May 2, 1913. Notices and programs were sent to the leading papers and farm journals over the state.

Under the leadership of our faithful President, Dr. D. W. Dennis, the meeting was a great success. The Mayor of the city gave a most cordial welcome. There was perfect coöperation of the city superintendent of schools, county superintendent, and all the teachers. The club women were there with a helping hand, and the ministers added their blessing.

Talks were given to all the school children at the buildings, both parochial and Protestant. On Friday afternoon, school was dismissed, so that the children, with leaders, might take a short walk to study birds.

At the general meetings these topics were discussed: "Popularity of Audubon Work," by Prof. Donaldson Bodine; "Winter Birds in and about Phoenix, Arizona," by Dr. D. W. Dennis; "Birds and Man," by Prof. Stanley Coulter, and "Our Birds," by Amos W. Butler. The meetings were well attended.

Much of the success of the convention was due to the efficient work of the local society previous to our coming. Many of the members are teachers who have carried their love of birds into the school and among their friends. The attitude of the children is "We're for the Birds."

The interest in birds was never so evident as now. Young and old wish to know about bird ways, and the questions most often asked, "How do you begin?" "Tell me where I can get good books and pictures," our Extension Secretary, Mrs. Etta S. Wilson, is most able to answer. She goes over the state, and gives lectures on birds in the schools, churches and farmers' institutes. The State Society purchased a new lantern and slides for this work. This summer, while in Michigan, she gave many talks in behalf of bird-study.

Under the direction of C. E. Newbin, seven local Audubon Societies were formed in different cities and towns this year. Many Junior Clubs have been started with a large membership, the largest being in Evansville and Mishawaka.

The state has one hundred and forty active members, twelve local societies, and eight Junior Clubs. This is a working force of over two thousand, not including many enthusiastic workers of which we have no record.

The State Society purchased many hundreds of bird pictures and leaflets to be distributed over the state. A traveling library, with a few good bird books, has been started. Charles A. Stockbridge of Fort Wayne, has started a good movement. He gives bird talks to the Boy Scouts and takes them on hikes, emphasizing bird-observation and bird-protection.

Through the efforts of Mrs. George M. Naylor, of Ft. Wayne, and our Extension Secretary, the women's clubs are giving one program to the discussion of birds. The programs of those sent to the Secretary were extremely interesting and profitable.

Nature-study in the public schools and colleges is doing much toward better bird-protection and bird-study. In some of the schools, the meetings of the Junior Clubs are made a part of the regular nature-study work. Bird

charts, leaflets, pictures and material for bird-boxes have been bought through the efforts of the teachers and pupils.

A call from Superintendent Callicott, of the Indianapolis schools, asks that a pamphlet be prepared on birds, telling simply of the habits, how to attract birds to the homes, and the care of birds. These stories are to be used in the schools. Amos W. Butler, who wrote "Birds of Indiana," has been chosen to do this work. The President then suggested that these printed sheets be sent to all the schools over the state next spring.

This year, letters have been sent to the State Forestry, State Superintendent of Public Instruction, and the Game Commissioner, to coöperate in the bird-protection.

An excellent Arbor and Bird Day Annual has just been issued. Our President, William Watson Woolen, has contributed an article to this book on "Bird Ways." Governor Ralston has set October 31 as Arbor and Bird Day for Indiana. Programs will be held in every school over the state emphasizing birds and trees.

The department at Washington has recognized the valuable assistance given by our Game-Commissioner, George W. Miles, and his force in looking after the administration of the new federal bird law in this state.

Delegates from the State Audubon Society will be sent to the convention of the Council of Women, which meets in Indianapolis, October 21.

We feel that we have had a most successful year.—ELIZABETH DOWNHOUR, *Secretary.*

Iowa.—The Audubon Society of the state of Iowa has its headquarters in Waterloo, and, since the officers are unsalaried and busy housewives, the work is largely local and by correspondence, although for several years the cause of the birds has been presented by the President before the biennial meetings of the Federation of Women's Clubs.

A paper read last spring before the Waterloo Women's Club resulted in the securing of several new members, and the passage of a resolution favoring the McLean Bill for the protection of migratory birds.

Scarcely had we ceased writing to our congressmen concerning the aforementioned bill, ere the fight commenced against the importation of foreign plumage. Again we joined with zest in this crusade by dozens of personal letters to the House and Senate, and by the mailing of the hundred or more circulars sent out by the National Association of Audubon Societies and the New York Zoölogical Society.

Twenty-eight Junior Members were secured last spring in one of the local schools. One of our members has contributed a small sum toward a fund for the establishment of a bird-preserve. An effort is at present being made to convert into a preserve a beautiful tract of ground known as Cedar Heights, which lies between Waterloo and Cedar Falls; the tract comprises 250 acres.

A number of country homes have been established here, and the residents are very favorable to bird-protection.—*MRS. W. F. PARROTT, Secretary.*

Kentucky.—Results of our efforts toward bird-protection since my last report have been extremely gratifying.

In Kentucky we now have a model law which has been in effect over a year. The law is enforced to the letter, particularly that clause which says one may not shoot upon a farm without the written consent of the owner. Result—no more negroes, foreigners, or city youths infesting our country fields and woodlands, shooting indiscriminately every creature which might come within range.

At present the efforts of our Society are directed toward forming Junior societies among the schools, giving publicity to our state laws and the McLean Law, inducing owners to put up bird-boxes and to feed and protect the birds, to the furnishing of news items concerning bird-protection to the newspapers of Kentucky, and to the preparation of a list (now nearly complete) of the birds of Kentucky.—*V. K. DODGE, Secretary.*

Maine.—The year has been one demanding much activity, both for state and national purposes.

The Legislature was in session from early January until April, requiring constant watchfulness. Two hearings were attended, with good results.

During this year, the two great national measures which have been before Congress—one for the federal protection of migratory game-birds, the other to prohibit the importation of the feathers of wild birds—have called for a large amount of local effort.

Warning notices have been supplied to Audubon wardens and citizens, as heretofore, and the usual lectures have been kept up by local secretaries.—*ARTHUR H. NORTON, Secretary.*

Maryland.—The work of the Maryland Audubon Society for the past year has consisted chiefly of the efforts of its members to bring pressure upon their representatives in Congress to secure the revision of the Tariff Law affecting the importation of birds.

In these efforts they have had the active sympathy of the daily press and many of the most prominent of the women's clubs.—*M. D. STARR, Secretary.*

Massachusetts.—During the past year, the Massachusetts Audubon Society has made successful gains, both in its activities and in its numbers. The usual work of sending out educational leaflets and literature, helpful to individuals in the cause of bird-protection, has been carried on with renewed vigor. The traveling lectures have been in continual demand throughout the state during the year.

The Society has added a third bird chart to its list,—the birds painted in colors by Mr. Louis Agassiz Fuertes, and the explanation of the accompanying pamphlet by Winthrop Packard. All three charts have sold in increasing numbers, and the demand for them continues good.

The Society has kept a careful watch on state legislation, and has done its utmost to promote useful bills and prevent the passage of harmful ones. In this it feels that, with other organizations, it has been singularly successful. It also gave all the aid in its power toward the successful passage of the Weeks-McLean Bill and to the feather proviso in the Tariff Bill.

The work of encouraging local secretaries by circulars and by personal visits from the Field Secretary has been kept up.

During the winter, the Society had a course of three lectures by Mr. C. William Beebe, the subject being Mr. Beebe's researches and explorations among the Pheasant regions of the Far East. These lectures were beautifully illustrated by lantern-slides. The new Field Secretary of the Society gave, during the year, fifty lectures on bird-protection in various parts of the state, arousing everywhere much enthusiasm for the cause and assisting in the promotion of local work in bird-protection.

Besides the regular monthly meetings of the Directors, a public meeting was held in Huntington Hall, which was attended by more than six hundred people. The speakers of the occasion were Mr. Edward Howe Forbush, Mr. Francis H. Allen, Mr. James A. Lowell, Dr. George W. Field, and Mr. Winthrop Packard. Ernest Harold Baynes gave his illustrated lecture on bird-protection, and the meeting was in all ways very enthusiastic and successful.

During the year, ten thousand circulars were sent to selected lists of Massachusetts people, explaining the need of bird-protection and the methods of the Audubon Society in obtaining it. In response to these circulars and to the field work of the Secretary, there has been the greatest increase in membership of the Society during any year since it was organized. The sustaining members total 1,570 and the life members 150. In this connection, special praise should be given to the work of Miss Jessie E. Kimball, who has been Secretary and Treasurer of the organization during the past year, in organizing Junior Classes. As a result of this work, the total enrollment of Juniors who have been or are now receiving instruction in bird-lore and bird-protection in the Society is 8,951. The resignation of Miss Kimball, who has been connected with this Society for a great many years, was a matter of great regret.

WINTHROP PACKARD, *Secretary.*

Michigan.—Probably the most far-reaching work accomplished by our Society during the past year was the securing of a law forbidding the purchase and sale of Egret plumes, a law providing for humane teachings in the schools, and the securing of parks as bird sanctuaries. Both the National

Association and the American Humane Education Society aided financially on the legislative matters.

Last winter, negotiations were opened up with the manual training instructor of the Detroit schools regarding the making of bird-boxes by the school children. As a result, 1,500 boxes were made. A number were put up and used by Wrens, and for the first time for years Bluebirds nested in Detroit. This, in spite of the fact that the boxes were made for Wrens and were rather small for Bluebirds. At present we are taking up the question of having the schools make winter shelters and feeding-stations for birds. Both Detroit and Grand Rapids will do this work.

We have been urging the erecting of bird-boxes in cemeteries, with success here and there. The larger cities of the state have been requesting information in regard to plants that will attract birds. In some cases, I have visited parks and made suggestions which have been or are being carried out.

Meetings have been held with A. C. Carton, Secretary of the Public Domain Commission, and arrangements are being perfected to give our Society a lease on an island in Lake St. Clair, where large numbers of the Common Tern nest. I visited the island in June, and found 200 eggs and young. We had a watcher, and kept in weekly touch with events. Egg-collectors are still with us, and were chased away twice. I visited the island the last of August and found about 2,000 Common Tern, 200 Black Tern, 500 Herring Gulls, besides a few Bonaparte Gulls, Spotted Sandpipers, Solitary Sandpipers, and Semi-palmated Plover. About thirty pairs of Spotted Sandpipers nested on the island. We are going to change the name from Sand to Bird Island. I have given the state authorities a list of the islands in the Great Lakes that we would like set aside for preserves, and encouraging progress is being made in securing them, especially in Lakes Michigan and Superior.

Our Society gave every encouragement possible in furthering the two bills before Congress, by writing numerous letters, securing endorsements in meetings of various sorts, and by articles in the press—all of which were sent to Washington. We were indebted to both the National Association and Mr. Henry Oldys in directing our work.

