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DUES FOR 1926

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The Club values the continued support of every member, and every resignation is received with much regret. It is a very unpleasant duty to discontinue the BULLETIN to members in arrears for dues.

The Wilson Ornithological Club is enjoying a healthy growth, but it must be regarded as still in the growing stage. There is still a certain individual responsibility which each of us may assume in assisting the Club in this development. In its growth very much depends upon the number of paying members—not everything, of course, but a great deal. With a larger membership we can publish a bigger, and perhaps better, magazine. With a better magazine we may be able to attract more members. Not only that, but we wish to serve, and to have the co-operation of, every student and lover of birds within our reach. With just a minimum of effort on the part of those who are now members we could greatly increase our membership for the coming year, and all of us would enjoy the resulting prosperity. We therefore invite those who believe in our society to assist in bringing in all who might enjoy our fellowship and the privileges of membership.

One may himself choose the grade of membership one desires to enter. We invite all to become Sustaining or Active Members, and we welcome all to Associate Membership. The support which you give to the organization is, in a sense, the measure of your interest in it, and its work.

JUL 12 1926

THE
WILSON BULLETIN
A Quarterly Magazine Devoted to the Study
of Birds in the Field
and the Official Organ of the
WILSON ORNITHOLOGICAL CLUB

Edited by

T. C. Stephens, *Editor-in-Chief*

Lynds Jones Myron H. Swenk

Gordon Wilson William I. Lyon

Walter W. Bennett



Volume XXXVIII
1926

Published Quarterly
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WILSON ORNITHOLOGICAL CLUB
at
Sioux City, Iowa

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THE WILSON BULLETIN

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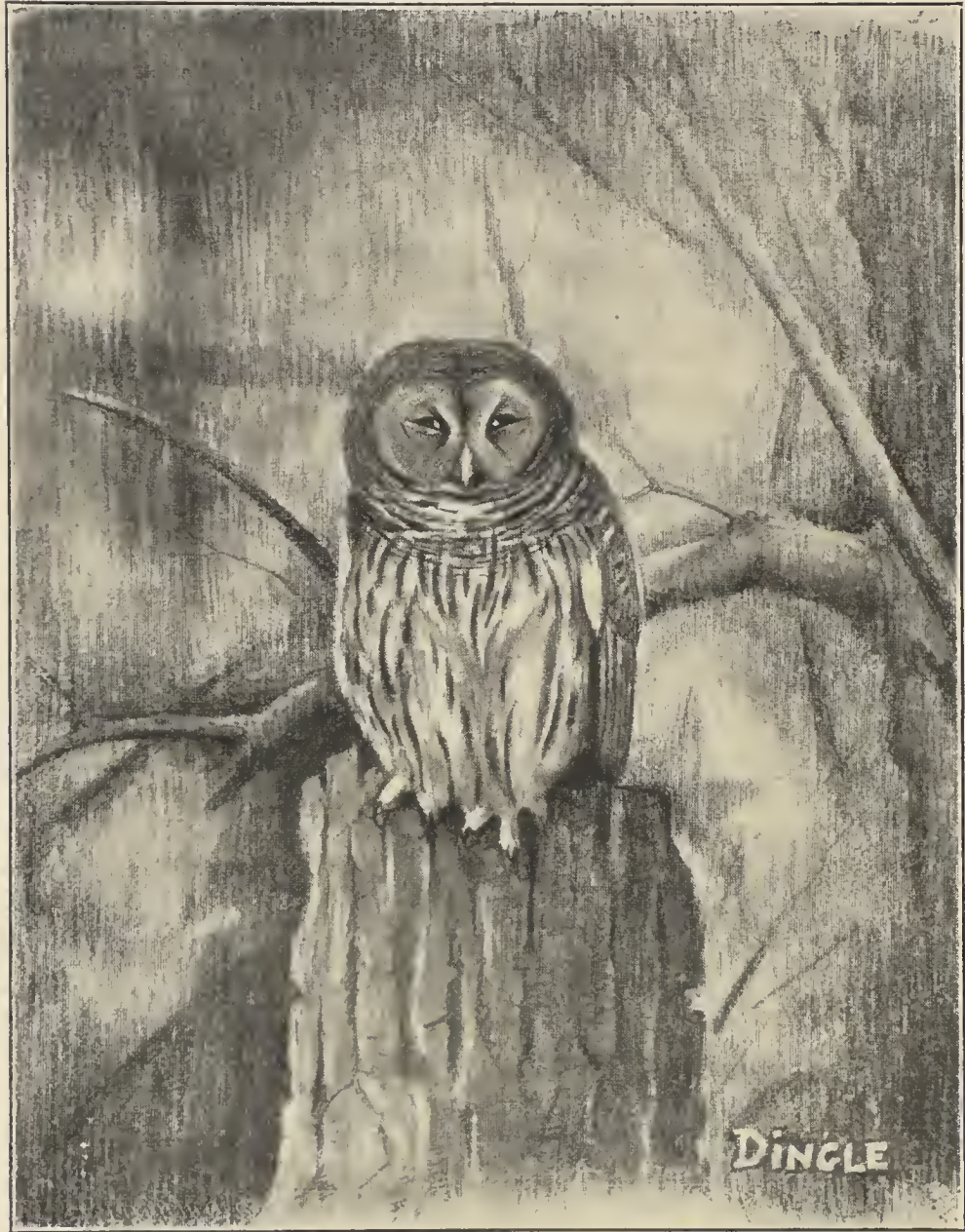
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The Barred Owl

THE WILSON BULLETIN

A QUARTERLY MAGAZINE OF ORNITHOLOGY

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THE BARRED OWL (*Strix varia varia*)

BY EDWARD VON S. DINGLE

The Barred Owl (*Strix varia varia*) has been commonly regarded as a lonely bird, restricted to the solitude of gloomy swamps and "untrodden ways"; and so I myself considered it until I came to know it better. Its call—one of the most striking and fear-inspiring of night voices—could well come out of the throat of the Wilderness-Spirit itself; a wild scream, followed by a succession of rapid "whoos" and a final, long-drawn "Aw"—and no wonder the solitary traveler on a moonless night quakes as the echoes sweep through the dark woods. There is endless variation in the cry; sometimes a high "Quak" is rapidly repeated; often a long-drawn "Whoow-aw" is given by one bird and taken up by another; rarely the scream alone is heard. According to the popular belief, this is *the* bird of mystery, together with other members of its family; rarely showing itself by day and then only to be pursued by crowds of jays and other birds and mercilessly driven from tree to tree; but intensely active during the night hours, when it floats about as silently as a wraith and makes its presence known when it sends forth that wild cry. When we rarely glimpse it by electric torch or otherwise, we are greeted by two great black eyes set in a round, human-looking head that continually turns from side to side. Where it places its nest and rears its young we know very little about.

Yet this bird has a sociable side to its nature; and the realization of this fact came as a surprise to me. It is often a town dweller and even occasionally takes up its residence in cities where trees are plentiful. Its two cousins, the Barn Owl (*Tyto alba pratincola*) and the Screech Owl (*Otus asio asio*), likewise, as is well known, live in close proximity to man. *Pratincola* seems to be entirely dependent on church steeples, towers and vacant buildings for its residence, and the little Screech Owl is a bird of rural settlements, preferring hollow trees for its home, but readily taking possession of bird boxes that are large enough to house it.

While residing in Clarendon County of this state, I had good opportunities to observe the ways of the Barred Owl. A number of these big birds lived in a nearby swamp and every evening before dusk several would appear in the grove of laurel oaks that surrounded the house. They soon became partly tame and would often sit on the garden fence, staring at the house and its human inmates. I frequently had both this bird and the Screech Owl fly around me, swooping and snapping their bills, by giving an imitation (such as it was) of their cries. They would become greatly excited, on such occasions, especially *varia*, and frequently brush me with their wings. Persons entering the gate at the head of the grove would sometimes be met by one or more owls and followed to the house; the birds seemed to regard these as intrusions, as they flew from tree to tree, clicking their bills excitedly.

I have never found the nest of this bird nor seen the young, but it probably nests in hollow trees. I have examined a large number of deserted nests of Crows and hawks in hopes of finding them occupied by Barred Owls, but always without success. The Great Horned Owl (*Bubo virginianus virginianus*), on the other hand, does, at least occasionally, take possession of such abandoned nests.

Several Barred Owls live here in the village of Mount Pleasant, and sometimes, especially during cloudy weather, can be heard softly hooting in the moss-draped live oaks. At night they startle us by sending forth their cries from our back yards or roof tops. I have more than once flashed my automobile lights upon them as they perched on fence posts along the streets. Barred Owls have been seen on several occasions in the city of Charleston.

I consider the Barred Owl an entirely beneficial bird, worthy of the strictest protection. Its food seems to consist almost entirely of insects and small rodents; I have never heard of its attacking poultry; nor have I ever seen it prey upon them, although I have raised fowls where this owl was common.

In closing, I will say that I have made no distinction in this article between *Strix varia varia* and *Strix varia alleni*, both of which occur in South Carolina.

MOUNT PLEASANT, S. C.

KANSAS CITY AS A CENTER OF EARLY ORNITHOLOGICAL
ACTIVITY IN THE WEST*

BY MYRON H. SWENK

In western North Dakota the Missouri River, flowing eastward, changes its direction to the southeast, and, after maintaining a general southeasterly flow for several hundred miles, across that state and South Dakota, and between the states of Nebraska and Iowa, it again turns sharply to the east, to continue its course for some three hundred miles more across the state of Missouri to its junction with the Mississippi River, a short distance above St. Louis. The Kansas River, traversing the greater part of the state of Kansas from west to east, joins the Missouri River where it makes this sharp eastward turn, and the cities of Kansas City, Missouri, and Kansas City, Kansas, are located at this point, on the south side of the Missouri River and on the east and west sides, respectively, of the Kansas River. It is at this interesting spot that we find ourselves today.

It is not easy for one to comprehend that the first settlements that were destined to develop into this busy western metropolis of three hundred thousand souls had their first beginnings only a little over a century ago, but such is the case. By virtue of its geographical position, the present Kansas City region was in the direct line of white migration to the great Northwest wilderness of the first half of the nineteenth century, and, both by river and by wagon trail, the pioneer settlers of the great Missouri Valley passed through this region. So it came about that the early ornithologists who penetrated into this region, in company with men primarily interested in projects of commercial exchange or military exploration, and who brought back with them upon their return our first knowledge of the birds of the Northwest, so well summarized by Elliott Coues in his book of that title that appeared in 1874, were all more or less identified for a time with the Kansas City region.

When, in 1803, the Louisiana Purchase was consummated, President Thomas Jefferson planned to have this newly acquired territory explored. Accordingly, on May 14, 1804, the famous Lewis and Clark Expedition started by boat up the Missouri River from its mouth, progressing by rowing and towing. By June 25, they had reached the mouth of a large creek called Blue-Water, now known as Big Blue River, which flows through the eastern portions of this city. They

*Read at the Twelfth Annual Meeting of the Wilson Ornithological Club at Kansas City, Missouri, December 28, 1925.

camped for that night on an island in the Missouri River near the mouth of this creek. By the night of June 26 they had reached the point where the Kansas River joins the Missouri, and remained there for two days. On their return down the river, in 1806, they reached this same point again on September 15. Both in ascending and descending the river, they commented upon the abundance of the Wild Turkey in this region.

In the year 1811 two parties ascended the Missouri River, both of which have at least a passing interest for us. John Bradbury, the English botanist, was in 1809 commissioned by the Botanical Society at Liverpool to make researches on the plant life of United States. He reached St. Louis on the last day of December of that year, and when, on March 12, 1811, a party under Wilson Price Hunt started to ascend the Missouri by boat, not only Bradbury, but the American botanist, Thomas Nuttall, then a young man of twenty-five, accompanied the party. They spent April 8 and 9 at Fort Osage (now Sibley), a short distance down the Missouri River from Kansas City, and also in Jackson County, Missouri. About three weeks after the Hunt party had started, that is on April 2, 1811, another party, under the fur-trader Manuel Lisa, also started up the Missouri River with the design of overtaking the Hunt party. With Lisa's party was Henry M. Breckenridge, an American traveller and jurist residing at St. Louis. These men, though not ornithologists, have left us some graphic accounts of the Passenger Pigeon, and tell of the nesting of the Canada Goose in this region at that time. They returned down the Missouri River in July, 1811, in the boats of Manuel Lisa, reaching Fort Osage on the 27th of that month.

The first competent ornithologist, however, to visit this region, was a man made thus competent by a friendship with no less person than the pioneer American ornithologist Alexander Wilson himself, namely Thomas Say, who was chief zoologist on the Major Stephen H. Long Expedition that was sent out in 1819 to explore the Platte River and the region beyond. This expedition, which started at Pittsburgh, Pennsylvania, on May 5, 1819, in the steamboat "Western Engineer", proceeded down the Ohio River and up the Mississippi River to St. Louis, and thence up the Missouri River. This was the first steamboat to ascend the Missouri River. Say and others left the main party at Fort Osage (Sibley) on August 6, 1819, and proceeded across this county (Jackson) to the Kansas River, and thence northwestward along the south side of the Missouri to a point near to the mouth of the Platte River, where they rejoined the main party on September 15.

Say made some notes on the bird life in this region, noting especially the Raven here for the first time on his trip, and commenting on the Lark Sparrow, which he had met for the first time at Bellefontaine, four miles above the mouth of the Missouri, and which he formally described in 1823.

In 1833 the German ornithologist, Maximilian, Prince von Wied, made his memorable journey up the Missouri River. He left St. Louis on April 10, 1833, on the second trip of the steamer "Yellowstone" up the Missouri, returning in the spring of 1834. His account of this journey, which was published in Coblenz, Germany, in two volumes, the first in 1839 and the second in 1841, teems with references to the bird life observed all along the Missouri River, from its mouth to the terminus of his ascent, at Fort Mandan, North Dakota, and naturally includes references to the bird life of the Kansas City region.

In 1813, seven of the men who had been part of the Wilson Price Hunt party that had left St. Louis on March 12, 1811, to ascend the Missouri River to Fort Pierre (South Dakota), and thence travel overland through the Black Hills and Big Horn Mountains to found Astoria at the mouth of the Columbia River, returned down the North Platte and Platte River Valleys, seven years before the Platte Valley was again traversed by the Major Long expedition. Seventeen years later, in the spring of 1830, a party under Milton Sublette left Independence, just to the east of Kansas City, which was then the outpost of white civilization, to trade for furs in the Northwest country. They followed the path that shortly after was to form the historic Oregon Trail, and, reaching the Wind River Mountains of Wyoming in the middle of July, they returned the same summer by the same route bringing their ten wagons well laden with furs.

Two years later, Captain Nathaniel J. Wyeth and Milton Sublette led a party that followed the same trail, not only to Wyoming but through the South Pass in the Rocky Mountains and on to Oregon, thus blazing the Oregon Trail in its entirety. In 1834, Captain Wyeth led a second party over this trail, and this time two ornithologists were included in it, Thomas Nuttall and the twenty-five year old Philadelphian John K. Townsend. Captain Wyeth had left St. Louis on March 7, 1834, and was joined by Nuttall and Townsend at Booneville, Missouri. The caravan left Independence on April 28, 1834, and shortly after their start the Harris's Sparrow was first discovered by Nuttall, probably somewhere within the present city limits of Kansas City. The same bird was also discovered by Maximilian near Bellevue.

above Omaha, Nebraska, fifteen days later (on May 13) on his return trip down the Missouri.

In 1842 the first expedition to the Rocky Mountains under Captain J. C. Fremont, left St. Louis on May 22, proceeding up the Missouri River to near the mouth of the Kansas River, where the expedition completed outfitting and started on June 10, following the Oregon Trail. In 1843 Captain Fremont's second expedition left Kansas City on May 29 and proceeded up the valley of the Kansas River. Unfortunately, there was no ornithologist with either of the Fremont expeditions, and they added very little to our knowledge of the bird life of this region.

But in the latter year, 1843, the famous ornithologist John J. Audubon ascended the Missouri River to Fort Union, and his journal of this Missouri River trip was published in 1897. With Audubon were his patron Edward Harris and the taxidermist J. G. Bell. They passed the Kansas City region on May 2, 1843, reaching Fort Leavenworth the next day, and returned by this region about the middle of October of the same year. Near Fort Leavenworth on May 4 Harris also discovered the sparrow which bears his name, and a little farther up the river the party discovered another characteristic Missouri Valley bird, the Bell's Vireo. Concerning the Kansas City region Audubon refers to the presence of such now extirpated species as the Wild Turkey, the Ruffed Grouse, and the Carolina Paroquet, and also mentions nesting Bald Eagles.

In 1846 Lieutenant J. W. Abert led a military party from Fort Leavenworth over the Santa Fe trail, passing through what is now Kansas City, and in 1882 published a list of the species he had observed between Fort Leavenworth and Santa Fe.

During the 50's we find several ornithologists, of a somewhat later generation than that to which Say, Nuttall, Townsend, Maximilian, and Audubon belonged, continuing the activity in this region. In 1854, P. R. Hoy collected numerous birds in the vicinity of Kansas City, among which was a specimen of the Purple Sandpiper, a bird that has not since been recorded from here. Lieutenant Couch in this year also forwarded to Professor S. F. Baird at Washington specimens from this region for use in his great work in 1858. In 1856, F. V. Hayden accompanied the first Lieutenant G. K. Warren expedition, which started from St. Louis up the Missouri River for Fort Pierre on April 16, with Dr. Hayden collecting specimens near Fort Leavenworth on April 21 and elsewhere along the way, whenever opportunity afforded. In the same year the United States War Department sent an expedition

under Lieutenant F. T. Bryan to survey a route for a wagon road from Fort Riley, Kansas, to Bridger's Pass, Wyoming, and this expedition was accompanied by Mr. Wm. S. Wood of Philadelphia, who made large collections of birds, not only in the vicinity of Fort Riley, from June 13 to 20, but along the route through Kansas, Nebraska, Wyoming, and Colorado, until late in October of that year. The following year Mr. Wood again collected birds around St. Louis from May 6 to 15 and around Fort Riley until the departure of the party, about June 12, these being supplemented by further collecting in Nebraska and Wyoming until early September of 1857. But yet more important, from the local standpoint, were the collections of Dr. J. G. Cooper, who in 1857 collected birds at Independence, Missouri, and vicinity, from May 26 to July 1, at Shawnee Mission, Kansas, on July 3 and 4, and at Fort Leavenworth on July 12 and 13, as a member of the W. M. Magraw party.

During the 70's ornithologists working in this region included the late Dr. J. A. Allen, who during the first ten days of May, 1871, collected birds at Fort Leavenworth and vicinity, and W. E. D. Scott who observed and collected birds in the adjacent county to this one, Johnson County, in the spring of 1874. With the appearance of Coues' "Birds of the Northwest", in 1874, the pioneer period in Missouri River ornithology may be fittingly considered as having been brought to a close.

We assemble today, therefore, on grounds that were not unfamiliar to many of the great ornithologists of the nineteenth century, and it is fitting that we should realize this fact as we meet to carry forward the standard of ornithological progress that they have dropped.

UNIVERSITY OF NEBRASKA.

LINCOLN, NEBRASKA.

IN SEARCH OF NEW COLONIES OF KIRTLAND WARBLERS

BY NORMAN A. WOOD

Early in the morning of June 12, 1925, the writer in company with Mr. Walter Hastings, Custodian of Oology in the Museum of Zoology, started from Ann Arbor for north central Michigan in an automobile loaded with tents, air mattress, blankets and three cameras. The object of the trip was to find nests of Kirtland Warblers (*Dendroica kirtlandi*) in order to study and photograph the birds at home.

Our first stop was in Clare County, where we hoped to locate the colonies found by the late Dr. W. B. Barrows. We drove for an entire day but found no Kirtland Warblers. We were told that large tracts

of small jack pine in the northwest corner of the county had been destroyed by fire. These areas were, no doubt, the sites of the colonies Barrows found.

We then drove into Roscommon County where we found a small colony and heard the males singing by the side of the road. We spent some time there but soon found the birds were not yet nesting and were scattered all over the tract of jack pines.

From here we drove north and east into Oscoda County where we located several colonies. One of these was the largest we had ever seen, and was possibly the largest in the state. We estimated that it occupied an area over a mile square or more than 1,000 acres. Here we found the conditions ideal for the species, with jack pines from three to ten feet high, in places very thick, in others more open. The birds were flying about, singing and mating and we soon decided we were too early for the nests.

Leaving this colony we drove west into Crawford County where in one day we found several colonies, some of them many miles apart. We stopped at the site of one colony where Mr. and Mrs. Hastings had camped in June, 1924. They had heard the birds singing all about the camp in early morning and counted eight or ten in sight or hearing at one time. Here Mr. Hastings had been able to get good photographs of several birds which acted as though the nests were close at hand, although none were found. We also found a few of the birds but they were rather shy and we decided that on account of the cold late Spring they had not yet nested. We found here a nest and young of the Slate-colored Junco which Mr. Hastings photographed.

Another day we drove over the jack pine plains of Crawford County and found the species quite common in nearly all suitable habitats. We also found large tracts that had burned over. Fire is without doubt the greatest menace to the Kirtland Warbler colonies, since it destroys the habitat as well as the nests of the birds. Mr. Babbit, the Fire Warden at Grayling, told us that fire had run over about 70,000 acres in Crawford and Oscoda Counties early in 1925. This was no doubt before the warblers arrived. The Cowbird probably destroys large numbers of eggs—but is not so serious a problem for the warbler as fire.

We spent seven days driving over the plains, in all about 700 miles, and located many colonies of the species. It is difficult to locate the boundaries of some of these as they merge into one another. Some of these colonies are on open, burned over plains while others are in thicker growths but all are in burned over areas. There is no limit

to the suitable habitats at present, although in the future when the jack pines are older, they may become limited as the ground cover which is essential to the nesting of the species is destroyed by the shade and the needles of the older jack pines. Then too, the lower limbs die and drop off, as the pines mature, and this species is a lover of thick low branches.

The male does not help in the nest building, Mr. Parmelee says, but "just sits around and sings" and after the nest is built and occupied, the male usually sings from some more or less elevated perch near by, while the female is seldom seen above the lower levels of the small jack pine, which furnish them with food and cover. In 1925, however, many of the males were singing low down and some even on the ground.

In conclusion, I wish to correct the type set record that Mr. Edward Arnold claims was taken by him, June 15, 1904. (Bulletin of Mich. Orn. Club, Vol. V, No. 8, pp. 67-68). I collected the type egg on July 11, 1903, with the first nest and its two juvenile birds, all of which are now in the collection of the Museum of Zoology. At my request, Mr. James Parmelee who was with me in 1903, collected a nest and eggs on June 6, 1904, near the site of nest 1, Frazer's, Oscoda County. This set with its nest was sent to the American Museum of New York City by myself and is no doubt now in that collection. These so far as known were the first nests and sets ever taken, but Mr. Parmelee found three other nests all with young at that date.

These are very early dates for young as most of the nests recorded have been later. Mr. Parmelee in his letters to me says that the earliest males arrived at his place on May 3, 1904, and some lingered until September 8. In letters to me Dr. R. A. Brown tells of his visit to Frazer's in June, 1904, and of finding four nests all with young, before June 25. He tells of finding eighteen males in four hours. This is the same colony in which I found the first two nests on July 8-9, 1903. Now the trees are too old and the warblers have gone to other and smaller pines. In June, 1922, this region was worked by Leopold who did not find this species, and who gives the same probable reason. (*Auk*, XLI—1924, Jan. p. 34).

In all the colonies we visited we found about the same number of birds per acre, a conservative estimate of one pair per acre, which for all the known colonies gives us a total of perhaps 5,000 or 6,000 pairs; and there are no doubt many small colonies not yet known.

MUSEUM OF ZOOLOGY, UNIVERSITY OF MICHIGAN,
ANN ARBOR, MICHIGAN.

A HOUSE WREN STUDY

BY MRS. MARIE DALES

When we moved to our new home, I was uprooted from nineteen years of residence in one place. I felt strange and lonely. I wondered if this house would ever be home to me. As a panacea for this strangeness and loneliness I turned to my neighbors, the birds, for comfort. I soon became deeply interested in their affairs, part of the time more interested than I was in my own. I had a new house, I wanted the birds to have new houses, too. It was getting late in the spring, the lawn had not been leveled off, the clothes posts were not in, all about was confusion, there really seemed to be no great inducement to the birds to come, no really good places for houses, however I very laboriously fashioned one out of a very small cigar box, which I suspended in one of the two trees our front lawn afforded, never dreaming it would have an occupant. It was not long until Father House Wren spied it, and straightway began to furnish the house. He carried sticks and sang, all by himself, for several days.

One morning I chanced to be looking out, and saw him in company with a female in a small elm near the back door. It was too funny to see him lead her to the top of the tree which contained the little house and hop down, branch by branch, until he brought her to the door. His attitude seemed to say, "See what a beautiful home I have to offer." She took one look in through the door, flirted her tail as much as to say, "No love in a cottage for me," and away she flew. A few days more of building and singing, when, lo! he had found a mate, and home-making began in earnest. I spent many pleasant moments watching their family life, particularly since there were no other birds on the place. When it came time for the brood to leave the nest, I was fortunate in seeing them as they emerged, and was utterly astounded to see six little birds hop out. It is a mystery to me how they were ever reared to maturity in so small a box. The next day Father Wren began to clean house. I saw that without help it was going to be a long process, so I lent my assistance. A new nest was built and a second brood reared. I missed seeing the departure of any but the last two young birds. The last one was too cowardly to leave the nest until hunger drove him out the next morning. I now fashioned another house, a crude affair to be sure, which I placed on a low pole in a clump of lilacs, within easy reach, affording an opportunity for closer study. Father Wren was delighted with this more commodious house, and began building right off. Thus placing an option on it for occupancy the following spring.

Up to this time my bird studying had been along popular lines, books written to appeal to the uninitiated. Ornithology was rather a terrifying word, and Ornithological Magazines, obviously, were only for those more learned than I, on the subject. So I was rather unprepared for the damaging accusations against my little neighbor. My mind was open to conviction, however, and the following spring found me studying the wrens with an idea of finding out if these things were really true.

We now have a martin house, three bluebird boxes, and another wren box. By furnishing food, water and nesting material many birds found inducements to nest in close proximity; Catbirds, Brown Thrashers, Yellow Warblers and Goldfinches nested in surrounding shrubs, while one pair of Bluebirds and two pairs of Purple Martins occupied houses.

A pair of Catbirds shared the same clump of lilacs with (as I like to think) the same pair of wrens that nested on the place the year before. The Catbird nest was within eight feet of the wren box. When there were four eggs in the nest, so placed that I could look into it without making any disturbance, a severe windstorm loosened the nest from its moorings and spilled the eggs. The Catbirds immediately set about and built another nest in the same clump, laid five eggs and reared five young. I never once saw the wren disturb the Catbird's nest. The pair of wrens reared a brood of five. The parents and one of the brood were banded, the rest got away. Whether the female left him or met a tragic death I never knew. The male remained mateless the rest of the season. Another pair of wrens came late and took possession of a box on a window casing. They reared a brood of five. The parents and four of the brood were banded. In all nine wrens were banded that year (1924). This wren box was about twenty feet from the bluebird and martin houses. The Bluebirds reared two broods of four birds each. I could not determine how many broods were reared by the martins. I never saw the wrens disturb any of these nests, nor did the bluebirds or martins show any animosity toward the wrens.

The following spring (1925) not a banded wren came back to its former nesting place, nor did I see one anywhere in the locality. Those that came and took possession of the boxes were veritable imps of destruction. Shortly before their coming, I put up two Robin nest shelves, one on the north under the porch eaves, the other on the south side under the garage eave. I was so delighted when I discovered a pair of Robins building in the north side nest shelf. I gave all the

assistance I could, by furnishing rags, string and a panful of mud. Before the nest was quite finished, I happened around the corner one morning, and saw a wren viciously tearing the nest to pieces. I never dreamed so small a bundle of feathers could show such fury. Of course that settled this nest. The Robins abandoned it. My neighbor had two nest shelves, both occupied by Robins, both nests contained eggs; these were thrown out by the wrens. Both nests were abandoned. The Robins became discouraged, and made no further attempts to nest, either in my yard or that of my neighbor. The year before five nests were distributed over this area. On the afternoon of June 28 I saw a wren enter the bluebird box containing two young birds, one day old. I fully intended to go out and investigate this visit of the wren, but some duty or other called me away and I did not think of it again until I observed the dejected appearance of the Bluebirds the next morning. I opened the box and saw one dead nestling. Whether the wren came back and threw out the second bird, or the parent Bluebirds removed it from the nest, I will never know. This wanton killing was the last straw. Down came the wren boxes!

One pair went across the drive and took possession of a bluebird box in the yard of my more indulgent neighbor, where they reared one brood. My Bluebirds took after them every opportunity they had. One day I saw Father Bluebird have a wren by the nape of the neck administering a well deserved punishment.

I chanced to be looking as this brood of wrens were about to leave the nest. I walked up to the box which was within easy reach. I stifled my desire to wring their necks, and gave my curiosity full sway. I wanted to see if my standing there would frighten them. They showed no fear of me at all, not even when I stroked the head of one of the nestlings. Two left the nest while I stood there. Had the parent birds been about I imagine they would have been told there was great danger nigh.

SIoux CITY, IOWA.

BIRDS OF THE RED RIVER VALLEY OF NORTHEASTERN
NORTH DAKOTA

BY H. V. WILLIAMS

In writing up the list of birds of this region I wish to first bring to the attention of the reader a few facts of a general nature. My father, W. H. Williams, came to this state in 1882, and settled on what was known as the Big Slough, between Glasston and Bowesmont. It extended from a few miles south of St. Thomas, and the over-flow emptied into the Tongue River near Neche. It varied from a hundred yards in width to a mile in places, and contained a rank growth of coarse slough grass; in the deeper water cattails and other tall rushes grew. There was a channel through the center, with large patches of open water here and there.

This proved to be a veritable paradise for game, and it was also in the line of migration of water fowl both spring and fall. There was no timber in the immediate vicinity, so that woodland birds were seldom seen.

My father, being an ardent bird student, had ample opportunity to study the bird life of that region; and, being a taxidermist, he collected and mounted many of the birds which he found. In 1899 he moved to Grafton where he opened a taxidermy shop. He collected and mounted birds here until about 1910, when I started to do the collecting and he took care of the shop work. No definite records or data were kept until 1900. Notations as to abundance previous to this time are made from memory. I have used my father's records up to 1910 and 1912, while after that time they are from my own collecting and observations.

The present paper is based upon records of specimens taken within a rather limited area, especially from 1900 onward; such an area may be said to be included in a circle made by a twenty mile radius from Grafton as a center. But I believe the list includes practically every species that may be found anywhere in the Red River Valley of North Dakota. I have included no records of specimens taken outside of the Valley proper. It was in 1900 that my father began building up a collection of local birds, and more accurate data were kept from this time on. The bulk of this collection is now in the Biological Station at Devils Lake, North Dakota, having been placed there in 1924.

These specimens have been collected in the following localities: in the Big Slough; on the Park River, a tributary of the Red, which passes through Grafton, and is bordered by a narrow fringe of timber;

on Salt Lake and North Salt Lake, two alkali lakes near here; on Minto Lake, about fourteen miles south of us; and on the Red River itself, although very little work has been done on the Red River proper.

I have spent fifteen years working in this one locality and believe that I have taken about every species that occurs here, and also a number of stragglers that have come through.

[The following list contains 267 named forms.—Ed.]

Western Grebe—*Aechmophorus occidentalis*. I have no exact date for this record, but a bird was caught alive and brought to W. H. Williams to be mounted, in the early part of May, 1910. It had alighted on a patch of ice and could not get up again. Have not seen or taken one here since, so it must be considered a rare straggler this far east.

Horned Grebe—*Colymbus auritus*. A common resident of our sloughs and ponds, nesting in this locality frequently. A specimen in our collection dated Grafton, May 4, 1918. Earliest arrival, April 15. Bred in countless numbers on the big sloughs in Pembina County in large colonies from 1882, when first observed, until the time the slough was drained, about 1910.

Eared Grebe—*Colymbus nigricollis californicus*. A frequent visitor during spring and fall migrations, but I do not believe they nest in this locality. Record: Grafton, May 10, 1912. Earliest arrival, April 30. Never were very plentiful in this part of the State even back in the early eighties.

Pied-billed Grebe—*Podilymbus podiceps*. A common visitor during migrations both spring and fall, with an occasional pair nesting here. A specimen in the collection dated June 2, 1920. Earliest arrival, April 14. A quite common resident in the big slough and small lakes as far back as 1882.

Loon—*Gavia immer*. A fairly common visitor in both spring and fall migrations, but none stop to nest in the immediate vicinity. A mounted specimen dated Grafton, April 23, 1921. One killed October 2, 1923. Earliest arrival, April 16. The loons never were plentiful in this district. Never known to breed here even in the early days.

Herring Gull—*Larus argentatus*. A rather common migrant both spring and fall. No birds breed in this locality. A mounted specimen in our collection dated Grafton, April 24, 1923. Earliest arrival, April 6. Very common spring migrants; most commonly seen flying against a strong north wind; none nested, 1882.

Ring-billed Gull—*Larus delawarensis*. A common migrant in spring and fall, and I have seen birds during breeding season although no nests have been located yet. A mounted specimen dated Grafton, April 29, 1923. Earliest arrival, April 4. A common migrant back in 1882, but none nested.

Franklin's Gull—*Larus franklini*. A very common migrant both spring and fall. I have seen flocks of several hundred leaving a lake at one time to feed, or resting on the water in a great raft. Have a specimen dated Grafton, May 1, 1922. Earliest arrival, April 22. Migrated in countless numbers as far back as 1882, but none nested.

Forster's Tern—*Sterna forsteri*. Not a common migrant although in some years they are more plentiful than in others. Have a specimen dated Grafton, May 3, 1923. Earliest arrival, May 3. Very common breeder in 1882-1910 on the big sloughs.

Black Tern—*Chlidonius nigra surinamensis*. A very common migrant and summer resident, being found in almost every slough or body of water where they nest. Have a mounted specimen dated Grafton, July 8, 1923. Earliest arrival April 28. Nested in great colonies from 1882 until the big slough was drained.

Gannet—*Moris bassana*. W. H. Williams shot and wounded a bird that got away from him, and which he identified as a Gannet, early in the spring of 1882. He was close enough to get a good view of the bird and the description tallies exactly with the specimen.

Double-crested Cormorant—*Phalacrocorax auritus auritus*. A common migrant in spring and fall, being seen in flocks, from six to fifty birds. None nest here. Records: Grafton, May 9 and May 21, 1924. Mounted bird, Grafton, April 26, 1921. Earliest arrival, April 24. About as plentiful as a migrant in 1882 as today. None nested.

White Pelican—*Pelecanus erythrorhynchos*. A fairly common migrant a few years ago, but very few have been seen in the last four or five years. Record: mounted specimen, Grafton, May 15, 1904. A common migrant on the big slough, but it very seldom stopped there. One killed in 1882. About as common today as then.

American Merganser—*Mergus americanus*. A rare spring migrant but more plentiful in the fall. None nest here. Records: mounted specimen, Minto, April 16, 1904; Grafton, May 21, 1924. Earliest arrival, April 18. Not a common migrant and none nested back as far as 1882.

Red-breasted Merganser—*Mergus serrator*. A rare migrant in this locality, both spring and fall. Sometimes several years will elapse

between appearances. Have a mounted specimen dated Grafton, April 27, 1924. Earliest arrival, April 8. Very rare on the big slough in the early days.

Hooded Merganser—*Lophodytes cucullatus*. Cannot be called common; in fact they are almost rare now, although I have found them during the nesting season, so presume they nest along our stream. A mounted bird dated Grafton, May 4, 1917. Earliest arrival, May 2. Rare migrant in the valley as far back as 1882.

Mallard—*Anas platyrhynchos*. A very common migrant and resident, arriving early in the spring and staying as long as open water is to be found. I have killed them here after January 1, in an open hole in the river. They were very thin and small although well colored. A mounted specimen dated Grafton, October 16, 1911. Earliest arrival, March 25. Nested in great numbers throughout the region and migrated in countless thousands throughout the eighties. Nested everywhere.

Black Duck—*Anas rubripes*. A rare duck in this locality, as very few have been taken. Have a mounted specimen dated Grafton, April 10, 1909. Two were seen September 1, 1924. Earliest arrival, April 10. Very rare in the eighties on the big slough. Probably more common now than at that time.

Gadwall—*Chaulelasmus streperus*. A fairly common resident, nesting near sloughs and lakes. Record: mounted specimen Grafton, April 20, 1903. Earliest arrival, April 20. Very common breeder throughout the district in the eighties, and nested quite commonly.

Baldpate—*Mareca americana*. Considered a fairly common migrant, although not nesting here except rarely. Record: mounted specimen October 29, 1912. Earliest arrival April 18. Also a common breeder in the eighties.

Green-winged Teal—*Nettion carolinense*. A common resident through the breeding season. A mounted specimen dated Grafton, May 4, 1910. Earliest arrival, April 19. Considered quite rare throughout the big slough in the eighties, although some nested.

Blue-winged Teal—*Querquedula discors*. One of the most common breeding ducks in this vicinity. Nearly every little slough has its pair of these birds and the early fall shooting consists mostly of this variety. Have a mounted specimen dated Grafton, April 1, 1912. Earliest arrival, April 1. Nested in countless thousands in and around the big slough in the eighties.

Shoveller—*Spatula clypeata*. The Shoveller must also be considered one of our common summer residents, nesting in quite large numbers. Have a mounted bird dated April 13, 1912. Earliest arrival, April 13. Also very plentiful and nested in large numbers in every little pond or slough throughout this district in the eighties.

Pintail—*Dafila acuta*. I believe the Pintail can be called the most common nesting duck in this locality. Being a typical prairie bird, it finds its typical habitat here in the valley. There are more Pintails shot in the early season than any other variety. My records show one dated Grafton, April 20, 1903. Earliest arrival, March 25. Very common, as was the Shoveller, in the early eighties.