During the year, I have given seventy-two lectures and talks on birds and wild life, and written twenty-seven articles for publication on the same subjects. During the past summer, I carried on research work on the mortality of wild-bird life at the University of Michigan Biological Station, Douglas Lake. Records were kept of the loss of eggs and young during the nesting-season under natural conditions and compared with previous records for nesting-boxes, with the result that a percentage of thirty in favor of the nesting-boxes was shown. The results will be published by the Michigan Academy of Science.

Last winter, we were able to secure a few more rural mail-carriers to carry food for the winter birds. By this method, we are also able to estimate

the winter-bird population, and were surprised to find it more than double what we expected. Towns along the shore were induced to feed the Gulls and other winter birds, and much good work was done along the shores of Lake Huron, especially at Muskegon and Ludington.

I examined three hundred essays received from the schools of the state in a contest for medals given by W. B. Mershon, of Saginaw, on bird subjects. Further prizes for books are now being prepared for announcement. Our traveling set of lantern-slides has been in constant use.

We have been more active in the schools than heretofore. More than one hundred addresses have been given by Mrs. Edith C. Munger, of Hart, our Secretary; Mrs. Anna Walter, of Marcellus, and myself. At present there is a constant demand from the schools for literature, lectures, methods of making bird-boxes, for making bird-shelters, information regarding the feeding of winter birds, and the best ways to carry on bird-study. We are presented with the greatest opportunity we have ever had, but, unfortunately, are unable, through lack of funds, to keep up with the demands. We are obliged to select the centers where we can accomplish the most. Recently, I spent two days and a portion of a third addressing the schools of Grand Rapids and societies. I am arranging to take up the same work at Lansing.

We are in coöperation with the farmers, through the State Grange, but are unable to attend the meetings we are invited to address, as many are held at distances that call for a heavy expense. I have prepared outlines for the Grange Bulletin, and help in this way to keep the bird question before the farmers. The Associated Press has made us an offer to provide for space in the newspapers of the state for the Audubon work. This matter will be taken up within the next few weeks.—*JEFFERSON BUTLER, President.*

[Since the receipt of the above report we have been shocked to receive notice of the death of Mr. Butler in an automobile accident.]

Minnesota.—The work of the Society in this state has been along educational and legislative lines. The President of the Society spoke on "Birds and Game-Protection" before large audiences in several of the schools of St. Paul, Minneapolis, St. Cloud, Bagley, and Baudette. At Bagley he conducted a four-weeks' class in a Teachers' Summer School in Bird-and-Nature-Study.

The Secretary of the Society was instrumental in organizing a Game-Protective Club in the city of Minneapolis, and took active part in its meetings and discussions, and delivered one lecture before them.

During the period in which the Legislature was in session, members of the Society contributed articles to the daily papers in which they protested against some vicious measures that were before the Legislature, and advocated some desirable changes in the law.

A special committee of the Legislature on Game and Game Laws invited

the President of the Audubon Society to attend one of their meetings. The meeting lasted about an hour and a half, during which time your President was given ample opportunity to advocate the work and the sentiment of the Audubon Society before this committee. Many interested visitors were present, and his testimony and recommendations were reported in the press, and most of the recommendations were enacted into laws. A bill allowing spring shooting was killed, as was a similar bill which intended to withdraw permanent protection for birds and game from the state and national forests within Minnesota. Your President strongly advocated that for Minnesota the Mourning Dove be put on the "No Game" list, and be given permanent protection, and he also strongly advocated a closed season for bear, the same as for other fur-bearers. The black bear is certainly a harmless animal, and its fur in summer is worthless, but large numbers of boys and men still think it is a big, heroic thing to shoot a bear. These two recommendations, however, have not been enacted into laws, but we expect to press them at the next meeting of the Legislature.—D. LANGE, *President.*

Nebraska.—The Nebraska Audubon Society has little to report other than its usual rather limited activity. We made a most decided effort in behalf of the plumage clause in Schedule N, as a Society and individually. All of our representatives and senators were reached, and from many different directions. The response from the women of Nebraska was very gratifying. A large percentage of the club and society women of Omaha signed our telegrams of protest sent to Washington against the lobby of the feather trade.

Interest in bird life increases generally throughout the state. The study of birds is being cultivated by our county and state school superintendents.

Nebraska rejoices in what has been achieved in federal legislation.—Joy HIGGINS, *Secretary.*

New Jersey.—During its third year, this Society has given special attention to certain features in its field of endeavor. It has not been possible to push the enlarging of membership so actively as might be desired. Nevertheless, several thousand appeals have been sent out, and several members have coöperated by sending in new members. One or two have been especially active in this way.

The net gain thus shown for the year is: Life members, 3; sustaining members, 53; members, 133; associate members, 86; junior members, 6,875; total, 7,150; making the membership stand: Patrons, 6; life members, 12; sustaining members, 102; members, 388; associate members, 199; junior members, 16,568; total, 17,275.

The Society has introduced no legislative bills of its own, but has exerted influence in behalf of beneficial bird legislation in the state and against harmful measures. Its membership has also been active in bringing all possible influence

to bear to secure the enactment of the two important federal measures, the Weeks-McLean Bill, now known as the Federal Migratory Game Law, and the plumage proviso of the Tariff Law. We rejoice with all friends of bird life throughout the country in the enactment of this monumental bird-protective legislation.

During the year, in conjunction with the Pennsylvania Audubon Society, our Society has inaugurated the publication of the New Jersey and Pennsylvania Audubon Bulletin, two issues of which have so far appeared under date of March 1 and May 1. Its object was thus set forth in the introductory: "The New Jersey and Pennsylvania Audubon Societies greet their many members and friends, and take pleasure in announcing that, commencing with the present issue, the Audubon Bulletin will be published at irregular



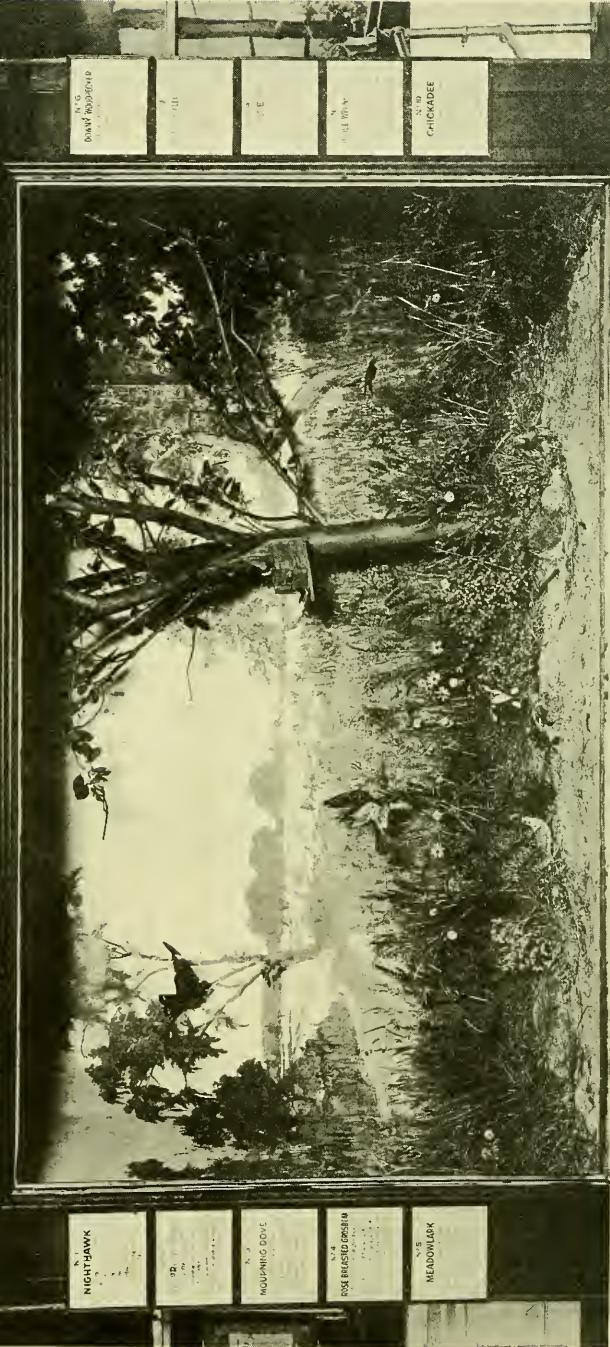
JUNIOR AUDUBON CLASS FORMED BY MISS M. J. MAY, ELIZABETH, N. J.
Courtesy of P. G. Kellinghausen, Elizabeth Daily Journal

intervals as occasion justifies and requires. It is the intention that through this medium Audubon members and friends of bird life may be kept advised of developments in legislation, state and national, affecting bird life, and in the various fields of Audubon endeavor."

We have been very active in Junior Audubon Class work, and a number of lectures have been given, mainly in the interest of advancing this work in the schools. Of thirty-three northern states in which Junior Audubon Classes were organized, New Jersey led with more than one-fifth the total number of classes and members. That this work was exceedingly popular with the teachers as well as the pupils throughout the state was indicated by many enthusiastic letters from the former.

Suggested by the success, in 1911 and 1912, of exhibits of mounted bird groups showing economic value of food habits, exhibited at the Trenton Inter-State Fair and the Mt. Holly Fair, the Society has this year installed a per-

EXHIBIT SHOWING ECONOMIC VALUE OF BIRDS
A FEW OF THE 334 SPECIES FOUND IN THIS STATE
NEW JERSEY AUDUBON SOCIETY



manent exhibit on the Heinz Pier at Atlantic City. Space was kindly granted free by the management. The pier is open throughout the year, is free to the public, and is visited annually by many thousands of people from all parts of the world. While the outlay on this exhibit was very considerable for an organization of limited financial resources, yet it is hoped that the message that it will carry to people within our Commonwealth and from far parts of the globe will bring results to the cause of bird-protection abundantly justifying the expenditure.

The Society enters its fourth year, encouraged by its experience during its brief existence and with bright hopes for a continued useful future.

At the third annual meeting held in Newark, October 7, Mr. George Batten was reelected President, Mr. Clarence B. Riker, Vice-President, and Mr. Beecher S. Bowdish (temporarily) Secretary and Treasurer. A moving-picture film was exhibited showing the hunting of the Snowy Egret for its plumes, and Mr. T. Gilbert Pearson, Secretary of the National Association of Audubon Societies, gave an address on the "Development of Audubon Work in 1913."—BEECHER S. BOWDISH, *Secretary*.

New York.—Owing to the protracted illness of Miss Emma H. Lockwood, the untiring Secretary of our State Society, it is impossible at this time to make a full report on the work for this year.

We may state, however, that there has been a continued growth of membership and interest in the study of bird life.

Later, we hope to be able to present a full statement of the activities of the year.—F. A. LUCAS, *Acting-Secretary*.