Wood Duck—*Aix sponsa*. This beautiful duck is becoming rarer every year, and it has been several years since I have taken or seen one of these gorgeous birds in this vicinity. I never knew them to nest here and only found them during spring and fall migrations. Have a mounted bird dated Grafton, May 8, 1908. Earliest arrival, May 8. A very common breeder along the small streams in the eighties.

Redhead—*Marila americana*. A very common duck during the migrations, being found on deep water lakes in large numbers. A few remain to nest but are not at all plentiful. A record from the collection dated Grafton, April 25, 1924. Earliest arrival, April 18. Very common from 1882 until the slough was drained.

Canvas-back—*Marila valisineria*. Another very common migrant both spring and fall, with a few remaining to nest, as with the Redheads. The most highly prized duck shot, but in this locality which lacks the celery beds, I think the difference is mostly imagined. I have a mounted bird dated Grafton, April 26, 1902. Earliest arrival, April 18. Considered rare and not found nesting on the big slough. An occasional bird killed among migrants in the early eighties.

Scaup Duck—*Marila marila*. A rare visitant at this locality and only in the spring have I seen them. Have a mounted bird dated Grafton, April 15, 1909. Earliest arrival, April 15. Not plentiful and not known to breed in the big slough in the eighties.

Lesser Scaup Duck—*Marila affinis*. A common migrant in spring and fall and also quite a number nest in the small lakes near here. A mounted bird dated May 10, 1913. Earliest arrival, April 16. More common among migrators than the former but none seemed to stay to breed on the slough in the eighties.

Ring-necked Duck—*Marila collaris*. A few years ago this was considered a rare bird, but in the last few years they have become

quite numerous in spring and fall migrations, especially in the fall. My first record is from a mounted bird dated Minto, April 20, 1903-October 20, 1923. Earliest arrival, April 20. Very rare in the eighties. They seem to be more plentiful now.

Golden-eye—*Glaucionetta clangula americana*. A rare migrant both spring and fall, not over a dozen birds being seen in any season. Have a mounted bird dated Grafton, April 8, 1910. Earliest arrival, April 8. Rare on the slough in the eighties and not common now.

Barrow's Golden-eye—*Glaucionetta islandica*. This record I got from a young bird student, Don Loos, who said he picked up a partly decayed duck that resembled a Golden-eye except for the white crescent at the base of the bill instead of the round spot. This white crescent is what attracted his attention, as he had seen the other Golden-eye and noticed a difference. This bird was found at Minto Lake in the early part of October, 1922.

Buffle-head—*Charitonetta albeola*. Cannot be called a common migrant in the spring, but is quite common in the fall flight. I have one killed at Grafton, April 14, 1903. Earliest arrival, April 14. A rare migrant in the eighties. More common now.

White-winged Scoter—*Oidemia deglandi*. A rare migrant in the fall and very rarely ever seen in the spring. I have a record of one killed September 30, 1920. Earliest arrival May 10. A rare migrant in the eighties.

Ruddy Duck—*Erismatura jamaicensis*. An uncommon migrant in the fall flight. A few are taken every fall but never saw one here in the spring. I have record of two dated Grafton, October 11, 1924. Common breeder in this district in the early days. Not known to nest here now.

Snow Goose—*Chen hyperboreus hyperboreus*. Quite a common migrant. Usually seen flying with the flocks of Blue Geese in the spring and fall. Very seldom seen in flocks by themselves. Have one mounted that is dated Grafton, May 7, 1922. Earliest arrival, April 2. A common migrant in the eighties. None nested.

Greater Snow Goose—*Chen hyperboreus nivalis*. Probably as common a migrant as the Lesser Snow Goose, flying in company with the Blue Geese and Lesser Snow Geese. Our migrations of geese seem to be decreasing each year and the flight is moving west. About fifteen years ago I have seen countless thousands of geese in flight and whole quarter sections of plowing that appeared covered as with snow. Have

one dated Grafton, April 13, 1907. Earliest arrival, April 13. Very few nested in the early eighties.

Blue Goose—*Chen caerulescens*. This is the most common migrant of the smaller geese in this locality, flying in flocks from fifty to three hundred, but always with a few Snow Geese mingled in the flocks. These birds did not appear in any great numbers that I noticed until about 1906. Have one of the first ones brought to my attention dated Grafton, March 30, 1906. Earliest arrival, March 30. Not fully recognized until after 1900, although the flocks of Snow Geese of early days contained large numbers of dark colored and indiscriminately spotted and mottled birds that were not true Blue Geese.

White-fronted Goose—*Anser albifrons gambeli*. I would consider this a rare migrant, having seen very few during migrations at any time. They usually fly alone and not mixed with other geese. Have one dated Grafton, April 8, 1908. Earliest arrival, April 8. Quite rare in the eighties. Began to increase in numbers about 1896.

Canada Goose—*Branta canadensis canadensis*. Probably the most common and most sought for goose we have today. The height of every young hunter's ambition is to kill a "Honker". They are very common here during migrations, both spring and fall, but none have been known to nest here in the late years. Have a mounted one dated Glasston, April 18, 1906. Earliest arrival March 12. The Canada Goose nested in large numbers up to 1886 when they started to diminish as the country settled up. As the settlers move in the "Honkers" move to less settled districts.

Hutchin's Goose—*Branta canadensis hutchinsi*. Likely as common a migrant as the true Canada Goose and often mistaken for that bird. I have a record of one dated Grafton, April 8, 1922. Earliest arrival, April 8. Rare in the eighties, as practically all were the big Canada Geese.

Cackling Goose—*Branta canadensis minima*. A rare migrant at any time. Can remember of only one being killed here about the year 1905. No record of any since. Also rare until about 1898 when they started to appear.

Whistling Swan—*Cygnus columbianus*. A few swans are usually seen in every spring migration, ranging in numbers from three to fifty birds in a flock, but scarcely more than two or three flocks in a season. Have a record of two killed April 10, 1919, at Grafton. Earliest arrival, April 3. Very rare throughout the eighties, and in fact until 1900.

Wood Ibis — *Mycteria americana*. A straggler was killed and mounted from Glasston, North Dakota, in the spring of 1900.

Bittern — *Botaurus lentiginosus*. A very common bird in our sloughs and lakes nesting in numbers wherever favorable nesting ground is available. Have a mounted bird dated Grafton, October 27, 1920. Earliest arrival, April 23. Nested in exceedingly large numbers on the big slough and all other suitable places from 1882.

Least Bittern—*Ixobrychus exilis*. This bird must be considered a straggler in this district. I have no definite record, but W. H. Williams reports seeing one in the late eighties at Glasston, North Dakota. The second known record for this region is an adult male seen at Grafton, August 4, 1925.

Great Blue Heron—*Ardea herodias herodias*. A rare migrant in the spring, but fairly common in fall migrations along our streams and lakes. It appears early in the fall, usually the adult and young, but I do not know of them nesting. Have a record of one dated Grafton, August 13, 1912. Earliest arrival, April 27. Not found in the big slough but fairly common along the Red River and its tributaries from 1882 on.

Green Heron — *Butorides virescens*. Another bird that is undoubtedly a straggler. I had one reported in June, 1917, along the river here but could not locate it, but am sure of the record from the description. Have a mounted one taken at Glasston, May 2, 1905. A rare straggler at all times.

Black-crowned Night Heron—*Nycticorax nycticorax naevius*. An uncommon migrant in the spring but more common in the fall. I am sure of a small colony nesting near Minto, North Dakota, but have not located it as yet. Have a record dated Grafton, September 16, 1922. A few were usually seen every season throughout the eighties, and later.

Whooping Crane—*Grus americana*. A rare migrant now that used to be quite common in the early eighties. At the present rate of decrease it looks as if this great bird is to follow the Passenger Pigeon from its old haunts. W. H. Williams killed one at Glasston in April, 1899, and there is a record of one killed April 12, 1912. Five birds were seen near here in April, 1923. Earliest arrival, April 12. A few were seen every year until about 1900. One was killed by W. H. Williams on the big slough in 1899.

Little Brown Crane—*Grus canadensis*. A rare straggler through here. Have one record dated Grafton, September 30, 1920. None were taken on the big slough from 1882 on.

Sandhill Crane—*Grus mexicana*. At one time this was a common migrant and breeder on the prairies of this locality, but of late it has become very rare. The only one I ever saw stop here was on April 23, 1924. It was alone and allowed me to approach within fifty yards before it showed any signs of uneasiness. It remained around this locality about a week before it disappeared. It was very plentiful in the early eighties and nested in the big slough up to 1884. A large colony of eight or ten was found in a small slough in 1883.

Virginia Rail—*Rallus virginianus*. Not a common resident of our sloughs and marshes, but an occasional bird can be seen, especially in the spring migration. Am not sure that they nest here, but believe so. Have one record dated Grafton, June 3, 1910; and two killed May 23, 1923. Earliest arrival about April 30. Not plentiful in the big slough; found only occasionally in the early eighties.

Sora Rail—*Porzana carolina*. A very common migrant and also resident of our sloughs and marshes. A great little bird to run rather than fly, and in darting through the grass it gives one the impression that it is running on the water when in fact it steps from blade to blade of grass or any little obstruction available. Have a specimen dated Grafton, April 28. Earliest arrival, April 23. Very plentiful at all times up to the drainage of the big slough. Still plentiful in smaller sloughs.

Yellow Rail—*Coturnicops noveboracensis*. A rare straggler and I have no definite record except one that was killed at Glasston, North Dakota, in 1882, by W. H. Williams. This was the only bird ever taken in this region.

Coot—*Fulica americana*. A very common migrant and breeder in this locality, being found nesting in large numbers in sloughs and marshes. Have one mounted that was killed at Grafton, May 8, 1924. Earliest arrival, April 26. Exceedingly numerous in 1882 in the big slough, breeding there in great numbers.

Northern Phalarope—*Lobipes lobatus*. A rather common migrant in both spring and fall, although they do not nest here. Have seen large numbers of them with other small shore birds busily feeding on the edge of a small lake. They are good swimmers and sometimes will be seen quite a distance from shore. My records show one dated Grafton, May 20, 1913, and six killed August 4, 1923. Earliest arrival, May 14. Very plentiful from 1882 until the drainage of the big slough.

Wilson's Phalarope—*Steganopus tricolor*. A common breeder in this district, being found in sloughs where there is some open water

available. Nests are placed on dry land a short distance from the water. The female, as in the other phalaropes, carries the bright colors, while the male incubates the eggs and seems to care for the young. Have one killed at Grafton, May 4, 1910. Earliest arrival, May 4. Very plentiful from 1882 on.

Black-necked Stilt—*Himantopus mexicanus*. A very rare straggler. I saw one bird during the spring migration of 1905. It flew past me quite close and from the markings, which were very distinct, there was no chance of mistaking it.

Wilson's Snipe—*Gallinago delicata*. A common migrant in spring and fall in this locality, but now they are not noticed during breeding season. Have one mounted dated Grafton, May 3, 1904. Earliest arrival, April 19. Bred in large numbers from 1882 on.

Long-billed Dowitcher—*Lymnodromus griscus scolopaceus*. This species can be called common during both spring and fall migrations, and is easily distinguished by its long bill and habits so different from the Wilson Snipe, the only bird with which it might be confused. They were very common in the spring of 1925 during migration, about May 16. Have records of birds taken May 16, July 8, August 14, and September 9, all in 1923. A mounted bird dated Grafton, May 2, 1902. Earliest arrival, May 2. Not common in the early days, but apparently more common now.

Stilt Sandpiper—*Micropalama himantopus*. A very common migrant, especially in the spring. On May 29, 1924, I saw a flock of between 200 and 250 stilts in one flock. I have records of birds taken July 14, August 4, and August 18, 1923, and May 29, 1924, at Grafton. Earliest arrival, May 28. They were not common anywhere here in the eighties, but a few seen during migration.

Knot—*Calidris canutus*. A rare migrant in this locality. Have taken very few of these birds. I have the following records of birds taken: August 18, 1923, and August 25, 1923, at Grafton. Earliest fall arrival, August 18.

Pectoral Sandpiper—*Pisobia maculata*. Another common migrant in our locality. I have the following records: May 17, 1909; May 16, 1923; September 16, 1917, and May 18, 1924, at Grafton. Earliest arrival, May 16. Fairly common in the early eighties, and quite common now.

Baird's Sandpiper—*Pisobia bairdi*. One of the most common migrants in this district, especially in the spring. Have a mounted bird dated Grafton, June 3, 1919. Common in the eighties.

Least Sandpiper—*Pisobia minutilla*. A very common migrant, usually found in company with the other small sandpipers. Have a mounted bird dated Grafton, August 17, 1913. Earliest arrival, May 3. Very common on the big slough in 1882 and later.

Red-backed Sandpiper—*Pelidna alpina sakhalina*. A fairly common migrant, especially in the spring, usually found in small groups mingling with other sandpipers. Have the following records from birds taken May 16, 1910; May 28, 1923; May 26, and May 29, 1924, at Grafton. Earliest arrival, May 16.

Semipalmated Sandpiper—*Ereunetes pusillus*. Probably the most common of the small sandpipers during migrations and, in fact, they are here most of the season, though I do not think they nest here. Have a mounted bird dated Grafton, May 13, 1911. Earliest arrival, May 13. As common as the Least Sandpiper from 1882 on.

Sanderling—*Crocethia alba*. A fairly common migrant in spring and fall migrations, usually in company of other sandpipers. Have records of birds taken Grafton, May 28, 1913; July 19, 1923; July 31, 1923, and June 2, 1924. Earliest, April 28. Large numbers from 1882 on.

Marbled Godwit—*Limosa fedou*. Cannot be called a common migrant, although a few are usually seen every spring and a pair nested near a slough south of here. Have often found them in company with Hudsonian Godwits wherever they are found. Have a mounted bird dated Grafton, June 1, 1908, also the following records of birds taken: (4) June 4, 1923; (6) June 21, 1923; (1) April 24, 1924; (2) August 5, 1924; (3) May 18, 1924. Earliest arrival, April 23. Quite plentiful through the eighties, when it nested in the big slough.

Hudsonian Godwit—*Limosa haemastica*. A fairly common migrant, as a few are usually seen every spring migration, although they do not appear during the fall flight. A beautiful bird that seems to be losing ground from year to year. I have a mounted bird dated Grafton, May 7, 1911, and the following records of birds taken: (2) May 18, 1923; (4) May 21, 1923; (2) June 11, 1923; (9) May 18, 1923; (6) May 25, 1924. Earliest arrival, May 7. Quite rare throughout the eighties, and possibly more plentiful than now.

Greater Yellow-legs—*Totanus melanoleucus*. I would call this a rare migrant, as they are only occasionally seen, and very few at any time. Probably more common in the fall than spring. I have records from mounted birds dated Grafton, April 30, 1909; April 19, 1914,

also records of birds taken August 14, 1923; October 8, 1924. Earliest arrival, April 19. Very plentiful from 1882 on. More prevalent than the Lesser Yellow-legs in the early eighties.

Yellow-legs — *Totanus flavipes*. A very common migrant both spring and fall, being found in large numbers in nearly every slough or lake shore. Have a mounted bird dated Grafton, May 10, 1912, also records dated April 30, 1913; April 19, 1914. Earliest arrival, April 13. Not common in early eighties, but became more numerous as the Greater Yellow-legs diminished in numbers.

Solitary Sandpiper — *Tringa solitaria solitaria*. A common migrant and also quite a number undoubtedly nest here, as they can be found at any time during the summer months along our streams especially. Have a mounted bird dated Grafton, June 9, 1912; August 14, 1914, and August 7, 1923. Earliest arrival May 3. Very numerous in the early days. Began to diminish about 1886.

Western Willet—*Catoptrophorus semipalmatus inornatus*. A rare migrant in this locality and usually found singly or in pairs, never more together. I have collected very few of these birds during my work. Have a mounted bird dated Grafton May 4, 1905, also records from birds taken (1) May 4, 1913; (1) June 11, 1923; (1) May 27, 1924; (1) August 5, 1924. Earliest arrival, May 2.

Upland Plover—*Bartramia longicauda*. A fairly common migrant in spring and fall, and also are found nesting. I have found both eggs and young birds. They are becoming more scarce every year. I have a mounted bird dated Grafton, June 6, 1909, and birds taken June 19, 1914; May 28, 1923. Juvenile records July 3, 1923, August 4, 1923, May 26, 1924. Earliest arrival, May 9.

Buff-breasted Sandpiper — *Tryngites subruficollis*. A very rare migrant, being seen only in August in the fall migration. I collected two on August 14, 1923, and one on August 26, 1924. Earliest arrival, August 14.

Spotted Sandpiper—*Actitis macularia*. A common summer resident, breeding quite commonly throughout this region. The collection contains one taken here. Earliest arrival, May 9.

American Black-bellied Plover—*Squatarola squatarola cynosurae*. A common migrant found in the fall, usually seen in small groups, but have seen as high as sixty birds in a flock feeding on the shores of a lake. They are wary and hard to approach. I have one mounted dated Grafton, September 27, 1906, and others taken August 9, 1923, October 28, 1923, and October 3, 1924. Earliest arrival, May 25.

Golden Plover—*Pluvialis dominica dominica*. A rare migrant in the spring but quite common in the fall flight travelling in flocks of a dozen to fifty birds. Have a mounted bird dated Grafton, September 7, 1907, and birds taken September 28, 1923, and October 3, 1924. Earliest arrival, April 30. Exceedingly numerous in the early eighties, being found in flocks of several hundred but gradually decreased in numbers until they about disappeared; have increased again in last few years.

Killdeer—*Oxyechus vociferus*. A well known early arrival in the spring migration and a common breeder in this region, being found in the near vicinity of every little water hole on the prairies. A very noisy and welcome arrival in the early spring. A mounted bird dated Grafton, April 28, 1904. Earliest arrival, March 18. Nested in large numbers everywhere from 1882 on.

Semipalmated Plover—*Aegialitis semipalmata*. Cannot be called a common migrant, although a few are usually seen in both spring and fall migrations. Usually found in small flocks, never over a dozen and most often seen back from the water's edge a short distance, chasing insects. Two taken August 4, 1923, and one May 26, 1924. Earliest arrival, May 11.

Ruddy Turnstone—*Arenaria interpres morinella*. A rare straggler that was only seen once in this locality when a flock of twelve was found at Minto Lake on May 26, 1923, and two were collected and sent to the University of Michigan. Earliest arrival, May 26. Quite common in early eighties, but had gradually disappeared from this region until 1923.

Gray Ruffed Grouse—*Bonasa umbellus umbelloides*. A fairly common resident that is just holding its own, and not becoming any more plentiful although we have had a closed season here for several years past. An occasional red-phased bird is found, but the gray phase predominates. Two specimens in the collection were taken October 31, 1915. Five were taken October 9, 1922. One was taken January 1, 1923. Four were taken October 7, 1923. All were sent to the University of Michigan. Fairly common along the Red River from 1882 on.

Prairie Chicken—*Tympanuchus americanus americanus*. This is our principal upland game bird, furnishing the principal sport during the hunting season. During the years when the hunting dog was used the chicken decreased in numbers quite noticeably until they became very scarce. Added to the dog was the increase in the acreage of land put under cultivation, causing the destruction of most of their nesting

ground; but since the dog was prohibited and with the increase in the growing of alfalfa and like crops, this grand bird has made great strides toward increasing and is now rapidly coming back to former numbers. In 1916 and 1917 I trapped live grouse for the United States Department of Agriculture and found that nearly eighty per cent of our birds were non-breeding males, a condition that was alarming. In 1918, I think, the State Legislature passed the law prohibiting the use of so-called bird dogs and limiting the bag to five birds a day, and this fact alone meant the salvation of the Pinnated Grouse, which had no show whatever against the combination of dog and magazine shotgun. Have two mounted in the collection dated Grafton April 13, 1913. Heard in 1882 but were not seen until 1883, when the first one was killed. Became more common every year from then on.

Prairie Sharp-tailed Grouse—*Pedioecetes phasianellus campestris*. A common resident about fifteen miles west of us, where it becomes more common than the Pinnated Grouse. In our immediate vicinity it is seen only during the winter months. Have mounted birds in the collection dated Grafton, December 18, 1912. One killed April 6, 1924. One killed January 1, 1923. Four killed February 15, 1923. Some of these were the Columbian Sharptail which occurs here only in winter. They were sent to the University of Michigan. Very common in 1882, but appeared to diminish in numbers or move out as the Pinnated Grouse moved in.

Columbian Sharp-tailed Grouse—*Pedioecetes phasianellus columbianus*. A rare winter visitor in this immediate vicinity, but is quite common during winter in the Pembina Mountain region. A mounted specimen in the collection is dated Grafton.

Passenger Pigeon—*Ectopistes migratorius*. Extinct. Have a record from W. H. Williams of a Passenger Pigeon killed at Glasston in the spring of 1882. Last one killed on the big slough in 1882 by W. H. Williams. It was at least ten miles from any timber and appeared exhausted when shot as it allowed a very close approach.

Mourning Dove—*Zenaidura macrura carolinensis*. A very common summer resident, nesting in large numbers during the summer. Specimen in the collection dated Grafton, July 25, 1904. Earliest arrival, April 13. Fairly common where there was timber from 1882 onward.

Turkey Vulture—*Cathartes aura septentrionalis*. A rare migrant being seen only rarely during spring and fall migrations. I have a mounted specimen taken at Ardoch, North Dakota, October 4, 1914,

and two records dated Grafton, April 20, 1902, and May 22, 1921. Earliest arrival, April 25. Occasionally seen during migrations from 1882 onward.

Marsh Hawk—*Circus hudsonius*. A common migrant and summer resident in this locality, found nesting in sloughs where their nests are built in the tall grass. An early arrival in the spring. A pair mounted in the collection dated Grafton, May 11, 1908. In 1917 the first arrival was March 21, and last one seen was September 18. In 1921 was March 23, last seen September 21. In 1922 was March 30. In 1923 was March 21, and last seen October 24. In 1924 was March 25. All these first arrivals were male birds, the females not appearing until two or three weeks later. Very common breeder throughout the district from 1882 onward.

Sharp-shinned Hawk—*Accipiter velox*. A fairly common migrant and usually a few pairs nesting in this region. A mounted specimen in the collection dated Grafton, May 8, 1912. One April 25, 1913, and another September 7, 1923. A very destructive hawk to smaller birds. Earliest arrival, April 4.

Cooper's Hawk—*Accipiter cooperi*. A common migrant, which frequently nests. A very destructive hawk and not always confining itself to smaller birds. A mounted bird in the collection dated Grafton, June 6, 1911; other records, May 1, and May 9, 1923; April 20, and May 5, 1924; and August 31, 1924. These specimens sent to the University of Michigan. Earliest arrival, April 4.

Goshawk—*Astur atricapillus atricapillus*. An exceedingly destructive hawk that is only a winter visitor and not common at any time. We had a large number here during the fall and winter of 1907, but only an occasional one since. Have a mounted bird dated Grafton, April 9, 1907, and one sent to the University of Michigan taken January 21, 1917. Have seen none here since. Earliest arrival, January 21.

Kriders' Hawk—*Buteo borealis krideri*. A rather rare breeder in this district, and would not call it a common migrant, although they may be more common in migration than supposed, as it is rather difficult to distinguish. Have a specimen in the collection that was taken September 6, 1909, that nested here. Have seen others that were identified as Krider's during migration. Earliest arrival, March 21.

Western Redtail—*Buteo borealis calurus*. Probably the most common of our Redtails both in migration and found nesting. They are likely the eastern form principally, as noted in "Bird Life of North Dakota", by N. A. Wood, page 38. Have never taken a melanistic

Redtail nesting here or found a dark phase in any nest. Melanistic forms all appear to come from north of us as they are seen only during migrations. Earliest arrival, March 19. Very numerous during migrations on the big slough from 1882 onward.

Harlan's Hawk—*Buteo borealis harlani*. A rather rare migrant in this locality both in spring and fall, most commonly found in the melanistic phase and a bird that is hard to identify unless in the hand. I got my first record May 1, 1916. It is in the Museum of the University of Michigan. Since that time I have the following records from here: October 19, 1923; a mounted bird taken October 19, 1923; two taken October 14, 1923; two September 30, 1924; two October 28, 1924, and one October 29, 1924, in light phase. These birds are all in the University of Michigan except the mounted bird. These large hawks pass through here and their flight lasts but a few days, at least it is for only a few days they are taken and after that we find nothing but ordinary and melanistic Redtails. Am in receipt of a letter from Mr. P. A. Taverner of Ottawa, Canada, an ornithologist from the Victoria Memorial Museum, who states that the appearance of Harlan's Hawk nesting is only erratic south of the Yukon Territory, and he has lately received word that they are quite common in the Atlin country, bordering on the Yukon. Undoubtedly their breeding ground is in this far north country. Earliest arrival, March 26.

Swainson's Hawk—*Buteo swainsoni*. Most commonly seen in the melanistic, or dark, phase, but uncommon in this district now where they were quite common years ago. Have not found them nesting here in the last fifteen years. I have taken these birds in both phases during migration but only two of these in the light phase. A mounted bird (dark phase) in the collection taken at Grafton, April 3, 1906, and a light phase bird taken May 11, 1924. Other migration records are March 21, 1917; March 30, 1919; March 26, 1920; March 24, 1921; March 13, 1921; March 24, 1922; March 21, 1923; April 5, 1925.

Broad-winged Hawk—*Buteo platypterus*. A very common migrant and summer resident, found nesting quite commonly throughout the timber regions. A mounted specimen in the collection taken at Grafton, April 15, 1910. Several others in the University of Michigan Museum dated April 24, 1913; September 8, 1923; April 24, 1924. Earliest arrival, March 31.

American Rough-legged Hawk—*Archibuteo lagopus sancti-johannis*. A fairly common migrant during spring and fall migrations. These birds are often taken in the dark, almost black, phase, as well

as in the light phase. An early arrival in the spring, usually first part of April, and one of the last varieties to leave in the fall. They do not nest here. A mounted bird in the collection taken at Grafton, November 1, 1909, also two others taken October 2, 1920, and October 20, 1920. Earliest arrival, March 12.

Ferruginous Rough-leg—*Archibuteo ferrugineus*. A rare migrant here and I know of one pair nesting in this vicinity in 1915. I have a mounted specimen taken at Grafton, October 1, 1920, and one in the University of Michigan Museum taken October 3, 1920.

Golden Eagle—*Aquila chrysaetos*. A rare migrant through here, usually one or two are seen each season. I shot at one in 1916, and also shot at one in September, 1923. Saw one on November 27, 1924, but so far have not been able to bring one down.

Bald Eagle—*Haliaeetus leucocephalus*. *leucocephalus* The Bald Eagle occurs about as rarely as the Golden Eagle, and one seldom sees a mature bird. I remember of seeing two during spring migrations years ago. I shot one in the fall of 1914, and another was killed here in September, 1923. Saw one October 10, 1924, near here.

Gray Gyrfalcon—*Falco rusticolus rusticolus*. Have seen only one of these birds in this locality, and it is mounted and in the collection, taken October 7, 1908. This bird must be considered a rare straggler this far south. Seen early in the spring during migration but not common in 1882.

Prairie Falcon—*Falco mexicanus*. A rare migrant through this locality having seen only three that I could identify as this species. One was seen May 2, 1923, and another seen October 2, 1924. I sent one to Dr. Walter Koelz, of the University of Michigan, taken at Grafton, May 16, 1923. Earliest arrival, May 16. Rare in the early days.

Duck Hawk—*Falco peregrinus anatum*. I have only one record of this hawk taken in this locality. It was killed at Glasston, October 2, 1904. It is now in the collection of C. A. Hale of Grand Forks, North Dakota.

Pigeon Hawk—*Falco columbarius columbarius*. A rare hawk in this locality in migration; have very rarely seen a bird, well along in the breeding season, that makes me believe that it nests here erratically. A mounted bird in the collection taken at Grafton, May 8, 1912, also one sent to University of Michigan, taken September 16, 1914. Earliest arrival, April 24. Fairly common during migration in the early eighties.

[To be continued]

THE WILSON BULLETIN

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EDITORIAL

The Kansas City meeting is now a matter of history, and those in attendance must have been in agreement that it was a success from every point of view. Kansas City is the most western point at which we have thus far held a meeting, and we felt that it brought us in contact with that great group of southwestern states, including Texas and Oklahoma, from each of which we had representatives. About thirty other scientific societies held meetings during the same week in conjunction with the American Association. All of the meetings were held in the business district of the city, most of them being held in the various hotels, which are bunched together within a few blocks of one another.

The minutes of the meeting are given elsewhere, and, while trying to avoid a duplication of facts there presented, we may review a few impressions gathered at the time. All arrangements had been carefully planned by our local committee, of which Dix Teachenor was chairman, in co-operation with the local committee of the A. A. A. S., and the success of the whole affair was attributable very largely to Mr. Teachenor's thoughtfulness.

Perhaps the outstanding feature of the meeting, aside from the formal program, was the cordial and democratic good-fellowship which was felt on every hand. There are various reasons for this, and we hope it may always remain so. A very pleasant little affair, not on the published program, was the visit on Tuesday evening to the home of Mrs. M. W. Barber to see the set of Audubon's "Birds of America" in the elephant folio edition. The setting was unique, and all were interested in again looking upon this magnificent work.

The attendance at this meeting was probably the largest we have ever had, although we do not have the figures of the Nashville meeting at hand. Twelve states were represented, besides Washington, D. C. A large number of members were present who had not previously attended a W. O. C. meeting. We trust it may become a habit.

Conversation during the sessions brought to light some sentiment favoring an occasional meeting earlier in the fall, to accommodate those business men who are particularly busy at the close of the year. The Friday and Saturday following Thanksgiving would be the most suitable time, and it would probably be feasible to hold a meeting at this time when we do not go with the American Association.

The frontispiece of this number of the BULLETIN is reproduced from a charcoal drawing by Mr. Edward von Seibold Dingle, of Mount Pleasant, South Carolina. The subject is a Barred Owl, from life, and as it appeared in the shadowy background of night. The frontispiece in the last, December, issue of the BULLETIN was made from a wash drawing in black and white by Mr. George Miksch Sutton, of Harrisburg, Pennsylvania. We think our readers will be interested in noting the differences, insofar as they are apparent in the reproductions, in the various methods in artistic technique. We are looking forward to other contributions by both of these artists.

At the recent Kansas City meeting of the W. O. C. the resignation of Professor Gordon Wilson as Secretary was accepted. Professor Wilson has served the Club in this official capacity for three years, and during this time the Club has grown and prospered as in no other period of its history—and for this a good share of credit may go to the Secretary. The Club owes a debt of gratitude to Professor Wilson for his faithful and efficient services.

The newly elected Secretary, Howard K. Gloyd, is professor of Biology in Ottawa University, at Ottawa, Kansas. He is a graduate of the Kansas State Agricultural College, and has done graduate work in the University of Michigan. His major interest is ornithology. He enters his new work with enthusiasm, and we are confident that his office will be effectively carried on. We bespeak for him the cordial co-operation of our members.

At the last meeting of the American Ornithologists' Union, in New York, steps were taken to establish a memorial to the life work of Robert Ridgway; it is to be known at present as the Ridgway Memorial Project. The plan is to raise a fund sufficient to hold in perpetuity as a bird sanctuary the eighteen acres which constitute "Bird Haven", the present home of Mr. Ridgway. The idea is a very happy one, and we trust that the committee in charge will be able to carry on the project to immediate completion. At the Kansas City meeting the Wilson Ornithological Club appointed Mr. Percival Brooks Coffin, of Chicago, as its representative on the joint committee which is to have charge of the matter. Their plans, when formulated, will be made known.

We trust that our new cover design has been noticed, and that it meets with approval. We are indebted to Mr. George Miksch Sutton for its production. The old etching has been in service through ten volumes, and was beginning to show the effects of old age.

Most of our readers are lovers of the out-of-doors, and are interested in the welfare of our national parks. We have just read a freshly printed pamphlet entitled "Hands Off the National Parks", by Willard G. Van Name. We are here told how commercial interests are making dangerous headway in planning a re-mapping of some of the national parks in such a way as "to juggle out timber or other things", as Dr. Van Name puts it. We believe that any reader may obtain a copy of this booklet by addressing Dr. Van Name in care of the American Museum of Natural History, New York City, and it will be well worth while for all friends of the national parks to do so.

GENERAL NOTES

Conducted by M. H. Swenk

The Original Roosting Habits of the Chimney Swift.—One day in the late summer, just after the Civil War, in the deep woods of middle Tennessee, I came upon a very large Tulip-tree, nearly six feet through, and at least fifty feet to the first limb. One of the limbs had been broken off, leaving a hole about two feet across, which had been the starting point of a deep hollow in the tree. It was just before sunset, and the Chimney Swifts (*Chaetura pelagica*) were pouring into the hole by the dozens, just as they now do into chimneys when going to roost. I have never noticed another instance of the kind.—J. A. McLAUGHLIN, *Marshall, Mo.*

The Bald Eagle in Indiana.—On January 13, 1926, I read of an eagle captured in a corn field near Greenfield, Indiana, twenty miles east of Indianapolis. The next day Mr. and Mrs. Harry H. Coburn and I drove over and located the person who had it in captivity. It was being kept loose in a cellar, but, after a little difficulty, we caught it. We found that it was a Bald Eagle (*Haliaeetus leucocephalus* subsp.) not yet in the adult plumage. It measured more than seven feet across the wings. The shoulders were calloused as if from having been bruised and healed many times. Its strength of talons was prodigious. I found it less of a fighter than the adult Barn Owl, though much more powerful. After taking some moving pictures of its actions we again liberated it in the cellar. No nests of this eagle have been reported in recent years nearer than northern Ohio.—S. E. PERKINS III, *Secretary Indiana Audubon Society, Indianapolis, Ind.*

Some Notes on the Horned Grebe in Michigan.—On May 19, 1925, while on the State Ferry crossing the Straits of Mackinac and about a third of the way across from St. Ignace, I saw a bird on the water, which, after consulting Rees's "Bird Guide," I identified as the Horned Grebe (*Colymbus auritus*). A strong south wind was blowing, so that the waves were rolling fast and rather high for the bird. Sometimes when the waves, especially the large ones, would overtake it, it would be completely submerged, and, as the wave passed over, it would sometimes appear to go entirely out from under the bird, thus dropping it down on the water as it was left by the passing wave. On the next day (May 20) I saw three Horned Grebes at the edge of a lake near Odin, Michigan. They were first seen as I passed by in a car, which was stopped as soon as possible. The birds were yet near the edge of the water upon my approach. They hastened into deeper water as soon as they saw me and my three companions, but I obtained a good view of their colors before they got far enough out to go under the water. They remained under but a short time before coming up, which gave another good view, their farthest distance away being not more than seventy-five feet. In identifying the Horned Grebes the buffy white ear tufts were the principal field marks; but also a comparison of the size with that of other grebes was considered. It may be possible that the localities here given are included in the summer home of *Colymbus auritus*, but if they breed there it still remains to be proved by the finding of a nest.—O. M. BRYENS, *Three Rivers, Mich.*

Franklin's Gulls as Insect Destroyers in the North Platte Valley of Nebraska.—The most momentous ornithological event of the season in our part of the North Platte Valley has been the arrival of large flocks of the Franklin's Gull (*Larus franklini*). We have been afflicted, for several years now, with a grasshopper plague. Having read so much about the gulls, we had been hoping

that they would come and rid us of our trouble. Last year they were in the lower end of the valley, and this year they came back again in July, coming up the river almost to the state line.

Although they were to be found almost everywhere, they seemed to have a preference for the new-mown fields of alfalfa, where grasshoppers and other insects were most plentiful. Scattered as they would be over great fields, their white plumage contrasting against the vivid green of the hay made a most beautiful picture. They also delighted in newly plowed fields, where some would follow the plow, walking in the furrow while looking for choice grubs or even mice. On the plowed ground they would pay no attention to the horses until they were almost up to them, when they would fly a short distance and settle again.

I delighted in watching them as they skimmed above the alfalfa or beet tops after small flying insects, or as they came straggling up the river early in the morning in many small scattered groups, because their flight was so easy and graceful, the very poetry of motion. They stayed until late in October so that I had many chances to observe them, both in flight and on the ground. They usually flew quite low so that their soft blue-gray mantles and black heads were easily seen, even without field glasses, and when they would circle just above the village the children, and even older persons, would grow quite excited, and you would see people everywhere out on the sidewalks watching them. Their great numbers has created a local interest in bird study that just our common birds could not have produced.—MRS. J. W. HALL, *Mitchell, Nebr.*

The Re-use of Old Nest Material by the Blue-gray Gnatcatcher and Ruby-throated Hummingbird.—Soon after I began studying birds I made a collection of nests of the species that were commonly found near my home at Eubank, in south central Kentucky. My usual procedure was to take the nests soon after the young birds had left them. I soon learned that to secure the nests of the Blue-gray Gnatcatcher (*Polioptila caerulea caerulea*) and Ruby-throated Hummingbird (*Archilochus colubris*) it was necessary to collect them as soon as they were deserted, for when they were left any length of time they either disappeared altogether or were so badly torn to pieces that they were worthless for my collection.

On May 28, 1889, I learned what becomes of the Gnatcatchers' nests. I had gone to the woods to collect a nest that had been located on April 26, at which time the bird was incubating. The nest was about thirty-five feet up, on a limb of a Red Maple. I climbed almost to the base of the limb, and was within twelve feet of the nest, when I paused to catch breath. In less than a minute a female Blue-gray Gnatcatcher came to the nest, and, with much twittering, began to pull lichens from it. As soon as she had a bill full of the lichens she flew away to the south. I waited, and soon she returned for another load, going with it in the same direction. This time I slid down the tree and followed her, and soon found the new nest. I have no means of knowing whether the new nest was a second one of the same pair that built the first nest, or was the work of a different pair. Since then I have seen these birds carrying material from an old nest several times, the last time being last spring, when an early nest was carried away soon after the young birds had left it.

I have no written record of having seen the Ruby-throated Hummingbird carrying away material from an old nest, but have a distinct recollection of having seen it doing so in at least one instance, a number of years ago. The fact that

nests of the Ruby-throated Hummingbird usually disappear very soon after the young birds have flown, strongly suggests that, like the Blue-gray Gnatcatcher, these tiny feathered rainbows use material from old nests in the construction of new ones.—JOHN B. LEWIS, *Lawrenceville, Va.*

Bob-white a True and Faithful Father.—On the sixth of September a farmer friend came to me and told me of a nest of Bob-whites along the roadside near the edge of the timber, and on account of the late date I decided to give this nest careful observation and watch the results of such a late nesting. When I approached the nest on September 6, I found the mother bird carefully brooding her twelve white eggs, just five feet from the wheel tracks of the road, in a nest which was so carefully arched over that she was quite well concealed. She was of exactly the same color as the surrounding dead grass, which had recently been mowed, the sickle bar having passed just over her head, not missing her over an inch.

I visited this nest daily, and each time I found conditions the same, with the mother bird patiently brooding. But she would always flush upon my approach and would not allow me to get her photograph. On September 15, just nine days after my first visit, upon approaching the nest we observed a mass of brown feathers in front of the nest, and "Old Bobbie" himself was brooding the eggs, or rather eleven of them, as one had been rolled out of the nest and lay near by. The mother bird had been killed and devoured some time during the night, and nothing remained but a lot of her feathers. The eggs, however, had been spared, and our old faithful friend Bobbie had now undertaken the job of raising a family, which sometimes is the lot of a lone widower. He was a great deal more shy than the mother bird had been, and I could not approach nearly as close to him before he would flush. I would have given a great deal to have secured a good photograph of him on those eggs, but I did not have the heart to set up a blind and wait for him to return, as is customary. I was afraid that he would not return, and I wanted so much to have him complete the job which he had started.

I continued my daily visits to this nest, each trip requiring eight miles of country driving. On the afternoon of September 21, I found that one egg had hatched nicely, and there were eleven whole eggs remaining in the nest with the two half shells, but neither the chick nor "Old Bobbie" were anywhere to be seen, so I presumed that he was away in the grass somewhere giving his little son his first lesson in catching grasshoppers. That night it rained all night, and the next forenoon was so cloudy and wet that I could not get to the nest until in the afternoon. When I drew near I found that all that remained was a lot of empty shells, as every egg had hatched during that night of rain and "Old Bobbie" had gotten away with every chick without me so much as seeing one of them, much less getting a photograph.

I knew that birds of this kind take to the grass as soon as hatched, but I hardly thought that the entire dozen would get away during a rain without me seeing one of them, and I only away from them for about twenty hours. I had secured a good photograph of the nest and twelve eggs on September 6, one of the mass of feathers with the nest in the background on September 15, and one of the nest and empty shells on September 22, and I will have to content myself with them. However, the experience gained by watching this tragedy and the

happy final ending was worth more to me than all the photographs I could have secured.

I experienced, however, the inner battle between the nature lover and the photographer. Had I set up a blind and waited I might have secured some excellent photographs of "Old Bobbie" on the job, but I debated that if I did so I might also frighten him away altogether. Thus the battle raged for several days until finally the true nature lover spirit within me won out, and I will leave it to the readers whether the right won or not. It increased my love of the Bob-white that much, however, that I will always fight for his rights and I will place him first on the list as our most valuable bird and man's best friend.—
W. M. ROSEN, *Ogden, Iowa.*

Birds of a Feather Flock Together.—As I stood on the top of the hill at the rear of my home on an October evening of 1924, watching the swirling mass of Purple Grackles and Starlings coming in to roost all around me, I thought of how little we have really learned, since the composition of this wise little saw, of the basic impulses influencing the organization and government of the flocks and roosts of our wild neighbors. If anyone had asked me why the Purple Grackle persists in roosting in shade trees close to man, I would probably have replied for the same reason that it nests near dwellings, namely, for protection against the thoughtless or irresponsible man, coupled with the desire to take advantage of the thick foliage of our shade trees, especially after the forest trees had become denuded.

For the first time in my life I found myself in the center of the establishment of an entirely new roost. In almost fifty years of residence in the same place I cannot recall a single instance of a large roost of any species of wild bird in my immediate neighborhood until this temporary or tentative roost of Purple Grackles and Starlings developed in our deciduous boundary trees in October, 1924. During October, 1925, on the evening of the 17th, a roost of probably 500 individuals established itself undisturbed in our cherry, locust and maple trees. This flock increased to something like 10,000 by the 19th, overflowing to the trees of my immediate neighbors, with the maples, pines and spruces the favorites, abandoning the deciduous trees as fast as their leaves dropped. It must be explained that the maple as a shade and ornamental tree came into vogue locally during my lifetime, and has recently grown to goodly proportions. On the blustery evening of October 25 the birds, now approximateing 20,000 and including some Cowbirds, came in at dusk riding the gale like snowflakes, and, as some of the maples had become denuded of leaves during the day, such of the maple, cherry and apple trees as were still clothed, together with the evergreens, proved the prime favorites, the overflow settling in the thick foliage of the rows of maples along the nearby avenues. The trilling and chattering of the Starlings lasted as late as 10 P. M., with perhaps little abatement all night long, in the trees at the rear of my home, although the birds that had located along the avenues, which were probably nearly all Purple Grackles, were silent.

My subsequent notes follow: October 26—The birds left their roost at 6:15 A. M. but this evening as they came in some one shot at them, and in consequence only a few roosted on the premises, though they were numerous in the shade trees along the avenues.

October 27—Again I heard the reports of a shotgun as the birds began to flock in increasingly large numbers at 4 P. M. All of the maple and cherry trees and

some of the pines and spruces on or bordering the place were filled, and the overflow was as before.

October 28—About 4 P. M. I observed small squalling squads of Starlings passing up a ravine leading from the Great Valley, where the species flocks in appalling numbers, flying low or running on the ground, apparently hastening to the muster upon the hill. The roosting birds become increasingly abundant. Starlings, as usual, were noisy all night.

October 29—A killing frost with the temperature 28° F. this morning. Grackles and Starlings left the roost in a compact body at 6:10 A. M. and this evening few roosted on the place, though the avenues were crowded, probably because the maple leaves had thinned less there than on the hilltop.

October 30—It started to snow at 7 A. M., and continued snowing without pause until well into the night. This evening it was a great sight to see flock after flock, varying approximately from 100 to 2,000 birds, from 4:35 to 5:00 P. M., circling about the roosting ground and then passing overhead in a northeast by east direction in search of a more sheltered roost, thus drawing the final curtain for the season upon the Grackles. Probably some of the Starlings, in the excitement of the community spirit, accompanied them southward on the morrow, but the bulk of them resumed their normal every-day life about us.—FRANK L. BURNS, *Berwyn, Penn.*

The Fall Migration of 1924 in East Central Ohio.—The months of September, October and most of November, 1924, were spent at our farm home, located four miles south of Uhrichsville, Tuscarawas County, Ohio, and good opportunities were at hand to observe the fall bird migration. During the period from September 20 to November 8 we "listened in" on the migrants practically every night. "I hear the beat of their pinions fleet, but their forms I cannot see." But we heard the beat of their pinions only a few times. More often we saw their forms against the moon. But most unmistakably, "I hear the cry of their voices high." This, however, is not true on cloudy nights, because then they fly low down.

The first night migrants were heard on September 10 and 11. There were but few nights between September 20 and October 18 that bird notes were not heard, and there were several high tides of migration. On September 24, 25 and 26, there was a great wave of warblers and thrushes. On September 27 the thickets and woodlands were overrun with these birds, the south wind of that date seeming to hold them in check. On the night of September 28 there was a light movement, increasing with a light west wind on the 29th to a flood of migration on the 30th. This was accompanied by a decided drop in temperature and a moderate wind from the northwest to the north. I was out until 2 A. M., and from dark until that hour group after group followed in such close formation that from some direction or another their notes could be heard at all times. The note of the Green Heron was heard frequently. At 8 P. M., 10 P. M. and 11 P. M. the notes of the Great Blue Heron were heard, and the Bittern was heard several times.

Several groups of Killdeers were noted during the last week of September, and one group of thirty-five birds that we particularly noted tarried for several days on a field that was being prepared for wheat. A local group of four old birds and five young ones, representing two families that had come from nests on our farm and a neighboring one, joined the thirty-five strangers in their feed-

ing, but I noticed that when the teams disturbed them and they flew to another part of the field that the local group always separated from the strangers. The thirty-five strange Killdeers were not seen after September 29, seeming to have left on the migration wave of September 28 to 30, but the local group did not migrate until in November.

On October 5 and 6 there was a small wave of migration, while on October 16, 17 and 18, there was a great sparrow wave, with a considerable number of Woodcocks, Mourning Doves and Meadowlarks. The thickets and fields were overrun for a few days with groups of the Field, Vesper, White-throated and Fox Sparrows, while Towhees, Myrtle Warblers, Hermit Thrushes and Kinglets were much in evidence. We found the Lincoln's Sparrow in this wave, for the first time in several years.

The notes of the Great Blue Heron were again heard on the nights of October 17 and 26. On October 26, 27 and 28, came another sparrow wave. The Chipping and Song Sparrows and the Hermit Thrushes were more in evidence on this wave, and the Myrtle Warblers were present in considerable numbers. The Tree Sparrows and Slate-colored Juncos came in greater numbers at this time. Also, several flocks of ducks were noted. A small company of Canada Geese was noted on this wave, and again on November 3 and 6, about 285 Canada Geese passing between 1 P. M. and 4 P. M., and another company being heard at 9 P. M., on the latter date. This was the most geese that we have seen in migration for many years.

Nighthawks passed on the 15th, 16th, and 17th of September, but in much smaller numbers than usual. On November 8 several large companies of Bronzed Grackles and Red-winged Blackbirds passed, and one company on November 9. On a neighboring farm a large company of Bronzed Grackles and Red-winged Blackbirds had a common roost for two or three weeks and we had a good opportunity to study the groups as they left for the day and returned in the evening. This company departed on November 18. From 11 A. M. to 1 P. M. a straggling line of Crows were passing, but we had no large mobilization of Crows in the fall of 1924. No large mass movements of Robins were in evidence during the fall, and only small local groups were noted. Two Loons were noted on October 27 and two on October 29. There is no hesitation in the flight of the Loon. It is clean cut and straight, with an apparent objective ahead and the purpose to get there quick.

It is a difficult matter for me to distinguish the migrant flights from the food flights. The route of the Nighthawks, Bronzed Grackles, Red-winged Blackbirds and Crows, as checked by the compass, was west, 35 degrees south. The straggling groups of migrating Bluebirds seemed to take this course, but we have heard their call notes at night on a route to the southeast. The southeast course, as checked by the compass, is south, 20 degrees east. I am persuaded that the number of migrants passing here to the southeast indicates more than a local movement, one that is found in general over Ohio, and seems to point to a convergence to a well-marked route from southeastern Ohio, while the number flying to the southwest is probably no greater than would be found at other points between here and Lake Erie or the Ohio River.

The Pileated Woodpeckers were seen on numerous occasions in September, October and November, but I did not visit the nest tree in 1924, nor the Laurel Valley, where we had previously found the Long-eared Owl and the young of the

Great Horned Owl. The Florida Gallinules, Least Bitterns and rails returned to the "oasis" in the spring of 1924, but we did not take the time for a census.—CHARLES R. WALLACE, *Delaware, Ohio*.

The Behavior of Birds at a Georgia Feeding Tray.—The behavior of different birds at our feeding tray has been a source of considerable interest to us. The tray, placed in the top of a cherokee rose bush, with an evergreen tree overhanging the bush, is about twenty feet from the house and in full view of several windows. Brown Thrashers, Blue Jays, Mockingbirds, Cardinals, Towhees, Song Sparrows, White-throated Sparrows and English Sparrows have been more or less regular visitors

English Sparrows and Mockingbirds have been unwelcome, and have been driven away frequently. The English Sparrows soon learned they were not welcome, and most of them would fly away if they heard the door open, or even if one tapped on a window-pane. Some, however, merely slipped into the bush to return to the tray shortly. Many learned that other species were not driven away and so would wait until some other bird was on the tray, when they would slip up with the other bird. Towhees and Cardinals would sometimes allow English Sparrows to eat at the same time as themselves, but the Cardinals, especially, frequently drove them away. English Sparrows never dared to come to the tray, or to remain there, if a Thrasher, Blue Jay, or Mockingbird was near by.

The Mockingbird never ate at the tray but often perched on it and allowed no other bird to approach. One Mockingbird was fond of perching in a near-by tree and driving away any other bird that came to the tray. The Blue Jay alone was free from molestation. In fact the advent of a Blue Jay near the tray meant the departure of the Mockingbird.

Of all the birds that visited the tray the Blue Jay was the most wary. The slightest noise would cause it to fly away, and yet when the Blue Jay appeared, any bird, except a Brown Thrasher, that happened to be on the tray would at once yield its place to the Jay. Two or even three Jays would eat side by side, sometimes feeding each other. Now and then a Blue Jay would carry food to a bird apparently too timid to come to the tray.

The Song Sparrow much preferred to feed on the ground and search for bits dropped by other birds, but would sometimes sneak up through the bush. The White-throated Sparrows also preferred the ground, but they came to the tray more frequently and more openly.

The Brown Thrashers often came in pairs and fed side by side. They had no fear of Blue Jays and were the victors in any dispute as to which might eat. With the Mockingbird matters were reversed. A Mockingbird might drive a Brown Thrasher away but yielded to a Blue Jay.

Neither the Cardinal nor the Towhee, except in the height of mating, would allow another of its kind on the tray with it. The males usually appeared to have first rights. One bird would feed for a while, then leave and another would take its place. Four or five might be waiting turns to eat but two never ate together. Once, in the midst of the mating season, I saw a pair of Towhees eat together. Several times I have seen a pair of Cardinals together, the male now and then caressing the female with his beak, or feeding her. At other seasons they drive one another away. The Towhee could not eat long without scratching and knocking food onto the ground and its mate while waiting her turn found more or less to eat on the ground.—BERYL T. MOUNTS, *Ballard Normal School, Macon, Ga.*

BIRD BANDING NEWS

Conducted by Wm. I. Lyon

ACADIANS I HAVE FOUND

BY S. E. PERKINS III

There is in Riverside Park, Indianapolis, bordering the golf course and acting as a natural hazard, a piece of boggy ground about ten feet wide and one thousand feet long in which, during most of the spring, water stands. Cat-tails grow in the center and along its borders tall willow sprouts abound. This makes a rather dense thicket throughout which Red-winged Blackbirds call and chatter all spring and summer.

We were there seeking nests of fledgling Red-winged Blackbirds that we might band them. By June 22 I had banded seven baby red-wings in two nests. The nests we had found up to then had been in the tops of the willows, about eight feet up, mostly in groups of two and three. That day we found a red-wing nest only four feet up with one very young bird and one egg.

We had seen Robins in the elms bordering the boulevard nearby and thrashers and a little Green Heron nesting a short distance away at the bank of the lagoon but in this long strip of willows no bird notes were heard except the red-wings.

Finding the one nest lower than the others inspired us with a hope of finding others. We were thus engaged when we came upon a small beautifully felted nest of fibers, four feet up in the crotch of a willow stalk, so built that a shoot of sycamore sapling with its large leaves came through the same crotch almost completely hiding the nest site. The nest had four creamy eggs, speckled around the larger end with brown. We withdrew to ascertain the owners. Shortly a flycatcher appeared. Was it the Least, Yellow-bellied, or Acadian? All look very much alike as they flit about. They look alike as they sit close down on a nest.

But a little time with the books "makes a whale of a difference" in one's guesses.

The Least Flycatcher was eliminated for its eggs are white without spots. It was not the Yellow-bellied for this species builds on the ground. It did not sing; it only fussed. It was surely the Acadian or Alder. On June 25 the bird was incubating as before. When it left the nest we got photos of the nest and eggs. The measurement of the eggs could not determine which species we were observing. On June 27 the nest was as before and we still saw one bird and heard no song. The visit of June 30 found four very small birds in the nest. No parent bird was about while we made our observations. Natural growth was taking place and was the only thing noted on July 1. On the fifth of July the four fledglings were banded and photographed.

No visits were made again till the tenth when early in the morning I took a drop trap and a gathering cage and spool of string and went again to Riverside.

All four flycatchers were in the nest. While I watched, for the first time both parents came and fed. I observed that one parent went east and the other went west in the willows for food. Many visits of each confirm my idea that each in its direction would fly from the nest some thirty to fifty feet, there find moths or bugs and return by short flights to bring the food. A few times on leaving the nest the birds would come to the edge of the willow thicket opposite

the nest and fly along in the open for a distance then disappear into the brush. The parents fed alternately. Seldom were they at the nest at once.

I placed the drop trap in the open a foot or more from the thicket. Took two fledglings and placed them in the gathering cage and put it under the set drop trap. Ran my string up the hill to the boulevard near my auto. While I waited two boys came by and sat with me. Their interest in my doings was so stimulated that one remembered a nest he had seen in another part of the park and later, when he took me there, we found a quail sitting on sixteen eggs.

Ten minutes after the trap was set I caught the female parent. She was less afraid in her desire to feed her young than was her mate. It was only after I handled her that I was convinced that I had an Acadian Flycatcher (*Empidonax virescens*).

Our captive had its second and fourth primaries of equal length, as were the first and fifth, though shorter. The upper mandible was dark and the lower light. After banding she was photographed. She lay quietly in one's hand with closed eyes as if asleep. The Cardinal, Robin, Blue Jay, Hermit and Wood Thrushes will pose long enough to be photographed, but always with eyes wide open. I never had one of these close its eyes while being held, even for a second.

Another fifteen minutes elapsed while I watched the male Acadian fly about the trap with food. He would alight near and then fly farther away. Would light on top of the trap and try to find a way through the netting, then fly back to the willows. Just twenty minutes after the mate was caught I had the male. Both maintained silence most of the time while in our possession. They gave only a few faint squeals. In all our handling of this adult pair, if held quietly, the birds closed their eyes. A shake would cause either one to open its eyes wide and look about but each seemed at once to be re-assured of its safety and would feign sleep again. Both banded adults were turned on their backs at the same time in the hands of the two boys and the habit of each proved to be to close the eyes for the many seconds required to focus a graflex on them. We repeated five times this same stunt with always the same result. When released they went to a large maple near the swamp.

Next day when I returned both parents were feeding. Two fledglings were still in the nest. The others had taken flight. Some weeks later I gathered the nest and am now eager for another season to roll around that I may try to find these friends again. Will they come mated as they were? Will I find each parent with a new mate? Will the young come to the same locality as the parents? Only time, and in the spring, a lot of patience, can tell. If I find them I'll let you know.

INDIANAPOLIS, INDIANA.

WINTER NOTES ON THE BLUE JAYS. Thirty Blue Jays, more or less, have used this station during the past winter mostly to maintain their own storage supplies in tall oak trees nearby. Cats and squirrels are kept away from these trees and from the traps by the jays. From January 1 to February 15, 1925, no jays were banded, the jays already banded keeping other jays strictly away. On February 15 in an effort to get new jays to come to the traps, a week's supply of food was provided. Inside of two hours this was stored up as a reserve supply in their own feeding stations, but meanwhile two new jays had gained access

to the station. These birds were brightly colored, being very different in appearance from the sooty birds who had spent the winter in this suburb of industrial Cleveland. One newcomer was given No. 315526. On March 16 one each of two pairs of Blue Jays took food from the traps to their mates waiting in the tree above. One of these was given band No. 315529. The number of the other bird was not determined as it was warned by its mate when the trap was about to be dropped.

On returning to the station, after an absence of several hours and while yet about five hundred feet away, the writer was met by a banded jay who flew down to a tree ten feet distant. This bird, though it had food in its bill, called in the same way, two rather low "jay jay" notes, as two jays have lately called for their breakfast. On arriving at the traps the day's supply of food was found entirely gone.

From March 8 to March 25 Crows up to four hundred in a flock, have been moving east along the lake shore. Two of the crows, observing the jays in the tree tops, stopped to investigate. While one crow acted as a sentinel in the usual crow fashion, the other made a deliberate and successful search for the jay's hidden supplies. Inside of five minutes sufficient reinforcements had arrived for the jays and their uninvited visitors were speedily routed, being escorted beyond vision over the tree tops by a dozen of the jays. The next morning, however, increased numbers of the crows were in complete possession; but they did not come closer than fifty yards of the traps. Noticing this the jays have since hidden their reserve rations only by burying them within the limits the crows set for themselves.

Frequently during the winter when numbers of other birds started feeding at the traps the jays would scatter them by dashing down with imitations of various hawk cries. Usually ascribed to mischief, these imitations are used at this station only for the practical purpose of protecting their food supplies. The only effect on Starlings, however, is to make them imitate the usual jay calls. There was no real conflict between Starlings and jays as to food at the traps, the only food eaten by both being suet.

Screech Owls which live high on numerous English Sparrows attracted to the feeding station, are not given any especial attention by the jays; except when summoned by an alarm call from the flickers between whom and the owls there seems to be a dispute as to the occupancy of a certain hollow tree. Thirty-seven Blue Jays were banded between October, 1924, and March, 1925.—E. C. HOFFMAN. *Cleveland, Ohio.*

THE BRONZED GRACKLES AT LAKEWOOD, OHIO, IN 1925.—The Bronzed Grackles spending the spring and summer along the south shore of Lake Erie began to arrive at Lakewood, Ohio, in increasing numbers during the first week in June, the first bird being banded June 9. Their arrival coincided with increased numbers of gnats and mayflies. Of these spring and summer birds eighty-nine were banded. These birds, estimated to number eight hundred, left Lakewood about October 4.

About five hundred grackles appeared here October 5 and remained until October 25. These birds appeared to be entire strangers to traps and feeding stations and kept strictly to themselves. None were banded.

About four hundred Bronzed Grackles came to Lakewood October 27 and gradually moved eastward along the lake and along the boulevards running par-

allel with the lake, through the city, leaving November 6. These birds took several days to become acquainted with the traps and feeding stations. Three were banded.

The lowest average temperature for any October shown on the records of the Cleveland weather bureau undoubtedly influenced the above migration dates.

Returns from the ninety-two birds mentioned may indicate whether these grackles are divided into permanent groups, as their behavior seems to show.

Although some of these grackles presumably nest in this locality, the adult birds having often been observed flying off with food, no nests have been found, and returns should determine the nesting site and also their winter home.—JOHN A. BRADY AND E. C. HOFFMAN, *Lakewood, Ohio*.

The Biology Department of Milton College, under the leadership of Professor F. G. Hall, is doing an excellent work in bird banding as a part of the study course. It has been the privilege of the president of the Inland Bird Banding Association to read the thesis of Miss Beulah Margaret Lewis, for graduation in 1925 at Milton College, Milton, Wisconsin.

The thesis is in bound form of more than a hundred typewritten pages, with numerous photos for illustrations. It is a delightful book to read and shows a great amount of study, with many new and original ideas. To any one interested in bird banding, it is an excellent instruction book. We were particularly taken with the opening statement which is as follows: "What could be more absorbing for a thesis than bird banding? It draws one out of doors in the spring when the call of nature is strongest, and it furnishes pleasure the year round. Then each day brings the possibility of a rare species or the return of banded individuals. The attractiveness of bird banding is drawing the attention of large numbers of bird students, many of whom are aiding the government by means of ornithological research. Care is exercised to make it of the greatest scientific knowledge and to insure the safety and well being of the birds."

The approval and commendation of the Inland Association is being sent to Miss Lewis, also to Professor Hall to whom we believe a great deal of credit is due for the excellent assistance he is giving banding in his district.—W. I. L.

We have received "News from the Bird Banders (of the) Western Bird Banding Association, Volume I, Number 1, January, 1926." This is a mimeographed circular of ten pages on heavy, perforated paper, which records and the minutes and miscellaneous information of interest to the bird banders on the Pacific Coast. In form and contents it is a splendid suggestion for a method of preserving matter which otherwise might not become available to all of the members, and others, who may be interested in it. It is also another indication of the enthusiastic activity of those who are engaged in the bird banding work.

NOTES HERE AND THERE

Conducted by Gordon Wilson

Mr. George O. Ludcke, a former president of the Sioux City Bird Club, addressed the Minneapolis Audubon Society early last December. We would be glad to hear more about the activities in Minneapolis and St. Paul.

Dr. Albert F. Woods, president of the Maryland State University, has been appointed director of scientific work in the United States Department of Agriculture to fill the vacancy caused by the resignation of Dr. E. D. Ball.

For some years our stationery has been carrying what we believe to be an erroneous statement concerning the date of founding of the W. O. C. From the records in our possession it seems that the date of such founding is December 3, 1888, and not December 5.

We have received a leaflet entitled "A College Course for Twenty-five Cents", which announces a number of radio correspondence courses offered by the Extension Division of the University of Iowa. Among these we find a course on Iowa Birds, for which one hour of university credit is allowed. Lectures and instructions are to be given over the radio by Professor Dayton Stoner.

In *American Game*, for October, 1925, we find an article giving an historical account of the founding of the Wild Life School, at McGregor, Iowa. This has developed into an annual conference of about two weeks during August, which had its beginning in 1919, wholly as the outcome of plans arranged by Rev. George Bennett, of Iowa City. We are under the impression that, beginning with 1925, the Izaak Walton League has given some support to the conference.

In *Science* for October 30, 1925, we find an interesting article by Professor Wm. H. Powers, of South Dakota State College, on "Some Facts in the Life of Thomas Nuttall." It reviews the biographical literature on Nuttall pointing out certain erroneous statements, and concludes with a revised chronological summary of events in Nuttall's life. From this account it seems that Nuttall reached St. Louis, by the way of the Great Lakes, the Wisconsin, and Mississippi Rivers, in 1809. The ascent of the Missouri River was not begun, however, until early in January, 1811, and not December 31, 1809, as stated by Durand.

Number 1, Volume II of the *Kentucky Warbler*, a four-page, quarterly leaflet, appeared on time in January. It is published at Bowling Green under the auspices of the Kentucky Ornithological Society, and is edited by Professor Gordon Wilson. These little communiques serve to keep the members in touch with each other and stimulate interest in the affairs of their organizations. We gather from the last issue that Editor Wilson is in love with the canoe, and we are beginning to wish we were near enough to run down and join in a canoe trip with him.

We hope sometime to be able to publish a more or less complete list of the spring and summer courses in ornithology in the colleges and universities of the Middle West, perhaps a sort of directory of such courses, if it is not too bulky. There are many such opportunities for the student of birds, and the older students should be in a position to advise. We have just learned of an interesting course offered at the University of Cincinnati under the guidance of Professor Harris M. Benedict, and which runs for two weeks in June and July. During this time the class lives in the dormitories of the Ohio Military Institute, about eight miles

from Cincinnati. It is usual for the class to have three field trips and one lecture each day. Two credits in the University are given to those who complete the course by examination. Dr. Benedict will be glad to answer inquiries as to dates, fees, etc., and may be addressed in care of the University of Cincinnati.

Mr. Harold S. Peters, now of the Ohio State University, is making a special study of the group of Mallophaga, or bird lice, and would be very glad to receive such material from any of our members who may chance to come across it. The idea of co-operation has always been one of the fundamental principles of our organization. Mr. Peters says that these lice are usually found on the head, throat, breast, wings, and back, and are likely to be most common on water and shore birds. The lice may be picked up with small forceps and transferred to glass vials containing seventy per cent alcohol. It is very important that the lice from each individual bird be placed in a separate vial. The vial should then be carefully labeled with name of the bird, locality, collector, and date. Mr. Peters will be glad to supply vials to those who will be on the lookout for these specimens. Bird banders are pretty sure to find these lice in numbers, and there is a splendid opportunity here to do some co-operative work. Address Mr. Peters at 363 W. Ninth Avenue, Columbus, Ohio.

Dr. C. I. Reed, 2635 Reagan Street, Dallas, Texas, is carrying on a study of the digestive mechanism in the Great Horned Owl. He wishes to obtain live owls at about the age of six or eight weeks. If any of our readers are able to assist Dr. Reed in procuring young living specimens of this owl, he would be very glad to hear from them.

The Reverend J. M. Bates, Red Cloud, Nebraska, is one of our oldest members. In a recent letter to the retiring secretary he says: "I send my dues for 1926. I am eighty years old and cannot tell how much longer I shall think it worth while to keep up such interests, but at present I am not inclined to stop." We congratulate Mr. Bates, and wish him many more years of interest in the birds.

Dr. and Mrs. Casey A. Wood are spending the winter at Kandy, Ceylon, in further pursuance of a fascinating program of nature study, which has carried them through the West Indies, British Guiana, Australia, New Zealand, and the Fiji Islands. Dr. Wood has an elaborate article in the January-February *Condor* on airculture as it is practiced in Oriental countries.

The Cooper Ornithological Club has announced the dates for its first annual meeting, to be held in Los Angeles, California, on April 8, 9, and 10, 1926. Heretofore the Northern and Southern Divisions have held separate meetings periodically at San Francisco and Los Angeles.

Mr. Norman McClintock, the well-known cinematographic photographer of birds and animals, has recently been added to the faculty of the University of Pittsburgh. It is the University's purpose to make Mr. McClintock's lectures available to the general public.

Enid Michael contributes to *Yosemite Nature Notes* of July 28, 1925, an interesting note on "A Common Language Among Birds." One of our members, Professor L. Y. Lancaster, Teachers College, Bowling Green, Kentucky, has been investigating the same phenomenon and has had many interesting facts which seem to prove his theory.

One of our newest members, Miss Marcia B. Clay, Bristolville, Ohio, since retiring from an active life as librarian, has taken up in earnest her hobby of bird study. Her home is on the bank of a ravine which is a veritable paradise of birds. She has listed 123 species in this ravine alone. As there is no running water, or ponds, near by, this appears to be a very remarkable list. Miss Clay joined the Better Bulletin Club, by becoming an active member.

Our good friend, A. E. Shirling, Kansas City, Missouri, during the last several summers has conducted nature classes at Camp Olympus, Estes Park, Colorado, under the auspices of the State Teachers College, Greeley, Colorado. He is to offer courses in Ornithology and Nature Study again this coming summer. He regards the work as very pleasant, and reports from his students say that the courses are in every way excellent.

Mr. Walter W. Bennett, who appeared on the Kansas City program, has issued a very attractive folder, illustrated with pictures of his own taking, advertising his lectures on birds. Mr. Bennett is a good illustration of the business man who uses his spare time effectively in outdoor study.

At a meeting of the Councilors of The Federation of the Bird Clubs of New England, held February 3, 1926, the following officers were elected: Francis H. Allen, Chairman; William C. Adams, George C. Atwell, Gorham Brooks, Henry E. Childs, Arthur L. Clark, George S. Foster, Alfred O. Gross, Mrs. L. O. Ingalls, Heloise Meyer, John C. Phillips, Harry A. Reynolds, William P. Wharton, Charles L. Whittle. Many of these people are members of the W. O. C.

Miss Juliette A. Owen is eager to know something of the scientific study of the food of our common domesticated pigeons. She recalls a controversy which was waged some years ago in a St. Louis paper as to whether a pigeon eats table scraps. She has observed recently that pigeons eat anything and everything, especially the ones she herself owns.

The volume of Summarized Proceedings of the last six meetings of the American Association for the Advancement of Science, from 1921 to 1924, inclusive, was distributed early in 1926. In checking over the long list of members of the American Association we find that there are at least ninety-three W. O. C. members who also hold membership in the American Association. There are one hundred smaller societies officially associated with the American Association, among which is the Wilson Ornithological Club. The volume of Proceedings gives a list of all these societies with a brief statement of the history and objects of each. We reproduce herewith the statement which appears concerning the Wilson Ornithological Club.

"The Wilson Ornithological Club was organized December 5, 1888, at Fall River, Massachusetts, as a club to foster especially the less technical phases of ornithology, a sort of meeting-ground between the ultra-scientific and the ultra-popular. Though its membership includes ornithologists in every state in the United States and in many foreign countries, its specific field is the Middle West. With the club are affiliated The Nebraska Ornithologists' Union, The Tennessee Ornithological Society, The Iowa Ornithologists' Union, and The Kentucky Ornithological Society. live state societies fostered largely by enthusiastic Wilson Club members. It is the hope of the Wilson Ornithological Club to have ultimately associated with itself societies from all the Middle Western states. The membership on January 1, 1925, was 625. The club's organ is the quarterly WILSON

BULLETIN. The club holds its annual meetings usually in some prominent and centrally located Middle Western city, and as often as possible with those of the American Association."

For our convenient reference the following schedule of meetings of the American Association is here recorded.

- 1926. Philadelphia. Monday, December 27-January 1.
- 1927. Nashville. Monday, December 26-December 31.
- 1928. New York. Thursday, December 27-January 2.
- 1929. Des Moines (?). Friday, December 27-January 2.
- 1930. Cleveland (?). Monday, December 29-January 3.
- 1931. New Orleans (?). Monday, December 28-January 2.
- 1932. Chicago. Monday, December 26-December 31.

The quadrennial meetings are fixed, and rotate between Washington, New York, and Chicago. It has become a pretty well-established custom for the W. O. C. to hold its meeting in conjunction with the American Association when the latter meets in the Mississippi Valley. The attendance at the Kansas City meeting of the American Association was 1,931, which was the smallest attendance since the Toronto meeting in 1921. We are, therefore, always assured of the reduced railroad fare when we join with the A. A. A. S.

WHO'S WHO IN THE W. O. C.

Dr. Zeno P. Metcalf is professor of Zoology and Entomology in the North Carolina State College, and is also entomologist for the North Carolina Experiment Station, Raleigh, N. C.

Dr. Amon R. Shearer is a practicing physician at Mont Belvieu, Texas.

Miss Althea R. Sherman, of National, Iowa, devotes much of her time to the intensive study of bird life. Her winter months are spent chiefly in writing up results. Her most important papers have been on the Northern Flicker, the Screech Owl, the Sparrow Hawk, the Ruby-throated Hummingbird, and the House Wren. She has also done much work on the Chimney Swift and several other species, which is yet unpublished.

Professor Jesse L. Smith is superintendent of schools at Highland Park, Illinois.

Dr. W. H. Bergtold is a practicing physician of Denver, Colo.

Garfield A. Bowden is supervisor of sciences, University School, Cincinnati, Ohio.

Dr. Amos W. Butler, the author of "The Birds of Indiana", is lecturer on Sociology in the University of Indiana, at Bloomington.

Dr. Leon J. Cole is professor of Genetics in the University of Wisconsin, at Madison.

Dr. C. F. De Garis is instructor in Anatomy in Johns Hopkins University, Baltimore.

Professor C. W. G. Eifrig teaches in the Concordia Teachers College, Oak Park, Illinois.

George E. Ekblaw is assistant geologist in the Illinois State Geological Survey.

W. Elmer Ekblaw is the managing editor of *Economic Geography*, and honorary fellow in Clark University, Worcester, Mass.

Dr. Joseph Grinnell is professor of Zoology and director of the Museum of Vertebrate Zoology in the University of California.

Luther Little is a salesman for the A. M. Castle and Co., Los Angeles, Calif.

Richard N. Lobdell is professor of Biology in the Mississippi A. and M. College, Agricultural College, Mississippi.

Professor Albro D. Morrill is a member of the teaching staff of Hamilton College, Clinton, N. Y.

Professor E. L. Moseley is head of the Biology Department in the State Normal College, Bowling Green, Ohio.

Dr. T. S. Palmer is Biologist, United States Department of Agriculture, Washington, D. C. He is a specialist in the field of game legislation and conservation. Dr. Palmer has also been the very efficient secretary of the American Ornithologists' Union since 1918.

Dr. L. H. Pennington is professor of Botany in the New York State College of Forestry, Syracuse, N. Y.

Francis Harvey Pough is department manager in the Southern Acid and Sulphur Co., St. Louis, Mo.

William D. Richardson is chief chemist with Swift & Company, Chicago.

Oscar Perry Silliman is connected with the Mitchell Silliman Company, Salinas, Calif.

Bradshaw Hall Swales is honorary assistant curator in the Division of Birds, United States National Museum, Washington, D. C. He also holds the title of associate curator in the Museum of Zoology, Ann Arbor, Michigan.

Dr. Dayton Stoner is assistant professor of Zoology in the University of Iowa, Iowa City.

Dr. Alexander Wetmore is assistant secretary of the Smithsonian Institution, Washington, D. C.

Dr. Frank N. Wilson is professor of medicine in the University of Michigan, Ann Arbor.

Dr. William R. Allen is assistant professor of Zoology in the University of Kentucky, Lexington.

Rev. John Mallory Bates is a retired clergyman of Red Cloud, Nebraska.

Dr. G. Clyde Fisher is curator of visual instruction in the American Museum of Natural History, New York, and is an expert photographer, and has, we believe, the best illustrated lecture on John Burroughs extant.

Dr. F. L. Fitzpatrick, recently of the Colorado State Teachers College, is now professor of zoology in Coe College, Cedar Rapids, Iowa.

Dr. Harry Hapeman is a practicing physician of Minden, Nebraska.

Prof. Junius Henderson is professor of Natural History and curator of the Museum in the University of Colorado, Boulder. He has published papers on birds and mollusks.

Miss Lena B. Henderson is assistant professor of Botany in Rockford College, Rockford, Illinois.

Dr. David C. Hilton is a surgeon in Lincoln, Nebraska.

Noel J. Williams, formerly an instructor in Chemistry in Iowa State College, is now a farmer at Arnolds Park, Iowa.

Dr. Robt. H. Wolcott is professor and chairman of the Department of Zoology, University of Nebraska, Lincoln.



Group at the Kansas City Meeting of the W. O. C. and I. B. B. A.

PROCEEDINGS OF THE WILSON ORNITHOLOGICAL CLUB

Twelfth Annual Meeting

THE TWELFTH ANNUAL MEETING OF THE WILSON ORNITHOLOGICAL CLUB was held at Kansas City, Missouri, on Monday and Tuesday, December 28-29, 1925. The Inland Bird Banding Association met at the same time and place in conjunction with the W. O. C. The time and place of the meetings were chosen to coincide with the annual convocation of the American Association for the Advancement of Science, of which the W. O. C. is an associated organization.