North Carolina.—In March, Mr. Gold, the Secretary, removed to New York City, and was forced to sever his official connection with the Society, and Mr. W. H. Swift, of Greensboro, was authorized by the President to act as Secretary until Mr. Gold's successor could be chosen. Mr. Swift, having active charge of the child labor movement in North Carolina, was able only to hold things together.

On June 5, the Board of Directors met and elected Mr. H. H. Brimley, Vice-President; Mr. R. A. Brown, of Raleigh, Treasurer, and Mr. J. W. Cheshire, of Raleigh, Secretary. The Secretary was instructed to move the office and effects of the Society from Greensboro to Raleigh.

It was resolved that the Secretary be directed to ascertain the state of affairs at the breeding-places of the sea-birds on the coast. To this end, the Secretary made a trip to the islands in Pamlico Sound, owned by the Society, and found that all of them were being used by the Gulls, Terns and Skimmers in great numbers. Accordingly, N. F. Jennett, of Buxton, was engaged to continue to look after these colonies and to see that they were not disturbed. His final report for the season shows that upward of twenty-five thousand

birds were raised on these islands during the months of June, July, August, and September. The principal protected species breeding here are Royal Terns, Wilson Terns, Cabot's Terns, Least Terns, Black Skimmers, and Oyster-catchers.

On September 2, the President called a meeting of the Directors. At this meeting it was agreed that each county which in one year should collect \$400 or more from the sale of non-resident hunter's licenses be provided, the following season, with a warden who shall be paid a salary during the months of the open season for game.

The Vice-President and the Secretary were directed to enter and secure possession for the Society of an island which has been built up by the sea in the mouth of Ocracoke Inlet, and which is a favorite breeding-place of the sea-birds.

Mr. W. H. Swift, of Greensboro, Mr. Brook G. Empie, of Wilmington; Mr. B. F. Shelton, of Speed, were elected Directors of the Society.

The Secretary has arranged a synopsis of the game laws of the state in so far as they affect those counties still under the jurisdiction of the Society. The publication of this synopsis has been delayed on account of the acts of the recent General Assembly being late in making their appearance. However, it is now in the hands of the printer, and should be ready for distribution by October 15.

The President, Doctor Lewis, takes a most active interest in the management of the affairs of the Society, and we feel that this assures us of accomplishing a good deal. It is our purpose slightly to modify our warden system and try to have each county thoroughly covered, and in some measure to stop the sale and shipment of game. Also, we intend to enter upon an extensive educational campaign, which we consider the most important part of our work.

The past year, some hope was entertained of securing the creation of a State Game Commission by the Legislature, which met during the months of January and February last; but nothing was accomplished in this direction. However, numerous new game laws were put into effect, and a number of existing laws were amended or repealed. Most of these acts were creations of individual representatives in the Legislature, were not drawn up with the help of any expert knowledge, and show a shifting from one thing to another, rather than an advancement toward some definite end.

The bird- and game-warden system was worked upon the same basis as formerly. Each county was furnished with one warden, some three or four counties with two wardens each, who were paid in fees of \$2.50 for each conviction for violation of the game laws secured, and \$2.50 for each non-resident hunter's license issued. In the case of Guilford County, the warden was paid a monthly salary for those months which constitute the hunting season. All of these men did very good work in enforcing the law.—J. W. CHESHIRE, *Secretary*.

North Dakota.—Early in May, 1912, the work of reorganizing the North Dakota Society began. The records at that time showed four paid-up members, with the total number enrolled previous to that time as twenty-three. Headquarters of the Society, which is incorporated under the laws of the state, were changed from Grand Forks, where the work was originally organized, to Fargo.

The task of reorganizing the work throughout the state, of building up a representative membership, and developing public sentiment and interest in the work of the Society, was of primary importance.

In order to give to each member as nearly as possible the worth of their membership fee directly, and to cultivate and develop each member into an informed, enthusiastic worker in the interest of bird life, it was decided to offer to each member as a premium their choice of (1) a year's subscription to *BIRD-LORE*; (2) a copy of Reed's 'Land-Birds'; (3) a copy of Reed's 'Water-Birds'; (4) a copy of Reed's 'American Game-Birds.' As a result, about seventy-five members, well distributed throughout the state, were enrolled during the year.

The report of the Treasurer at the close of the year showed, after all expenses paid, a balance of \$40 in the treasury.

A considerable number of papers and stereopticon lectures were given under the auspices of, or by members of, the State Society, to Chautauqua, ladies' clubs, commercial clubs, state-fair and midwinter-fair audiences, and at conventions of county superintendents of schools, teachers' meetings, and short extension courses, given by the Agricultural State High Schools, the Agricultural College, and the North Dakota Better Farming Association. A thirty-two-page bulletin, entitled "Guide for North Dakota Bird-Study," was prepared by the President, and 10,000 copies were published and distributed by the Extension Department of the North Dakota Agricultural College.

Considerable work was done through the coöperation of the newspapers and educational journals in the state, such as announcing plans of work and the publication of Farmers' Bulletin No. 513, by the United States Department of Agriculture. This latter publication was heralded through practically every paper in the state.

The work of organizing Junior Classes was undertaken in only two city school systems, in accordance with the plan of coöperation offered by the National Association. One of these superintendents reported organizing successful classes in every grade in the school, the other superintendent reported every child in the school enrolled in the Junior Audubon Classes, and an enthusiastic interest. Considerable work was done in furthering and securing favorable legislation, both state and national, during the year. At the annual business meeting, held at the home of Mrs. Geo. H. Hollister, plans were outlined for the ensuing year, and committees were appointed

to be responsible for special lines of work. The following officers were elected: Board of Directors: W. B. Bell, President, Fargo; Morris Johnson, First Vice-President, Valley City; Miss Minnie Neilson, Second Vice-President, Valley City; Mrs. George H. Hollister, Secretary-Treasurer, Fargo; J. K. Burleson, Grand Forks; S. H. Wilson, Bottineau; Daniel Freeman, Fargo; Mrs. William Folger, Devil's Lake; Miss Bessie R. Baldwin, Williston; Charles Wilson, Fargo; G. L. Miller, Fargo.

A social session, following the business meeting, closed the work of the year.—W. B. BELL, *President*.

Ohio.—The Audubon Society of Ohio has completed another successful year, thanks to the untiring efforts and enthusiasm of the President, Mr. J. P. Cummins, and his co-workers in the lecture field—Mr. William G. Cramer, and Doctor Swope, our Field Agent. Every year records an increase in the number of lectures and talks given by these gifted men, and, through these, the wider dissemination of knowledge and increase in enthusiasm for bird-study.

Mrs. Hermine Harsen, one of this self-sacrificing corps, being on a world tour which consumed fourteen months, was sadly missed, but as she has returned full of vigor and enthusiasm, we expect help and renewed courage from her for the coming year.

It would be ungrateful to fail to thank Mr. Charles Dury for his ever-willing and interesting contributions at our regular monthly meetings.

The past year also records an interesting talk by Dr. Henry Oldys on "Birds and Bird Music," which made so pleasing an impression that the Secretary feels her inability to properly express it. Perhaps it may best be understood by comparing it to the same sweet charm that is felt by the nature-lover on a spring morning, when he hears the heavenly choir, which Doctor Oldys so inimitably mimics. Later in the year, we had another evening lecture by Mr. Davey, which brought out a crowded house. It is hoped that several evening lectures can be arranged for the coming year.

The Society wishes to congratulate and thank the National Association and its staunch and wide-awake members, who fought so bravely on the legislative field of battle for the universal protection of these helpless and helpful feathered friends of ours—the birds.—KATHERINE RATTERMAN, *Secretary*.

Oregon.—We have had an active year in Audubon affairs. Our last Legislature passed some laws favorable to us, and in which we had much interest. The same Legislature set aside, as refuges for wild birds, six sections or acres of land amounting in all to more than a million acres. This, with our federal wild-bird reservations and numerous refuges on private estates, gives our birds some reasonable chance for life and liberty.

The Federal Migratory Bird Law occupied our attention to some extent during the early spring, but the plumage proviso of the Tariff Bill gave us a rocky and shoulder-galling pull; but, now that the "enemy is ours," we congratulate ourselves and friends and stand faced forward for the next move.

The press has given us favorable publicity, accepting many letters and articles, with editorial comment, thus helping to create a good healthy public opinion favoring our contentions.

The wardens employed on the wild-bird reservations report that they have had little or no trouble with poaching or disturbing of bird colonies. The White Herons have been able to hold their own at least. Three Arch Rocks, Klamath, and Malheur Lake Reservations report that there have been a large number of birds reared this season.

During the year, Mr. William R. Lord, of Dover, Massachusetts, gave a series of twenty lectures in towns and cities in the state; these were given in conjunction with Mr. Alderman, Superintendent of Public Schools. Mr. C. F. Hodge, of Worcester, Massachusetts, Mr. William L. Finley, and occasionally the Corresponding Secretary of this Society, gave lectures and talks to schools and other audiences. Arrangements have been made with Mr. John F. Bovard, of the University of Oregon, to give talks to the schools during this season.

Upon the whole, we must conclude that this has been a strong and healthy year for the "bird people" of our country.—EMMA J. WELTY, *Corresponding Secretary.*

Pennsylvania.—In its twenty-three years of organized life, the Pennsylvania Audubon Society has never fought so vigorously for bird-protection as in 1913. In the name of the State Society, though really conducted under the guidance of the National Society, a "fight to the death" (in this case happily the death of opposing legislation and not of the bird!) was waged while the State Legislature was in session, to restore the Heron family to the list of protected birds of the state.

The details of the struggle, which resulted in complete victory to the Audubon Society, have been given elsewhere; but it might be of interest to tell what brought it about, as showing the far-seeing policy of the millinery interests.

The year before the New York law, forbidding the sale of Osprey plumes or aigrettes, was passed, a clause was introduced into the Pennsylvania Game Laws (supposedly by owners of fish-ponds or hatcheries, but really by the millinery interests) removing protection from the Herons, Kingfishers, and one or two birds of prey. To the Audubon Society, busy with other legislation at the time, and the Egret long unknown in the state, this clause seemed to have no special significance. But this law which read "no part of the bird

may be had in possession" being repealed, the bar to the sale of aigrette plumes was removed—and on the passage of the New York law forbidding their sale in that state, the wholesale millinery dealers removed their factories and stores to Pennsylvania, and sent their advertisements from the Atlantic to the Pacific, saying "Buy your aigrette plumes of us; there is no law against it in Pennsylvania. Order by mail." But, be it recorded to the credit of the Audubon Society, that advertisement did not long go unchallenged.

However, for fear the Quaker State should seem to have forgotten its traditions of peace in all the legislative battling that followed, this report must tell of some of the quieter events in the history of 1913.

In response to the request for more frequent meetings of a popular kind, the Society, in conjunction with the Spencer F. Baird Club, has formed a chapter which holds monthly meetings at the Academy of Natural Science and takes field excursions in the spring.