The morning session on Monday was devoted to business and to discussions on ways and means of extending the usefulness of the Club. The report of the retiring Secretary, Prof. Gordon Wilson, was read and adopted after favorable comment had been made upon the number of new members secured by him during the year. This report is published below. The report of the Treasurer, Mr. Ben J. Blincoe, was presented and referred to an auditing committee composed of Mr. P. B. Coffin and Professor Robt. H. Wolcott, and was found to be correct. This report, which is appended, includes a statement of the funds subscribed by members and others early in 1925 for the purpose of liquidating certain indebtedness for publication which was incurred during or immediately after the World War.

President A. F. Ganier spoke briefly to express on behalf of the Club its pleasure in being able to meet in the western part of the territory in which it is particularly interested, and to express its appreciation of the considerable number of members who had journeyed some distance to attend the meetings. He stated that the organization is entering the thirty-eighth year of its existence full of optimism, and in the most satisfactory condition in its history: that its accomplishments during the past year had been very tangible. T. C. Stephens, editor of the WILSON BULLETIN, presented a report showing the cost of publishing the BULLETIN during the year, and touching various problems of illustration, sample copies, commission to agents, etc. It appeared that by close economy the cost of publication had exceeded only slightly the amount available for that purpose, but that various changes and improvements were impossible at present because of lack of funds.

A plan for an endowment fund, devised by Vice-President Whitney, was presented for the Club's consideration. In substance this plan provides for the creation of a trust fund by life memberships, subscriptions, and bequests. Interest from this permanent fund is to be used exclusively for support of the publications of the Club. There was not time for a full discussion of this matter, and it was referred to a committee consisting of Thos. H. Whitney, chairman, M. H. Swenk, and V. C. Bonesteel for further consideration. In order to expedite complete

Key to Group Picture: 1. L. O. Horsky, Omaha, Neb., 2. Prof. Dayton Stoner, Iowa City, Iowa. 3. Percival Brooks Coffin, Chicago, Ill. 4. Dix Teachenor, Kansas City, Mo. 5. Lyle R. Fletcher, Lawrence, Kans. 6. B. F. Bolt, Kansas City, Mo. 7. F. C. Lincoln, Washington, D. C. 8. T. C. Stephens, Sioux City, Iowa. 9. C. D. Bunker, Lawrence, Kans. 10. A. F. Ganier, Nashville, Tenn. 11. Prof. J. M. Robinson, Auburn, Ala. 12. Prof. J. W. Stack, East Lansing, Mich. 13. Mrs. T. C. Stephens, Sioux City, Iowa. 14. Wm. I. Lyon, Waukegan, Ill. 15. Dr. A. H. Cordier, Kansas City, Mo. 16. Dr. Leroy Titus Weeks, Tabor, Iowa. 17. T. E. Musselman, Quincy, Ill. 18. Prof. H. M. Kelley, Mount Vernon, Iowa. 19. Mrs. T. L. Satterthwait, Webster Grove, Mo. 20. Mrs. P. B. Coffin, Chicago, Ill. 21. Mrs. H. J. Taylor, Sioux City, Iowa. 22. Miss Anne A. Jones, Webster Grove, Mo. 23. Samuel E. Perkins III, Indianapolis, Ind.



THE RETIRING SECRETARY
GORDON WILSON

Councilors—Gordon Wilson, Bowling Green, Ky.; Dix Teachenor, Kansas City, Mo.; L. O. Horsky, Omaha, Neb.; J. W. Staek, East Lansing, Mich., and J. M. Robinson, Auburn, Ala.

Professor Wilson's resignation from the secretaryship was received with regret, and with appreciation of his faithful services during the past three years.

At a meeting of the Executive Committee, composed of the above officers, Dr. T. C. Stephens was elected editor of the WILSON BULLETIN for the year 1926.

A communication from the American Ornithologists' Union was read, which invited the Wilson Ornithological Club to join with the A. O. U. and the Cooper Ornithological Club in establishing a wild life preserve at Olney, Illinois, as a memorial to Robert Ridgway. The proposal met with favor, and Mr. Percival Brooks Coffin was named to represent the W. O. C.

The Committee on Resolutions, composed of Dr. Leroy Titus Weeks, Professor Dayton Stoner, and Mrs. Margaret E. T. Sheldon, presented a report which was adopted at the final session. This report included the thanks of the Club to Mr. Dix Teachenor, chairman of the local committee on arrangements, who had so carefully looked after the details of the meeting; to the officials of the Lathrop Trade School for the use of the lecture room of that building; to the Kansas City Life Insurance Company for the use of their auditorium for our evening lectures; to Mrs. M. W. Barber for her courtesy in inviting the members to her home to inspect the rare elephant folio edition of Audubon's "Birds of America"; and to the local press for its generous publicity before and during the sessions. Appreciation was also expressed to the Editor for his services in producing the thirty-seventh volume of the WILSON BULLETIN, to Mr. Ben J. Blincoe for his detailed

action of the Executive Committee (Officers and Councilors) was given power to adopt and ratify and put into operation a plan for establishing an endowment fund if agreement could be reached before the next annual meeting. It was also agreed that an effort should be made to dispose of the stock of old Bulletins upon some basis which would be agreeable to Dr. Jones.

Following the report of the nominating committee, consisting of T. C. Stephens, B. F. Bolt, and L. O. Horsky, the following officers were elected for the ensuing year:

President—Albert F. Ganier, Nashville, Tenn.

Vice-President—Thos. H. Whitney, Atlantic, Iowa.

Secretary—Howard K. Gloyd, Ottawa, Kansas.

Treasurer—Ben J. Blincoe, Dayton, Ohio.



THE NEW SECRETARY
HOWARD K. GLOYD

and painstaking work as Treasurer, to retiring Secretary Wilson for his three years of enthusiastic service, including the preparation of the program for the Kansas City meeting, and to the President and Vice-President for their activities.

Invitations were presented from Dayton, Ohio, and Chicago, to hold the 1926 meeting in those cities. An invitation was also presented from Nashville to return there in 1927. These invitations were received with appreciation and referred to the Executive Committee for final decision.

As usual, when the Club meets with the American Association, the members were enabled to attend the sessions of other organizations in whose work they were interested, or to remain over for such meetings, and thus to learn much of scientific progress during the past year. Some members also remained over to do a bit of field work and thus

tread upon ornithologically historic ground, or to visit the Kansas State University Museum, under the direction of Curator C. D. Bunker, at Lawrence. Those who remained until Thursday evening were privileged to attend the dinner of the Ecological Society of America and see several reels of motion pictures of birds and of beavers, recently made by Mr. Norman McClintock, of Pittsburgh, Pa.

The evening meeting was contributed by the W. O. C. and the I. B. B. A. especially for the general public, and was held in the Assembly Room of the handsome building of the Kansas City Life Insurance Company. This session was well attended by members and visitors. Short talks were made by the executives of the two organizations explaining the objects of each. Then came a motion picture in three reels showing the home life of the House Wren, the pictures having been made during the past summer at Cleveland, Ohio, by Mr. S. Prentiss Baldwin and Mr. T. Walter Weiseman. These pictures did not show the House Wren piercing the eggs of other birds or performing other depredations with which it has recently been charged; it was shown to be a model bird. Mr. Walter W. Bennett, of Sioux City, Iowa, then followed with a remarkable series of colored slides and motion pictures depicting "Island Bird Life" in the lake region of North Dakota. The series contained exceptionally beautiful pictures of the White Pelican, Double-crested Cormorant, Avocet, and several of the gulls. Mr. Bennett is a bird photographer of unusual ability.

Immediately following the adjournment of this session a considerable number of the members repaired to the beautiful home of Mrs. Manley W. Barber, to accept her kind invitation to inspect the elephant folio edition of Audubon's "Birds of America" which forms a part of her library of rare works. The plates

were found to be in a splendid state of preservation and were viewed with keen interest by those so fortunate as to be present. Mrs. Barber also exhibited a number of old Chinese paintings of birds which were of excellent technique.

The Annual Dinner was held at the University Club and was well attended by members of the two organizations and their friends. Dr. Leroy Titus Weeks gave a number of very enjoyable readings of his poems on birds and nature, and in a style very remindful of the late James Whitcomb Riley. Various members were then called upon for impromptu remarks. Coming as it did on the evening of the last day of the meeting, the affair drew to a fitting close the very successful and enjoyable Kansas City gathering.

The business session of the Inland Bird Banding Association was held, and the minutes and roster of officers for 1926 will be found on another page.

The general program which follows was carried out in detail, the presidents of the two organizations alternating with each other in presiding. Lack of space prohibits here the report of the discussions which followed many of the papers of the program.

THE KANSAS CITY PROGRAM

MONDAY, DECEMBER 28, 1925

Afternoon Session 1:30 O'clock. *Auditorium of the Lathrop Trade School, Thirteenth and Central Streets.*

1. Bird Banding in Indiana. Mr. Samuel E. Perkins III, Indianapolis. 20 minutes.
2. Banding of a Colony of Bank Swallows. Professor Dayton Stoner, University of Iowa. 30 minutes. (Lantern.)
3. A Study of a Nesting of Magnolia Warblers. Mrs. Margaret Morse Nice, Norman, Oklahoma. 25 minutes. (This paper was not presented owing to the unavoidable absence of the author, but it will be published in an early number of the BULLETIN.)
4. Kansas City as a Center of Early Ornithological Activity in the West. Professor Myron H. Swenk, University of Nebraska. 40 minutes.
5. The Banding of Gulls and Terns. Mr. Wm. I. Lyon, President of the Inland Bird Banding Association, Waukegan, Illinois. 30 minutes. (Lantern.)
6. Observations on the Relation of Snakes to Bird Life in Central Kansas. Prof. Howard K. Gloyd, Ottawa, Kansas. 25 minutes.

Evening Session, 8:00 O'clock. *Auditorium of the Kansas City Life Insurance Company, Armour Boulevard and Broadway.*

1. The Life History of the House Wren. Mr. S. Prentiss Baldwin and Mr. T. Walter Weisman, Cleveland, Ohio. 30 minutes. (Motion pictures.)
2. Island Bird Life. Mr. Walter W. Bennett, of the Sioux City Bird Club. 80 minutes. (Lantern and motion pictures.)

TUESDAY, DECEMBER 29, 1925

Morning Session 9:30 O'clock. *Auditorium of the Lathrop Trade School, Thirteenth and Central Streets.*

1. Some Observations on a Green Heron Colony. Mrs. C. I. Reed, Dallas, Texas. 25 minutes. (Lantern.)

2. Three Years of Bird Banding on a College Campus. Professor J. M. Robinson, Alabama Polytechnic Institute, Auburn, Alabama. 25 minutes.
3. Bird Banding in a College. Professor J. W. Stack, Michigan Agricultural College, East Lansing. 30 minutes. (Lantern.)
4. Plans for Banding Franklin Gulls. Professor Wm. Rowan, University of Alberta, Edmonton. 20 minutes.
5. A Mourning Dove Study. Mr. W. B. Taber, Jr., Kansas, Illinois. 20 minutes.
6. Bird Banding in Progress and Prospect. Mr. Frederick C. Lincoln, Biological Survey, Washington, D. C. 25 minutes. (Illustrated by maps.)
7. Report of the Texas District. Mr. R. A. Gilliam, Dallas, Texas. 20 minutes.
Group photograph at 12:30 o'clock.

Afternoon Session 2:00 O'clock. *Auditorium of the Lathrop Trade School, Thirteenth and Central Streets.*

1. Banding of Black Terns. Mr. Paul W. Hoffman, Milwaukee, Wisconsin. 20 minutes. (Lantern.)
2. Bird Banding in Upper Michigan. Mr. Michael J. Magee, Sault Ste. Marie, Michigan. 25 minutes. (Lantern.)
3. The Banding of Swifts and Ducks. Mr. T. E. Musselman, Quincy, Illinois. 25 minutes. (Lantern.)
4. Nesting Habits of the Great Horned Owl in Tennessee. Mr. A. F. Ganier, President, Nashville, Tennessee. 30 minutes. (Lantern.)

Evening Session and Dinner, 6:30 O'clock. *University Club, 918 Baltimore Avenue.*

1. Annual Dinner of the Wilson Ornithological Club with the Inland Bird Banding Association.
2. Poetry on Wings. Dr. Leroy Titus Weeks, Dean in Tabor College, Tabor, Iowa.
3. Informal period.

Forty-nine out-of-town visitors were registered at the Kansas City meeting. The attendance on Monday morning was about fifty; at one of the other day sessions ninety-two were counted in the room. Thirty-seven attended the dinner on Tuesday evening, while a much larger number attended the Monday evening lecture and motion picture exhibition.

THE REGISTER OF ATTENDANCE AT THE KANSAS CITY MEETING

From KANSAS. C. D. Bunker, and Lyle R. Fletcher, Lawrence; Mary T. Harmon, Manhattan; Mr. and Mrs. Howard K. Gloyd, Ottawa; C. L. Harris, El Dorado; Homer A. Stephens, Emporia. From MISSOURI. Mrs. Frank A. Dawes, Mrs. B. W. Ladd, Isabella J. Clarke, Alice Bovard, John A. Bryant, Dix Teacher, Benj. F. Bolt, Myron C. Rybolt, L. B. Echals, J. L. McKee, N. Clay Harvey, Ernest W. Holmesley, of Kansas City; Anne A. Jones, Mr. and Mrs. Satterthwait, Richard C. Lange, Webster Grove; Thos. B. Tracy, Parkville; P. S. Pennington, Jr., Edgar Anderson, St. Louis. From OKLAHOMA. Frank G. Brooks, Oklahoma City; Edith R. Force, Okmulgee. From TEXAS. Dr. and Mrs. C. I. Reed, Dallas. From COLORADO. John C. Johnson, Gunnison. From NEBRASKA.

Mrs. Margaret E. T. Sheldon, Professor Robt. W. Wolcott, Professor and Mrs. Myron H. Swenk, and Miss Iva B. Swenk, Lincoln; Gladys J. Shamp, Jean Berger, Louis O. Horsky, Omaha. From IOWA. Mrs. Mary L. Bailey, Mrs. H. J. Taylor, Walter W. Bennett, Mr. and Mrs. T. C. Stephens, Sioux City; William F. Coultas, Professor Dayton Stoner, Iowa City; Professor Harry M. Kelly, Mount Vernon; Dean Leroy Titus Weeks, Tabor. From ILLINOIS. Mr. and Mrs. Percival Brooks Coffin, Chicago; Ruth Marshall, Rockford; W. I. Lyon, Waukegan; T. E. Musselman, Quincy. From INDIANA. Samuel E. Perkins III, Indianapolis. From MICHIGAN. Gertrude C. Laing, P. W. Hunt, Professor J. W. Stack, East Lansing; Professor Frank N. Blanchard, Ann Arbor. From TENNESSEE. A. F. Ganier, Nashville. From ALABAMA. Professor J. M. Robinson, Auburn. And Mr. F. C. Lincoln, Washington, D. C.

A considerable number attended the evening meeting on Monday and the dinner on Tuesday evening who did not register.

REPORT OF THE SECRETARY FOR 1925

To the Officers and Members of The Wilson Club:

I beg to submit herewith a report of my activities for the year 1925. A drive for new members has been maintained throughout the year, during which time several hundred of our standard letters of invitation have been mailed to parties fitted for membership. Other officers and members have assisted to some extent in this work and as a result I am submitting herewith a list of 81 new members to the Club. The list is composed of 64 associates, 16 actives and 1 sustaining member, distributed by states as follows: Alabama 2, Arkansas 1, Canada 3, Illinois 5, Indiana 3, Iowa 32, Kansas 1, Kentucky 4, Michigan 4, Minnesota 1, Mississippi 1, Nebraska 1, New York 3, North Carolina 1, Ohio 6, Oklahoma 2, Pennsylvania 1, South Dakota 1, Tennessee 9, Texas 2, Virginia 1, Wisconsin 1.

Those responsible for obtaining these new members are as follows: Gordon Wilson 36, T. C. Stephens 26, A. F. Ganier 4, Wm. I. Lyon 4, Lynds Jones 4, Chas. J. Spiker 2, J. M. Robinson, J. Van Tyne, Ben J. Blincoe, James Suthard, Mrs. E. F. Chilcott, R. A. Gilliam, F. C. Willard, Burtis H. Wilson, one each.

Each month, in accordance with the Club's vote of last fall, I have made a report of all receipts and expenditures to our Treasurer, as shown by his report.

Thirty-two members have come to us this year from Iowa. It will be observed, also, that our members are coming largely from our legitimate territory, the Mississippi Basin. Twenty members have come from the South, where we are still none too well represented. Our organization is growing in interest and enthusiasm throughout its range, thanks to the interest of our members. The drive for funds early in the year is a fair indication of the regard in which The Wilson Club is held by the various types of bird students who form its membership.

In closing my three years of service as Secretary, I wish to thank the officers and members and well-wishers of our organization for the co-operation shown me and for the enthusiastic response given to all our demands and requests for help and assistance. I regard my connection with the Club as one of the high points in my life.

With the heartiest good wishes for the continued success of the W. O. C., I am,

Very cordially yours,

GORDON WILSON, *Secretary.*

REPORT OF THE TREASURER FOR 1925

Dayton, Ohio, January 24, 1926.

RECEIPTS FOR 1925

Cash on hand January 1, 1925.....	\$ 35.67	
Associate dues	345.00	
Active dues	472.00	
Sustaining dues	355.00	
Oberlin College Exchanges.....	48.00	
Subscriptions	29.60	
Contributions to "Better Bulletin Club".....	405.89	
Contribution for cuts.....	25.00	
From W. E. Hoffman for reprints.....	6.50	
Sale of back numbers of WILSON BULLETIN.....	48.71	
		\$1,771.37
Cash in bank January 1, 1926.....		251.18
		\$1,520.19

DISBURSEMENTS FOR 1925

Secretary's office, month by month.....	\$ 71.10	
President's circular letter in February.....	14.60	
Treasurer's office, printing and postage.....	22.20	
Printing for the Nashville meeting.....	11.75	
News Printing Co., balance due.....	574.79	
Rubber stamps for editor.....	2.70	
Editor's postage in 1924.....	8.74	
Check returned unpaid.....	1.50	
Freight on supply of Bulletins Oberlin to Sioux City and addressing of June Bulletins.....	6.52	
Addressograph plates and supplies, making stencils for mailing list, and addressing for March Bulletin.....	52.76	
Addressing the September Bulletin, and making corrections in mailing list	6.30	
Verstegen Printing Co., 4,000 mailing envelopes and 300 reprint order slips.....	32.50	
Verstegen Printing Co., March, June, and September Bulletins, including cuts	694.04	
Cost of mailing the Bulletin in 1925.....	20.69	
		\$1,520.19

Respectfully submitted,

BEN J. BLINCOE, *Treasurer.*

Kansas City, Mo., December 27, 1925.

The Treasurer's report has been examined and found to be correct.

P. B. COFFIN, *Auditor.*

PUBLICATIONS REVIEWED

BIRDS OF MASSACHUSETTS AND OTHER NEW ENGLAND STATES. By Edward Howe Forbush. Part I. Water Birds, Marsh Birds and Shore Birds. Pages i-xxxii + 1-481. Issued by authority of the (Massachusetts) Legislature, 1925.

If the average of comprehensiveness and artistic merit of the more important bird books that have appeared during recent years could be plotted in a curve, it may safely be predicted that such a curve would be decidedly upward, not only in the taxonomic monographs, life history biographies and more elaborate group treatments but especially in the state bird lists. When the two volumes of Eaton's "Birds of New York" appeared, in 1909 and 1914, a new standard of pretentious state bird lists seemed to have been established. The recent appearance of Dawson's "Birds of California" seemed almost to reach the ultimate artistic possibility in books of this character. While the work mentioned above, of which "Birds of New York" appeared, in 1909 and 1914, a new standard of elaborate bulk of the "Birds of New York," and does not have the lavish illustration of the "Birds of California" in the opinion of the reviewer it is the peer of either of them in fundamental artistic merit and exceeds either of them in the character of the abundance, conciseness and availability of reliable and useful information about the birds treated. In other words, a new and yet higher standard has again been set in state bird books.

The present volume is the first of three that are to constitute the completed work. It deals with the water birds, while the following volumes are to deal with land birds. The sequence and nomenclature used is that of the A. O. U. Check-List and its supplements. There are detailed original descriptions of the plumages, molts and measurements of the included birds, and also concise but adequate paragraphs on the field marks, voice, haunts and habits of each, as well as a complete statement of the distribution of each form in New England and its seasonal occurrence in Massachusetts. From the standpoint of text, it would seem that nearly any ordinary inquiry regarding the birds dealt with could be found answered in these pages.

In the matter of illustration, the most striking feature is the series of thirty-three beautifully executed and admirably reproduced colored plates by Louis Agassiz Fuertes. These plates apply an artistic principle not previously used in any American bird book, in that they are without margins but go clear to the edge of the page, and bear no printed captions or explanations. The artist has been very successful in his grouping of the birds upon these plates, and their attractiveness is further enhanced by the fact that each plate is a complete picture, with a suitably colored background, thus bringing a unity to the picture that is usually lacking in colored plates of groups of birds. At the same time there is no loss in the accuracy and usefulness of the plates. In addition to the colored plates there are thirty-five pen sketches, by the author and others, interspersed in the text, and sixty-eight cuts of bird's nests and mounted specimens of the rarer or accidental species. In short, the entire content and make-up of the book appeals to the reviewer as adequate, reliable, artistic and mechanically well executed. Ornithologists of Massachusetts and the other New England states are indeed fortunate to have available such a splendid summary of the ornithological knowledge pertinent to their area.

This book is published by the State of Massachusetts, and copies may be secured by remitting five dollars to Dr. Arthur W. Gilbert, Commissioner, Massa-

chusetts Department of Agriculture, State House, Boston Massachusetts. It is safe to predict that the demand for this book will be such that it will soon be out of print, like the two preceding volumes by the same author that were also published by the state.—M. H. S.

A DISTRIBUTIONAL LIST OF THE BIRDS OF BRITISH COLUMBIA. By Allan Brooks and Harry S. Swarth. Pacific Coast Avifauna No. 17, Cooper Ornithological Club. September, 1925.

This is a comprehensive, and doubtless a complete and authentic, catalogue of the birds of British Columbia, the home of the senior author. The annotations concern only the status of the species treated. A glance at the hypothetical list and the list ascribed to British Columbia on unsatisfactory grounds brings a feeling of confidence in the care with which the major list has been prepared. We note an innovation in the inclusion of one or two Latin synonyms for many of the species of the list, although not a complete synonymy, of course. Heretofore the vernacular names have been regarded, in most cases, as the variables.

One colored frontispiece depicting the young and adult of the Queen Charlotte Saw-whet Owl, several half-tones, and numerous distributional maps, form the illustrative material. An extensive bibliography and index complete the book. The mechanical work is up to the standard of the California publications.—T. C. S. BRITISH BIRDS. By Archibald Thorburn, F. Z. S. Longmans, Green and Co., New York. 1925. Demy 8vo. Per volume, \$5.50.

This work, which is to be completed in four volumes, may be regarded as a small edition of the earlier quarto work (published in 1915) under the same title and by the same author. The earlier edition was limited to 105 copies, which were sold (at \$40.00) before the prospectuses were distributed in America. The quarto edition illustrated from five to ten birds on a plate, and it contained only eighty plates. The octavo edition, on the other hand, contains one hundred and ninety-two plates, each showing from one to three birds. In spite of its smaller, though handier, size it appears probable that it will illustrate as many species. The set of four octavo volumes is priced at \$21.00, and we trust that the edition is intended for general distribution.

Volume I is devoted entirely to the passerine birds, and here we become better acquainted with many species which we have long known only by name, c. g., the Stonechat, Chaffinch, Nightingale, Bullfinch, Fieldfare, Mistle Thrush, Brambling, and Song Thrush: these and one hundred others are pictured in color in the forty-eight plates of this volume. Volume II completes the treatment of the order Passeres, and also includes the owls, hawks, cormorants, herons, and bitterns. This volume pictures the Jackdaw, the Sky-lark, the Cuckoo, and many others which are merely names to most American bird students. In this volume the same number of plates illustrate only seventy-one species, which is because most of the birds of prey have a full plate.

Of course, the outstanding feature of the work under review is the artistic work of the author. None but colored illustrations are used. The plates may well be described in superlative terms. The superb delicacy of the coloring and the subdued harmony grip the attention with such subtlety that the reader wonders what elements in the artistry may explain the effect. In most of the plates the background is solid and dark in tone. Even when the sky is shown it is painted in dark shades. This method of treatment results in the absence of sharp contrasts. There is a blending of tones and a mellowness which is very pleasing to

the eye; and we are bound to say that the distinctness of the bird's pattern does not suffer in the least.

On the average about one page of text matter is presented for each species. The text, which is the same as in the quarto edition with some revision, is an informal and non-technical account, stressing sometimes the distribution, or again the nesting habits, plumage, song, or food habits, as these topics may chance to be of greater interest in the species discussed. So far as nomenclature is concerned it probably makes little difference, in the work of this kind, whether one system or another is followed. Mr. Thorburn has followed Saunders' Manual of British Birds, and has not encumbered his work with trinomials. For the American students who wish merely a passing acquaintance with the British birds the present work will, we believe, definitely serve this purpose, and the work itself will prove a most delightful addition to one's ornithological library.—T. C. S.

BIRDS COLLECTED AND OBSERVED DURING THE CRUISE OF THE THIEPVAL IN THE NORTH PACIFIC, 1924. By Hamilton M. Laing, with systematic notes by P. A. Taverner. Bull. No. 40, Victoria Memorial Museum, Ottawa, Canada. November, 1925.

The route of the vessel is not made clear by the text; a map or chart showing the route and principal stops would add greatly to the interest and value of such a report. Most of the ornithological work was done apparently in the Aleutian Islands and Kamchatka. Little work was done in Japan because this government would not grant collecting permits. One hundred and twenty-five forms are treated in the list, most of which were identified from specimens taken; a few field observations are reported without attempt at close identification.—T. C. S.

FOOD HABITS OF THE VIREOS. By Edward A. Chapin. Department Bull. 1355. U. S. Dept. of Agriculture, November, 1925. Price 10 cents.

Ten species of vireos are discussed from the standpoint of economic value. The proportions of various foods are shown by dial charts and shaded diagrams. It is a valuable source of information.—T. C. S.

FOOD OF AMERICAN PHALAROPES, AVOCETS, AND STILTS. By Alexander Wetmore. Department Bull. 1359, U. S. Dept. of Agriculture. October, 1925. Price not given.

This bulletin treats of the food habits of the three species of phalaropes, the Avocet, and the Black-necked Stilt. It contains three full-page, black and white inserted plates from paintings by E. L. Poole. The bulletin is a useful source of information.—T. C. S.

CORNELL RURAL SCHOOL LEAFLET. Edited by Dr. E. Laurence Palmer. Published by the New York College of Agriculture, Ithaca, N. Y.

This periodical is devoted to nature study in general, and covers the ground in a most admirable way. We do not know of anything else like it. The number which has just come to hand (November, 1925) is devoted to mammals, and is well illustrated with animal pictures. The issue for March, 1921, was devoted to birds; and in the issue for September, 1922, we find an article on winter birds' nests, with a key by Dr. A. A. Allen for their identification. The only criticism we might offer is that much of the text material is anonymous, except as we may inferentially assign it to the editor, which, of course, is neither safe nor scientific. We submit that the editor should not withhold his name from contributions through a sense of modesty.—T. C. S.

THE LAND VERTEBRATE COMMUNITIES OF WESTERN LEELANAU COUNTY, MICHIGAN, WITH AN ANNOTATED LIST OF THE MAMMALS OF THE COUNTY. By Robert Torrens Hatt. Papers Mich. Acad. Sci. Arts & Let., III, 1923.

A survey of the ecological communities of the area with special reference to the land vertebrates, including birds.—T. C. S.

We have received a reprint of Mrs. Nice's article on "Extension of Range of the Robin and Arkansas Kingbird in Oklahoma" (*Auk*, XLI, October, 1924), in which there is a reported westward movement of the Robin, and an eastward movement of the Arkansas Kingbird.

The January-February, 1926, number of the *American Naturalist* contains a lengthy historical and descriptive account of fishing with the Cormorant in China, by Dr. E. W. Gudger. The article is accompanied by sixteen half-tone illustrations, most of which are reproductions of ancient drawings. The earliest historical account of Cormorant fishing in China, so far as this author has discovered, dates back to the thirteenth century. Much interesting information concerning the habits of these birds is here presented.

The *Biological Bulletin* for January, 1926, contains an article entitled "Fauna of Penikese Island, 1923", edited by R. E. Coker. This paper contains a short list of twenty-nine species of birds which were found on this island in 1923. From the fact that one species is listed as the "Eve Swallow?" without the accompanying scientific name, although the scientific name is given in the other cases, we surmise that the Editor was unable to be certain just what an "Eve Swallow?" is, and therefore would not risk attaching a scientific name. Reasoning thus, we also wonder whether the other identifications were made by persons who were sufficiently familiar with birds to make the list valuable.

Penikese Island, in the Elizabeth Island group in Buzzard's Bay, is known in biological annals because of the establishment there in 1873 of a field laboratory, with which the great Louis Agassiz was connected. This laboratory is regarded as the forerunner of the present Marine Biological Laboratory at Woods Hole. To celebrate the fiftieth anniversary of the founding of the Agassiz laboratory a group of botanists and zoologists, in 1923, undertook a biological reconnaissance of the old island. The bird list is annotated by such terms as "few", "rare", "one pair", etc. Three terns are listed, but no census was attempted. We suspect that the list can have little value.—T. C. S.

Dr. Alvin R. Cahn, of the University of Illinois, contributes a most interesting article on "The Migration of Animals" in the *American Naturalist* for November-December, 1925 (pp. 539-556). After reviewing the existing theories which aim to explain the cause of migration the author concludes that, "Not food nor temperature nor wind nor length of day explain migration unless there is an internal mechanism upon which they can operate." "The animal body is a complex of regulatory mechanisms which regulate the body activities of the animal and, through these, may regulate the distribution of the species."

After pointing out that the animal regulates or adjusts itself to external changes the author reasons that similar regulatory movements may result from internal physiological changes. He then sets about to show the cause of certain

internal periodic changes which are coincident with migration in many animals. Discussing then the periodic activity of the sex glands, and their effects upon secondary sexual characters, the author inquires, "Since secondary sexual characters, which are ordinarily considered as being *physical* changes in the animal, are admittedly stimulated or repressed by gonad activity or inactivity, is it not conceivable that migration, a *behavior* change at the same time, is likewise an expression of gonad activity?"

Certain domesticated animals exhibit a periodic tendency to roam during the rutting period. Removal of the ovaries eliminates this roaming tendency, because, thinks the author, this operation prevents the formation of certain hormones in the corpora lutea of the ovary; and the presence of these hormones normally causes a certain physiological imbalance, which accounts for the roaming activity. So, "the singing of the male bird is characteristic of the spring migration and the period following. Why does he sing? Is he happy? Probably he is no happier than he will be a little later in the season when he is silent. His metabolic processes are speeded up by the activity of his reproductive hormones and the result finds expression in song as in other species it may find expression in color or plumage modifications or odd actions, as the dance of the prairie chicken and the drumming of the grouse."

The big waves of bird migration are practically independent of the weather; and the same species occur quite regularly in the same waves, or on a regular schedule. These facts suggest an internal rather than an external cause. "Non-migratory species are such because the degree of physiological change due to the activities of the gonads is insufficient to throw them out of harmony with the environment: their range of tolerance is greater." Non-migratory species, such as the English Sparrow and certain woodpeckers, do not exhibit secondary sexual characters in any marked degree. The author believes also that "specific differences are more than a matter of color of a feather or of number of primaries or length of toe. I believe that species are physiologically and perhaps cytologically different."

To sum it up we understand Dr. Cahn's proposition to be something like this: migration is caused by the elaboration of certain hormones during the periodic activity of the gonads, which set up a physiological imbalance, to which the organism attempts, automatically, to adjust itself by bodily movements.

The regularity in the path of migration is probably not explained by this theory: neither is it clear that the return migration in the fall is explained. The theory here outlined is, of course, contradictory to previous theories which are based upon heredity as a causal factor in migration.

Incidentally, the author explains certain other forms of bird behavior in terms of tropisms. For instance, the breeding bird has entered into a new physiological state, different from before. During the process of nest-building, and with the advent of the eggs, the female bird becomes positively thigmotactic, i. e., responds favorably to surface contact. Thigmotaxis is one of the well-known bodily responses in the lower organisms, but has not been often applied in explaining the behavior in higher animals. We may have opened up here a new line of investigation in which the experimental method may be successfully employed. This paper is one of the most important recent contributions in ornithological literature, insofar as it applies to birds.—T. C. S.

TO OUR CONTRIBUTORS

Our members are urged to submit articles for publication in the **BULLETIN**. Short items are desired for the department of General Notes, as well as longer contributions, especially pertaining to life-history, migration, ecology, behavior, song, economic ornithology, field equipment and methods, etc. Local faunal lists are also desired, but they should be annotated, at least briefly, and should be based upon sufficient study to be reasonably complete. Authors are asked to include the common name, the scientific name (from the A. O. U. check-list), and annotations, and they should be arranged in this order. The annotations should include explicit data concerning unusual species. Omit serial numbering.

THE MANUSCRIPT. The manuscript, or copy, should be prepared with due regard for literary style, correct spelling and punctuation. Use sheets of paper of good quality and of letter size (8½x11 inches); write on one side only, and leave wide margins; if at all possible manuscript should be prepared with a typewriter, using double spacing and a reasonably fresh, black ribbon.

The title should be carefully constructed so as to indicate most clearly the nature of the subject matter of the contribution. Where the paper deals with a single species it is desirable to include in the title both the common and the scientific names, or, to include the scientific name in the introductory paragraph. Contributors are requested to mark at the top of the first page of the manuscript the number of words contained. This will save the editor's time and will be appreciated.

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Annual Meetings of the Wilson Ornithological Club

-
- 1914—**Chicago.** February 5. Retiring
Chicago Academy of Sciences. President
- 1914—**Chicago.** December 29-30.
New Morrison Hotel.....T. C. Stephens
- 1915—**Columbus.** December 28-29.
With the A. A. A. S.....T. C. Stephens
- 1916—**Chicago.**.....December 27-28.
New Morrison Hotel.....T. C. Stephens
- 1917—**Pittsburgh.** January 1-2, 1918.
With the A. A. A. S.....W. F. Henninger
- 1918—No meeting on account of the
exigencies of war.....M. H. Swenk
- 1919—**St. Louis.** December 29-30.
With the A. A. A. S.....M. H. Swenk
- 1920—**Chicago.** December 27-28.
With the A. A. A. S.....R. M. Strong
- 1921—**Chicago.** December 26-27.
The Field Museum.....R. M. Strong
- 1922—**Chicago.** October 26.....T. L. Hankinson
- 1923—**Cincinnati.** Dec. 31-Jan. 1, 1924.
With the A. A. A. S.....T. L. Hankinson
- 1924—**Nashville.** November 28-29-30.
Peabody College.....A. F. Ganier
- 1925—**Kansas City.** December 28-29.
With the A. A. A. S.....A. F. Ganier



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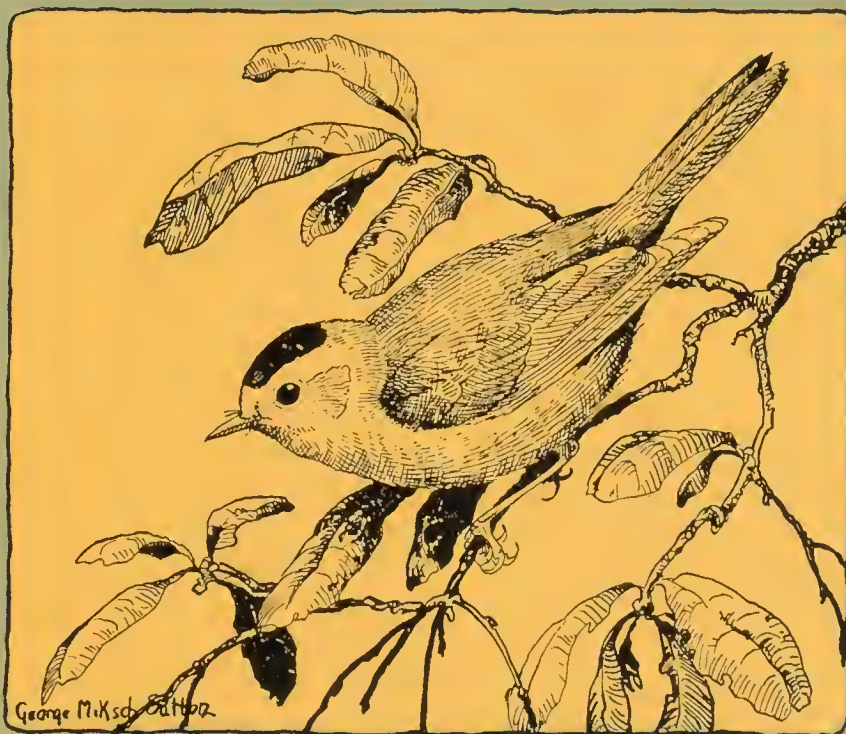
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THE WILSON BULLETIN

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June, 1926

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WHITE PELICANS AND OTHER BIRDS OF CHASE LAKE, NORTH DAKOTA

BY WALTER W. BENNETT

With photographs by the Author and one colored plate by
George Miksch Sutton.

That curious, low-pitched, resonant booming of the Prairie Hen was coming through the open window where we had slept. A lonely Night Heron "quarked" as it flew by. From the water's edge came occasional "squawks" of a few ducks and by his "peet-weet" a Spotted Sandpiper said he was interested in something different. The landward side of the cottage brought a long drawn out, mournful whistle—that never-to-be-forgotten note of the early settler's acquaintance, the Bartramian Sandpiper. And the golden morning sun was just appearing!

Our day had come!

For months prior to June 24, 1924 we had hoped for it. In correspondence with Elmer T. Judd, then State Game and Fish Commissioner of North Dakota and an ornithological authority for that section, he had written of Chase Lake, its island, its wonderful bird life. We had searched literature and books for some stories of it but the lake seemed little known. Yet Mr. Judd wrote that it was a bird paradise, and this was the day we were to go there.

Late the night before we had reached the State Fish Hatchery on the north shore of Dakota's beautiful little Spiritwood Lake and asked for Mr. Judd, but he was away. Our informant was a most genial outdoor character, sleeves rolled up, tanned dark, and smoked an old pipe with a degree of enjoyment that bespoke the same pleasure perhaps for many years before. He was Alf Eastgate, a well known guide and hunter who was then Deputy Game and Fish Commissioner for the state. It was by reason of his insistent hospitality that we were awakening from a restful night.

Our day had come! Armed with a letter of introduction from Mr. Eastgate to Mr. H. H. McCumber of Pettibone, we set out for our goal, Chase Lake. My companion was Mr. Walter M. Rosen of Ogden, Iowa, who enjoyed the honorable appendage of "President of the

Iowa Ornithologists' Union." He said the business of banking gave him an interest in birds for he "was always chasing lame ducks."

On our way we passed several more Bartramian Sandpipers, a slough harbored two pair of Willets, probably nesting, and more Prairie Chickens "boomed" their weird notes. It was a dry rolling country whose stony soil was half way succeeding in raising vegetation and whose numerous ponds, sloughs, and "pot holes" were at the time filled with very alkaline water.

Reaching Pettibone we searched for the man to direct us to Chase Lake. Near the end of Main street a small structure carried a sign which read "Cream Station and Real Estate." A man came to the door. Let him introduce himself.

"Are you Mr. H. H. McCumber?" asked by campmate.

"Yes, without the 'mister'." he replied.

"We want to reach Chase Lake," continued Rosen, "and if you will tell us how to get there we will start out."

"I should say not," he exclaimed. "You needn't expect me to stay at home and miss the fun!"

So he went for his car while we waited. Soon he reappeared with, not one Ford, but two, and across the top of each was a small hunting boat. Away we went, the two Fords and rowboats ahead, for ten miles. Once we frightened a pair of peaceful Marbled Godwits from the grassy roadside. The highway became a trail which emptied into a single path and finally we were driving out across the bare, trailless prairie until we viewed the lake not described in our books.

There it was—Chase Lake! It was about two miles long and nearly round. The actual area of the Chase Lake Reservation, according to Dr. A. K. Fisher, Acting Chief of the Bureau of Biological Survey at Washington, was 2,839 acres. Nestled among hills and without an outlet, its waters had become so strongly alkaline that white salts were piled up six inches deep in some places along its shores. No rushes grew in the water, nor were there any trees in sight—nothing but bare prairie and lake.

In it was the island Mr. Judd had described. It was about one-fourth mile from shore and about one-half mile long. How this island had escaped the pen of ornithologists was more than we could understand for there could be seen not only hundreds but literally thousands of birds in its bare confines and the noisy hubbub coming from that direction indicated they were all alive.

Chase Lake should be famous—it will be, as far as ornithologists are concerned, when it becomes generally known as to the colonies of



NEST OF WHITE PELICAN



PELICAN HATCHING

"One egg was pipped and as we watched, the young gradually cracked his shell farther around until he finally fell out into the world."

birds nesting there. Not only did we find great numbers of gulls, ducks, and shore birds, but here also is the spot said to be farthest east in the Middle United States where the White Pelican nests. In fact, it is reputed to be the only nesting colony east of the Yellowstone National Park.

Our genial guide, Mr. H. H. McCumber, under date of March 20, 1925, writes a most interesting history of this lake and its remarkable island:

“When I came here in 1905 there were probably five hundred pelicans that nested on the island as well as a good many gulls, avocets and terns, also some Canada Geese, cormorants and several species of ducks.

“The pelicans were not considered as of any value whatever, and in an economical sense I do not think that they are. However, we do not want to see any bird now living, or rather any species of birds, exterminated as the Passenger Pigeons and some others were. The settlers did not consider the pelicans of any value and they made a practice of going there on Sundays and seeing how many they could kill by shooting them on the wing with rifles and generally wagered small bets on their shots which they considered great sport.

“I saw that in a very short time they would be wiped out so I began in 1907 to take the matter up with the Biological Survey at Washington to see if we could not make a bird refuge out of the lake which consists of five or six sections of land. The island which serves as a safe nesting place for the birds contains only about forty acres and is at least a quarter of a mile from any shore so it is perfectly protected from coyotes, skunks and other nest robbers who would do great damage if the nests were on the main land. Finally, after investigating and after the number of pelicans had been reduced to about fifty birds, President Roosevelt set it aside as a bird refuge in August, 1908. I was in charge from that date until 1918 when I went to Sully Hill Park, near Devils Lake, which is a big game park under government supervision.

“While the Chase Lake refuge is a great thing for the protection of the birds mentioned above, yet we think its greatest value is in the protection it gives wild ducks and geese in the fall. When they are shot out in all the rest of the lakes they have found safety by going to this refuge and they certainly do go there by the thousands. I have seen hundreds of acres covered on this lake when the other ponds were practically stripped owing to excessive hunting so that otherwise I think our birds would move on south at such times if they did not have this refuge to go to and know they were safe.

“During the last season there were between 2500 and 3000 pelicans on the refuge so it will be always possible to have them if the refuge is kept up and properly protected. I will also say that this is the only place in the state where the pelicans nest and there are few such colonies in the United States, so it behooves us to take care of these reservations if we do not want the birds totally exterminated.”



YOUNG PELICAN WALKING

“His head was going forward and backward, as he walked, similar to that of a camel.”



GROUP OF YOUNG PELICANS

“It reminded one of the way groups of high school students at football games, with arms, necks and feet in vigorous action, give their school yells.”
(Note the yell leader at extreme left!)

Mr. T. Gilbert Pearson, president of the National Association of Audubon Societies, in a letter dated April 14, 1926, states that he visited the Chase Lake Bird Reservation in the summer of 1916. Evidently the numbers of pelicans had not increased greatly for he says, "Of course I distinctly recall the small colony of White Pelicans breeding there at the time, and I think there were a few cormorants. There were also a few ducks and I remember seeing one Canada Goose with her young."

As we came to know this preserve it was evident some of the birds of McCumber and Pearson were not there. The nesting cormorants had gone and there were no Canada Geese to be seen with their young. Yet as we scanned the landscape there were plenty of birds left for our observation and, particularly, the pelicans had increased from the fifty birds of 1908 to at least 2500.

Boats were unloaded and we piled in. So shallow was the lake all the one-third mile to its island and so thick the "moss" in the water that oars had to be used for poling.

As our guides pushed us across we took note of the interesting bird life. A few noisy California Gulls flew out to greet us like the shepherd dog on the farm that comes, jumping and barking, to greet the visitor.

They were beautiful big birds pictured clean white against an azure blue sky background, a new species to us. At the time our books were not comprehensive enough to enable an identification but we made notes, knowing they were different; later we decided they were undoubtedly the California Gull, a bird of the interior. For several days we had been studying at close range and from concealment the Ring-billed Gull in island colonies on Stump Lake and it was immediately evident that this new acquaintance was considerably larger. The color of its bill was the first and most striking characteristic we noticed. It was put down in our notes as "a bright reddish orange, brighter than that of the Ring-bill and perhaps proportionately a little larger." According to A. C. Bent (*Life Histories of North American Gulls and Terns*, page 129) "the bright chrome yellow of the upper mandible and the vermilion of the lower mandible are characteristic of the breeding season." In the distance this would give the appearance we recorded. Also, those we saw had no black band near the tip of the tail, which was plain white.

They scolded us mercilessly. Soon we discovered the reason, for we landed at the end of the island right among their nests. There



A FEW OF THE PELICANS

"One of the most impressive and most majestic fliers among American birds."



NEST OF CALIFORNIA GULL

"There were perhaps forty nests . . . with only an occasional tuft of straggling grass to help hide them."

were perhaps forty nests rather close together on this narrow sandy point with only an occasional tuft of struggling grass to help hide them. There may have been others, as we estimated there were about one-fourth as many California Gulls as Ring-billed Gulls on the island. When compared with those of the latter, eggs of these California Gulls averaged about 2.8x1.9 inches or fully a fourth inch longer. They were beautiful and strikingly colored eggs.

On shore was a pair of Avocets flying at us and trying to draw us away from their nest. When we wouldn't follow, they would dart down to within a few feet—beautiful birds, almost too beautiful to be found in such a realistic world as ours. They would fly over the water, alight and swim gracefully back to shore, their rich cinnamon-rufous head and neck, pure white and jet black body and the blue background of lake water giving us one of Nature's finest color combinations. Once on shore, they would run over the sands, finally flying back at us before withdrawing to the lake to repeat the performance. Their nest, too, was finally located with its three eggs which hatched the next day into three downy, runaway youngsters and a most interesting set of movies and graflex pictures of the adults and nestlings were secured from a blind. (See *Bird Lore*, March-April, 1925, pp. 86-91).

But as noisy gulls and screaming Avocets were trying to "manage the occasion," a flock of several hundred immense White Pelicans were flying up from the opposite, or southeast, corner of the island and were gracefully and majestically soaring about. The first glimpse of this scene brought a tingle to my own hopes for I had long cherished a desire for a closer study of these birds.

Perhaps Frank M. Chapman, when he wrote the chapter in "Camps and Cruises of an Ornithologist" entitled, "The White Pelican," never realized what an inspiration he was undoubtedly giving other naturalists. His narrative is undoubtedly one of the most interesting and fascinating stories among all ornithological literature, partly because of the peculiarities of the White Pelican itself and partly because it is Chapman's magnetic style of writing at its best. He has made us love the bird, admire its majesty, respect its dignity, and enjoy its antics.

As we approached the pelicans thus greatly interested, they flew up from their nests in tumultuous flocks. It was about the most awkward attempt to fly that one could ever see. They would violently push themselves off the ground between each wing beat with both feet at once and made ridiculous sights when they continued "pushing"

with their feet long after they were in the air. At such time their bodies would at one instant look like the letter "U" and the next moment like the same letter upside down. It was most awkward. Then feet would be drawn up and the pelican would soar forth, wings motionless, with the rest of his flock of beautiful snow white creatures as one of the most impressive and most majestic fliers among American birds.

Closer, nests could be seen among the dead stalks of last year's ragweed grouped in two colonies not far apart. They were forty to fifty feet from shore and about four feet above the lake level. Hundreds of them were close together, merely piles of weed stems, sticks and grasses with shallow hollows in top. Some were merely a hollow in which one to four dirty white eggs were laid. A few very shapely nests were found. Many eggs had already hatched, some recently and others earlier, while many were incubating and about ready to give forth their young.

The northern colony had young just hatched and very few eggs left. The group of nests further south was in the unusual condition of having many eggs still being incubated and about two hundred young that were perhaps three weeks old. There were no intermediate stages.

One egg was pipped and as we watched, the young gradually cracked his shell farther around until he finally fell out into the world. He was very much in need of the good old fashioned grandmother that is always making clothes for the children, because he was absolutely naked. His shape was just as ungainly as that of his parents and his head was so heavy he could hardly lift it off the nest. His color was perhaps a little better, being a flesh tint with a sort of bluish bill. But at that he was far from beautiful and he must have had queer ambitions if he enjoyed being a pelican.

As we came up groups of these latter young, now covered with grayish down, were all huddled together in a wriggling mass, their wings, necks and feet continually in motion. It reminded one of the way groups of high school students at football games, with arms, necks and feet in vigorous action, give their school yells. The scene was made more ridiculous by the awkward manner in which each young tried to walk. His body was so heavy and his legs so weak he could not stand erect but he would drag his sharp breastbone along over sticks and rubbish as if he always intended to do that. He kept his balance with both wings as does a tight rope walker, touching the

ground with them when he fell over too far to one side. And all this time his head was going forward and backward, as he walked, similar to that of a camel.

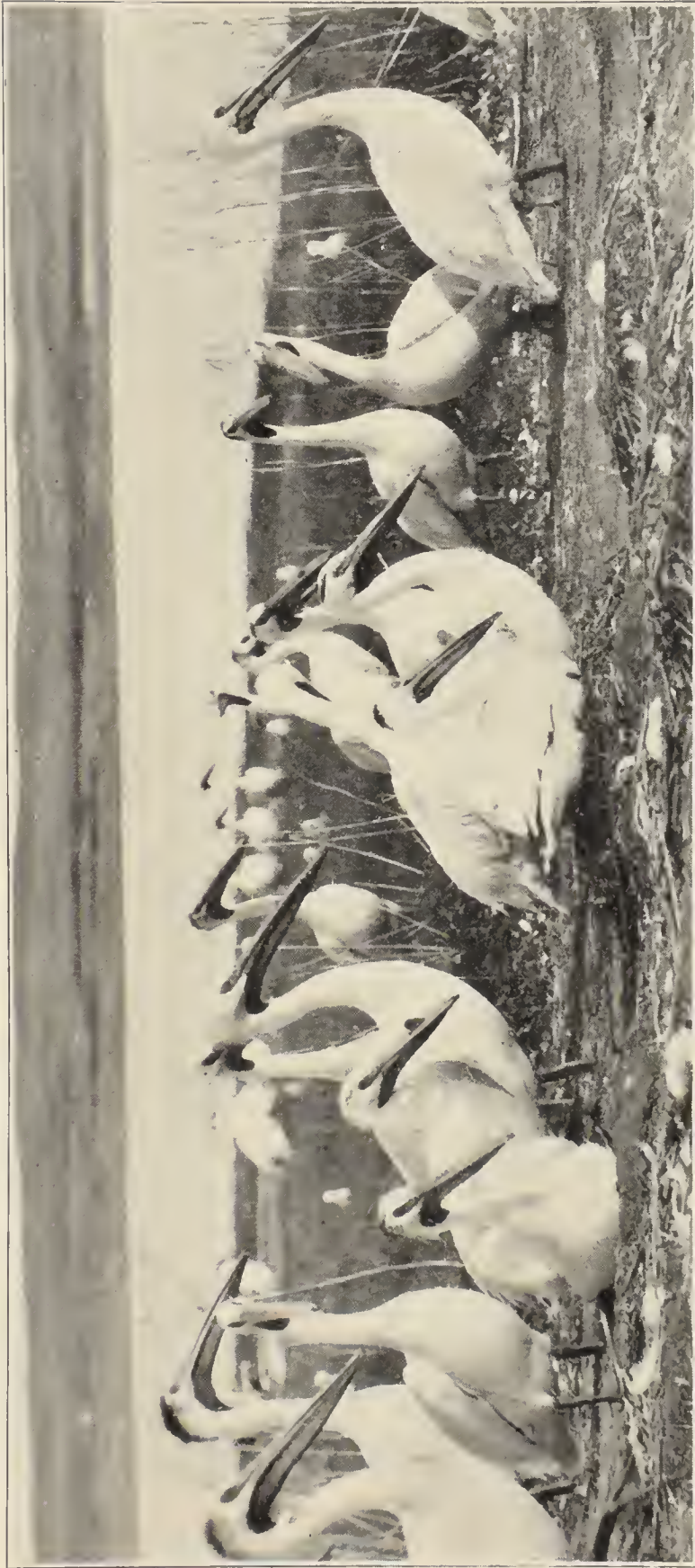
As for manners the young pelican is disgusting, particularly before strangers. As we came up to one young fellow he started going into backsliding contortions as if he were having an epileptic fit. Sprawled out and with beak wide open, not in the spirit of combativeness, but of misery, he was far from an attractive sight. The exchange of greetings ended with his disgorging right there on the ground in front of us a dirty, slimy looking fish meal that sent forth an odor far more rank and foul smelling than one of our well known black and white mammals is famed for—and his new acquaintances, with hands grasping noses, left immediately!

Later, and knowing pelican ways better, we came to realize this was probably the young bird's protection. He had taken us for enemies instead of friends, and that was his successful way of getting rid of us.

Experience with this colony so far had shown that the White Pelican is a bird of exceptional interest to the ornithologist, for few birds of the Middle West have such unusual ways and peculiar adaptations.

For the real sportsman and hunter the White Pelican can also be most highly recommended. True, it is an easy mark with a gun; but the real sportsman is not one who has for his object the killing of some animal or bird, but one who enjoys the mental stimulation in attempting to approach and study it. There is no more genuine sport either, in my opinion, than photographing the White Pelican. It requires more skill, more careful thinking and more particular study of the birds' life than ninety per cent of other species. Even if unsuccessful in obtaining pictures, if one could enjoy the life activities of a colony of 2500 or 3000 pelicans it would be time well spent.

Other ornithologists have given the White Pelican a reputation of being most difficult to photograph. Frank M. Chapman tells a story of a colony of twenty-seven nests at Shoal Lake, Manitoba, over which he expectantly watched to snap the returning parents, only to see them fly off, never to return to eggs or young. Mindful of his experience, we knew our present task was difficult. If we disturbed the birds too much they might desert their homes. If we should not properly conceal ourselves while studying them our effort might likewise fail.



WHITE PELICANS AND THEIR NESTS

“Some still had horny knobs on their beaks while from others they had already been discarded.”

The vegetation of this barren island offered no concealment. There were only a few patches of low bushes and the dead five-foot stalks of last year's ragweed. As the pelicans themselves had chosen the latter for their habitat we diplomatically decided to use the same. Selecting a location which had the older young on one side of us and the colony of well incubated eggs on the other, we erected our khaki-colored umbrella blind and placed many dead ragweed stalks about it. Without any leaves these did not in the least offer concealment but because the birds were already familiar with ragweeds they might sooner accept our blind as part of the scenery.

As I entered the blind Rosen withdrew to the other end of the island. The birds were exceedingly wary and kept themselves at a great distance out on the lake. They studiously and suspiciously watched the blind every minute. During the first half hour they could not see it move and so began sending our scouting parties which flew past, every bird alert as to what might be going on. After a while the whole flock very deliberately swam closer and all landed at the point of the island some distance away and watched. A sharp gust of wind blew the blind in spite of its carefully placed anchors and the whole flock was off with a tremendous and awkward commotion.

Since our blind seemed inanimate they again returned and swam about the lake nearby. Being further reassured they all lined up on shore and with heads up stood at "attention" with every eye on the blind. Yet even then they seemed so wary and shy that it hardly looked as if any good photographs could be taken.

While thus despairing of closeups, I happened to look out of another hole and saw about fifty beautiful white adults standing with their young only one hundred feet back of the blind. Their presence was indeed a great surprise. If they had flown there they would have certainly been heard, so they must have gradually waddled up from the shore. There were a few ragweed stalks between them and the blind which may have given the latter slight concealment.

They were striking creatures as they stood there. Their legs and feet were bright orange, beak and pouch yellowish-orange slightly duller than the feet, top of head frequently gray and rest of plumage almost pure white. Some still had horny knobs on their beaks while from others they had already been discarded. We were as greatly mystified as others have been to find a reason or purpose for this part of their anatomy.

Then other pelicans flopped down to their young only sixty feet away and right in front of the blind. Those with eggs were last to



SUNSET SCENE

"Above were outlines of a few flying birds, perhaps mindful of the dangers to their race, for the sunset time has come for the White Pelican of the middle western states."

arrive and even then they refused to come closer than sixty feet from me. But finally there were pelicans on all sides living their home life normally.

It was a fascinating life, too!

One could easily see why they had chosen an island for their nest city. Since young pelicans cannot fly for at least two months they need protection. Wolves, foxes, skunks, and other predatory animals would kill off a whole colony of young in one night on the mainland. It would be easier for man to reach them, too. But with a body of water on all sides they are protected as was the old castle of mediaeval times safeguarded by its surrounding moat.

There is no question but that they regarded me with fully as much curiosity as I did them, but doubtless they did not enjoy my presence as much as I did theirs. Some of the pelicans became occupied with feeding young and incubating eggs but a certain part of the flock evidently felt in need of amusement. It is always fun for the children of a neighborhood to form a circus parade and march past their homes. That's what these idle pelicans did! Forming in single file, they engaged in a continual circus parade of pompous, queer looking, dignified pelicans past the blind! It was one of the funniest sights I ever saw!

Their yawning was also laughable. It is a bit of human nature to always make fun of a person yawning and the wider the mouth is opened the more it attracts another's interest. When a pelican yawns, his mouth is open very wide. It exposes a cavity of enormous proportions and one cannot help but enjoy the oddity of the performance.

Another incident that gave us one good hearty laugh for ten minutes was the manner in which one pelican backed up to another and kicked like a regular Missouri mule! Think of it—from a bird!

The garbage disposal plant of this pelican city was located a short distance away. It was a colony of several hundred nesting Ring-billed Gulls who kept the pelican nests clean of any fish or other bits of food which might be dropped as the young were being fed, for a pelican will never eat anything from the ground. It is another of Nature's queer but well planned arrangements.

During all this time I had been excitedly taking photographs that were to become unusual and "rare" in my collection, showing all phases of the home life of these interesting birds. The graflex yielded fast flight pictures, the graphic took still life views of nests and young, several hundred feet of movies were successfully taken and particularly of the "circus parade," while perhaps for the first time natural color

pictures were made of pelicans on their nests by the Paget method. It was a rare opportunity and appreciated fully.

From the blind we also saw several Forster's Terns flying, a late Pintail duck's nest was afterward located near the pelican colony, and on the other side of the island was an attractive Blue-winged Teal's nest in the grass one hundred feet from shore, full of soft down and twelve eggs.

Of such interest was the bird life of Chase Lake and so successful the growth of its White Pelican colony from fifty birds in 1908 to at least 2500 in 1924, that it is hoped the reservation can continue to have the best of protection in the future. White Pelicans, Avocets and other birds, once so plentiful on the lakes of Iowa, Minnesota and the Dakotas, are now too uncommon to be overlooked in our conservation program. The Chase Lake Reservation has produced splendid results under a resident Federal game warden. It is hoped our good Biological Survey at Washington can continue to give it the best of attention as it has in the past, else the Middle West will lose its only remaining colony of nesting White Pelicans.

Our parting picture of this pelican colony was emblematic of this. It was a sunset scene with beautiful clouds, a colorful sky, and quiet water. At the shore many pelicans were silhouetted against the western light while above were outlines of a few flying birds, perhaps mindful of the dangers to their race, for the sunset time has come for the White Pelican of the middle western states.

SIoux CITY, IOWA.

COLOR REPRODUCTION OF BIRD ILLUSTRATIONS

BY HARRY G. LOTZ

[EDITOR'S NOTE. It is at our request that Mr. Lotz has prepared the following article on the process of reproducing bird paintings in color. It deals with a phase of ornithological technique which we ordinarily take for granted with little understanding.]

The bird artists of this country are relatively few in number, although during latter years the group has increased considerably. The artist who specializes in this work must make a life study of his subject in order to properly display his art and knowledge on paper through brush and color. He must know the anatomy of birds; and he must sense acutely the tints of the plumage that make birds such beautiful creatures. So it is also with the engraver, who takes the

artist's drawing and transfers it to metal for use in the printing press. In order to be proficient in this line the engraver must also make a study of this particular kind of work so that he may properly interpret the color and atmosphere that the artist has achieved.

When the illustration which is to be reproduced is placed in the hands of a photo-engraver, it is tacked on a large board in front of a process camera. A plate is then placed in the camera and a half-tone screen is placed between the lens and plate. When the exposure is made the screen, which contains 150 lines to the inch, will appear on the negative. Large arc lamps which produce an intense light are then flooded upon the copy for a few minutes, the length of time depending upon the color-tones of the subject. The lenses are very sensitive and play a great part in producing the half-tone negatives. Four negatives are thus made at exactly the same distance, through color filters, which separate the various colors. There is one negative for the yellow, one for the red, one for blue, and one for black. From these four colors practically all combinations of color and shade can be obtained by photo-engraving. The use of color filters make it possible to secure all of the value in each color eliminating the other three. In other words, when a yellow filter is used we get in the negative only the yellows which appear in the illustration. On account of the blending of the colors by the artist it is impossible to get an absolute separation and considerable work must be done by the color-etcher in giving certain color-tones their proper strength, as will be explained later in this article.

The four negatives are now developed and ready for the next step. Four pieces of highly polished copper, one-sixteenth of an inch thick and sensitized on one side with a special solution, and very carefully dried by heat, are placed firmly against the negatives in the manner in which photographic prints are made from films. The negative and copper plate are held firmly in contact by a printing frame made especially for this purpose. Powerful arc lights are again turned on. The light, which penetrates the transparent portion of the negative, comes in contact with the sensitized solution on the copper and transposes the design from the negative to the metal.

The copper plate is then taken from the frame and baked hard with intense heat. This forms a hard, enamel-like surface.

To the present point, an almost purely mechanical process takes place. The plates are now ready for the color-etcher who is the master-mind in color reproduction and usually supervises the entire work.

He must be an etcher and artist as well, since he, by means of brush and acid intensifies the lights and shadows by etching in order to faithfully interpret the artist's point of view. He has the illustration constantly before him. In order to successfully make color reproductions of birds, he must know their anatomy and be familiar with many details. It is for this reason that bird illustrations may be most faithfully reproduced by firms which specialize in this kind of work.

After the plates are etched, they are turned over to the engraver who by the use of fine tools cuts out the unnecessary parts, outlines the subject if necessary, and cuts away backgrounds. The occurrence of pure white in a color illustration is evidence that considerable hand engraving has been done, for if the four plates had been printed without the outlining, shades of color would show where the white appears. Many important parts of color reproduction depend upon the careful use of engravers' tools and engraving is a very essential branch of the work.

The plates now come to what is known as the routing and blocking room, where there are many types of machines. The "router" is used to cut away dead metal within the outer edge of the printing plate. The beveling machine is quite important, for it is accurately set to permit a flange on the edge of the plates which will permit tacking to the wood block, type high.

The plates now go to the proving department where each plate is printed, in its respective color, in ink. Each colored ink as it is on the plates is submitted to the etcher, for it is he who is responsible for the finished results. It is very important that each plate be printed in exact register. The fourth or last color to be printed does not always tell the final story, for there are many times when the color etcher, though he may have had many years of experience, goes amiss in his judgment of color-tones. However, the various colors may be modified greatly in securing the exact tone.

If color-engravings are to be made, it is essential that the original drawing or painting be exactly right before they are placed in the photo-engraver's hands, for it is too much to expect the engraver to make changes. If the copy is perfect before it goes into the engraver's hands it is then his task to produce a faithful reproduction of the original.

LOTZ PHOTO-ENGRAVING COMPANY,
PHILADELPHIA, PA.

BEHAVIOR OF BLACKBURNIAN, MYRTLE, AND BLACK-THROATED BLUE WARBLERS, WITH YOUNG

BY MARGARET MORSE NICE

During the summer of 1925 in the woods of Pelham, Massachusetts, I was fortunate in coming upon several families of warblers whose young had recently left the nest; in three of these cases the actions of the parents were of particular interest.

In the tall white pine and hemlock woods west of Grey Rocks, my mother's summer home, I heard a Blackburnian Warbler on July 11, and saw the lovely bird sitting on a dead branch of a pine and preening himself between his plain little songs. The first of August I happened to visit these woods and was mystified by an insistent *chee-chee chee-chee chee-chee*, the first syllable given with a rising inflection and the second with a falling. After craning my neck for some time I discovered forty feet up in a white pine a fluffy, bob-tailed, greyish baby; a moment later it fluttered to another twig, quivering its wings and begging more energetically than ever. There was the beautiful Blackburnian father with an insect! All at once there was the greatest commotion around the Irish terrier and myself as we stood quietly on the ground—both father and mother *Dendroica fusca* flew about us excitedly scolding *chip-chip-chip-chip*. The mother nearly descended to the ground in her alarm; she held her wings straight up in the air and her tail curled under—a very curious attitude. Meantime the baby kept perfectly quiet. In a few minutes the parents grew less distressed, the female even preening herself between chips. I started to leave them and the male accompanied me for a distance, chipping at me as I went. I turned back, however, for another nestling was calling from a butternut tree. This time the mother objected only mildly; while the father disregarded me entirely. There seemed to be three or four young scattered rather widely in the tops of tall trees; they were wonderfully persistent babies.

Myrtle Warblers nested near the house, their songs being recorded nearly every day from their arrival on April 27 till August 6. Three twittering, wing-fluttering youngsters were seen on July 4; both parents were feeding them. Another brood left the nest earlier, for on June 14 we saw a female *Dendroica coronata* catch a small moth, fly to a witch hazel bush and feed a bobtailed infant. Then she spied the two spectators, hurried near us, and "tchipped" in disapproval. We went within a few feet of the baby while the mother with a large insect in her bill hopped about protesting; she came as near as four inches to the nestling, but could not quite get up courage to feed it.

The father, in the meantime, seemed totally unconcerned, flying about in a tree nearby and singing cheerily.

On July 18 at the western end of the white pine and hemlock woods we came upon a female Black-throated Blue Warbler (*Dendroica caerulescens caerulescens*) with food in her bill; she immediately swallowed the insect and scolded violently. The male appeared but seemed calm. We searched about in likely bushes and undergrowth for the nest but in vain. At last I heard a note something like a Chipping Sparrow's song, but about half as long; I went to investigate and there, completely hidden in a mass of ferns, about nine inches from the ground on two loose, dead branches was the nest; the baby whose hunger call had revealed the secret promptly hopped out. The mother warbler became beside herself with distress; she would fall from a branch to the ground and then creep about with wings and tail spread, chirping her loudest. The father flew around uttering the same excited notes, but making no special demonstration otherwise. The little mother's actions were so pitiful that we soon left, taking the empty nest with us; it was a beautiful structure lined with pine needles and covered on the outside with strips of birch bark.

NORMAN, OKLAHOMA.

AN IOWA BIRD CENSUS

BY E. D. NAUMAN

Early in the year 1914 the U. S. Bureau of Biological Survey issued a call for volunteers to try the innovation of taking a bird census on some tract of land to be selected by themselves. The writer having been in communication for some years with this Bureau, received such a request to make and report a bird count.

The idea looked somewhat utopian, but I determined to make a trial anyway. For that census I selected Tract A only. (See maps). Having had no experience in this line, of course the work was somewhat discouraging and unsatisfactory, and thinking this undertaking might never be repeated, I did not keep a copy of my figures.

But in 1915 a call was issued to have a second census taken to see, I suppose, how the two would compare with each other. That year I made counts for both Tracts A and B, but mislaid or lost my figures. Published accounts of the census showed that there were just three of us in Iowa who made and returned counts for those two years. When, however, the call came in 1916 for a third census, I concluded that this was to be a "continuous performance". So the counts on both tracts were made and the figures preserved annually ever since.

with the exception of one year when evidently the Bureau's blanks and instructions were lost, for they never reached me. The results of this series of counts are set forth in the appended tables.

The instructions issued by the Bureau of Biological Survey on this subject are in part as follows:

"Begin at daylight some morning at the height of the breeding season, and zigzag back and forth across the tract, counting the singing birds. . . . After migration is over each singing male may safely be counted as a pair. . . . In the latitude of Washington, D. C., (latitude 39 degrees N), the first count should be made about June 1; in the latitude of Boston work should not begin until at least a week later; south of Washington, a correspondingly earlier date should be chosen."

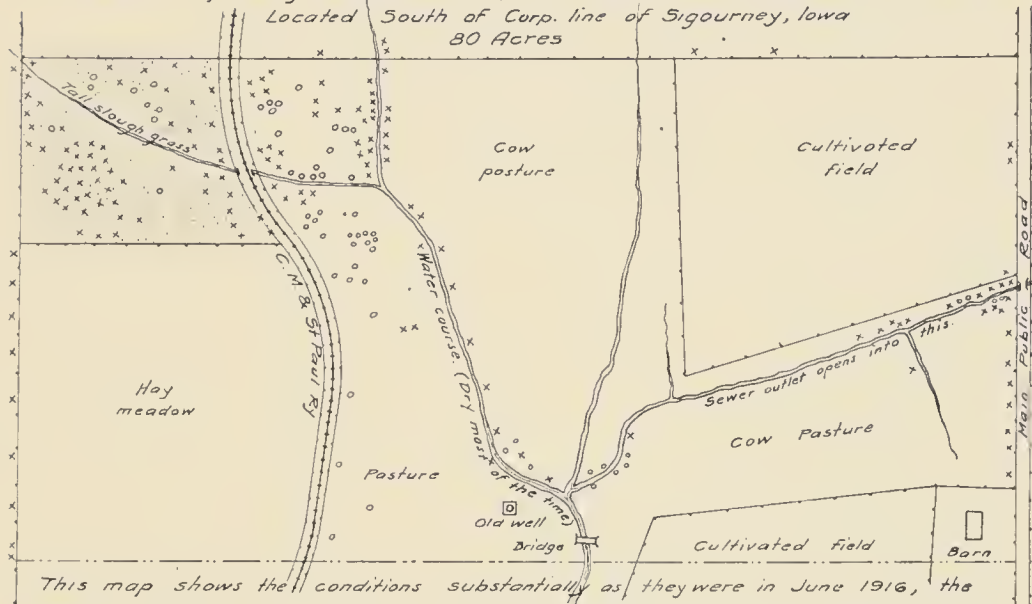
Then follow directions to make several recounts a few days later to correct any errors that may have been made at the first count.

Now these instructions are good as far as they go and will, if carefully followed, produce fairly accurate results on tracts of land well cleared, and of most of the species inhabiting such tracts of land. However, the enumerator meets with many difficulties, not touched upon by the instructions, especially on rough and partly timbered land. For example: The larger owls are fully fledged and leave the nest about April 1; the Horned Larks are out and able to fly by April 15; Bluebirds, Robins, Screech Owls, Phoebes, all leave the nest in this latitude, which is slightly north of Washington, D. C., by May 15 to 20. Others like our Goldfinch do not nest until several weeks after the date fixed for the census. Another difficulty is with birds like the Dickcissel, Meadow Lark, and certain sparrows, who have the habit of resting on the posts and wires of the boundary line fences to sing. It is sometimes very difficult to determine upon which side of the fence they really belong; or if their nest is in a post of the line fence, whether to count it or not. Then we have difficulties in finding the owls, Whip-poor-wills and waxwings, because of their silence.

All those who have assisted the Government in the past by the making of bird counts have no doubt met with some or all of these difficulties and found ways of overcoming them. But for purposes of comparison and perhaps to aid those who may take up this work in the future, I will here state briefly how I have proceeded with the enumeration.

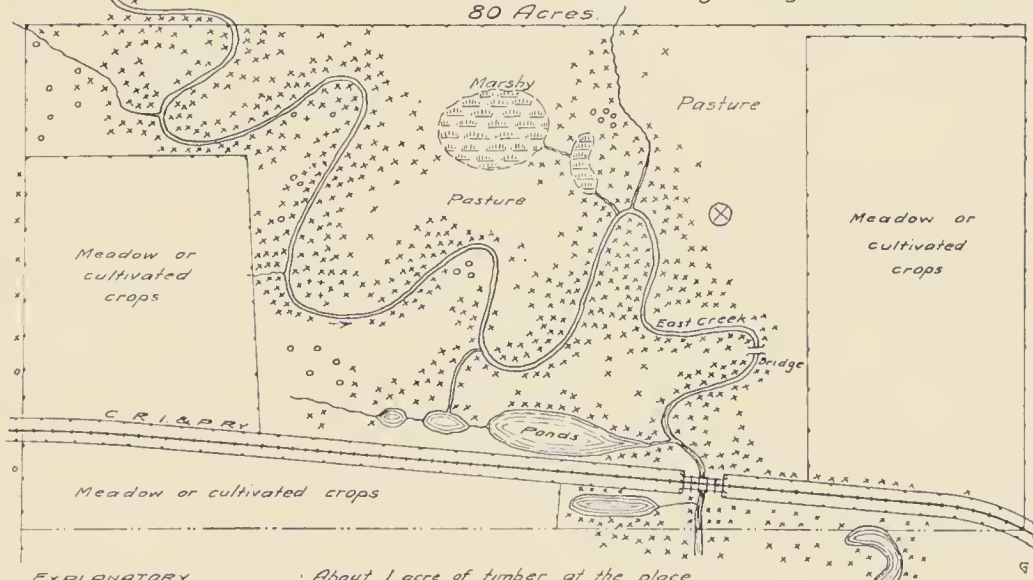
First, to place the early breeders where they belong, I have kept both tracts under observation during April and May. This was done

TRACT "A", being described as the N-W 1/4 N-E 1/4 and N-E 1/4 N-W 1/4 Sec 11-75-12
 Located South of Corp. line of Sigourney, Iowa
 80 Acres



This map shows the conditions substantially as they were in June 1916, the date the first census was made, upon the land referred to as Tract A and here reported. Conditions upon this tract have been greatly changed. All the trees and bushes in the portion west of the railway have been destroyed. There has also been a cutting of about one half of the thorn bushes on the remainder.

TRACT "B", being described as the S-E 1/4 N-W 1/4 and S-W 1/4 N-E 1/4 Sec 36-76-12
 Located about one mile North East of Sigourney, Iowa.
 80 Acres.



EXPLANATORY
 Trees x x x x x
 Thorn Bushes o o o
 Hazel Brush
 Wire Fences - - - - -

About 1 acre of timber at the place marked ⊙ was cut since 1916, the year of the first census reported. Aside from this and the cutting of a few trees at various other places, conditions upon this tract have remained very nearly the same during the last 10 years.

by taking several walks over each tract and observing carefully the birds present. Second, The birds along the line fences were watched until their movements indicated whether they belonged in or out. The ones nesting in hollow posts of line fences were counted, if open toward the tract being enumerated and not counted, if opening was on the other side. Third, I have visited each tract, at least once for each census, late in the evening or after night, to determine whether owls, Whip-poor-wills, etc., were present. The waxwings make a slight lisping sound that aids one in their discovery.

The birds that both feed and nest in the tree tops are the hardest to place. A census of them even after the very best care and judgment has been used, is liable to be "a good guess." By sitting perfectly still for fifteen or twenty minutes at various places in the woods and watching and listening, one may form a good estimate of the number of these birds that live within the tract.