Through the courtesy of the Pennsylvania Forestry Association, the Society was given a booth at their exhibit held in Philadelphia in May. At this exhibit, different kinds of bird-boxes were shown, and many of the best and latest books on birds were placed so the people could examine them, and bird literature was distributed. The exhibit, which lasted a week, was attended by many children as well as others, and the interest taken by both young and old in the Audubon Department was most satisfactory.

In conjunction with the New Jersey Society, the publication of a small pamphlet has been started, which gives both societies opportunity to bring items of local interest to their members.

These events, in addition to the regular work of the Junior Audubon School Clubs and other routine matters, have given the Pennsylvania Society a busy and satisfactory year.—E. W. FISHER, *Secretary*.

Rhode Island.—The Society has had one of the best years in its history. Perhaps the most important accomplishment of the year is the purchase of the Manly Hardy Bird Collection of North American Birds and the presentation of the collection to the city of Providence, on the condition that it be properly exhibited within three years from the date of acceptance. The purchase was made possible through the generosity of the members of the Society and their friends, who subscribed most liberally to the fund. The collection has been accepted by the city, an appropriation has been made, and plans are almost ready for an addition to the Park Museum, where the collection is to be installed, and the Society hopes, within the allotted time, to realize its purpose of providing the people of the city and state with the means of bird-study second to none in the country. Already the collection has stimulated much interest in the birds.

The Society has also taken an active interest in the two bills for the protection of birds which have passed the National Congress this year. Our

congressmen were besieged with letters and resolutions urging their support of these bills, and it is a source of deep gratification to know that they stood solid for the resolutions as finally adopted. While it is true that the Society is responsible for this work in Rhode Island, it would have been impossible to have done so much, or have done it so well, had it not been for the coöperation of the Secretary of the National Association, of Doctor Hornaday, and of Mr. E. H. Forbush, who kept us constantly in touch with the situation.

The regular work of the Society may be divided into library work, Junior work, and work for and among the active membership. Our library has always done good work, but the record for the school year ending June 30 surpassed our greatest expectations. Originally we had a number of traveling libraries, each containing books which belonged to a particular set, the whole of which the teacher had to take when she requested a library of a certain number. She invariably received certain books which she could not use, but which could have been used by some other teacher in a different locality or grade. For the past two years all books have been merged into one big library, and the teacher is allowed to select *any* fifteen for a loan of not exceeding three months. This plan insures the use of all books, and there is also the advantage of the books being returned to the main library one or more times a year. The Society pays expressage both ways. The record for the year shows that the 478 books in the library have been used by 1,110 persons, with a total circulation of 6,535.

The Junior work has more than kept pace with that of the preceding year. The record for the year is 51 Junior Classes and 2,100 Juniors. Much of the work has been carried on in coöperation with the Park Museum, in connection with its lecture and loan systems among the schools of the city and state.

Each active member pays a yearly fee of one dollar, and at present the experiment is being tried of giving the members an opportunity of getting their money's worth. A program of eleven monthly meetings has been issued. Seven of these are field trips, each in charge of a competent leader; one is the annual business meeting; one, an indoor Christmas bird census meeting; one, a lecture by Ernest Harold Baynes on "Winter Feeding and Methods of Attracting Birds;" and for one month there is a series of three lectures on "How to Identify Birds," by Dr. Herbert E. Walter, President of the Society. This plan is based on the theory that, while many persons will join the Society for the good their money will do, there are many other persons who will join if in return for their money they are given opportunity to gain some knowledge of the birds.—H. L. MADISON, *Secretary*.

East Tennessee.—The fall of 1912 found many of the members of this Society in rather a quiescent state—willing "to sit steady in the boat" and float with the stream. There were some few earnest, restless souls who chafed at this seeming want of progress. They wanted to see things moving.



EAST TENNESSEE AUDUBON SOCIETY EXHIBIT AT THE NATIONAL CONSERVATION EXPOSITION, KNOXVILLE TENNESSEE, 1913

The writer eased her conscience by talking before schools and mothers' associations, urging the organization of Junior Audubon Societies. She also plastered all Tennessee with from three to four hundred circulars favoring bird-protection, furnished her by Dr. William T. Hornaday and Prof. T. G. Pearson, of New York. The Society met her request for subscriptions to *BIRD-LORE* by giving her ten subscriptions.

Our President, O. C. Woodward, violently progressive, became a traveling salesman and turned his attention to field work. His report as field agent will give some idea as to the ground he has covered.

Mrs. T. J. Hinton, another bird-zealot, has taken for her text, "Bobwhite," and never fails to preach her daily sermon.

On account of his ability, Col. B. R. Strong was chosen as Business Manager. He has justified our choice, for he has spared neither time nor money in getting up a creditable exhibit for the National Conservation Exposition. No other man would have pulled us out of the ruts as he has done. When Colonel Strong became President of the Society, Mr. T. J. Hinton filled the place of Business Manager most acceptably. His services are highly appreciated by the Society. These gentlemen are ably assisted by Mrs. Sue Barton, Mrs. T. J. Hinton, and other ladies and gentlemen.

On October 10, we celebrated Audubon Day on the National Exposition grounds by special music and a speech from one whose name carries magic in it, Dr. George Stuart, who is a tower of strength and a power for good throughout this country, whether his subject be boys or birds.

I shall conclude with giving the report submitted by our field agent, O. C. Woodward:

"In submitting a report of my work for the past year, while in the capacity of President and later as your field agent, it might be well to state that my business takes me on long country trips, to the farmer in his home and to the small merchant in the towns of eastern Tennessee. After business has been transacted, in the field, the store, or about his log fire, where the family have gathered to talk and listen to the "town feller," I have preached the conservation of bird life, read and distributed literature to the children, and made an effort to show them that in protecting bird life they were promoting the welfare of mankind.

"At many places I meet the county teachers, many of whom are interested in our work, and have urged them, insofar as is consistent for them to do so, to use our leaflets in their Friday afternoon reading, and also gave them instructions as to the organization of Junior Societies. In this I have been ably assisted by Professor Haworth, of the East Tennessee Normal School, who is visiting all the county schools in this district. I am also calling on all county superintendents and have many promises of their coöperation.

"At many places I have succeeded in having bird-boxes put up, and am glad to note, on return trips, an increase of interest.

"At Grand View, Tennessee, on the Cumberland Plateau, is located a school for mountain children, run by the American Missionary Society and by private subscription. There were enrolled in this past session 463 boys and girls, sons and daughters of farmers who are receiving an education of an agricultural nature. I visited this school after their closing exercises were under way, met their Superintendent of Agriculture, explained our work, and received from him a most urgent invitation for this Society to organize his entire school and to furnish them such literature as will enable them to continue the study of bird life in connection with their field work. This is an opportunity that should not be lost, and some arrangement should be made to care for it. I have furnished them with literature, but have not been able to make a return visit.

"So far, I have worked in the following counties: Knox, Louden, Monroe, Sevier, Hamblen, Hancock, Hawkins, Green, Grainger, Roan, Rhea, Morgan, Scott, Blount, and Cocke Counties, and, while I have not been able to cover them all in a thorough manner, I have pretty thoroughly covered three of them.

"In conclusion, will say that, with the very great assistance received from our fine exhibit at the National Conservation Exposition, and a continuation of the distribution of literature along with our newspaper articles, we should, within the next year, see great results from our work."—MAGNOLIA WOODWARD, *Corresponding Secretary*.

West Virginia.—Throughout the past year, this Society has steadily pursued its educational policy, and, while greatly hampered by lack of funds, the work has been pushed forward with much success.

Through the generosity of "The Sentinel," an afternoon local paper, we have been able to continue the weekly "Audubon Bird Notes;" under which heading the endeavor has been to give to the public important and interesting information concerning bird life and interests. Other articles, contributed by our press agent, have been published by several of our agricultural and educational journals. The State Superintendent of Schools has given us permission to furnish the material for the bird section of the Arbor and Bird Day Manual.

Many plans and suggestions presented themselves in consideration of the most effective way to interest the teachers of West Virginia in bird-study in the schools, but at every point the question of expense arose. However, through the cordial coöperation of educational interests, we have been able to bring the subject before the teachers in several ways.

Dr. Eugene Swope, Field Agent for Ohio, was procured to speak before the State Education Association which met here in June, and addressed the Association at an afternoon session and at an evening general assembly on the subject of bird-study in the schools. In line with this, our Vice-President

was given space in the county institute program books for a short article on "Practical Bird-Study in the Schools." Following this up, a letter was addressed to each county institute instructor, asking him to make this subject a point during nature-study discussion before his institute. The suggestion was met with a hearty response. The result is that requests for literature are steadily coming in from all parts of the state from teachers desiring to start bird study in their schools. We are supplying them with such literature as "Announcement to Southern Teachers," Trafton's "How to Organize a School Audubon Bird Club," "Winter Feeding of Wild Birds," and "Putting up Bird-Boxes."

According to last reports, there were 51 Junior Audubon Societies in this state, and we trust that during the coming year this number will show a goodly increase.

On March 7, 1913, a Branch Society was formed at Fairmont, W. Va., with the following officers: C. C. Meyer, President; Miss Blanche Henry, Vice-President; Miss Eva M. Fling, Secretary; and Miss Gertrude Creel, Treasurer. The Fairmont Branch has been doing excellent work in that vicinity, and the outlook is very bright for the propagation of the work there.

The regular monthly meetings were held during the winter months. Our outdoor meetings began in the early spring and were devoted entirely to observation.

In February we were fortunate enough to secure Dr. Oldys to give an interesting stereopticon lecture and one field trip. Twenty-three persons took advantage of this tramp, and eleven species of birds were seen.

Dr. Swope also conducted an early morning (4.00 A. M.) field trip, when he was with us in June. This time the attendance numbered sixteen, and thirty-one different birds were seen or heard. Dr. Swope also met in conference with the Society, presenting suggestions as to work and methods.

Our members have been much interested in the plumage proviso in Schedule "N" of the Tariff Bill. A number have sent personal letters to our Representatives and Senators in behalf of the original bill, and night letters were also sent by the Society to each member of the Conference Committee.

Our annual meeting was held Tuesday evening, October 7, and the following officers were elected for the coming year: Miss Hattie M. Alleman, President; Miss Bertha White, Treasurer; Mrs. W. W. George, Vice-President; and Miss Clara Marsh, Secretary.—*HATTIE M. ALLEMAN, Retiring Secretary.*

Wisconsin.—For the past year, the Wisconsin Audubon Society has endeavored to carry on, as successfully as possible, the work for which it was organized—namely, the spread of interest in bird life and in natural history.

The year was not marked by any signal achievement, though of course we had a hand along with the host of others in support of the plumage amendment in the Tariff Bill.

Experience has shown, so we at least believe, that, unless there are very

urgent reasons to the contrary, it is best to concentrate on the endeavor to teach children the value, the beauty and the attractiveness of birds, rather than to spend time in an endeavor to convert the older people, whose interests in life have become more or less rigid and permanent. Moreover, the brilliance and liveliness which some forms especially exhibit appeal more strongly to children than to older persons. Likewise, for a number of reasons, childhood is the time when an individual should make his or her acquaintance with nature.

For these reasons, we are devoting our energies to the publication of our monthly paper "By the Wayside." Herein we have two departments; one for older people, in which we present subjects on general, as well as on special, phases of bird life. The children's department we try to make true to its name; not a very easy task. Here we present sketches of common birds, stories, and contributions from our younger correspondents.

What we consider of especial importance is the endeavor to furnish teachers with material and topics for class work. Educators the country over admit the value of nature-study, but many cannot introduce it for the lack of competent teachers. We are trying to bridge the gap.—ROLAND E. KREMERS,
Acting Secretary.



LIST OF MEMBERS OF THE NATIONAL ASSOCIATION
OF AUDUBON SOCIETIES

BENEFACTOR

*Albert Wilcox..... 1906

FOUNDER

Mrs. Russell Sage..... 1910

PATRONS

William P. Wharton..... 1909
Miss Heloise Meyer..... 1912

LIFE MEMBERS

Abbott, Clinton G.....	1910	Clyde, W. P.....	1905
Adams, Mrs. George E.....	1912	Coolidge, Oliver H.....	1912
Alms, Mrs. Eleanor.....	1913	Coolidge, T. Jefferson.....	1907
Armstrong, Dr. S. T.....	1913	Crabtree, Miss L. M.....	1912
Ash, Mrs. C. G.....	1913	Crocker, Mrs. Emmons.....	1912
Auchmuty, Mrs. R. T.....	1913	Crosby, Maunsell S.....	1905
Babcock, Mrs. Perry.....	1912	Crozier, Mrs. J. Lewis.....	1908
Bacon, Mrs. R.....	1912	Cudworth, Mrs. F. B.....	1911
Bancroft, William P.....	1906	Cutting, Mrs. W. B.....	1913
Barnes, Miss Cora F.....	1908	Dane, Edward.....	1912
Bates, Isaac C.....	1910	Dane, Ernest Blaney.....	1913
Batten, George.....	1910	Dane, Mrs. Ernest Blaney.....	1913
Baylies, Mrs. N. E.....	1912	Dane, Ernest Blaney, Jr.....	1912
Beebe, Mrs. J. Arthur.....	1907	Davis, David L.....	1911
Bigelow, William Sturgis.....	1912	Davis, William T.....	1910
Bingham, Miss Harriet.....	1907	Deering, Charles.....	1913
Bliss, Miss Catherine A.....	1911	Earle, Carlos Y. Poitevent.....	1905
Bliss, Mrs. W. H.....	1912	Earle, Miss Eleanor P.....	1905
Bolling, Mrs. Raynal C.....	1909	Eastman, George.....	1906
Bowdoin, Miss Edith.....	1911	Edgar, Daniel.....	1908
Bowdoin, Mrs. Temple.....	1911	Elliott, Mrs. J. W.....	1912
Bowman, Miss Sarah R.....	1905	Emmons, Mrs. R. W.....	1908
Brewster, William.....	1905	Endicott, H. B.....	1908
Bridge, Mrs. Lidian E.....	1907	Farrell, Mrs. F.....	1913
Brooks, A. L.....	1906	Farwell, Mrs. J. V., Jr.....	1909
Brooks, Mrs. Everett W.....	1907	Fay, Mrs. Flora Ward.....	1905
Brooks, Miss Fannie.....	1913	Fleischmann, Julius.....	1913
Brooks, Gorham.....	1911	Flint, Mrs. Jessie.....	1913
Brooks, Peter C.....	1911	Foote, James D.....	1907
Brooks, S.....	1907	Forbush, Edward Howe.....	1910
Brooks, Mrs. Shepard.....	1906	Ford, James B.....	1913
Brown, T. H.....	1913	French, Miss Caroline L. W.....	1911
Browning, J. Hull.....	1905	*Frothingham, Howard P.....	1905
Cabot, Mrs. A. T.....	1913	Frothingham, J. W.....	1913
Campbell, Helen Gordon.....	1909	Gallatin, F., Jr.....	1908
Carr, Gen. Julian S.....	1907	Garneau, J. W.....	1913
Chapin, Chester W.....	1910	Gazzam, Mrs. Antoinette E.....	1908
Chapman, Clarence E.....	1908	Gifford, Mrs. Robert L.....	1908
Chase, Mrs. Philip A.....	1913	Grant, W. W.....	1910
Childs, John Lewis.....	1905	Graydon, Mrs. Clendeny.....	1913
Clarke, Mrs. W. N.....	1912	Greenway, Mrs. J. C.....	1912

*Deceased

LIFE MEMBERS, continued

Haehnle, Rheinhold.....	1912	Pierrepont, John J.....	1905
Havemeyer, Mrs. H. O., Jr.....	1907	Pinchot, Mrs. J. W.....	1906
Hawkins, R. C.....	1913	Poland, James P.....	1909
Hearst, Mrs. P. A.....	1909	Potts, Thomas.....	1905
Hemenway, Mrs. Augustus.....	1905	Pratt, George D.....	1911
Hoffman, Samuel V.....	1907	Prime, Miss Cornelia.....	1909
Hopewell, Frank.....	1911	Rainsford, Dr. W. S.....	1913
Hornbrook, Mrs. F. B.....	1913	Reed, Mrs. William Howell.....	1905
Hostetter, D. Herbert.....	1907	Reynolds, R. J.....	1908
Hunnewell, H. S.....	1905	Rockefeller, Wm. G.....	1912
Huntington, Archer M.....	1905	Rogers, Charles H.....	1912
Jackson, Mrs. James.....	1908	Ropes, Mrs. M. G.....	1913
Kettle, Mrs. L. M.....	1913	Sage, Mrs. Russell.....	1905
Kidder, Nathaniel T.....	1905	Saltonstall, John L.....	1908
Kilmer, Willis S.....	1907	Satterlee, Mrs. Herbert L.....	1906
Kinney, Mr. Morris.....	1913	Schroeder, Miss Lizzie H.....	1911
Kuser, John Dryden.....	1911	Seaman, L. W.....	1912
Lane, Benj. C.....	1909	Shattuck, Mrs. F. C.....	1906
Lawrence, Samuel C.....	1905	Sherman, Miss Althea R.....	1909
McConnell, Mrs. S. D.....	1908	*Smith, Miss Alice Weston.....	1911
McGraw, Mrs. Thos. S.....	1908	Spalding, Mrs. A. M.....	1912
Mackey, Clarence H.....	1908	Stewart, Mrs. E. A.....	1913
Marshall, Louise.....	1906	Stickney, Charles D.....	1910
Mason, Miss Ellen F.....	1913	*Stokes, Miss Caroline P.....	1908
Mason, Miss F. P.....	1912	Taft, Elihu B.....	1911
Meloy, Andrew D.....	1910	Taylor, Chas. H., Jr.....	1908
Meyer, Miss Heloise.....	1910	Thayer, Mrs. Ezra R.....	1909
Moore, Clarence B.....	1909	Thayer, John E.....	1909
Morton, Miss Mary.....	1906	Thompson, Mrs. Frederick F.....	1908
Murphy, Franklin.....	1909	Tufts, Leonard.....	1907
New Jersey Audubon Society.....	1913	Van Brunt, Charles.....	1912
North Carolina Audubon Society.....	1905	Van Name, Willard G.....	1905
Osborne, Mrs. Eliza W.....	1906	Vaux, George, Jr.....	1905
Palmer, Mrs. William H.....	1912	Wadsworth, C. S.....	1911
*Palmer, William J.....	1906	Ward, Marcus L.....	1908
Parker, A. H.....	1908	Watson, Mrs. James S.....	1911
Parker, Edward L.....	1909	Webb, J. Griswold.....	1913
Parsons, M. W.....	1913	Webster, F. G.....	1905
Pearson, T. Gilbert.....	1905	Webster, Mrs. Sydney.....	1913
Peck, Mrs. Walter L.....	1909	Weeks, Henry de Forest.....	1909
Perkins, Mrs. G. C.....	1913	Wells, Mrs. Frederick L.....	1911
Phillips, Eleanor H.....	1908	Westcott, Miss M.....	1912
Phillips, Mrs. J. C.....	1905	White, Mrs. Charles T.....	1909
Phillips, John C.....	1905	Williams, John D.....	1909
Pickman, Mrs. Dudley L.....	1907	Woodbury, L.....	1913
Pierrepont, Anna J.....	1905	Woodward, Mrs. George.....	1908

*Deceased

ANNUAL MEMBERS AND CONTRIBUTORS TO THE
GENERAL FUND FOR 1913

Abbe, Miss H. C....	\$5 00	Brought forw'd...	\$41 00	Brought forw'd...	\$92 00
Abbey, Mrs. F. R....	5 00	Achilles, Mrs. G. S....	5 00	Adams, Edw. B.....	5 00
Abbott, Mrs. E. H....	5 00	Achorn, Mrs. E. O....	1 00	Adams, H. W.....	5 00
Abbott, Miss M. S....	5 00	Acklen, Col. J. H....	15 00	Adams, Miss P. S....	5 00
Abbott, Miss M. A....	5 00	Ackley, Miss A. E....	5 00	Adriance, F. V. V....	5 00
Abbott, Mrs. T. J....	5 00	Acton, Miss A. A....	5 00	Adt, Albert A.....	1 00
Abraham, Miss E. R....	5 00	Adam, Miss S. W....	5 00	"A Friend".....	151 00
Abrams, Mrs. A. E....	1 00	Adams, Brooks.....	5 00	"A Friend of the	
Achelis, Fritz.....	5 00	Adams, Mrs. B.....	10 00	Birds".....	1 00