The returns upon these two tracts by themselves do not indicate that there is a decline in the numbers of our native birds, but that on the contrary there is a slight increase. This is, however, somewhat misleading. A closer analysis of our census figures from year to year, together with a consideration of conditions that existed at the same time upon adjacent territory, will show that it was merely a retreat to remaining cover and does eventually mean a decline in numbers.

In the year 1916 conditions on both tracts were very favorable for the birds. Both tracts had plenty of trees and bushes and some land which was not being pastured by live stock or pastured very little. But at that time a large portion of the other land nearby was in the same favorable condition for the birds. Consequently we see that there was not an abundance of bird population on either tract. However the following winter (1916-1917) a great deal of the brush and timber near both tracts was cut and removed, while there was no such destruction upon either tract. The census of 1917 shows a marked increase of the numbers of birds on both tracts, indicating clearly that when the birds came and found their nesting places destroyed they merely retreated to the places where cover still remained.

Conditions upon Tract B continued to be about the same up to the winter of 1921-1922. But during these years there was some destruction of cover going on upon adjacent territory and we see the bird population increase from 95 to 122 pairs. In the winter of 1921-1922 there was some cutting and destruction of timber upon Tract B, and the following season the census shows an abrupt decline in numbers. Since that time very little change has taken place upon Tract B.

However, a small tract of land covered by trees and brush located about eighty rods west was cleared away in 1923 and 1924 and our census figures indicate that some of the birds from that place came to Tract B to live.

During all these years, however, conditions upon Tract A kept generally getting worse for the birds. All the trees, bushes and brush west of the railroad and a good portion of those east of the railroad were destroyed. By 1923 the bird population, which had been eighty-five pairs in 1917, had fallen to sixty pairs. But during the winter of 1924-1925 a tract of trees and thornbushes located sixty rods south of this tract, was destroyed, causing some of the birds to take refuge in the somewhat meager cover offered by Tract A. This fact, together with the increase in the number of redwings, explained herein later, caused the bird population to jump from sixty to eighty pairs.

The movements of certain species considered individually is also of more than passing interest. For example, the Grasshopper Sparrow lived upon Tract A in considerable numbers up to the years 1921 and 1922. During those two years their favorite meadow was converted into a corn field and these birds left, not even one remaining. In 1923 the farmer began reseeding this meadow and part of the birds came back. In 1924 and 1925, the meadow being re-established, the birds were back in their usual numbers. The cutting of small trees and bushes on the railroad right-of-way on Tract B in 1923 and 1924 caused the numbers of the Maryland Yellow-throat to decline from eight to four pairs.

The extraordinary increase in numbers of the Red-winged Blackbird on both tracts is accounted for as follows: During the spring of 1925 and up to the time of the taking of the bird census there had been a great deficiency in rainfall here. All the ponds and marshes in the vicinity of Tract A had dried up early in the season. So the redwings could not find much comfort there. But one of the water courses across Tract A is fed by a sewer outlet of Sigourney, which causes the grass and rushes to grow luxuriently and the birds being attracted by these propitious surroundings, came here to live.

Up to the spring of 1924 there was a marsh or shallow pond of an acre or more in size situated eighty rods south of Tract B. This marsh had for many years been the summer home of a flock of redwings. That spring this marsh was drained, and broken up for corn. Some of the birds then came over and established their new home at the ponds of Tract B, and more of them came in the spring of 1925.

TABLE SHOWING CENSUS RETURNS ON TRACT A

(NOTE—Census was not taken for year 1919 because the request for the same, blanks and instructions from the Bureau of Biological Survey did not reach me.)

NAME	1916	1917	1918	1920	1921	1922	1923	1924	1925
Killdeer							1	1	1
Bobwhite	1	2	1	2	1	2	2	6	5
Mourning Dove	1	4	3	3	5	3	3	2	3
Sparrow Hawk					1			1	
Screech Owl	1							1	
Yellow-billed Cuckoo	1	1	2	1		1	1		
Hairy Woodpecker					1	1		2	1
Downy Woodpecker		1							1
Red-headed Woodpecker	2	2	2	2	3	3	4	1	1
Northern Flicker	2	3	2	3	2	2	1	1	2
Nighthawk		2	1		1		1	1	2
Kingbird	1	1	1	2			1	1	1
Crested Fly-catcher		1	1	1		1	1		
Phoebe	2	1	1		1	1			2
Wood Pewee	1	3	2	1	1	1	1		1
Acadian Fly-catcher		1	1					1	1
Prairie Horned Lark.....	1	2	3	1	2	2	2	2	1
Blue Jay	2	2		1	3	1	2	2	
Cowbird	2	4	3	3	2	1	2	2	1
Red-winged Blackbird								1	6
Meadowlark (<i>magna</i>)	4	4	3	6	4	6	5	4	5
Meadowlark (<i>neglecta</i>)								1	
Orchard Oriole			1	1					
Baltimore Oriole	2	2	2	2	2	1	1	1	2
Bronzed Grackle	1	2	1						
Goldfinch		2	1	2	3	3	3		3
Vesper Sparrow				1		2	1	1	1
Grasshopper Sparrow	5	6	10	6			3	6	6
Lark Sparrow		1		1	1	1			
Field Sparrow	5	4	5	2	1	1		2	1
Song Sparrow	2	1	2	3					
Cardinal					1				1
Rose-breasted Grosbeak	1				1	1	1		1
Indigo Bunting	1	2	1	1	1	1	2	1	
Dickcissel	7	7	2	3		4	3	7	7
Barn Swallow		1		1	1	1	1	1	
Bank Swallow	1	3	4	1	2	2	1	1	2
Migrant Shrike	1			1	1	1			
Red-eyed Vireo		2							
White-eyed Vireo	1		1					1	1
Maryland Yellow-throat	1	2	2	2	3	2	2	3	4
Catbird	2	3	2	2	2	3	1	2	2
Brown Thrasher	2	3	3	2	2	3	4	3	4
House Wren	1	1	1		1	2	1		2
Tufted Titmouse		1							
Chickadee			1						
Robin	6	6	6	5	6	5	3	3	5
Bluebird	1	2	2	2	1	4	6	2	4
Number of species.....	30	35	32	30	29	30	29	31	32
Number of breeding pairs.....	61	85	73	64	56	62	60	64	80

NAME	1916	1917	1918	1920	1921	1922	1923	1924	1925
Maryland Yellow-throat	1	2	4	3	4	8	8	6	4
Catbird	1	2		2	3	3	4	3	5
Brown Thrasher	1	2	2	2	2		1	2	1
House Wren	2	2	1	4	4	4	6	9	9
White-breasted Nuthatch	1	3	3	2	2	1	2	2	2
Tufted Titmouse	2	2	3	2	3	3	3	3	2
Chickadee	4	3	3	2	2	2	1	2	2
Blue-gray Gnatcatcher									1
Robin	6	5	3	7	8	5	5	7	5
Bluebird	2	2	2	3	3	1	2	2	3
Eng. Spar'ws, nesting in hollow trees in woods					3	2			
Number of species.....	38	40	40	46	43	41	41	41	45
Number of breeding pairs.....	76	95	103	113	122	106	111	122	119

Generally speaking we may learn from a consideration of the census together with surrounding conditions, that the birds are being cuffed and buffeted about from place to place mainly by man who, thoughtless of the great benefits received from them and thinking only of his own immediate gain, is destroying one tract of cover after another, leaving the birds to struggle on in their vain attempts to maintain themselves, while in fact they are being reduced in numbers just in proportion to the destruction of their natural homes.

CONCLUSION

A most pleasing sight to the average human eye is a fine country estate with buildings all neatly kept and well painted; with fine groves of shade trees all well trimmed up and orchard trees all neatly pruned; with fences all made of glistening steel posts and wires and the fence rows all clear of grass, bushes and trees; with swamps and ponds all drained and every foot under careful cultivation.

But a farm so kept offers little comfort and hospitality to the feathered messengers of song and good service. Neither do superficial glances at a farm, orchard or garden disclose the presence of innumerable bugs, worms and borers. The destruction of our native birds and their nesting places is mainly to blame for the increasing difficulties farmers and horticulturists have with insect pests in the production of food for humanity. Bug poisoning contrivances are numerous, their use is expensive and requires much time and labor. The birds would be glad to do most of this work if they were encouraged and protected. Birds make their homes where they find shelter and protection. Their food being mainly insects, they can find it most anywhere.

Every farm should have a timber lot occupying at least one-tenth of its size. In it underbrush and bushes should be permitted to grow. This will not injure the trees and the larger trees can be used for wood and lumber at proper times, if replanting is attended to, without detracting from the value of the lot as a bird harbor. Ponds maintained at suitable places will not only serve to attract some most valuable birds but can be used as water reservoirs for live stock as well. A few bushes and trees along fences will help to attract the birds.

For so small a consideration, the birds will stay and serve us, some in winter, more in summer, some the whole year round. Thus shall the aesthetic beauty of the world be enhanced and our deliverance from the vast army of insect pests be made sure.

SIGOURNEY, IOWA.

BIRDS OF THE RED RIVER VALLEY OF NORTHEASTERN NORTH DAKOTA

BY H. V. WILLIAMS

[Concluded from the WILSON BULLETIN, March, 1926, page 33.]

Sparrow Hawk—*Cerchneis sparveria sparveria*. So far have not separated this bird from the Desert variety, but it undoubtedly is found here for previous records show it taken on all sides of this district. Common during migration from the early eighties onward.

Desert Sparrow Hawk—*Cerchneis sparveria phalaena*. Very likely the most common of the two Sparrow Hawks found here, and is a common migrant and breeds quite commonly. A mounted specimen in the collection taken April 12, 1907. Two others in the University of Michigan collection taken August 8, 1913, and June 27, 1914. Earliest arrival, April 18.

Osprey—*Pandion haliaetus carolinensis*. A few years ago this was a very rare bird here, but of late years they are becoming more common especially along the Red River where quite a number have been seen. A mounted specimen is in the collection taken at Grafton, September 25, 1920. One in the University of Michigan Museum taken August 9, 1923, and one taken April 23, 1923, and April 29, 1924. Earliest arrival, April 29. Rare in the eighties on the big slough. More common along the Red River.

Barn Owl—*Tyto alba pratincola*. A very rare straggler this far north. I have only one record, taken at Gilby, North Dakota, September 4, 1922, by D. V. Eastman.

Long-eared Owl—*Asio wilsonianus*. A common resident in this locality, being found here throughout the year, nesting quite commonly in old crow nests. A mounted specimen in the collection dated Grafton, December 15, 1911, and October 28, 1923. Two others in the University of Michigan Museum taken May 8, 1913. A very beneficial bird which destroys large numbers of mice and other rodents. Fairly common throughout timber tracts in the eighties.

Short-eared Owl—*Asio flammeus*. Another very beneficial owl that is a very common resident of this locality, being found the year around in the marshes or patches of weeds where it finds shelter and a great deal of its food. A mounted specimen taken at Grafton, September 6, 1912, and one taken January 15, 1923. One was sent to the University of Michigan and taken April 13, 1913. Very common. Bred in large numbers throughout the big slough district from 1882 on.

Barred Owl—*Strix varia varia*. A rare visitor to this region, only one specimen having been taken, which is mounted in the collection. It was taken October 2, 1904. A mounted one was killed at Grand Forks, November 10, 1921, by Bert Johnson.

Great Gray Owl—*Scotiaptex nebulosa nebulosa*. Another rare visitor of which we have but three records from this locality. A mounted specimen taken near Pembina, February 3, 1900. Some boys saw two and killed one of them just east of town but destroyed the specimen, but I found feathers enough to identify it, in the latter part of December, 1922. I have another mounted one taken here January 14, 1923.

Richardson's Owl—*Cryptoglaux funerea richardsoni*. A common winter visitor during the year 1904 when several were taken in the shade trees in town. Since that time only a very few have been seen or taken. A mounted specimen in the collection taken at Grafton, April 8, 1904. One in the Agricultural College collection at Fargo, taken December 16, 1910, and I have another taken January 23, 1923.

Saw-whet Owl—*Cryptoglaux acadica acadica*. A casual winter visitor. Never very common although I remember seeing one well along in the summer that I believe nested here. A mounted specimen in the collection dated Grafton, November 10, 1909, and one taken November 4, and one November 7, 1923.

Screech Owl—*Otus asio asio*. A very common owl found in all seasons of the year in both red and gray phase, although the gray phase is by far the most common. Considerable variations are found in the markings of the gray birds. A red phase bird in the collection

was taken January 9, 1908, and also one March 27, 1923. A gray phased one was taken February 3, 1908, and one March 3, 1923. Have collected several of these specimens every year.

Great Horned Owl—*Bubo virginianus virginianus*. Not a common resident although one or two are usually taken every year and an occasional pair nest. The Horned Owls are considered the most destructive owl we have to our native game, and I have seen considerable evidence of their destruction of grouse and rabbits, especially during the winter months. The collection contains a mounted bird taken November 10, 1902, and one taken December 1, 1923. A well grown juvenile was sent to the University of Michigan June 21, 1923, and an adult March 11, 1924.

Western Horned Owl—*Bubo virginianus pallescens*. By far the most common breeding form of horned owls, being quite numerous here and destroying no small amount of our game and bird life. Have a mounted bird in the collection taken November 1, 1903, and one taken February 22, 1924. Have sent several to the University of Michigan. Two taken September 27, 1913; one on September 12, 1923; one on December 10, 1923, and one January 14, 1924, and April 24, 1924.

Arctic Horned Owl—*Bubo virginianus subarcticus*. Some years this form is quite prevalent with an occasional pair nesting, but very rarely. A specimen in the collection was taken December 3, 1903, and another one December 18, 1917. Several birds were taken that year when they were quite common. One sent to the University of Michigan taken October 7, 1923, and one taken December 4, 1924, was sent to Dr. Koelz at Ann Arbor. A breeding female was taken July 1, 1924, which Mr. Wood called *occidentalis*.

Snowy Owl—*Nyctea nyctea*. A common winter visitor, sometimes arriving early in October before any snowfall, and staying until April before going back north. Every few years we have an irruption of Snowy Owls when they come in here in large numbers and can be seen sitting on nearly every straw stack where they seem to secure their principal food—mice. A great variation is found in their markings from an almost pure white in the male to a very near black in the female. A practically white male in the collection was taken November 9, 1916, and another nearly white male on October 10, 1920. A pair sent to the University of Michigan were taken December 24, 1921; one was also taken January 7, 1914. They have been scarce now for four

or five years. Very prevalent throughout the winter months from 1882 on. Common now only during occasional winters.

Hawk Owl—*Surnia ulula caparoch*. A rare winter visitant which is very erratic in its appearance. It was very common during the winter of 1908 when a number were collected. A specimen in the collection was taken here on December 10 of that year, and they could be found most any where through the timber districts. One in the Agricultural College collection of Fargo was taken at Jolliette on October 24, and another one was taken December 16, 1922; it was the only one seen that year, and none have been seen since.

Burrowing Owl—*Speotyto cunicularia hypogaea*. This owl was first noticed in this locality in 1902 when a specimen was taken May 2 by W. H. Williams. Since that time it has gradually increased in numbers until it is fairly common east to the Red River. Have taken a number of them in the last few years. Other records I have from here are July 12, 1923, when four were taken and again on July 27, 1923, when five full grown young were collected and sent to N. A. Wood of Ann Arbor, Michigan. Four were taken on September 2, 1924, and sent to W. E. Koelz of Ann Arbor, Michigan. Earliest arrival, May 2. Very rare in the eighties on the big slough district.

Yellow-billed Cuckoo—*Coccyzus americanus americanus*. A rare straggler this far north. We have only one record for the Red River Valley when Professor Miller of the Agricultural College at Fargo, sent one for mounting on October 10, 1921.

Black-billed Cuckoo — *Coccyzus erythrophthalmus*. A common summer resident throughout this district nesting quite commonly. A specimen in the collection dated Grafton. July 10, 1904. Earliest arrival, April 25.

Belted Kingfisher—*Ceryle alcyon alcyon*. Found nesting occasionally in burrows dug in steep banks along the river. Very common during migration. A mounted specimen was taken July 20, 1905. Earliest arrival, April 23.

Hairy Woodpecker—*Dryobates villosus villosus*. I have not positively identified this species, but have noticed once in a great while a slightly smaller bird among the Hairy Woodpeckers which I have collected, that likely would prove to be this bird.

Northern Hairy Woodpecker — *Dryobates villosus leucomelas*. Quite common as a winter resident, with an occasional pair nesting here. The collection contains a mounted bird taken at Grafton, Feb-

ruary 4, 1922. A pair sent to the University of Michigan was taken February 28, 1922; and others were sent to Walter Koelz, University of Michigan, taken January 1, 1923, November 9, 1923, and January 14, 1924.

Downy Woodpecker—*Dryobates pubescens medianus*. A very common resident throughout the year, nesting quite commonly. Always found busily hunting for wood-borers and other insects injurious to trees. A mounted specimen dated Grafton, February 14, 1914, is recorded.

Arctic Three-toed Woodpecker—*Picoides arcticus*. A rare winter visitor. We have only three records for this region. One in the collection taken January 23, 1912; one sent to Mr. Wood of University of Michigan, taken April 26, 1923; and one seen November 28, 1924. Earliest arrival, November 26.

Yellow-bellied Sapsucker—*Sphyrapicus varius varius*. A common summer resident in this region and considered injurious to trees, especially fruit trees. A mounted specimen was taken at Grafton, July 24, 1910. Earliest arrival, April 26.

Northern Pileated Woodpecker—*Phloeotomus pileatus abieticola*. A rare straggler this far west. We have but two records of its occurrence. One taken at Grafton, May 30, 1905, and another in the Agricultural College collection at Fargo, taken October 16, 1915.

Red-headed Woodpecker—*Melanerpes erythrocephalus*. Common during the breeding season, nesting quite frequently through the timber and in holes dug in telephone and telegraph poles. We have a mounted bird taken January 24, 1905. Earliest arrival, May 21.

Lewis's Woodpecker—*Asyndesmus lewisi*. A bird killed at Neche, North Dakota, by Peter D'Heilly, October 13, 1916, is the only record of this bird I have obtained.

Northern Flicker—*Colaptes auratus luteus*. Our most common woodpecker both in migration and throughout the breeding season. A very beneficial bird destroying large numbers of injurious insects. A bird in the collection was taken at Grafton, June 4, 1904. Earliest arrival, April 3.

Red-shafted Flicker—*Colaptes cafer collaris*. Have taken three specimens referable to this species, but only the one taken December 23, 1919, was typical. The other two are undoubtedly hybrids. One sold to the Agricultural College at Fargo had the red moustache marks, but golden shafts, and the third one collected December 6, 1924, has a few red feathers mingled in the black patches along the mandible.

It is a rare straggler this far east and found only during winter months. A specimen of *collaris* was taken on April 19, 1925.

Whip-poor-will—*Antrostomus vociferus vociferus*. A rare straggler through here during fall migrations, usually. I have taken two specimens; one October 9, 1923, and one May 24, 1924. Earliest arrival, May 24.

Nighthawk—*Chordeiles virginianus virginianus*. A very common migrant, and occasionally found breeding, though in no great numbers. A very beautiful bird, feeding entirely on insects caught on the wing. The collection contains one taken July 10, 1910. Earliest arrival, May 20. Very common during migrations in the early eighties.

Sennett's Nighthawk — *Chordeiles virginianus sennetti*. I have taken specimens that have been identified as this species. They were taken during migrations. Earliest arrival about May 21.

Chimney Swift—*Chaetura pelagica*. A very common breeder during some years, while in other years they are not at all plentiful. Have seen swarms of several hundreds flying around the large chimneys of the court house and school houses, during the summer time just at dusk when they were going to roost. A mounted specimen taken June 19, 1914, is in the collection. Earliest arrival, May 9.

Ruby-throated Hummingbird—*Archilochus colubris*. Not a common breeder although an occasional pair are found during the breeding season. A pair sent to the University of Michigan was taken June 5, 1914, and September 12, 1914. Most commonly seen around flower beds and fruit trees in blossom. Earliest arrival, May 26.

Kingbird — *Tyrannus tyrannus*. Found in large numbers most everywhere, either in the timber or close to groves in the country. A quarrelsome bird that takes delight in tormenting crows or hawks which they will follow and harass for long distances. A mounted bird was taken July 31, 1905. Common from 1882 on.

Arkansas Kingbird—*Tyrannus verticalis*. About on a par with the Kingbird as to numbers but most always found near cottonwood trees which it prefers to any other variety of tree for a nesting site. Equally as quarrelsome as the Kingbird and its habits are almost identical. One is in the collection dated Grafton, July 31, 1905. Earliest arrival, May 16.

Crested Flycatcher—*Myiarchus crinitus*. An uncommon migrant and breeding bird in this locality. Have found no nests but have taken young birds nearly full grown. A bird in the collection was taken May 1, 1920. Earliest arrival, May 1.

Phoebe—*Sayornis phoebe*. An occasional pair is found nesting in this locality usually under an old bridge which they prefer to any other location for their nests. The collection contains one taken June 4, 1921. Earliest arrival, April 10.

Olive-sided Flycatcher — *Nuttallornis borealis*. A rather rare breeder here. A very few have been observed. I have one in the collection dated Grafton, June 7, 1908. Earliest arrival, June 7.

Western Wood Pewee — *Myiochanes richardsoni richardsoni*. A rather common summer resident, and breeding pairs are found quite frequently throughout the timber districts. Have a specimen in the collection taken July 24, 1914. Earliest arrival, April 26.

Traill's Flycatcher—*Empidonax trailli trailli*. This flycatcher is found probably as commonly as the Least, although I am not well enough acquainted with it to identify it accurately in the field. One in the collection identified by E. T. Judd was taken June 13, 1914. Earliest arrival, May 20.

Least Flycatcher—*Empidonax minimus*. I would call this species a common summer resident, although some of the small flycatchers seen undoubtedly belong to the previous variety. The collection contains one taken June 21, 1914. Earliest arrival May 22.

Prairie Horned Lark—*Otocoris alpestris praticola*. A common migrant and found nesting occasionally, although in no great numbers. Have one taken February 22, 1922. Sent birds to the University of Michigan taken March 11, that were identified as this type. Earliest arrival, February 18. All very plentiful everywhere.

Desert Horned Hawk—*Otocoris alpestris leucolaema*. Birds taken from the latter part of the migration through here have been identified as this species. It undoubtedly nests also. Birds were taken March 11, 1924, and sent to the University of Michigan. Earliest arrival, February 18.

Hoyt's Horned Lark—*Otocoris alpestris hoyti*. The first migrants through here were all classed as this species, usually showing up in January and becoming very common from then on. It is also our most common nesting type. A specimen in the collection was taken February 22, 1922. Earliest arrival, January 13.

Saskatchewan Horned Lark—*Otocoris alpestris enthymia*. A specimen taken February 18, 1924, and sent to Mr. Wood of the University of Michigan, was undoubtedly this species, as were some sent to Walter Koelz of the University of Michigan, on March 14, 1924. Probably not very common.

Magpie—*Pica pica hudsonia*. This bird, I believe, was first noticed in 1918, when I took one on January 2. Since then and up to the last two years it became quite common, especially in the fall and winter. One was taken December 18, 1920, and another December 4, 1923.

Blue Jay—*Cyanocitta cristata cristata*. A very common migrant especially in the late fall when flocks of several hundred are often seen working their way homeward leisurely. A few nest here and some winter, but apparently not as commonly as a few years ago. The collection contains one that was taken March 15, 1906.

Canada Jay—*Perisoreus canadensis canadensis*. A very common winter visitor during the winter of 1919, when I took one November 28. On May 30, 1920, I killed another and since then they have become scarcer until they failed to return in 1923 or 1924.

Northern Raven—*Corvus corax principalis*. I have but two records of a Raven being seen. I saw one June 15, 1921, and another April 25, 1922. Since then it has not been observed.

Crow—*Corvus brachyrhynchos brachyrhynchos*. A very common migrant and also summer resident. From my observations in the last few years I can truthfully say that the only time I am glad to see a crow is in the early spring because that seems to assure us that our winter is almost over. Undoubtedly the most destructive bird to our game life that we have, destroying countless numbers of eggs and young birds. Earliest arrival, February 28. Countless numbers among migrations from 1882 on.

Bobolink—*Dolichonyx oryzivorus*. This species is a very common migrant and breeds quite numerous in meadows and upland hay fields. I took one August 10, 1910. Earliest arrival, April 14. Nested in great numbers on the prairies in the eighties.

Cowbird—*Molothrus ater ater*. A very common summer resident. One in the collection was taken June 10, 1908. Earliest arrival, May 3. Very common throughout this district from 1882 on.

Yellow-headed Blackbird—*Xanthocephalus xanthocephalus*. This species is also a very common breeder, usually found in large colonies nesting in the tall rushes of our sloughs. The collection contains one taken May 19, 1907. Earliest arrival April 24. Exceedingly numerous on the big slough. Nesting there in thousands from 1882 on until the drainage of the slough.

Thick-billed Red-wing—*Agelaius phoeniceus fortis*. Found nesting in large numbers and very rarely a few will winter. I collected

six from a flock near town on January 14, 1924, that were sent to Walter Koelz of the University of Michigan. One in the collection was taken June 16, 1906. Earliest arrival, April 2. Practically as numerous, if not more so, than the preceding.

Western Meadowlark—*Sturnella neglecta*. Very common summer resident, and I do not know of anything more pleasing than the first meadowlark's song in the spring. Rarely they will stay quite late in the fall as I saw one early in December last year. A specimen in the collection was taken July 3, 1905. Earliest arrival, March 15. Nested in great numbers everywhere on the prairies from 1882 on.

Orchard Oriole—*Icterus spurius*. A rare migrant having never seen over four, the year of 1904, when I collected three on July 30.

Baltimore Oriole—*Icterus galbula*. A very common summer resident, breeding in large numbers throughout the timber tracts. A specimen in the collection taken July 19, 1907. Earliest arrival, May 10.

Rusty Blackbird—*Euphagus carolinus*. Found nesting quite commonly usually along the railroad ditches and near low wet places. A mounted specimen taken May 3, 1919. Earliest arrival, April 6. Very common from 1882 on.

Brewer's Blackbird—*Euphagus cyanocephalus*. Found nesting more abundantly than the preceding one, and practically the same locations preferred for its nesting sites. The collection contains one taken June 29, 1908. Earliest arrival April 19. On a par with the preceding as to numbers since the early eighties.

Bronzed Grackle—*Quiscalus quiscula aeneus*. A fairly common summer resident and very common during migrations. I consider this bird destructive to smaller birds as I have caught it several times destroying the nests of Mourning Doves and Robins. One in the collection was taken June 2, 1904. Earliest arrival, April 18.

Evening Grosbeak—*Hesperiphona vespertina vespertina*. A rare winter visitor, but quite common during the winter of 1908 when several flocks were seen. I collected one on December 20, 1904, and two on December 20, 1908. Earliest arrival, December 20.

Pine Grosbeak—*Pinicola enucleator leucura*. Another rare winter visitor. I saw a flock of about a dozen on January 4, 1910 from which I collected two. They have not appeared since until this year, when I collected a lone male bird December 1, 1924.

Purple Finch—*Carpodacus purpureus purpureus*. A rather rare migrant in this locality, appearing erratically in small flocks. Seldom seen during fall migrations. I have a mounted specimen taken May

27, 1909. Six were collected May 27, 1924, and sent to the University of Michigan. Earliest arrival, April 27.

American Crossbill—*Loxia curvirostra minor*. A flock of six birds was seen on June 18, 1910, from which I collected a specimen now in the collection. These are the only ones seen here.

White-winged Crossbill—*Loxia leucoptera*. A small flock of these birds settled in the trees in our back yard and from which I collected a specimen on July 23, 1905. Have seen none since.

Hoary Redpoll—*Acanthis hornemanni exilipes*. On March 30, 1923, I collected a large series of Redpolls for Walter Koelz of the University of Michigan, which contained several specimens of this species, and on January 16, 1923, I collected a very typical specimen of this species that is in the collection. It does not appear to be very common.

Redpoll—*Acanthis linaria linaria*. A very common bird usually arriving here in January, and becoming very plentiful by March around weed patches where it feeds on the seeds. Usually very common during late fall migrations also. A mounted specimen taken January 6, 1914, and one March 3, 1922, are in the collection. Earliest arrival, January 6.

Goldfinch—*Astragalinus tristis tristis*. Can be found nesting quite commonly through the timber regions. A specimen in the collection was taken July 20, 1904. Earliest arrival, May 20. Common during migration in the eighties.

Pine Siskin—*Spinus pinus*. A fairly common spring and fall migrant. They were exceptionally abundant during the fall of 1923. The collection contains one taken May 21, 1914, and another on that date sent to the University of Michigan. Two were taken April 24, 1924. Earliest arrival, April 24.

Snow Bunting—*Plectrophenax nivalis nivalis*. Usually found in large flocks during the winter months, first appearing in October; and have taken them in May. Sent two to Walter Koelz of the University of Michigan, on May 5, 1924. The collection contains one taken December 4, 1906. Earliest arrival, October 9. Countless numbers in the early eighties up to about 1885, when they seemed to diminish from then on. Not abundant even now.

Lapland Longspur—*Calcarius lapponicus lapponicus*. Very common early spring migrant and also numerous during fall migrations. Collected two on February 19, 1924, which were sent to Walter Koelz of Ann Arbor, Michigan. A specimen is in the collection taken April

22, 1913. Earliest arrival, March 30. Very prevalent in migration from 1882 on. Still very common.

Smith's Longspur—*Calcarius pictus*. My first Smith's Longspur was taken October 5, 1914. The species was not seen again until May 4, 1923, when a large flight passed through. I collected several specimens from this flight. One is in the collection; and two sent to Mr. Wood of the University of Michigan, taken May 12, 1923; and three to Walter Koelz, University of Michigan, taken on the same date. Earliest arrival, May 12.

Chestnut-collared Longspur—*Calcarius ornatus*. It has become a common summer resident in the last few years. Seemed quite numerous throughout the summer of 1923. A specimen in the collection taken April 4, 1923. Other specimens sent to the University of Michigan weretaken on the following dates: two on May 9, 1923; two on April 24, 1924; and eight on May 12, 1924. Earliest arrival, April 4.

Western Vesper Sparrow — *Pooectes gramineus confinis*. Very common summer resident, nesting quite numerously throughout this region. One in the collection was taken October 5, 1914. Another sent to Mr. Wood of the University of Michigan, was taken April 15, 1914. Earliest arrival, April 13.

Western Savannah Sparrow—*Passerculus sandwichensis alaudinus*. Found nesting through this region quite commonly and very abundant during migrations. Have one in the collection taken July 7, 1904. Earliest arrival, April 24.

Baird's Sparrow—*Ammodramus bairdi*. A rare migrant. I have only one record from this locality, a specimen collected October 7, 1914.

Western Henslow's Sparrow — *Passerherbulus henslowi occidentalis*. I have taken but two of these sparrows from this region. One in the collection was collected April 30, 1922; and one sent to Mr. Wood of the University of Michigan, was taken May 23, 1923. It may breed, but am not sure. Earliest arrival, April 30.

Leconte's Sparrow — *Passerherbulus lecontei*. A fairly common summer resident, and undoubtedly breeds in this locality. The collection contains one taken May 20, 1914. On May 13, 1923, I collected two and sent them to Mr. Wood of Michigan University. Earliest arrival, May 13.

Western Lark Sparrow—*Chondestes grammacus strigatus*. Fairly common throughout this region during migration and a few nest here. A bird in the collection taken July 22, 1908. (Note: Four of these

birds were seen and one collected in the Pembina Mountains, north and west of Walhalla, June 26, 1923. This specimen was sent to the University of Michigan.

Harris's Sparrow—*Zonotrichia querula*. Found in large numbers throughout this region during both spring and fall migrations. Has not been noted during nesting season. A specimen is in the collection dated Grafton, May 18, 1919. Several were collected and sent to Mr. Wood, University of Michigan, during September and October, 1921. Earliest arrival, April 27.

White-crowned Sparrow — *Zonotrichia leucophrys leucophrys*. Fairly common during spring migration but far less numerous during fall migration. Have one in the collection taken May 5, 1913. A male sent to Mr. Wood of the University of Michigan, was taken October 14, 1921. Earliest arrival, May 10.

White-throated Sparrow—*Zonotrichia albicollis*. Very common during migrations, but not found during breeding season. A specimen was taken June 30, 1910. Another sent to Mr. Wood of the University of Michigan, was taken May 20, 1914. Earliest arrival, April 27.

Western Tree Sparrow—*Spizella monticola ochracea*. Very common during migrations and one of the earliest arrivals, being seen as early as March 12, in 1921, and as late as October 27, 1921. One in the collection was taken April 3, 1919. Two sent to the University of Michigan, were taken April 19, 1913. Earliest arrival, March 12.

Western Chipping Sparrow—*Spizella passerina arizonae*. Breeds quite numerous and is common during migrations. A pair nested in a lilac hedge at my back door in 1923. One in the collection was taken June 15, 1914. Earliest arrival, April 25.

Clay-colored Sparrow—*Spizella pallida*. Found during migrations and nesting season in large numbers. Two were collected May 4, 1912, and sent to Mr. Wood of the University of Michigan; and a specimen in the collection was taken June 16, 1914. Earliest arrival, April 23.

Slate-colored Junco—*Junco hyemalis hyemalis*. An early arrival in the spring and later appearing in large numbers, although none stay to nest. One in the collection was taken April 9, 1921. Earliest arrival, March 27.

Montana Junco—*Junco hyemalis montanus*. A rather rare migrant through here being found mingling with the flocks of the previous variety. More common during the spring than in the fall migrations. Have a mounted specimen taken April 9, 1921. One sent to

the University of Michigan was taken April 6, 1913, and one April 5, 1923. Earliest arrival, April 1.

Dakota Song Sparrow—*Melospiza melodia juddi*. This species appears to be the prevalent breeding bird as Mr. Wood identified specimens from here as being of this variety. A mounted specimen was taken here September 21, 1914. Two in the University of Michigan were taken here on April 17, 1913. Earliest arrival, April 10.

Lincoln's Sparrow—*Melospiza lincolni lincolni*. A very abundant migrant both in spring and fall, but I do not think any stop to nest. A mounted specimen was taken October 7, 1914. Earliest arrival, April 14.

Swamp Sparrow — *Melospiza georgiana*. Found in large numbers both during migrations and throughout the breeding season where they inhabit low marshy places. Two specimens in the Agricultural College collection at Fargo, were taken September 30, 1912, and September 14, 1914. Also one in our collection was taken April 25, 1913. Earliest arrival, April 19.

Fox Sparrow—*Passerella iliaca iliaca*. This beautifully marked sparrow is very common with us during migrations, especially in the spring when it is found busily scratching around the dead leaves in large numbers. I have a mounted specimen taken June 28, 1904. Fairly common during migrations in the early eighties.

Towhee—*Pipilo erythrophthalmus erythrophthalmus*. Must be considered a rare spring migrant, as very few are seen and only erratic in their appearance. Have seen less than a dozen specimens during my time of collecting. Have a mounted specimen taken June 6, 1912.

Cardinal—*Cardinalis cardinalis cardinalis*. A very rare straggler as I have but one specimen from this locality, and I believe the only record for the State. It was taken at the edge of town on November 4, 1921, and is now in the collection.*

Rose-breasted Grosbeak—*Hedymeles ludovicianus*. A very common summer resident in this locality, nesting in large numbers. A truly beautiful bird with a beautiful song. A mounted specimen was taken July 18, 1907. Earliest arrival, May 12.

Black-headed Grosbeak — *Hedymeles melanocephalus*. I have never taken this bird here, nor seen it; but on January 3, 1922, Mrs. Grant Hager, who is well posted on birds, described a bird to me that, beyond a doubt, was this species. It had been in her yard for several days feeding on dogwood and elder berries that grew there and had

*This is doubtless the most northern U. S. record.—N. A. Wood.

left after it had stripped the bushes. I searched the neighborhood for some trace of it but it had disappeared.

Indigo Bunting—*Passerina cyanea*. An adult male was observed at Grafton on July 31, 1925. This is the first record for this region.

Dickcissel—*Spiza americana*. The summer of 1920 is the only year I ever found this bird in this locality. On July 3 of that year, I noticed a peculiar song strange to me, in an alfalfa field near my home, and on investigating, I found several pairs of these birds nesting in that field. I collected two males, one of which is in the Agricultural College collection at Fargo, and the other I still have. I have never found it since.

Lark Bunting—*Calamospiza melanocorys*. This also is a rare straggler, having been seen but once during spring migration of 1920. On May 24, while driving through the country, I saw twelve of these birds sitting on a pasture fence. Came back to town for a gun, but when I returned they had left and I was unable to locate them again.

Scarlet Tanager—*Piranga erythromelas*. A rare summer resident, being erratic in its appearance. I have taken but three of these beautiful birds during my time. One taken July 30, 1904, is in the collection. One taken May 24, 1914, was sent to the University of Michigan, and the other taken May 26, 1914, is in the Agricultural College collection at Fargo. Earliest arrival, May 24.

Purple Martin—*Progne subis subis*. At one time a very common summer resident, nesting about old buildings in town; but of late years they are becoming scarcer every year until only a very few pairs nest. The English Sparrows are continually harassing them which is likely the cause of their decrease, especially in town. The collection contains one taken June 10, 1905. Earliest arrival, April 20.

Cliff Swallow—*Petrochelidon lunifrons lunifrons*. Fairly common during migrations but did not find it nesting until May 22, 1922, when I found a colony of eighty-four nests under the eaves of a barn a few miles north of town. This farmer told me they had nested there for years. I went back on June 20, 1923, and found them all back again. I collected a specimen that is now in the collection. Since then I have heard of another large colony east of St. Thomas, North Dakota, in Pembina County. Earliest arrival, May 22.

Barn Swallow—*Hirundo erythrogastra*. These swallows migrate through and also nest here in great numbers. They prefer to build their nests in buildings such as barns or sheds. There is a mounted bird in the collection taken August 9, 1914. Earliest arrival, April 26.