Carried forw'd... \$41 00

Carried forw'd... \$92 00

Carried forw'd... \$265 00

ANNUAL MEMBERS AND CONTRIBUTORS, continued

Brought forw'd. . . \$265 00	Brought forw'd. . . \$700 00	Brought forw'd. \$1,042 00
Agassiz, Rudolph I.	Bacon, Mrs. F. E.	Bedleston, A. N.
Ahl, Mrs. Leonard.	Bacon, Miss E. S.	Beal, Mrs. James H.
Aiken, John A.	Bacon, Miss M. P.	Beckwith, Mrs. D.
Aldrich, Frank W.	Bacon, The Misses.	Bedford Audubon
Aldrich, Mrs. L. B.	Bahr, Dr. P. H.	Society.
Aldrich, Spencer.	Bailey, Geo., Jr.	Beech, Mrs. H.
Alexandre, Mrs. J. J.	Bailey, Henry T.	Beer, Mrs. Edwin.
Allee, Miss J. H.	Baird, Charles.	Beer, Mrs. George.
Allen, C. L.	Baker, Mrs. C. M.	Behr, Edward A.
Allen, Miss M. C.	Baker, Miss C. S.	Bell, Mrs. Gordon.
Allen, Miss Mary P.	Baker, George L.	Bellard, Miss K.
Allen, Mrs. N. T.	Baker, L. D., Jr.	Bement, Mrs. G. F.
Allison, Mrs. M. D.	Baker, Miss M. K.	Bemin, Mrs. F. D.
Alsop, Mrs. F. J. O.	Baker, W. E.	Bemis, Albert F.
Althouse, H. W.	Balch, Mrs. Geo. R.	Bemis, Mrs. Frank.
Alvord, George B.	Balch, Mrs. S. L.	Bemish, Mrs. W. H.
Ames, Miss H. S.	Baldwin, Chas. L.	Benedict, Theo. H.
Ames, Miss M. S.	Baldwin, Miss S. R.	Benjamin, Mrs. A. B.
Ames, Mrs. Wm. H.	Baldwin, George J.	Benjamin, Mrs. J.
Amory, John S.	Balkan, Mrs. W. F.	Benkard, Harry H.
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Seton, Ernest T....	5 00	Sloan, Dr. E. S., Inc.,	5 00	Stearns, Miss K. D.	5 00
Seuff, Mrs. C. H....	5 00	Sloane, Mrs. Wm....	5 00	Stebbins, Miss A. M.	5 00
Sewall, Miss H. D....	5 00	Slocum, Miss A. D...	5 00	Sterling, Mrs. Edw..	5 00
Seward, W. R.....	5 00	Slocum, Wm. H.....	5 00	Sterling, E. C.....	5 00
Seymour, Julius H..	5 00	Slosson, Mrs. A. T...	5 00	Stevenson, Miss A. P.	5 00
Shannon, Thos., Jr.	5 00	Smiley, Daniel.....	5 00	Stevenson, Miss A. B.	5 00
Shannon, Wm. P....	5 00	Smith, Mrs. A. J....	5 00	Stevenson, Mrs. R. H.	15 00
Sharpe, Miss E. D....	105 00	Smith, Byron L....	5 00	Stewart, A. M.....	5 00
Sharpe, Master M. P.	5 00	Smith, Mrs. C. B....	5 00	Stewart, Miss H. F..	5 00

Carried forw'd. \$13,057 02

Carried forw'd. \$13,386 02

Carried forw'd. \$13,731 28

ANNUAL MEMBERS AND CONTRIBUTORS, continued

Brought forw'd, \$13,731 28	Brought forw'd, \$14,147 78	Brought forw'd, \$14,688 78
Stick, H. Louis..... 5 00	Symmes, Miss A. M. 10 00	Todd, Thomas..... 5 00
Stillman, Mrs. J. F.. 5 00	Sympathizer, A..... 1 00	Torrey, Mrs. E..... 55 00
Stillman, Wm. O.... 5 00	Taber, M..... 2 00	Tower, Mrs. K. D... 5 00
Stillwell, Mrs. L. B.. 5 00	Taber, Sidney R.... 5 00	Towne, Richard P... 5 00
Stillwell, Miss M. C.. 10 00	Taber, Mrs. S. R... 5 00	Townley, J. M..... 5 00
Stimson, Mrs. C. E.. 5 00	Tailer, Edw. N..... 5 00	Townsend, Wm. S... 5 00
Stimson, Miss M. A. 5 00	Taintor, Chas. W.... 5 00	Tracy, C..... 1 00
Stinchfield, Mrs. C. 5 00	Talbot, Fritz B.... 5 00	Trainer, Chas. W.... 5 00
St. John, Chas. E.... 5 00	Talbot, Miss Mary . 6 00	Trine, Ralph W..... 5 00
St. John, Edw. P.... 5 00	Talbot, Richmond.. 5 00	Trowbridge, Wm. B. 5 00
Stoddard, Prof. F. H. 5 00	Talcott, James..... 10 00	Trube, Miss M. F.... 5 00
Stoddard, Miss L. N. 1 00	Tallmadge, Spencer. 5 00	Tuckerman, Alfred.. 5 00
Stokes, Anson P., Jr. 5 00	Tapley, Miss A. P... 5 00	Tuckerman, Mrs. L.S. 5 00
Stokes, Mrs. I. N. P. 5 00	Tappan, Miss M. A.. 5 00	Tuckerman, L. C.... 5 00
Stokes, J. G. Phelps. 5 00	Tappan, Mrs. P. M. 5 00	Tufts, Mrs. J. A.... 5 00
Stone, Charles A.... 5 00	Tappan, Mrs. W. H.. 5 00	Tulleson, H..... 5 00
Stone, Miss Ellen J.. 5 00	Tarbell, Arthur P.... 5 00	Turle, Mrs. Walter.. 5 00
Stone, Herbert F.... 5 00	Tasige, Mrs. Oscar.. 5 00	Turner, Mrs. W. J.... 25 00
Stone, Mrs. H. F..... 5 00	Taylor, B. F..... 6 00	Tuveson, Nels A..... 5 00
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Storer, Mrs. J. H.... 5 00	Tefft, Erastus T.... 5 00	Twombly, John F.... 5 00
Storey, R. C..... 5 00	Tewksberry, G. W.... 10 00	Tyler, Miss J. H..... 1 00
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Stout, Andrew V.... 5 00	Thayer, Mrs. E. R.. 50 00	Underhill, W. P.... 5 00
Stout, Mrs. C. H.... 5 00	Thayer, Mr. and	Underwood, Mrs. C.
Stratem, Miss M. A. and Master D. S.. 5 00	Mrs. F. B..... 2 00	J. 2 00
Stratton, Charles E. 5 00	Thayer, Mrs. G. A., Jr. 5 00	Underwood, H. P.... 10 00
Straus, Mrs. J. I.... 5 00	Thayer, Mrs. J. A.... 5 00	Unknown..... 10 10
Strauss, Charles..... 10 00	Thayer, John E..... 100 00	Upham, Miss E. A.... 5 00
Street, Miss K. A.... 5 00	Thayer, Mrs. J. E.... 5 00	Upson, Mrs. H. S.... 25 00
Strong, Richard A.. 10 00	Thayer, Mrs. John Van Buren..... 5 00	Utley, Mrs. Sam'l..... 5 00
Strong, Selah B.... 5 00	Thayer, Mrs. N..... 5 00	Vaillant, Miss M. J.. 5 00
Strong, Theron G.... 5 00	Thayer, Mrs. S. E.... 5 00	Vanamee, Mrs. Wm. 1 00
Strutevant, Mrs. M. P..... 5 00	Thomas, Mrs. A. P.. 5 00	Van Antwerp, Rev. F. 5 00
Struthers, M. S..... 3 50	Thomas, Miss B. H.. 5 00	Van Brunt, J. R..... 5 00
Struthers, Miss M. S. 5 00	Thomas, Emily H.... 25 00	Vanderbilt, Mrs. J.... 10 00
Sturgis, Mrs. F. K.. 5 00	Thomas, Mrs. G. C.. 5 00	Vanderbilt, Miss L.. 5 00
Sturgis, Miss E. M.. 5 00	Thomas, Miss G. H.. 50 00	Vanderift, S. H.... 5 00
Sturgis, Miss L. C.... 5 00	Thomas, Grace I.... 5 00	Vanderhoof, W. M... 5 00
Sugden, Arthur W.. 15 00	Thomas, Mrs. H. L.. 10 00	Van Dyke, Henry... 5 00
Sullivan, Mrs. E. S.. 5 00	Thomas, Mrs. H..... 5 00	Van Huyck, J. M..... 5 00
Sullivan, Miss F..... 5 00	Thomas, Mrs. L..... 5 00	Van Ingen, Mrs. E. H..... 5 00
Sussex Co. Nature Club..... 5 00	Thomas, Miss M. P.. 5 00	Van Kennen, Geo. E. 5 00
Suter, Mrs. C. R.... 5 00	Thomas, Theodore.. 5 00	Van Name, W. G.... 5 00
Swain, Geo. F..... 6 00	Thompson, Chas. D. 5 00	Van Norden, Chas.... 5 00
Swan, James A..... 5 00	Thomson, E. A.... 5 00	Van Norden, O. H.... 5 00
Swan, Mrs. J. A..... 10 00	Thorn, Mrs. I. B.... 5 00	Van Wagener, H. W. 5 00
Swan, J. R..... 10 00	Thorndike, Albert .. 5 00	Van Winkle, Miss Mary D..... 5 00
Swan, Mrs. Robt. T. 5 00	Thorndike, Mrs. A. A. 5 00	Van Zandt, Miss A.. 5 00
Swasey, E. R..... 100 00	Thorne, Jonathan... 10 00	Velie, Chas. D..... 5 00
Swazey, Mrs. I. T.... 5 00	Thorne, Samuel.... 5 00	Verplauch, Mrs. W. E. 2 00
Swinerton, Miss L. D. 5 00	Thornton, Mary C... 5 00	Vezin, Charles..... 5 00
Swope, Dr. Eugene . 5 00	Thorp, E. Holt.... 3 00	Victor, Edward W... 5 00
Swope, Miss M. M... 5 00	Till, Miss E..... 1 00	Vibert, C. W..... 5 00
Sylvester, Mrs. H. E. 1 00	Tilney, Miss M. G... 10 00	Virginia Audubon Society..... 5 00
Symmers, James K. 5 00	Tingley, S. H..... 5 00	Von Arnin, Miss A... 10 00
	Tinkham, Julian R.. 15 00	
	Titus, E., Jr..... 5 00	

Carried forw'd. \$14,147 78

Carried forw'd. \$14,688 78

Carried forw'd. \$15,060 88.