Tree Swallow—*Iridoprocne bicolor*. Usually seen in large numbers during spring and fall migrations, but do not nest very commonly. I have found a few breeding here in the timber area along the river. There is a specimen in the collection taken May 3, 1914. Earliest arrival, April 25.

Bank Swallow—*Riparia riparia*. Very common during migrations and also breeding in large numbers. Several colonies may be found along the river where they have burrowed into the steep banks. One is in the collection dated Grafton, June 30, 1914. Earliest arrival, May 21.

Rough-winged Swallow—*Stelgidopteryx serripennis*. Almost always a few found nesting with the previous form, which they so closely resemble. I remember shooting four birds out of a colony before I could get a Bank Swallow. The first three were all this form. I collected one July 10, 1914. Earliest arrival, April 27.

Bohemian Waxwing—*Bombycilla garrula*. Some years these birds are very common in this region and other years they do not appear at all. They are winter visitants when found at all. One in the collection was taken here February 7, 1912, and three sent to the University of Michigan were taken January 28, 1924. Earliest arrival, December 1.

Cedar Waxwing—*Bombycilla cedrorum*. Usually quite common during spring migrations, but so far none are known to nest. They are less common during their return in the fall. A specimen taken June 7, 1904, is in the collection.

Northern Shrike—*Lanius borealis*. Uncommonly found here in early spring or late fall, but not at all plentiful. The collection contains one taken November 1, 1912. One sent to Walter Koelz was taken November 20, 1923. Earliest arrival, November 1.

White-rumped Shrike—*Lanius ludovicianus excubitorides*. A fairly common breeder in this locality and a very common migrant in spring and fall. One in the collection taken here June 25, 1908. Earliest arrival, April 18.

Migrant Shrike—*Lanius ludovicianus migrans*. An occasional pair are found nesting but they are not at all plentiful. I took a specimen, that was identified as this species by Dr. H. C. Oberholser of Washington, D. C., on May 16, 1915. A mounted bird in the collection was taken May 15, 1918; and one sent to the University of Michigan was taken May 6, 1918. Earliest arrival, May 6.

Red-eyed Vireo—*Vireosylva olivacea*. According to early records of this species it is supposed to be common throughout this dis-

trict, but I have not found it so, as I have only one record—a mounted bird in the collection taken June 2, 1924.

Warbling Vireo—*Vireosylva gilva gilva*. Found quite commonly during migrations and also during nesting season. Have one in the collection taken June 22, 1914, and one sent to the University of Michigan was taken May 26, 1914. Earliest arrival, May 4.

Yellow-throated Vireo—*Lanivireo flavifrons*. I consider this a rare species in this locality as very few have been seen, but am under the impression they nest here, as I have seen one occasionally during the summer months. There is one in the collection taken July 1, 1914, and Mr. Wood took one here on July 25, 1921. One sent to the University of Michigan was taken May 26, 1914. Earliest arrival, May 26.

Blue-headed Vireo—*Lanivireo solitarius solitarius*. A rare spring migrant occurring only erratically. Have a mounted specimen taken May 6, 1921.

Black and White Warbler—*Mniotilta varia*. Have only found this species during the spring migrations when it appears quite rarely. Have seldom seen more than two or three in any one year. The collection contains one taken August 8, 1913. Earliest arrival, May 17.

Orange-crowned Warbler—*Vermivora celata celata*. Another rare visitor during both spring and fall migrations. I had one taken May 10, 1914, that was sent to the University of Michigan.

Tennessee Warbler—*Vermivora peregrina*. Not a common migrant, but usually a few are seen during spring flight. The collection contains one taken May 24, 1921, and one taken June 1, 1924. Earliest arrival, May 24.

Northern Parula Warbler—*Compsothlypis americana pusilla*. I collected a bird of this species on August 30, 1924, which is the only record I have from here. Mr. Wood of the University of Michigan, does not list this species at all in his North Dakota list. This specimen is mounted and in the collection.

Cape May Warbler—*Dendroica tigrina*. A very rare spring migrant in this locality. Very few ever have been seen. I have one in the collection taken June 5, 1920.

Yellow Warbler—*Dendroica aestiva aestiva*. The most abundant warbler here both during migration and nesting season, being found in large numbers throughout the summer months. A collection specimen was taken July 18, 1905. Earliest arrival, May 4.

Myrtle Warbler—*Dendroica coronata*. An exceedingly abundant warbler during migration, more so in the spring than fall. They

usually arrive quite a while ahead of the rest of the warblers and quite early. A specimen in the collection was taken April 12, 1921. Two sent to the University of Michigan were taken May 7, 1913. Earliest arrival, April 12.

Magnolia Warbler—*Dendroica magnolia*. A rare migrant during the spring flight and occurs only erratically. The collection contains one taken May 26, 1921. I sent one to the University of Michigan that I collected May 15, 1915. Earliest arrival, May 15.

Chestnut-sided Warbler—*Dendroica pensylvanica*. A rare spring migrant, which seems to be increasing in numbers the last few years. There is one in the collection taken May 21, 1921.

Bay-breasted Warbler—*Dendroica castanea*. My first and only record of this species is a mounted bird in the collection taken June 2, 1924. It was alone so undoubtedly is a straggler through this region.

Black-poll Warbler—*Dendroica striata*. Not a common migrant in this locality, although a few are usually seen during spring migrations. There is a specimen in the collection taken May 25, 1924. Earliest arrival, May 4.

Blackburnian Warbler—*Dendroica fusca*. Quite a rare spring visitor, not over three or four seen in any migration. One of the most beautiful of the warbler family. Have a specimen in the collection taken June 1, 1918.

Palm Warbler—*Dendroica palmarum palmarum*. Fairly common during spring migrations but not noted in the fall. There is a mounted specimen in the collection taken May 6, 1921. Earliest arrival, May 6.

Oven-bird—*Seiurus aurocapillus*. A rare migrant in the spring, not known to nest in this vicinity; at least I have never found it after the migration period. Have collected three of these birds that I know of. One is in the Agricultural College collection at Fargo, North Dakota (have no date for this). One taken May 25, 1915, was sent to the University of Michigan, and the other, taken May 23, 1923, is in the collection.

Grinnell's Water-Thrush — *Seiurus noveboracensis notabilis*. A fairly common migrant; an occasional pair is seen during nesting season along the river banks. One taken May 5, 1923, was sent to the University of Michigan, and another, taken May 15, 1921, is in the collection. Earliest arrival, May 15.

Connecticut Warbler—*Oporonis agilis*. I have one specimen of a Connecticut Warbler that I took on June 1, 1924. It is now in the collection and is the only one I ever saw in this region.

Mourning Warbler—*Oporornis philadelphia*. This species is not uncommon during migration, and rarely a pair is found during nesting season. There is a specimen in the collection taken May 24, 1915.

Western Yellow-throat—*Geothlypis trichas occidentalis*. Quite common during migrations but I do not recall ever finding it during nesting season. I have one in the collection taken May 24, 1921.

Wilson's Warbler—*Wilsonia pusilla pusilla*. A very rare migrant in the spring through this locality; I have seen but two birds, one of which I collected on May 21, 1921.

Canada Warbler—*Wilsonia canadensis*. In May, 1921, I saw the only Canada Warblers I have ever found here. They seemed to be quite common for a few days around the 23d of the month. I collected one on that day which is now in the collection.

Redstart—*Setophaga ruticilla*. A fairly common warbler during spring migrations, but only for a few days, usually the middle of May. A mounted bird in the collection was taken May 27, 1921. One was taken May 15, 1915, and sent to the University of Michigan. Earliest arrival, May 13.

Pipit—*Anthus rubescens*. I found and collected my first Pipits here on October 3, 1924, when I located four on an alkali flat bordering a small lake. Two of these were sent to the University of Michigan, and the other is in the collection.

Catbird—*Dumetella carolinensis*. A very common migrant and also summer resident, nesting in large numbers in all suitable localities. A specimen in the collection was taken July 20, 1904. Earliest arrival, May 10.

Brown Thrasher—*Toxostoma rufum*. A fairly common migrant and breeding species in this locality, quite a number being found during the summer months. There is a specimen in the collection taken July 1, 1905. Earliest arrival May 10.

Western House Wren—*Troglodytes aedon parkmani*. One of the most friendly birds we have, which seems to enjoy the close company of the human race. A very common summer resident throughout this locality. One in the collection was taken May 22, 1921. One sent to the University of Michigan was taken August 4, 1913. Earliest arrival, April 10.

Winter Wren—*Nannus hiemalis hiemalis*. A very rare migrant or rather a straggler through this region, as I have found and taken only one during my collecting and that was April 15, 1921.

Prairie Marsh Wren—*Telmatodytes palustris iliacus*. A common summer resident, found nesting in tall grass or rushes in sloughs or

marshy places. There is one in the collection taken April 30, 1922. Bred in the big slough in large numbers from 1882 on.

Brown Creeper—*Certhia familiaris americana*. A fairly common winter resident being found quite frequently throughout the timber and usually in company with White-breasted Nuthatches. A specimen in the collection was taken December 30, 1913, and one taken April 12, 1921, was sent to the University of Michigan.

White-breasted Nuthatch—*Sitta carolinensis carolinensis*. Quite common throughout the year, nesting in this locality. I have often seen pairs of birds busy nest-building, usually in the hollow limb some distance from the ground. There is a specimen in the collection taken December 8, 1912.

Red-breasted Nuthatch—*Sitta canadensis*. This species has never been seen or taken excepting during the fall migration and then only very rarely. I have taken two in this locality that I know of. One on September 21, 1913, is in the Agricultural College collection at Fargo, and the other taken September 12, 1923, is in our own collection. Earliest arrival, September 12.

Long-tailed Chickadee—*Penthestes atricapillus septentrionalis*. A fairly common winter visitor, but none nest that I ever found. The collection contains one taken April 7, 1909. Earliest arrival, October 15.

Golden-crowned Kinglet—*Regulus satrapa satrapa*. Fairly common some years during spring migrations. Other years it is scarcely found at all. It travels with the Ruby-crowned Kinglet and that may account for its apparent scarcity. I have one taken April 23, 1914. Earliest arrival, April 10.

Ruby-crowned Kinglet—*Regulus calendula calendula*. Usually very common during spring migrations and sometimes common during fall flight but not regularly so. The collection contains one taken April 18, 1914. One sent to the University of Michigan that was taken April 19, 1914, and another September 21, 1913. Earliest arrival, April 10.

Willow Thrush—*Hylocichla fuscescens salicicola*. Fairly common during migrations, but I am not sure that it breeds although very likely it does. The collection contains one taken May 26, 1923.

Gray-cheeked Thrush—*Hylocichla aliciae aliciae*. Very common during migrations and found occasionally during the breeding season. It is the most common of the thrushes during migrations. A few are seen during fall migration. A specimen in the collection was taken June 28, 1904. Earliest arrival, April 17.

Olive-backed Thrush—*Hylocichla ustulata swainsoni*. A rather rare spring migrant which may nest, but if so very rarely. Have one in the collection taken June 30, 1910. Earliest arrival, April 20.

Hermit Thrush—*Hylocichla guttata pallasi*. Fairly common during spring migrations, but erratic during fall. There is a specimen in the collection taken April 24, 1919. Earliest arrival, April 10.

Robin — *Planesticus migratorius migratorius*. A very common breeder found throughout the town and timber areas in large numbers. Countless numbers pass through during migrations in spring and fall. Rarely a bird winters. I saw one March 4, 1919, that evidently wintered, and one was seen December 27, 1924. A mounted specimen in the collection was taken June 15, 1911. Earliest arrival, March 17.

Bluebird—*Sialia sialis sialis*. Another very common migrant and breeder. They very often take possession of bird houses in town but are continually harassed by the English Sparrow which makes life miserable for them. The collection contains one taken June 1, 1906. Earliest arrival, March 18.

Mountain Bluebird—*Sialia currucoides*. I have only two records for this species as it is a rare straggler in this locality. One was taken April 10, 1921, and the other was seen April 25, 1922. Since then none have been found. Earliest arrival, April 10, 1921.

INTRODUCED SPECIES

English Sparrow—*Passer domesticus*. In my estimation this species is extremely detrimental and obnoxious, and is causing a decided decrease in the number of beneficial birds that used to nest within the limits of our towns and cities.

Bob-white—*Colinus virginianus virginianus*. I have no exact date for this species but know of one or two birds that were taken south of Fargo in about 1902.

Ring-necked Pheasant—*Phasianus torquatus*. These game birds have been introduced into the State now for several years, and in some localities where they are not molested are increasing very favorably.

Hungarian Partridge—*Perdix perdix*. The Game and Fish Commission imported 100 pairs of these birds in March, 1924, which were distributed throughout the State, and some favorable reports are being received this fall. Two hundred pairs were received from Czecho-Slovakia on February 2, 1925, for distribution in the State.

[The foregoing list contains 267 named forms.—Ed.]

GRAFTON, NORTH DAKOTA.

THE WILSON BULLETIN

Published at Sioux City, Iowa, by the Wilson Ornithological Club, with the co-operation of the following societies, viz.:

The Nebraska Ornithologists' Union.
The Iowa Ornithologists' Union.
The Kentucky Ornithological Society.
The Tennessee Ornithological Society.

The subscription price in the United States is \$1.50 a year, and 50 cents a number; in all other countries of the International Postal Union the price is \$2.00 a year, and 60 cents a number. Subscriptions and orders for single copies should be addressed to the Secretary, Prof. Howard K. Gloyd, Ottawa, Kansas, U. S. A.

EDITORIAL

We trust that our readers will enjoy the colored frontispiece in this issue, for which we are deeply indebted to the artist, Mr. George Miksch Sutton, and to the engraver, Mr. Harry G. Lotz, of the Lotz Photo-Engraving Company. The picture is presented to the Club through the courtesy of these gentlemen.

It is our hope that our members will so appreciate this colored plate that they will wish to have one again at intervals. Such a colored plate is expensive and can be provided only with the income of a much increased membership, or with an endowment. We are optimistic enough to believe that our constituency will appreciate the colored reproduction of the bird, and also that it is financially able to make such a plate a regular feature of the BULLETIN. If you are interested in helping to bring this about will you not write to the Editor, or to some other officer of the Club? And in the meantime we express our thanks to the artist and to the engraver for this beautiful plate of the Avocet.

Steps have been taken to devise a plan by which there may be established a permanent endowment fund for the W. O. C. For some time it has been realized that the organization needs such a fund, the income from which could be used exclusively for publication, and possibly for research. Such a fund would be built up by bequests, donations, and life memberships. All such endowments must have a beginning, which is often a very modest one, and usually the fund grows slowly. However, in this age of money it ought not to be an impossibility to raise a fund sufficient for our needs.

There may be some question as to what our needs are. We would say that we need a permanent income sufficient to equalize the fluctuating income from membership dues, in order to insure the regular publication of the Club's official organ at a non-fluctuating standard. This organ has, in the past, been hampered by lack of sufficient income for publication. At various times the size of the magazine has been curtailed. Even at the present time we are compelled to economize on illustration. In the present issue most of the illustrations are especially provided for, independently of the regular publication funds. We believe, too, that it would be possible at the present time to regularly increase the size of the magazine if the funds permitted. As time goes on these possibilities may become greater. The Club is now so well organized that there is no question as to its future permanency. We look forward to a future of steady growth and activity.

It is desirable to continue to issue a periodical such as ours at what may be considered a relatively low subscription price; or, what amounts to the same thing, to keep our membership dues sufficiently low to be within the reach of the younger generation. At the same time we cannot publish the kind of a magazine we desire at that price unless we can double our present membership and income. Commercial magazines pay their way chiefly by advertising. Very few scientific and educational periodicals are entirely self-supporting. This is not as it should be, of course, but true, nevertheless. The same is true of most educational and scientific institutions. Endowments are necessary for carrying on this work.

We are informed that the time is now ripe for the W. O. C. to make definite plans to provide for the care of such an endowment fund. The plan should be worked out as soon as it is possible to do so.

The committee appointed two or three years ago, with Mr. Whitney as chairman, has already given a good deal of study to the matter. This committee submitted a report at the Kansas City meeting. This report was not discussed as fully as it might have been, perhaps, if Mr. Whitney had been present to explain the technical phases of the plan. The matter was left with the committee (with slight change in personnel) with the agreement that if it is ready to make a report before the next annual meeting the Council may receive the report and act.

The problem now before the committee is to choose between the following fundamental plans of handling the fund:

First, the W. O. C. may incorporate and establish an endowment committee, the membership of which shall be bonded, and whose duty it shall be to properly invest the funds. The arguments for this method are that it will permit the Club to retain control of the fund, and it is assumed that the services of the committee will be gratis. The objections are that a committee or board of the Club will probably meet too infrequently; consultation will be carried on by correspondence, and investment will probably be delegated to one individual.

The second plan provides that the Club shall select some strong banking concern as a permanent trustee of all money intended for the endowment fund. The latter shall permanently and forever control the principal sum and pay the interest over to the properly designated officers of the Club at stated intervals. This would all be done under a legal trust agreement entered into by the two parties. The advantages of this plan are the insured permanency of the fund and the certainty of expert advice in investing the money. The objections offered are that the Club forever loses control of the principal, and has no means of initiating the discharge of the trustee; and also that the probable charges for handling the fund may be rather heavy while the fund is still small.

A third plan which has been suggested as a sort of compromise between the other two is that the endowment fund shall be handled by a bonded committee of the Club until the fund reaches a certain amount, when it is to be placed in the custody of a corporate trustee.

At any rate the officers of the Club will now be glad to hear from prospective donors to this endowment fund for the W. O. C., and are prepared to give assurance that all contributions will be carefully safe-guarded under one of the above plans. No definite plans beyond this have been announced, but there is nothing to prevent the immediate inauguration of the fund by contributions, or pledges, and these may be addressed, for the time being, to the President or Treasurer of the W. O. C., or to any member of the present Endowment Com-

mittee, which is composed as follows: Mr. T. H. Whitney, Vice-President of the Whitney Loan and Trust Company, Atlantic, Iowa; Professor M. H. Swenk, of the University of Nebraska, Lincoln, Nebraska; Mr. V. C. Bonesteel, Vice-President of the Security National Bank, Sioux City, Iowa. It may also be stated that the institution thus far mentioned as the possible corporate trustee is the Illinois Merchant's Trust Company, of Chicago. Bequests and donations may be made in any amounts; life membership will probably be fixed at \$100.00.

We observe with a great deal of interest the remarks on the editorial page of our esteemed contemporary, the *Condor* (XXVIII, pages 103-4), under the heading "Species versus Subspecies." Herein Dr. Grinnell proposes a straw vote, yes or no, on the question of publishing a check-list of California birds with disregard for subspecies.

It has been rather difficult for us to be convinced of Dr. Grinnell's seriousness in this proposition; and yet, we read the remark that "even though primarily a systematist, [Dr. Grinnell] has a good deal of sympathy for the point of view of some of the objectors." This has the ring of sincerity, and we admire Dr. Grinnell the more for his breadth of view, his tolerance of opposite opinion, his conciliatory attitude, his evident appreciation of the difficulties of the collective ruff raff designated as "field ornithologists, collectors, oologists, etc."

We are compelled, therefore, somewhat reluctantly, to dissent from the *Condor's* editorial approval of the review in the *Auk*, as quoted in the *Condor*. With respect to this portion of the *Auk's* review we are reminded of the old story about Professor Huxley, whether true or not. Professor Huxley, so it goes, asked some student to describe a crayfish. The student replied that a crayfish is a little red fish that swims backward. The professor remarked that it was a very good answer except for three things, viz., that the crayfish isn't a fish, isn't red, and doesn't swim backward. So, the *Auk's* review is a very good one, in our opinion, except for three things.

Quoting from the *Condor* (XXVIII, page 103), the *Auk* (January, 1926, page 119) says: "The reviewer has no more personal use for subspecies separated on minute characters than has Mr.—, because they do not happen to concern the work in which he is most interested; but that is no reason why he should object to others describing them or using them in their work, nor does it give him any warrant to doubt the accuracy of their work." It would seem to us, however, that the accuracy of making subspecies is quite open to question by those who are qualified to question it. The question of accuracy is one which refers to concrete cases, and is, of course, open to scientific discussion. The objectionable implication in the quoted lines is that none but describers are interested or concerned in the multiplication of subspecies. It seems to us that we are here dealing with a very fundamental matter: it is a question of the purpose and function of taxonomy. It is the question as to whether taxonomy is an end in itself, or whether it is subservient to other branches of biological science. If other biologists were in nowise dependent upon nomenclature, or had no occasion to identify and name animals, then the taxonomist might have his way undisturbed.

"Why this rather general clamor against subspecies on the part of field ornithologists, collectors, oologists, etc., it is hard to understand." As one belonging somewhere in this grouping, if entitled to any classification among stu-

dents of birds, our curiosity was excited by this remark. But we will not push the inquiry.

“Let them be satisfied with the species, but do not try to hamper the work of those who can and do make use of them for the advancement of scientific knowledge.” We confess, somewhat shame-facedly, to our inability to see where subspecies are advancing our scientific knowledge of birds. We do understand, of course, that some ornithologists believe that many subspecies may be “incipient species”; and that some hundreds of years hence the processes of nature will have evolved a given subspecies into something different. And, Presto! our trinomial system of nomenclature will have been justified. But this will be a long time to wait. And, after all, will not the preserved skin and careful description of the species be just as competent witnesses in that future comparison as will be the subspecies?

No one, perhaps, is disposed to question the existence of those variations which are ranked as subspecific; the only question is whether we gain enough advantage by naming them to compensate for the confusion which follows. If not, then we do not think that science is advanced by so doing. We do not find fault with the study of variation, but simply with the unnecessary elaboration of the nomenclatural system.

Now to return to Dr. Grinnell's proposal of a California check-list which will omit the subspecies. Suppose that is done; and suppose that other states or localities prepare similar check-lists. It might ease the situation somewhat; but it might also lessen the authority of the A. O. U. check-list.

The A. O. U. check-list has played a most important part in the development of American ornithology, and we still need it. In time it may be superceded by an international check-list, but until the latter arrives we may need to safeguard the one we have. Perhaps the present solution of the problem will come through the exercise of more discretion by taxonomists and others who are now jeopardizing the check-list by over-zealous and unrestricted multiplication of named forms.

And in the meantime we trust that the more learned ornithologists in professional ranks will be able to exercise a reasonable degree of consideration and patience toward the amateur ornithologists, who, by the way, outnumber the former many times; and whose interest in the aggregate doubtless make it possible for a greater number of professional ornithologists to devote their full time to this branch of science.

Since the preceding comments were prepared we have learned from a later issue of the *Condor* (XXVIII, page 136) that the subspecies question has been settled so far as the Cooper Club is concerned. While a small number voted in the balloting, yet it is significant that forty per cent of the votes cast were opposed to subspecies—at least were opposed to their retention in the proposed state list. This is quite a respectable minority. Perhaps the vote was not heavier because the straw vote was not generally taken seriously; and possibly some of the ballots against the proposed check-list with subspecies omitted were made on other grounds than an attitude for or against subspecies. And so our conclusion is that the ballot was interesting, but not conclusive.

GENERAL NOTES

Conducted by M. H. Swenk

An Albino Fox Sparrow in Delaware County, Ohio.—An albino Fox Sparrow was noted here on April 16, 1923, the colors of which were in striking contrast. It had only a few faint brownish stripes on the head and chin, while the neck, breast, and more than half of the back and wings were pure white. The color lines were as clear cut as though they had been painted by hand. The remaining parts were of the normal Fox Sparrow coloration. The bird was in a small company of about fifteen birds.—CHARLES R. WALLACE, *Delaware, Ohio*.

A Community Nesting Tree.—On June 11, 1925, I visited a large dead maple standing on the edge of a small swampy pond, and found it to contain three nests of the European Starling, one of the Red-headed Woodpecker and one of the Sparrow Hawk. All of the parents were busily feeding their young at the time. Almost under the tree, in the sedges, was a nest containing three young Red-winged Blackbirds. In 1924 this same tree held one nest each of young Starlings, Red-headed Woodpeckers and Bluebirds, while a Robin had built a nest in a crotch earlier in the season.—E. A. DOOLITTLE, *Painesville, Ohio*.

A Red-shouldered Hawk Overcome by a Snake.—On April 7, 1925, a friend observed an adult Red-shouldered Hawk (*Buteo lineatus lineatus*) lying perfectly helpless in a Chester Valley meadow, its wings bound to its body by the coils of a thirty-inch common water snake. The reptile was dispatched, and the apparently uninjured bird was then brought to me. Since this species habitually feeds upon snakes, this incident caused some speculation until it was observed that the bird had lost its left foot, the well-healed stump alone remaining. The *modus operandi*, as I have noticed in the various captive hawks that I have had, is to primarily catch with a single set of talons, and as the snake throws its coils upward it is met by the swift thrust of the set in reserve, which renders the reptile helpless; this our crippled bird was unable to accomplish because of its previous encounter with a steel trap. The hawk proved to make a perfectly docile pet, but after feeding it for a few days I released it with band No. 292431.—FRANK L. BURNS, *Berwyn, Pa.*

Swainson's Hawk in Clayton County, Iowa.—I wish to record the taking of a male Swainson's Hawk (*Buteo swainsoni*) along the Mississippi River, a few miles south of McGregor, Iowa. It had been dead for at least ten days when I secured it, on October 29, 1925. It was nearly in a doubtful condition, but I saved the skin, and it is now mounted and in my collection. Kumlien and Hollister in their "Birds of Wisconsin" give this bird as a possible fall migrant on the Mississippi River and Chapman in his "Handbook" gives it as a summer resident in southeastern Minnesota. I have examined a great many dead hawks, due to the deadly persecution of them by farmers, all of them Red-tailed Hawks, and this is the first individual, dead or alive, of the above species, that I have seen here. Without doubt it is a rare bird in northeastern Iowa. The hawk was gorged with flesh, and, as the hunting season was on, I presume that it had fed upon a crippled or dead duck that it had found, or some other bird that had been shot, as I found seven number four shot among the stomach contents.—OSCAR P. ALLERT, *McGregor, Iowa*.

An Unusual Scarcity of the Bobolink and Pine Siskin in South Central Virginia During 1925.—In looking over my "Bird Calendar" for 1925, I notice the almost total absence of records of the Bobolink (*Dolichonyx oryzivorus*) in the fall migration. Usually they are common in the soybean fields and wherever the foxtail grass has grown up on cultivated land, from about the middle of August until the middle of September: but last fall I saw them only once.

Another bird that has been conspicuous by its absence is the Pine Siskin (*Spinus pinus pinus*), which was recorded only three times—on February 10 and 17, and on March 13. The Pine Siskin is always very erratic in its movements, and scarcely anything that it does is cause for surprise. During the winter of 1922-23 these little finches were more abundant here than I ever saw them anywhere, before or since. They swarmed in upon us in the very early morning of November 15, 1922, and were with us in large numbers until the middle of the following March. I happened to be an eye witness, or rather an ear witness, to the first arrival of this host of Pine Siskins. I was out at 5 o'clock in the morning on November 15, 1922. It was warm, and a dense fog hung low over the tree tops. From all around, both from straight above and from all sides, came the "chee-chip" of countless Pine Siskins, evidently flying low on account of the fog. I afterward often noticed them working on the seed balls of the Sweet Gum, apparently feeding from them.—JOHN B. LEWIS, *Lawrenceville, Va.*

An Unusual Flicker's Nest.—So many odd incidents have been related of the Flicker, its courtship and its nesting, that one might be disposed to attribute to it a sense of humor, or even to dub it a clown among the birds. While in the suburbs of Chattanooga, Tennessee, last spring, I noticed a Flicker engaged in what appeared to be a hopeless task in the way of nest excavation. An iron water tank, supported by steel columns forty feet high, was fed by a large iron pipe through its bottom, and, to keep this pipe from freezing in winter, it had been encased with a plank shaft two feet square that was filled with cedar sawdust. Our friend *Colaptes auratus* had evidently sounded the boards, and, sensing easy digging, had drilled a hole in the middle of one side about thirty feet up. When espied, he was enthusiastically pitching out quantities of sawdust, which I presume caved in about as fast as he dug, but during the half hour I was engaged near by there was no let up in the work. About a month later I was again in the vicinity and made it a point to go by the tank. On the ground below the hole was at least a bushel of sawdust, and in a few minutes I had the pleasure of seeing a Flicker enter the hole with food in its mouth, presumably to feed the young that had come to reward his perseverance.—A. F. GANIER, *Nashville, Tenn.*

The Red-throated Loon in Kansas.—An immature Red-throated Loon (*Gavia stellata*), was collected on the Marais des Cygnes River, Franklin County, Kansas, on October 20, 1925, by Captain Joe R. White of Ottawa, Kansas. The specimen, a female, measured as follows: Length 605 (millimeters), wing 251, tail 77, head 75, bill 42, tarsus 63. Its gullet contained four fish of which three were hickory shad, *Dorosoma cepedianum* (Le Sueur), each about four inches long, and the remaining one a species of Cyprinidae unidentified. To my knowledge, the only lists of Kansas birds which have been published are the following: Goss (1891), Lantz (1899), Snow (1903), and Bunker (1913). Since the Red-throated Loon is not included in any of these, this capture records a new species

for the state. Identification of the specimen, now in the collection of the writer, was verified by Dr. H. C. Oberholser, of the Bureau of Biological Survey, U. S. Department of Agriculture.—HOWARD K. GLOYD, *Ottawa University, Ottawa, Kans.*

New Winter Bird Records from Ann Arbor, Michigan.—Swamp Sparrow (*Melospiza georgiana*)—On January 30, 1926, I collected a female Swamp Sparrow on the bank of the Huron River. The bird was in good condition, even slightly fat. There seems to be but one previous winter record for the state. Mr. A. D. Tinker informs me that Mr. Otto McCreary saw one here on February 23, 1906.

Catbird (*Dumetella carolinensis*)—The first wintering bird to be found in the state appears to be one I discovered here on December 26, 1925. The bird was subsequently seen in the same locality by Mr. A. D. Tinker and others.

Carolina Wren (*Thryothorus ludovicianus*)—In the very spot in Nichols Arboretum where the wintering Catbird had been first seen, a Carolina Wren appeared on January 3, 1926. It was again seen there on January 9, and on January 16, 1926, Mr. J. O. Kirby and the writer collected a fine male at a point more than a mile down the valley.

The above specimens have been given to the University of Michigan Museum of Zoology, the logical repository for all specimens representing Michigan records.—JOSSELYN VAN TYNE, *Ann Arbor, Mich.*

The Eskimo Curlew in Nebraska.—The last recorded instances of the occurrence of the Eskimo Curlew (*Numenius borealis*) in North America are of the lone male specimen seen and killed about ten miles south of Norfolk, Nebraska, on April 17, 1915, by Mr. Paul Hoagland, then of Omaha, Nebraska, and the flock of five birds seen near the same place on about the same day by a brother of Mr. Mont Wheeler of Norfolk, as reported in my paper on "The Eskimo Curlew and Its Disappearance," published in the Annual Report of the Smithsonian Institution for 1915, pp. 338-339. When nearly a decade of time had passed without anyone reporting the observing of this bird anywhere in North America, and when ornithologists were just about ready to agree that the species was extinct, it was unexpectedly recorded in 1924 that a specimen had been taken at Rosas, F. C. S. Province Buenos Aires, Argentina, from among five or six birds in a flock of Golden Plover, on February 7, 1924, by Senor Juan B. Daguerre, who later collected another lone specimen at the same locality on January 11, 1925, both specimens being now in the Museo Nacional de Historia of Buenos Aires (Cf. *El Hornero*, iii, No. 3, p. 284, 1924; Forbush, *Birds of Massachusetts*, pp. 458-459, 1925).

In further substantiation of the undoubtable fact that the Eskimo Curlew is not yet extinct, I am now able to cite a positive instance of its occurrence in Nebraska during the present spring. On the morning of April 8, 1926, Mr. A. M. Brooking of Hastings, an ornithologist and taxidermist who is very familiar with this species through having spent much effort in assembling several specimens of it for his extensive collection, while driving from the village of Inland to Hastings along what is known as the "north road," saw a flock of eight birds alight in a newly plowed field, about four miles east of Hastings. He drove his car up close to the birds, and when within forty yards of them was able, to his astonishment, to positively identify them as unquestionably Eskimo Curlews. Mr. Brooking knows the species so well, and saw the birds so clearly, that in my opinion this

sight record can be accepted without hesitation.—MYRON H. SWENK, *Lincoln, Nebr.*

Notes on Some Central Ohio Birds Observed During 1925.—Kittiwake (*Rissa tridactyla*).—On November 7, Mr. Milton B. Trautman collected a specimen of this species in the immature plumage at Buckeye Lake. The specimen is now in the Wheaton Club Collection at the Ohio State University. No other records for the state have come to our attention and this appears to be the first Ohio specimen.

European Widgeon (*Mareca penelope*).—A drake of this species was observed by Messrs. Charles F. Walker and M. B. Trautman along the Scioto River, on March 31, 1925. Our only other record in the last twenty years was a splendid drake seen by the writer at Buckeye Lake on April 15, 1924.

Surf Scoter (*Melanitta perspicillata*).—Seen by Mr. Trautman at Buckeye Lake on October 24, 1925. Our only other record was a pair seen at the same locality on April 28, 1917.

American Egret (*Casmerodius egretta*).—This species was more common than the following during the past summer, as contrasted with 1924, when the reverse was true. Was observed in 1925 in such widely scattered localities as Port Clinton, Loramie Reservoir, Portsmouth and Buckeye Lake.

Little Blue Heron (*Florida caerulea*).—This heron was seen in numerous localities over a wide area, although it was not so common as in 1924. Prior to 1924 there is only one record of its occurrence in this locality during the past decade.

Sandhill Crane (*Grus canadensis mexicana*).—We were surprised to learn that this bird still exists in its old haunts in the marshes of Huron County. It was found by two parties of observers during the past summer.

Western Sandpiper (*Ereunetes mauri*).—A specimen was taken by Messrs. Trautman and Walker at Buckeye Lake on September 12. Our only record.

Marbled Godwit (*Limosa fedoa*).—Five individuals of this species were observed at O'Shaughnessy Reservoir on September 13, by Mr. Walker. We have no other records.

Starling (*Sturnus vulgaris*).—The first breeding records for this species in this locality were noted during the past summer. Four different nests were observed. This species was first seen by Mr. Walker and the writer on November 20, 1921. In 1922 and 1923 it was known only as a winter resident. It is increasing rapidly in numbers.

Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*).—One bird of this species was seen in a flock of Red-winged Blackbirds on February 26, 1925. Our only recent record.

American Crossbill (*Loxia curvirostra minor*).—Three individuals in company with a flock of Pine Siskins were observed in Greenlawn Cemetery on January 18, 1925, by Charles F. Walker. Our only recent record.

White-winged Crossbill (*Loxia leucoptera*).—One individual seen at Sugar Grove, Ohio, on December 6, 1925, by A. R. Harper and H. S. Peters. Three individuals were also seen on January 17, 1926.

Henslow's Sparrow (*Passerherbulus henslowi*).—Three colonies of these elusive sparrows were noted in Franklin County during the past summer. Other

summer records during 1925 are: Huron County, Ohio; Ashland County, Ohio; Summit County, Ohio.

Harris's Sparrow (*Zonotrichia querula*).—Observed on April 15 (two individuals) and April 27, 1925. Our first recent record was an individual observed by the writer and Mr. A. R. Harper on November 11 and 12, 1921. Our only other record is April 1, 1923.

Kirtland's Warbler (*Dendroica kirtlandi*).—This rare species was observed on September 11, 1925, along Alum Creek, near Columbus, by Messrs. Walker and Trautman. This is the sixth recent record for this locality. In May, 1917, an individual tarried at Indian Springs, north of Columbus, for several days and was observed by a large number of people. Other dates are: May 20, 1920; May 17, 1921; May 23, 1924, two individuals; May 24, 1924 (at a different locality). The first mentioned is our only fall record.

In addition to the above central Ohio records, the following specimens taken near Sandusky, Ohio, are in the Wheaton Club Collection, at the Ohio State University: Hudsonian Curlew, two specimens, May 30, 1925 (Trautman), one specimen, August 22, 1925 (Peters); Western Willet, May 29, 1924 (Trautman), September 7, 1925 (Trautman); Buff-breasted Sandpiper, September 1, 1924 (Trautman and Walker), (other individuals have been observed in this vicinity and on two occasions at Columbus); Northern Phalarope, September 13, 1924 (Harold S. Peters); Thick-billed Redwing, November 18, 1925 (Trautman).—EDWARD S. THOMAS, Columbus, Ohio.

Some Fall Migrants and Wintering Birds at Hillsboro, Highland Co., Ohio.—The outstanding feature of the fall migration of 1925 was the large flocks of Canada Geese (*Branta canadensis canadensis*), beginning October 21 and continuing for two weeks. Two of these flocks were driven in advance of a great storm, and, becoming exhausted, alighted in the town to rest for several hours. This same condition occurred at Blanchester and near Columbus. The fall migration of Nighthawks (*Chordeiles virginianus virginianus*) was greatly increased over that of the past two seasons. The migrants seem to be extending their route to the eastward.

The winter of 1925-26 is marked by the occurrence of the Herring Gull (*Larus argentatus*), which was seen on December 24, and by the unusual increase of the following species:

Winter Wren (*Nannus hiemalis hiemalis*).—Generally a very rare winter sojourner, but this winter common and generally distributed.

Mockingbird (*Mimus polyglottos polyglottos*).—A common summer resident that occasionally remains during the winter.

Cedar Waxwing (*Bombycilla cedrorum*).—This species may occur irregularly at any time of the year. From December 2 to 11, 1923, a flock of twenty-four stayed the greater part of every day, dividing their time between a maple, persimmon and apple tree. The maple and pear trees were used as a playground, while the persimmon tree and a Japanese honeysuckle supplied them with food. On October 29, 1924, a large flock was seen in several trees in a small swamp. They would fly down to the wild rose bushes, snap off a rose hip and then throw their heads back, letting the hips roll down their throats. This was done in a very indolent and indifferent manner. From January 4 to 16, 1925, a flock of twelve came every day to feed upon frozen apples in the yard. It is said they

nest here, but these are the only two occasions that I have observed them for more than a day at a time.