ANNUAL MEMBERS AND CONTRIBUTORS, nontinued

Brought forw'd, \$15,060	88	Brought forw'd, \$15,331	88	Brought forw'd, \$16,518	88
Wadleigh Students'		Wearne, Henry	5 00	Whiting, Miss G.	5 00
Association.....	5 00	Weaver, Mrs. B. P.	5 00	Whiting, Miss M. P.	5 00
Wadsworth, Mrs. A.		Weaver, W. B.	5 00	Whiting, Mrs. S. B.	5 00
F.....	5 00	Webb, A. L.	5 00	Whitney, Miss A.	5 00
Wadsworth, Mrs. W.		Webb, Gerald B.	5 00	Whitney, Caspar	5 00
Austin.....	5 00	Weber, R. H.	5 00	Whitney, David C.	5 00
Waite, Mrs. J. G.	5 00	Webster, Mrs. E. H.	5 00	Whitney, Frank	5 00
Wakely, Dr. W. A.	5 00	Webster, Mrs. E. S.	5 00	Whitney, Frederic	5 00
Wakeman, Miss F.	5 00	Webster, Edwin S.	5 00	Whitney, M. B.	5 00
Wakeman, Miss M. F.		Webster, L. F.	5 00	Whitney, T. H.	5 00
F.....	5 00	Weeks, Andrew G.	5 00	Whiton, Miss M. B.	5 00
Walcott, F. C.	5 00	Weeks, Robt. D.	5 00	Whiton, Mrs. S. G.	5 00
Waldo, Chas. S.	5 00	Weeks, W. B. P.	5 00	Whittaker, W.	5 00
Wales, Edward		Wehrhane, Chas.	5 00	Whittemore, Miss G.	
Walker, Miss A. M.	5 00	Weitling, Wm. W.	5 00	B.....	5 00
Walker, Chas. C.	5 00	Welch, Chas. W.	5 00	Whittemore, J. A.	5 00
Walker, Mrs. G. A.	5 00	Welch, Mrs. P. N.	5 00	Whittemore, Mrs. J.	
Walker, Miss L. M.	5 00	Weld, Mrs. C. M.	5 00	H.....	5 00
Walker, Miss M. C.	5 00	Weld, Miss E. F.	5 00	Widmann, Otto	5 00
Walker, Olive	5 00	Weld, S. M.	5 00	Wiechers, Adolph	2 00
Walker, Dr. R. L.	5 00	Weld, Gen'l S. M.	5 00	Wigglesworth, Mrs.	
Walker, Wm. B.	10 00	Wells, E. L.	5 00	George.....	5 00
Walker, W. F.	5 00	Wells, Miss Lily	1 00	Wigglesworth, Geo.	5 00
Wallace, Mrs. A. H.	5 00	Wells, Oliver J.	5 00	Wilbour, Mrs. C. B.	5 00
Wallace, Jas. S.	5 00	Wells, W. S.	2 00	Wilbour, Theodore	5 00
Walser, C.	5 00	Welton, H. A.	1 00	Wilcox, Miss A. E.	5 00
Walser, Guy O.	5 00	Welton, Miss N. L.	1 00	Wilcox, Miss H. E.	1 00
Walter, Mrs. A. H.	5 00	Wemple, William Y.	5 00	Wilcox, T. F.	25 00
Wane, George C.	5 00	Wendell, Mrs. B. H.	5 00	Wiler, E. B.	1 00
Ward, Mrs. Cabot		West, Charles C.	5 00	Willard, Miss Helen	5 00
A. M.	5 00	West, Mrs. J. E.	5 00	Willenbrock, Mrs. F.	5 00
Ward, Chas. W.	5 00	Weston, Miss Helen	5 00	Willets, Miss A.	10 00
Ward, Edward L.	5 00	Wetherill, W. H.	5 00	Williams, Blair S.	5 00
Ward, Sidney F.	5 00	Wetmore, Edmund	5 00	Williams, C. Duane	5 00
Ware, Chas. P.	5 00	Wetmore, Geo. P.	10 00	Williams, Mrs. C. H.	5 00
Warner, F. H.	5 00	Wharton, E. P.	5 00	Williams, David	5 00
Warner, Fred. W.	5 00	Wharton, Wm. P.	900 00	Williams, Miss E. A.	5 00
Warner, Mrs. G. M.	5 00	Wheeler, C. W. B.	5 00	Williams, Miss E. F.	5 00
Warner, Mrs. I.		Wheeler, Miss E. O.	5 00	Williams, Dr. E. R.	5 00
DeV.....	5 00	Wheeler, J. D.	5 00	Williams, Mrs. F. H.	5 00
Warner, Mrs. L. C.	5 00	Wheeler, Miss L.	5 00	Williams, Mrs. I. T.	5 00
Warner, Percy		Wheeler, S. H.	5 00	Williams, John D.	10 00
A. M.	5 00	Wheelock, Wm. E.	5 00	Williams, Martha T.	5 00
Warner, Robt. N.	2 00	Wheelwright, Mrs.		Williams, Moses, Jr.	5 00
Warren, Bentley W.	5 00	A. C.....	10 00	Williams, R. A., 2nd.	5 00
Warren, Miss C.	25 00	Wheelwright G. W.	2 00	Williams, Mrs. T. S.	5 00
Warren, Mrs. E. W.	5 00	Wheelwright, Miss		Willis, Mrs. Adeline	5 00
Warren, H. B.	1 00	M. C.....	5 00	Willis, Miss N. A.	50
Warren, Mrs. H. M.	5 00	Whipple, Mrs. H. B.	5 00	Willis, Mrs. S. L.	10 00
Warren, Mrs. S. D.	5 00	Whitcomb, P. W.	5 00	Wills, Charles T.	5 00
Warren, W. P.	5 00	White, Alfred T.	5 00	Willson, Mrs. C. H.	5 00
Waterhouse, Mrs.		White, Miss C. E.	5 00	Wilson, Miss A. E.	5 00
A. W.	5 00	White, Charles E.	5 00	Wilson, Miss A. M.	5 00
Waterhouse, Mrs. F.		White, Mrs. C. G.	10 00	Wilson, Mrs. Frank.	3 00
A.	2 00	White, Miss H. H.	10 00	Wilson, Mrs. H.	5 00
Waterhouse, Mrs.		White, Dr. Jas. C.	5 00	Wilson, Miss L. B.	5 00
Mary E.	5 00	White, Leonard D.	5 00	Wilson, Orme, Jr.	10 00
Watson, Frank E.	1 00	White, Miss M. A.	5 00	Wilson, William K.	10 00
Watson, J. H.	5 00	White, Mrs. Wm. M.	5 00	Winchell, Miss F. M.	1 00
Watson, Jane S.	5 00	White, Mrs. W. C.	5 00	Wing, Asa S.	5 00
Watt, Mrs. H. C.	5 00				
Wead, Miss C. E.	5 00				

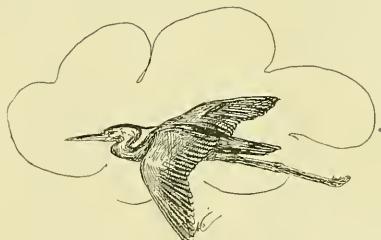
Carried forw'd. \$15,331 88

Carried forw'd. \$16,518 88

Carried forw'd. \$16,827 38

ANNUAL MEMBERS AND CONTRIBUTORS, continued

Brought forw'd, \$16,827	38	Brought forw'd, \$16,911	38	Brought forw'd, \$17,005	38
Winslow, Miss I.....	5 00	Wood, Mrs. J. T.....	1 00	Wright, Glen.....	5 00
Winslow, Miss M. C.	5 00	Wood, Mrs. M. A.....	5 00	Wright, Miss H. H...	5 00
Winsor, Mrs. Alfred.	5 00	Wood, Mrs. W. A., Jr.	5 00	Wright, H. W.....	5 00
Winsor, Miss M. P...	10 00	Wood, Mrs. W. D.....	2 00	Wright, Mrs. J. G....	10 00
Winston, G. Owen...	5 00	Woodbury, Wm. L...	2 00	Wright, Mrs. J. O....	5 00
Winter, Mrs. I. L....	1 00	Woodcock, John.....	5 00	Wright, Minturn....	5 00
Winterbotham, Jos..	5 00	Woodhull, J. C.....	5 00	Wright, Mrs. T. F...	5 00
Winthrop, H. R.....	5 00	Woodman, Dr. John.	5 00	Wyatt, W. S.....	5 00
Wister, Mrs. Owen...	5 00	Woodman, Miss M...	20 00	Wylie, Edw. A. Gill..	5 00
Witham, Miss I. F....	2 00	Woodruff, Dr. A. J.	5 00	Wynn, Hon. F.....	5 00
Witherbe, Mrs. F. B.	5 00	Woodward, Dr. L. F.	5 00	Yarrow, Miss M. C..	5 00
Wolfe, Mrs. John.....	5 00	Woodward, S. I.....	10 00	Young, Benjamin L.	5 00
Wolff, Mrs. L. S.....	5 00	Woolley, J. V. S....	3 00	Young, George W...	5 00
Woman's Club.....	5 00	Woolman, Edw. W...	5 00	Young, Wm. H.....	10 00
Wood, Allen F.....	1 00	Wooster, Mrs. E. C..	5 00	Young Folks' Lib-	
Wood, Arnold.....	5 00	Worcester, Mrs. A....	5 00	rary.....	5 00
Wood, Geo. C.....	5 00	Wormelle, Dr. C. B..	1 00	Zabriskie, Mrs. A. C.	5 00
Wood, Mrs. J. D.....	5 00	Wright, Mrs. E. K....	5 00	Zollikoffer, Mrs. O. F.	5 00
Carried forw'd. \$16,911	38	Carried forw'd. \$17,005	38	Total	\$17,100 38



The Report of the Treasurer of the National Association
of Audubon Societies, Ending October 20, 1913

ASSETS

Exhibit "A"

Cash in Bank and Office.....	\$13,265 57
<i>Furniture and Fixtures—</i>	
Balance October 20, 1912.....	\$834 43
Purchased this year.....	364 50
	<hr/>
Less depreciation.....	\$1,198 93
	119 89
	<hr/>
Inventory of plates, etc. (nominal value).....	1,079 04
Bird Island purchase, Orange Lake, Fla.....	500 00
Buzzards Island, S. C.....	<hr/>
	300 00
	<hr/>
	550 20
<i>Audubon Boats—</i>	
Balance October 20, 1912.....	\$1,976 95
Additions this year.....	125 00
	<hr/>
Less depreciation.....	\$2,101 95
	210 19
	<hr/>
	1,891 76
<i>Investments, Endowment Fund—</i>	
Bonds and Mortages on Manhattan Real Estate.....	\$348,900 00
U. S. Mortgage & Trust Co. Bonds.....	3,000 00
Manhattan Beach Securities Co. Bonds.....	<hr/>
	2,000 00
	<hr/>
	353,900 00
Investments, Mary Dutcher Memorial Fund, Bonds and Mortgages on Manhattan Real Estate.....	<hr/>
	7,100 00
Total.....	<hr/>
	\$378,286 57

LIABILITIES

Endowment Fund—

Balance October 20, 1912.....	\$349,030 41
Received from heirs of L. F. Dommerich.....	5,000 00
Received from bequest Caroline M. Martin.....	1,900 00
Received from Life Members.....	3,600 00
	—————
	\$359,530 41

Mary Dutcher Memorial Fund—

Balance October 20, 1912.....	7,737 70
-------------------------------	----------

Bradley Fund—

Total contributed.....	\$1,900 40
Less amount invested, taxes, repairs, etc.....	1,777 40
	—————
	123 00

Special Funds—

Mrs. Russell Sage Fund, Exhibit C.....	\$2,562 58
Egret Protection Fund, Exhibit D.....	433 78
Alaska Fund, Exhibit E.....	1,190 90
Children's Educational Fund, Northern States, Exhibit F.....	5,765 70
	—————
	9,952 96
Unpaid Expenses.....	343 16

Surplus—

Balance from Income Account.....	\$289 46
Surplus from last year.....	309 88
	—————
	599 34
Total.....	\$378,286 57

INCOME AND EXPENSE ACCOUNT—General Fund

EXPENSES

Exhibit "B"

Warden Service and Reservations—

Salaries.....	\$1,270 00
Expenses.....	379 32
Reservation expenses.....	39 15
Launch expense.....	118 74
	—————
Big Game Protection.....	\$1,807 21 1,206 10

Legislation—

New England legislation.....	\$953 52
Massachusetts campaign.....	741 06
Expenses, S. C., California and elsewhere.....	806 54
	—————
	2,501 12

Educational Effort—

Secretary, salary and expenses.....	\$5,328 60
E. H. Forbush, salary and expenses.....	2,469 74
W. L. Finley, salary.....	600 00
Press information.....	60 00
Bird-Lore extra pages.....	1,489 19
Printing, general office.....	1,027 98
Lecture.....	100 00
Traveling, local workers.....	132 00
Electros and half-tones.....	549 75
Library.....	43 63
Slides and drawings.....	1,081 65
Educational Leaflets.....	1,518 91
Bird-Lore to members.....	2,207 50
Von Berlepsch books.....	146 90
Color plates.....	1,193 61
Outlines.....	236 15
Field glasses.....	691 00
Wild Bird, Life and Flowers.....	108 75
Prints, charts, etc.....	159 20
	—————
	19,144 56

General Expenses—

Salary chief clerk.....	\$1,500 00
Salary cashier and bookkeeper.....	951 50
Salary stenographers.....	1,846 67
Junior clerks.....	489 00
Postage.....	797 41
Telegraph and telephone.....	199 05
Office and store-room rent.....	900 00
Legal services.....	279 05
Envelopes and supplies.....	548 78
	—————
	\$7,511 46

Amount carried forward..... \$24,658 99

INCOME AND EXPENSE ACCOUNT—General Fund, continued

Income brought forward.....	\$24,658 99
Expenses brought forward.....	\$7,511 46
<i>General Expenses, continued—</i>	
New member expense.....	2,123 61
Miscellaneous expense.....	446 98
Stenographic work.....	14 20
Cartage and expressage.....	153 82
Insurance.....	114 32
Electric light.....	14 58
Press correspondence.....	75 00
Returned sales expense.....	42 08
Sales Department expenses.....	434 40
Depreciation on boats.....	210 19
Depreciation on office furniture.....	119 89
	—
	11,260 53
Contributed to Sage Fund by the National Association of Audubon Societies.....	1,227 62
—	—
Total Expenses.....	37,147 14
Balance, surplus for the year.....	289 46
—	—
Total.....	\$37,436 60

INCOME

Members Dues.....	\$11,622 50
Contributions.....	5,477 88
Interest from investments, (see footnote).....	16,340 44
Rent of Willow Island.....	49 30
Educational Leaflets sales.....	1,848 15
Field glasses.....	1,048 10
Sales of slides.....	220 11
Von Berlepsch book sales.....	130 11
Bird-Lore sales.....	184 45
Sundry sales.....	337 91
Grants book sales.....	177 65
—	—
Total.....	\$37,436 60

NOTE—Interest uncollected on mortgage \$70,000 due September, 1913, not included

MRS. RUSSELL SAGE FUND

INCOME AND EXPENSE ACCOUNT

Exhibit "C"

INCOME—

Balance unexpended October 20, 1912.....	\$1,042 86
Contribution of Mrs. Russell Sage.....	5,000 00
Contribution of National Association.....	1,227 62
Junior Members' fees.....	863 96
	<hr/>
	\$8,134 44

EXPENSES—

Printing leaflets for Junior Members.....	\$718 37
Colored bird pictures for Junior Members.....	1,139 50
Audubon buttons for Junior Members.....	145 70
Cartage and expenses.....	182 51
Printing circulars.....	247 25
Printing envelopes.....	92 52
Postage on circulars and literature.....	670 80
"Bird-Lore" subscriptions for Junior Secretaries.....	304 70
Stenographic and clerical work.....	807 50
Telegrams.....	1 86
Office rent.....	360 00
Office supplies.....	5 74
Salary and expenses field agent, Miss Stuart.....	849 40
Tennessee field work.....	16 05
Miscellaneous.....	29 96
	<hr/>
	5,571 86
Balance unexpended October 20, 1913.....	<hr/> \$2,562 58

EGRET PROTECTION AND TARIFF REVISION FUND

INCOME AND EXPENSE ACCOUNT

Exhibit "D"

INCOME—

Balance unexpended October 20, 1912.....	\$1,595 26
Contributions, as published in Bird Lore, Vol. XV, Nos. 1, 2, 3, 4, 5, and 6.....	8,409 97
	<hr/>
	\$10,005 23

EXPENSES—

Tariff Revision, publicity and agents' expenses	\$2,247 58
Pennsylvania Egret Legislation, publicity and agents.....	2,208 94
Indiana Egret Legislation, Secretary's traveling expenses.....	45 76
Michigan Egret Legislation, expenses of agent.....	100 00
Illinois, agent campaigning expenses.....	250 00
Florida, agent campaigning expense.....	200 00
Postage and envelopes, circularizing.....	859 74
Clerical work.....	569 60
Legal services.....	128 00
Inspecting Florida rookeries, T. G. Pearson.....	149 60
Purchase and repairs South Carolina Bird Islands.....	77 75
Wardens guarding Egret colonies.....	2,162 12
Office supplies and miscellaneous.....	572 36
	<hr/>
	9,571 45
Balance unexpended, October 20, 1913.....	<hr/> \$433 78

ALASKAN FUND

INCOME AND EXPENSE ACCOUNT

Exhibit "E"

INCOME—

Balance unexpended October 20, 1912.....	\$595 12
Contributed.....	3,000 00
	<hr/>
	\$3,595 12

EXPENSE—

Alaska Booklet:

Drawings and electrotype.....	\$43 80
Printing plates and leaflets.....	1,852 39
Cartage and expressage.....	2 58
Miscellaneous.....	5 45

Field Work:

Alaska warden and investigation.....	500 00
	<hr/>
	2,404 22

Balance unexpended October 20, 1913.....	<hr/> \$1,190 90
--	---------------------

CHILDREN'S EDUCATIONAL FUND

INCOME AND EXPENSE ACCOUNT

Exhibit "F"

INCOME—

Balance unexpended October 20, 1912.....	\$2,482 16
Contributions.....	12,000 00
Junior Secretaries.....	3,476 19
	<hr/>
	\$17,958 35

EXPENSES—

Audubon buttons for Junior Members.....	463 35
Outline drawings for Junior Members.....	206 38
Leaflets for Junior Members.....	2,463 65
Bird pictures for Junior Members.....	3,280 50
Bird-Lore for Junior Secretaries.....	939 70
Field Agents' salary and traveling expenses.....	499 35
Cartage and expressage.....	678 87
Postage on circulars and literature.....	924 63
Stenographic and clerical help.....	1,623 00
Office rent.....	360 00
Envelopes.....	128 77
Office supplies.....	45 66
Artist drawings of birds.....	50 00
Special printed circulars.....	130 50
Telegrams.....	1 76
Printing and printed circulars.....	360 75
Miscellaneous.....	35 78
	<hr/>
	12,192 65

Balance unexpended October 20, 1913.....	\$5,765 70
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**STATEMENT ON RECEIPTS AND DISBURSEMENTS,
YEAR ENDING OCTOBER 20, 1913**

RECEIPTS

Exhibit "G"

Income on General Fund	\$37,436 60
Endowment Fund	10,500 00
Sage Fund.....	\$7,091 58
Less—Contribution by National Association. 1,227 62	5,863 96
Income on Egret Fund.....	8,409 97
Alaskan Fund.....	3,000 00
Children's Educational Fund (Northern).....	15,476 19
Total Receipts year ending, October 20, 1913.....	80,686 72
Cash Balance October 20, 1912.....	14,925 85
	<hr/>
	\$95,612 57

DISBURSEMENTS

Expense on General Fund.....	\$37,147 14
Less—Contribution to Sage Fund.....	1,227 62
Investments on Endowment Fund.....	<hr/>
Expenses on Sage Fund	16,000 00
Egret Fund.....	5,571 86
Alaskan Fund.....	9,571 45
Children's Educational Fund (Northern).....	2,404 22
Furniture Account.....	12,192 65
Bradley Fund.....	364 50
Buzzards Island.....	26 63
Audubon Boats.....	300 00
Unpaid bills of October 20, 1912.....	125 00
	544 41
Total.....	<hr/>
Less—Depreciation charges on boats and furniture.....	\$83,020 24
Unpaid expenses October 20, 1913.....	343 16
	<hr/>
Total Disbursements year ending October 20, 1913.....	\$673 24
Cash Balance October 20, 1913.....	<hr/>
	\$82,347 00
	13,265 57
	<hr/>
	\$95,612 57

LAWRENCE K. GIMSON, Certified Public Accountant
82 Wall Street, New York

NEW YORK, October 27, 1913.

MESSRS. GEORGE B. GRINNELL AND J. A. ALLEN,

Audit Committee,

National Association of Audubon Societies,
1974 Broadway, New York City.

Dear Sirs:—As instructed by you I have made an examination of the books and accounts of the National Association of Audubon Societies for the year ending October 20, 1913, and present herewith the following statements —viz:

EXHIBIT "A"—BALANCE SHEET OCTOBER 20, 1913.
EXHIBIT "B"—INCOME AND EXPENSE ACCOUNT, GENERAL FUND
EXHIBIT "C"—INCOME AND EXPENSE ACCOUNT, SAGE FUND
EXHIBIT "D"—INCOME AND EXPENSE ACCOUNT, EGRET FUND
EXHIBIT "E"—INCOME AND EXPENSE ACCOUNT, ALASKA FUND
EXHIBIT "F"—INCOME AND EXPENSE ACCOUNT, CHILDREN'S FUND
EXHIBIT "G"—RECEIPTS AND DISBURSEMENTS.

All disbursements have been verified with properly approved receipted vouchers and paid cheques; all investment securities have been examined at the Safe Deposit Company and found in order.

Yours very truly,

(Signed) LAWRENCE K. GIMSON,
Certified Public Accountant.

NEW YORK CITY, October 28, 1913.

DR. F. A. LUCAS,

Acting President,

National Association of Audubon Societies,
New York City.

Dear Sir:—We have examined reports submitted by Lawrence K. Gimson, certified public accountant, on the accounts of the National Association of Audubon Societies for the year ending October 20, 1913. The account shows balance sheet of October 20, 1913, and income and expense account for the year ending the same date.

Vouchers and paid checks have been examined in connection with disbursements, and also securities in the Safe Deposit Company.

We find the account correct.

Yours very truly,

(Signed) GEO. BIRD GRINNELL,
(Signed) J. A. ALLEN,

Auditing Committee.

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