Cardinal (*Cardinalis cardinalis cardinalis*).—A common resident. Groups of ten or more females with one male are very common, while ordinarily in the winter the males are here in greater numbers.

Bronzed Grackle (*Quiscalus quiscula aeneus*).—A very abundant summer habitant and common this winter.

Rusty Blackbird (*Euphagus carolinus*).—On January 16, 1925, a flock of twenty Rusty Blackbirds was first seen in an apple tree feeding upon frozen apples. In a nearby lot was another apple tree. The flock alternated between the two trees spending most of their time feeding upon the frozen apples. By February 3 the flock had increased to fifty. They remained for several weeks. This is the only winter flock to come under my observation.

Red-bellied Woodpecker (*Centurus carolinus*).—A common resident and on the increase for several years, but unusually abundant this winter.—KATIE M. ROADS, Hillsboro, Ohio.

BIRD BANDING NEWS

Conducted by Wm. I. Lyon

CHIMNEY SWIFT BANDING

BY T. E. MUSSELMAN

When I received the government bulletin recommending the banding of Chimney Swifts I had little or no idea of how to proceed. I made several vain attempts in building traps. Finally, by watching the swifts I noticed that they dropped eight or ten feet immediately upon leaving the chimney. Using this knowledge I decided on an oblong trap 24x24x48 inches.

This trap I placed over the big Wabash Station chimney at 5:00 o'clock A. M.. At 6:00 o'clock, when the birds normally start to fly, they would not come out, because of the unnatural barrier above. I waited for three-quarters of an hour, then tried to stimulate their flight by dropping down the chimney a stick held by a string. This made them fly about in the chimney, but none would rise to the trap.

I then went to the basement with a flash-light, which I flashed up into the chimney. (No one should ever put fire in a chimney where swifts are roosting). This light stimulated an upward movement, and soon I had a trapful. There were about one hundred and seventy-five in the first trapful. The rest of the birds in the chimney I retained with a small screen which I placed over the opening. In this way I filled the trap three times. I used No. 1 bands, but believe that No. 1A is a better size. My supply of bands became exhausted, and I allowed the remainder of the swifts to escape. They continued to come out of the chimney for over half an hour.

Once the swift is in the hand it is a very tractable bird, lying quietly until thrown into the air. I had a newspaper lying on the top of the wall by my side, and I placed four swifts on their backs upon this paper, with their heads toward the sun. They all remained in this position, in a semi-cataleptic state, for five minutes, with eyes closed; and none made any movement until a strong wind blew one over onto his feet. Of course, as soon as one flew the rest took to their wings and were soon circling above.

In 1924 the last swifts departed for the south on October 17, but the last date in 1925 was one month later to a day. In 1925 few swifts were seen about town during the daytime after the middle of October; but at dusk as many as five or six hundred circled over the favorite chimneys, and it was at this time that I secured my largest catches.

Colder weather appeared and I discovered that on days when the thermometer indicated an approach to the freezing point the birds remained in the chimneys until about nine o'clock in the morning. During the daytime the birds quickly returned from their feeding over the river, circled but a time or two, and dropped into the chimney until warm.

In order to compare the temperature inside and outside the chimneys I lowered a thermometer into a chimney, and found a normal difference of twenty degrees. But the most popular chimneys were those which connected below with the basement, and served, therefore, as warm air flues. In such chimneys the temperature reached 70°. Little wonder that the birds preferred these chimneys on damp and cold nights!

On October 28 a severe snow storm forced the swifts into the chimneys. The next morning at eight o'clock I climbed the Wabash chimney and found probably three hundred swifts clinging to the sides of the brick wall four feet down, and in a solid mass, three birds deep, on all four walls.

At 9:30 A. M. on October 29 a number of birds left the chimney and circled, flying among the snowflakes for five minutes, but quickly returned to the chimney for protection. All day the temperature was about 32 degrees, and few birds left their retreat. As their food is 100 per cent insects, and no such life was flying, the swifts were without food. On this day I caught about seventy-five of the birds. Previously I had found an occasional louse and some body mites; but on this day my hands were covered with lice and mites after each bird was handled. Whether this was due to the cold, wet plumage or to the lack of body vitality in the host, I do not know; but I was literally alive with little red visitors when I took refuge in a tub of hot water.

On the 30th the day was cold, but the swifts were out for exercise. On the 31st it was much warmer, and many birds were out. They flew close to the ground, where they apparently found the insects just recovering from the cold. A few fell exhausted on the snow, and some returned to the chimneys. One was so weak that it flew up to the rim of the chimney and held on, being unable to rise to the opening. I caught this bird and banded it, and took it into the house until it was warmed; it was then able to fly away safely. At least a dozen people telephoned me about finding dead swifts, which had doubtless been exhausted before returning to their protecting chimneys. At the Wabash chimney I opened the base of the flue, and found about twenty dead birds. They had died of exhaustion and starvation.

The cold weather continued, and on November 16 the last swift circled over the town and departed for the south.

QUINCY, ILLINOIS.

BIRD BANDING PRODUCES AN INTERESTING RETURN.—Mr. Frank W. Commons banded a Slate-colored Junco on October 13, 1923, at Crystal Bay, Minnesota. This bird was re-trapped by Beecher S. Bowdish at Demerest, New Jersey, on January 9, 1926.

METHODS OF BANDING CHIMNEY SWIFTS IN THE SOUTH

BY HERBERT L. STODDARD

C. O. Handley and myself have been ably assisted by Sydney Stringer, who has a banding permit. The following are a few hastily gathered facts to give an idea how the Chimney Swift work has been handled.

On October 21, 1924, seventy-four swifts were taken, in a hastily constructed "Funnel type" trap, at Thomasville, Ga.

On September 1, 1925, another trap, which was called the "Celluloid top" trap was built and tried out at Thomasville and one hundred and sixty-two swifts were taken. September 9, 1925, we tried Tallahassee, Fla., where three hundred and twenty-five swifts were taken. This trap was discarded, however, because it retarded the swifts too much while emerging, so they would stop and rest (for hours), and had to be started by smoke or otherwise.

On September 19, 1925, there was no time to make another trap so the old "funnel type" trap was used again in Thomasville, and one hundred and seventy-seven were caught. We found that the swifts sometimes re-entered the chimney when they could not make their way to the outside world.

This trap was remodeled by putting in a diagonal partition from almost the top to the bottom, with another funnel against the side above. This trap worked perfectly but would have to be very large to hold all of the swifts in a chimney. Ours only held about two hundred and fifty when it had to be taken down and emptied, stopping the flow of swifts, which would have to be started again. At this time Mr. Handley took my old "celluloid top" trap apart and built another which we have called the "celluloid end" trap and this and the "modified funnel" trap mentioned above were used for the rest of the work.

On the morning of October 3, both of these traps were used in Thomasville, Ga., and 601 swifts were taken. We tried to adjust both of these again before daylight, on the 16th, but failed; and only the "modified funnel" trap was set up, catching 378. Next morning, the 17th, both traps were placed and 681 were banded and an additional fifty "repeats" taken. Our swifts left for the south before we could trap again.

On April 13, 1926, Mr. Handley caught 104 and fifteen were "returns."

We concluded that both the "modified funnel" trap and the "celluloid end" trap were perfectly satisfactory for trapping the swifts, but the latter is preferred because the birds are precipitated down the stovepipe extensions to carrying cages which are taken off as fast as filled, and even a thousand swifts in a chimney would not swamp us, and the emerging stimulus was not stopped. Really no trap should be used that does not meet these requirements, as smoking is dangerous if not thoroughly understood—and is messy and bothersome besides. We found that a squeeling swift held in the chimney below frequently would re-start the flight and other more or less successful schemes were tried.

It is a great advantage, however, to catch all of the swifts in a chimney on the original daylight emerging stimulus, and the two traps mentioned will do it. All that is necessary is about a hundred feet of three-quarter manilla rope, plenty of assorted small rope, ladders of various lengths, flashlights, suits of coveralls, tennis shoes, plenty of nerve and a pull with the local police. With this equipment and two or three enthusiasts you can tackle the majority of chimneys in this region and band the birds by thousands.

Some of our results to date are as follows:

Swift number 37449A was banded at Daytona Beach, Fla., on August 6, 1925, by R. J. Longstreet and taken by us at Tallahassee, Fla., about two hundred and fifteen miles northwest on September 9, 1925. Number 28331A was banded by us in Tallahassee, September 9, 1925, and re-taken by us in Thomasville about thirty miles northeast, October 3, 1925. Number 96242 was banded by us in Thomasville, October 21, 1924, and re-caught a half mile distant October 3, 1925. One of our October 21, 1924, birds was "returned" from East Kingston, N. H., about June 15, 1925. We have caught one swift three times in the same fall and handled nearly a hundred twice but in no case has the same bird been handled twice in the same chimney.

We know that many of the swifts gathering in the Thomasville chimneys in the fall remain for some time, for several trapped September 1, 1925, were re-taken October 16, and 17.

Our procedure in the swift work has been about as follows: One of our trio spots the chimneys the swifts are using in greatest numbers just before dark, gets permission from the building owner or janitor, keys if necessary, and makes all arrangements even to notifying police on the beat if necessary. (This is usually Stringer's job). We adjust our traps well before daylight on the chimneys and enjoy the prowling on schools, churches, or town halls. Then we set up a little table, camp chairs, lay out bands, previously arranged on wires in serial order, and the numbers entered and by that time the swifts are starting to emerge (depends on the sun, temperature, etc.) but usually well after clear daylight. One opens bands, another bands and the third enters all pertinent data. By such system we run them through the mill by hundreds in short order, and none are kept from their insect breakfast for long. We operated twice in Thomasville last fall on consecutive days, and several swifts missed their breakfasts by a few hours both mornings.

The work has proven extremely fascinating, and gives promise of digging out much of interest, especially if the work is carried out elsewhere on a large scale, for these birds must occur in untold millions over the continent. We are getting some interesting data together but as barely a start has been made, there is no use mentioning this in detail now. Rush of other work has prevented any activity in spring here but Handley's results the one time tried show the possibilities.

BEACHTON, GEORGIA.

A few years ago it became apparent to the Inland members, that to accomplish the great task of getting real returns in bird banding, the work must be speeded up in some way. The colony nesting birds seemed to offer the best chance, so the first efforts were directed toward the gulls and terns that were nesting in the northern part of Lake Michigan. The campaign has increased each year; and last year's total of the work, in the Inland District, amounted to over ten thousand birds banded through the quantity program, exclusive of the methodical trapping plan. The other districts have equally good records; and the outlook for the present season forecasts that the result will be doubled a number of times.

We need much help and co-operation for the coming season. You all can aid by reporting the location of any colony nesting sites that apparently will be used this coming season, so we may have a complete list of nesting sites that apparently will be used this coming season, so we may have a complete list of nesting sites for gulls, terns, cormorants, herons, etc. Then let us know as soon as possible if we can count on you to help, so you may be assigned a district to work. By careful co-operation there need be no duplication of effort, and parties need not go to the same place, unnecessarily disturbing the birds.

The Chimney Swifts, Bank Swallows and Purple Martins are local problems which you must work out for yourselves.

We are requesting a special effort to band birds that go to South America, such as Blue-winged Teal, all shore birds and swallows; also Black Terns, Bobolinks, Nighthawks and thrushes. This will help us to get results in a shorter time.

For Chimney Swifts, the trap designed by Herbert L. Stoddard solved the problem. He studied their habits of leaving the chimney, and observed that they did not rise skyward but just came up to the top of the chimney and volplaned sideways; and that any apparent obstruction stopped the exodus. So by using a glass end in the trap, with a chute below like the creeper trap, and a stove pipe extension it apparently allowed them to flow in a continuous stream into bags and boxes (have plenty), as at the bottom of a grain chute; and it suggests our hope that by using clear celluloid, like in auto curtains, for end and chute, one may get a wonderful moving picture of the continuous stream of birds.—W. I. L.



CHIMNEY SWIFT TRAP.—The illustration shows a suggested tray for Chimney Swifts. It is a combination of the chute in the Inland Creeper trap and H. L. Stoddard's trap. It shows the transparent end and transparent face of the funnel. It also shows a transparent pipe below the funnel and is shown in this way in hopes that some one with a moving picture camera will photograph a stream of birds going down the funnel and pipe into a bag or receiving box, and show the film at our next annual meeting. A metal stove pipe will be much more durable in actual service, then you can add any number of lengths to reach the roof.

The transparent celluloid used comes in sheets 20x50 inches and may be purchased from any auto curtain repair shop.. The bottom of the trap should have an opening as large as the fluc of the chimney so as to not impede the flight of the swifts. The improvised chimney in the illustration lost its side in outlining the cut, but shows the correct position. The trap has been tried out with many species of birds and they all fly against the transparent end and continue to flutter until they slide down the end and through the funnel. The scheme may be used in other ways and it is hoped you will make an experimental trap.—W. I. L.

NOTES HERE AND THERE

Conducted by Gordon Wilson

The March-April, 1926, *Condor* contained this item: "Dr. Lynds Jones, of Oberlin College, was the evening's speaker [at the January meeting of the Northern Division of The Cooper Ornithological Club], upon the subject 'Ornithology in the Mississippi Valley.' His entertaining talk included a description of the topography of the country, and its peculiar advantages to those interested in bird banding, among whom the leaders are S. Prentiss Baldwin, of Ohio, and William I. Lyon, of Illinois. The speaker told of other ornithologists together with their special problems. The careful and long-continued observations of Miss Althea R. Sherman, of McGregor, Iowa, in her studies of the flicker, the Ruby-throated Hummingbird, and the House Wren were particularly commended. In closing his talk Dr. Jones told briefly of his many auto trips between Oberlin and the Pacific Coast and some of their points of interest to the ecologist."

The Federation of The Bird Clubs of New England has made the final payments on The Watatic Mountain Reservation, which contains eighty acres of spruce and which will be maintained as a wild life sanctuary in perpetuity by the commonwealth, to which it is now deeded.

The recent General Assembly of the state of Kentucky accepted from the State Park Commission the deeds to four state parks. Movements are on foot to increase this number to ten, including the justly famous Cumberland Falls. All these parks are to harbor wild life. The park commission is encouraging naturalists to camp in the parks and offer their services to visitors, charging a very nominal rate for their nature guiding.

The Nebraska Ornithologists' Union has adopted as a means of keeping in touch with its members mimeographed sheets which are called Letters of Information, very much like those put out by the United States Biological Survey. An improvement in the N. O. U.'s sheets, however, is that they are arranged for a regular-sized note-book and can be filed permanently. This also enables the sheets to be printed or mimeographed on both sides.

"That Canada is well to the fore in the preservation of birds and animals was the opinion of Harrison F. Lewis, chief federal migratory bird officer at Ottawa, expressed during an address before the Royal Canadian Institute. The forest reserves and the 10,000 square miles of national parks held by the federal government provided admirable sanctuaries for animals and bird life. Canada possesses at present forty special bird reserves, such as islands and marshy areas, to provide havens for certain types of birds."—*Christian Science Monitor*, March 19, 1926.

A full page of the *Chicago Daily News* for March 20, 1926, was taken up with rotogravure reproductions of pictures taken by William I. Lyon, showing bird banding and its many possibilities. These pictures were also to announce that Mr. Lyon would give the following Saturday, March 27, an address over the radio from station WMAQ.

"An 84-Acre Estate and 25-Room Mansion for Birds" was the striking headline in the *Boston Evening Transcript* for February 6, 1926. The article, profusely

illustrated, is by Bernard Peterson, and tells of the great ancestral home of the Brooks family in Medford which has become the headquarters for "teaching ways and customs of all wild life." The New England Federation of Bird Clubs has accepted the property in trust to administer it in perpetuity subject to the life interest of Mrs. Brooks. The Federation, which is an incorporated institution, plans to make the farm a model for the preservation of wild life and will do everything to attract even species not now found on the reservation.

C. K. Lloyd writes from Bradenton, Florida, to the editor of this department: "I am staying in the Tamiami Bird Reservation at present, and bird study is quite fascinating here at this time of the year."

Dr. L. Otley Pindar, Versailles, one of the founders of the W. O. C., has been in very ill health this winter but is somewhat better this spring. He was unable to attend the annual meeting of The Kentucky Ornithological Society, much to the regret of the members.

A large collection of the original Audubon prints has been obtained from English sources by Miss Susan Towles of the Henderson Public Library, Henderson, Kentucky. Miss Towles is selling these rare pictures to raise money to purchase some of the old Audubon property in Henderson. The Kentucky Ornithological Society, which is to meet at Henderson in September, 1926, is lending its support to this plan to make of the old mill and the surrounding country a small state park in memory of Audubon.

Dr. W. D. Funkhouser, head of the Zoology Department of the University of Kentucky, has recently been made dean of the Graduate School of that institution.

Our president, A. F. Ganier, is now president of the Tennessee Academy of Science.

Dr. Charles C. Adams, professor of Forest Zoology and director of the Roosevelt Wild Life Forest Experiment Station of the New York State College of Forestry, Syracuse, has resigned, to become director of the State Museum, of the University of the State of New York at Albany. He succeeds the late Dr. John M. Clarke.—*Science*.

Mr. Lyon has kindly called our attention to the omission of Professor George Wagner's name from the key to the group picture in the last (March) number. Prof. Wagner, who is associate professor of Zoology in the University of Wisconsin, is No. 14 in the group picture.

Mr. T. E. Musselman had another turn at duck banding this spring at Scobey Lake, in Missouri.

The Cooper Ornithological Club held its First Annual Meeting at Los Angeles April 8-10. The forty-two titles of the program were arranged in five sessions. The Club also held a bird art exhibition, similar to those held by the A. O. U., the first of which was held, we believe, at Chicago in 1922. The Cooper Club issued a very attractive catalogue of the exhibits, including an interesting biographical sketch of each of the artists.

The meeting of the American Ornithologists' Union has been set for October 12-14, at Ottawa, Canada.

Nature Notes from Yellowstone Park, Vol. III, No. 3, dated March 30, 1926, was received early in April. This mimeographed leaflet contains much valuable matter which deserves regular publication, and which should not be left with anonymous authorship.

Secretary Gloyd spent two weeks early in April with a party of herpetologists, under the leadership of Dr. Frank N. Blanchard, of the University of Michigan, in a collecting expedition through southern Louisiana and Alabama.

Wm. G. Fargo of Jackson, Michigan, spent the spring at Pass-a-Grille, Florida. He writes saying, "The rapid settlement of Florida and the real estate 'development' are driving the birds from localities where they were very numerous in previous years." It seems to be inevitable.

The Museum of Vertebrate Zoology, of the University of California, has issued a pocket list of the birds of the Berkeley Campus. This check-list includes a total of 135 kinds of birds which have been observed on the campus by competent observers up to May 20, 1925.

The Sixth International Ornithological Congress was held at Copenhagen, Denmark, on May 24-26, under the auspices of the Danish Ornithological Society.

"Ornithological Note. To the Editor of *The Nation*: Sir: Claude McKay is a real poet, and I sympathize with him being homesick in France, but he is off in his ornithology. I have seen a million quail run, but I never saw one hop. Upton Sinclair." From *The Nation*, April 21, 1926.

Mr. George Miksch Sutton is spending the present summer in the Hudson Bay region in ornithological work.

PUBLICATIONS REVIEWED

BIRDS OF THE AUSTIN REGION. By George Finlay Simmons. Published by the University of Texas, Austin. 1925. Price, \$4.00.

This well-bound book of xlv + 387 pages makes a very substantial contribution to Texas ornithology; in fact it may serve as a very helpful reference book for bird students beyond this state. The first forty-six pages are devoted to various general discussions, including the facts of physiography, meteorology, and ecology to a limited extent. We find also a very interesting collection of brief biographies of Texas bird students.

The descriptive catalogue which follows contains 294 species or subspecies, each of which is quite fully annotated as to geographical distribution, habitat, local haunts, general habits, feeding habits, flight, voice, courtship, nest and eggs, technical description and plumage peculiarities, etc. The observations and remarks under the topic of "voice" on the songs and call notes of the various species are especially complete and interesting.

While the nomenclature is not the most important feature in a work of this kind, yet it has certain far-reaching bearings which deserve attention. In glancing over the first fifty forms in the bird list we note that there are seventeen departures from the A. O. U. Check-list and Supplements, and apparently many other departures occur beyond.

The author states, in the introductory pages, that he has followed the nomenclature of the Third A. O. U. Check-list and the Sixteenth (1912) and the Seventeenth (1920) Supplements, but that recognition is given "to such changes in genera as are justified by recent careful investigations in avian anatomy." (Page xxxii). And again from the same page we quote: "Several geographical races, which the Committee,* with its general policy of conservation, [conservatism?] has seen proper to reject, are also included, for the reason that in the opinion of various careful students of geographical distribution and variation, such forms are valid and worthy of recognition."

Perhaps it is unfortunate that this committee has failed to inspire greater confidence. But, nevertheless, we believe that such a committee is very essential to the welfare of American ornithology—at least until some other authority is established. Without such authority our nomenclature will go from bad to worse very quickly. Granting that such an authority is needed and does exist, it seems clear that we are in duty bound to observe and obey its regulations. That is simply a principle of good government. If changes in nomenclature are desired let them come by proper legislation. If there is to be any nomenclatural stability whatever, we believe it must come by unanimous recognition of properly organized and centralized authority. Nothing will so quickly carry us back into the middle ages of ornithology than for authors to follow their own opinions and preferences.

Aside from this matter of nomenclature and a few typographical errors we believe this volume is highly meritorious, and a credit to the author and the State.—T. C. S.

EXCHANGE NOTICES

This department will be inserted from time to time as there may be demand for it. It is intended at present to accept only notices for exchange of books, magazines, and ornithological literature. No charge will be made to members for these insertions. We desire especially to assist members in completing their files of the WILSON BULLETIN.

WANTED: Wilson Bulletin Numbers 15 and 22, New Series.

FOR SALE: Wilson Bulletin Numbers 38, 39, 40, 41, 42, 43, 44, 45, 47, 48, 49, 50, 53, 54, 55, 56, 57. Clarence Bretsch, 690 Broadway, Gary, Indiana.

WANTED: O & O Semi-Annual, No. 1 of Vol. 1. Will pay a reasonable cash price for same. W. I. Mitchell, M. D., Paonia, Colorado.

WANTED: Bulletin of Michigan Ornithological Club, Nos. 3 and 4 in each of Vols. IV, V, and VI; if in good order will pay 50 cents each. I have for exchange Vol. I, Nos. 1, 3, and 4; Vol. II, No. 1. I also want Wilson Bulletin, March, 1923. Wm. G. Fargo, 506 Union Street, Jackson, Michigan.

BUY YOUR BIRD GLASSES from a bird-man who guarantees satisfaction after a weeks' trial or refunds your money. Anything from a Zeiss down. Field glasses \$5 up; 8-power stereo-prism binoculars \$15 up. Price list upon application. J. Alden Loring, Box W, O-we-go, Tioga Co., N. Y.

*The A. O. U. Committee on Classification and Nomenclature of North American Birds.

TO OUR CONTRIBUTORS

Our members are urged to submit articles for publication in the **BULLETIN**. Short items are desired for the department of General Notes, as well as longer contributions, especially pertaining to life-history, migration, ecology, behavior, song, economic ornithology, field equipment and methods, etc. Local faunal lists are also desired, but they should be annotated, at least briefly, and should be based upon sufficient study to be reasonably complete. Authors are asked to include the common name, the scientific name (from the A. O. U. check-list), and annotations, and they should be arranged in this order. The annotations should include explicit data concerning unusual species. Omit serial numbering.

THE MANUSCRIPT. The manuscript, or copy, should be prepared with due regard for literary style, correct spelling and punctuation. Use sheets of paper of good quality and of letter size (8½x11 inches); write on one side only, and leave wide margins; if at all possible manuscript should be prepared with a typewriter, using double spacing and a reasonably fresh, black ribbon.

The title should be carefully constructed so as to indicate most clearly the nature of the subject matter of the contribution. Where the paper deals with a single species it is desirable to include in the title both the common and the scientific names, or, to include the scientific name in the introductory paragraph. Contributors are requested to mark at the top of the first page of the manuscript the number of words contained. This will save the editor's time and will be appreciated.

Manuscripts intended for publication in any particular issue should be in the hands of the editor thirty days prior to the date of publication.

ILLUSTRATIONS. To reproduce well prints should have good contrast with detail. In sending prints the author should attach to each one an adequate description or legend.

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- Volume II. No. 1. January, 1890. Out of print.
- No. 2. July, 1890. Out of print.
- Volume III. No. 1. April, 1891.

The Wilson Quarterly

- Volume IV. No. 1. April, 1892. Out of print.
- Volume IV. No. 2. July, 1892. Out of print.

The Journal

- Volume 1. (V. No. 1). January, 1893.
- Volume 2. (V. No. 2). June, 1893.

The Wilson Bulletin

- Volume VI. 1894. Three numbers. Reprinted.
- Volume VII. 1895. Two numbrs. Reprinted.
- Volume VIII. 1896. Six numbers. First three reprinted.
- Volume IX. 1897. Six numbers. Bulletin No. 15 is out of print.
- Volume X. 1898. Six numbers. Bulletin No. 22 is out of print.
- Volume XI. 1899. Six numbers.

All volumes after Volume XI contain four numbers each.

Wilson Bulletins having the serial numbers 15, 22, 46, 65, and 94 are out of print, and cannot be supplied by the Club. The stock of several other numbers is very low.

Wilson Bullctins having the serial numbers 1, 2, 3, 4, 5, 6, 7, and 8 have been reprinted, and can be supplied as reprints.

Available numbers up to Volume XXXII, inclusive, will be sold for one dollar per volume. The price of later volumes is \$1.50.

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THE WILSON BULLETIN

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All articles and communications for publication, books and publications for notice, and exchanges, should be addressed to the Editor.

New subscriptions, changes of address, and applications for membership should be addressed to the Secretary. Personal items, news of events in the scientific world, and other notes suitable for our "Notes Here and There" department may also be addressed to the Secretary.

Claims for lost and undelivered copies of the magazine may be addressed to the Editor.

The present editorial organization is as follows:

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Prof. Myron H. Swenk, Lincoln, Nebraska.

Prof. Gordon Wilson, Bowling Green, Kentucky.

Mr. Wm. I. Lyon, Waukegan, Illinois.

Mr. Walter W. Bennett, Sioux City, Iowa.

THE WILSON ORNITHOLOGICAL CLUB

Founded December 3, 1888. Named after Alexander Wilson, the first American ornithologist.

The officers for the current year are:

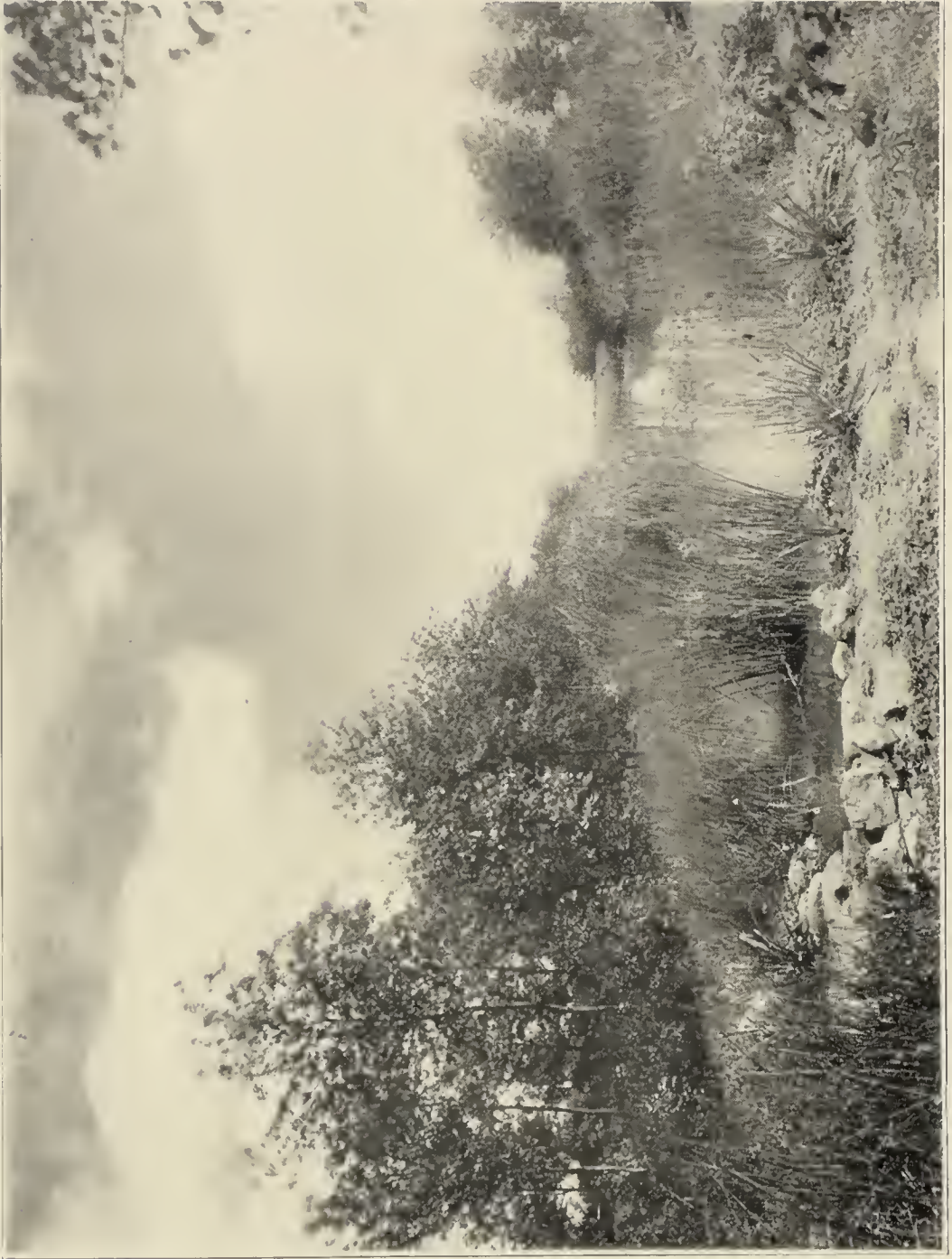
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A VIEW IN THE BIRD SANCTUARY ON RECLAIMED LAND.

FEB 21 1927

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A BIRD SANCTUARY ON RECLAIMED LAND

BY FRANK M. WOODRUFF

Standing in the beautiful Bird Sanctuary in Lincoln Park, as wild a looking spot as you would find in the far west, it is hard to realize that fifteen years ago the waves of Lake Michigan rolled over this spot.

Three hundred acres of land have been reclaimed from the lake by first driving the outer piling, then filling this space with sand. A farm was purchased at Lemont on the Canal, and the rich swamp muck and loam brought on flat boats to form the surface of this newly made land. Ten acres of this forms the Bird Sanctuary.

The enclosure is fenced in, and the Commissioners of Lincoln Park are trying to devise some way of admitting the bird lovers. It is almost impossible to prevent stepping on a sandpiper's nest and frightening away the water birds. It has been suggested that a reservation be made one or two miles long and extending from the Lake to Sheridan Road, containing artificial lakes which could be planted with wild rice and vallisneria for the water birds, and hills and woods for the Passerine birds. We should all use every effort to bring about this conservation, or the space will probably be used for an eighteen hole golf course.

Mr. Poppe, the landscape gardner and tree expert of Lincoln Park, is planting many of our native fruit-bearing plants—huckleberry, strawberry, the crataegus trees, red and black haw. He has surrounded the ponds with swamp arum, vallisneria, wild rice, and even the American lotus.

It is really pathetic to see the attempts of the visiting water birds, rails, coots, bitterns and many other species, to find a nesting place here, as all of our nesting grounds for water birds have been destroyed in Cook County.

Twelve pairs of Spotted Sandpipers raised their young in this ten-acre spot in 1925, as well as two pairs of Killdeers, Green Herons, Soras, and King Rails. Catbirds, Robins and Yellow Warblers occupy almost every bush, and we are anxiously awaiting new surprises this year.

Great numbers of Black-bellied Plovers, Ruddy Turnstones, Least and Semipalmated Sandpipers, Pectoral Sandpipers, and in fact, all of our migrating shorebirds may be observed here. The Snowflakes and the Snowy Owl have been observed. A Golden Eagle was found dead on the shore.

While taking a walk last fall with Mr. Samuel Harper, we noticed a flock of small gulls in the upper end of Belmont Harbor. As it was too late for the Bonaparte Gulls we were curious to know what they were, and I had the pleasure of seeing my first flock of Franklin Gulls. As we stood on the high bank, a short stocky gull left the flock, and as it slowly sailed under us we noticed a V-shaped patch on the back—our second record of the Kittiwake Gull, the first record being one that I shot twenty years ago.

CHICAGO ACADEMY OF SCIENCES,
LINCOLN PARK, CHICAGO, ILLINOIS.

THE AUTOBIOGRAPHY OF FRANKLIN LORENZO BURNS

My life and ornithological experiences have been so far from the spectacular that I have little of general interest to communicate, though some incidents of my life-long and for the most part solitary novitiate, representing a supposititious investment of one hundred thousand dollars in energy and an actual expenditure of ten thousand dollars in cash, may not be devoid of novelty, especially as I have retained the status of a bona fide amateur, never having sold an egg, skin, manuscript or derived material benefit in the way of business.

My earliest remembrance is that of a frightful childhood dream which still clings vividly to my mind. I thought that I ran in a panic through my dear old Quaker grandmother's herb and flower garden to the yard only to encounter a number of gigantic pachyderms, swart and sextuped, and though they paid not the slightest attention to the terrified boy in the Dolly Varden dress as he dashed through the herd and pattered over the flagstones to the Dutch door, he expected any moment to be caught up in the curling proboscis of one of the monster Bulljacks, which became in my imagination the symbol of publicity.

My ancestors were mostly of Anglo-Saxon origin with an infusion of Welsh, Scotch-Irish and a dash of Gallic blood. Bern or Burn was the original surname, probably derived from the Norman Bjorn—a bear: of North England, transplanted in Wicklow, Ireland, about the time of James II as adherents of the Established Church, and South-eastern Pennsylvania in the Colonial period. My father's mother, an

Orthodox Friend, descended from Mary Culcop the first female born of English parents in Philadelphia. My mother's father, the only comparatively recent immigrant, was the son of a Yorkshire textile operator, and I have a few examples of his crude watercolors of birds painted for the amusement of his little daughter on the lonely banks of the Juniata. Therefore I cannot account for my early persistence on the ground of heredity though in my genealogical researches I find that I may lay claim to lineal descent from the eloquent Quaker preacher John Williamson, who in the instance of Benjamin West, early won tolerance for the fine arts from a most ascetic people; also to collateral kinship with John Cassin the systematic ornithologist.

I was born near the present village of Berwyn in Chester county, January 18, 1868, the fifth of eight children of Peter J. and Ellen J. (Dyson) Burns, and my earliest recollection of a desire to possess objects of Nature was due to the family doctor's promise of a "rabbit's egg" if I would take his allopathic prescription, and I pictured the shell as of a beautiful sky blue! Two or three years later I tagged after some older lads in their eggging incursions and well remember the taking of the lovely blue eggs of the Dickcissel. At this time I was a frequent visitor at Hawthorn farm where a sportsmans' collection of mounted birds was a great attraction and here I secretly resolved to form a collection of my own and to learn the names and habits of the various kinds.

In the spring of 1877 we moved back to a part of the ancestral farm now in our possession a century. Unfortunately it necessitated a change from an excellent rural school to an inferior one a mile distant, a cheerless stone chamber crowded with the children of the railroad construction gang, ruled by a careless pedagogue, an intolerable place, how I hated it; and save for its practical arithmetic and my association with the grandsons of John Sartain the engraver, I owe it little. Meanwhile my three older brothers drifted away to occupations and homes of their own and father being engaged in building contracts, to me fell the numerous chores incident to a small farm, labor formerly apportioned to the quartet according to our strength. My solace was the small subscription library, the meeting place on Saturday nights of an agreeable coterie of youths; here I enjoyed Tom Brown's School Days and Trowbridge's juvenile stories, especially "The Scarlet Tanager" and Castlemon's Wild West tales were much in vogue with my associates, one of whom quietly remarked that he was going to see some of that life before it passed away forever and later he was among



FRANKLIN LORENZO BURNS

the dead in the Indian fight at Wounded Knee.

It was in 1834 that I learned of the publication of the "Young Oologist" and with improved methods laid the foundation for a local collection of eggs. I fashioned some malleable iron bars into the shape of climbers and with this crude contraption took my first set of Crow's eggs from a chestnut tree growing out of the old and then unvisited redoubt at Valley Forge. Though I have always been a light-weight and have since done considerable climbing without suffering vertigo, I began as a most timorous climber; however, I do not recollect ever backing down without reaching my objective.

My inseparable boyhood companion through all the youthful phases of fads was the late Willet E. Rotzell, later doctor and lecturer of biology at the Hahnemann College of Philadelphia. Many times he helped me finish some allotted task that we might have a few hours afield. I remember that when we later discovered an old edition of Coues' Key in town, I gave up a winter overcoat to possess a copy of my own.

I wish I could say that I had the parental consent to collect but it would not be true. My early collection of eggs was placed in cigar boxes, bedded in hair; the family quadrupeds were assiduously carried upon every accession to my stock and the boxes stowed under the barn eaves until in my judgment it was safe to remove to more commodious quarters in the attic. Wiseacres seriously questioned the utility of my endeavors and the ignorant queried: "Are you going to eat 'em or set 'em"—no other disposition being thought tenable.

The following year I began an abbreviated report to the A. O. U. committee on migration and a collection of bird skins. My first specimen, that of the Short-eared Owl, was preserved with "Rough on Rats," for I was forbidden to bring arsenic on the place! I made the common mistake of the tyro when I severed the leg bone at the heel, but the skin is still intact. I withdrew my little from a saving fund to take some lessons in taxidermy with Krider and also visited the museum of the Academy of Natural Sciences where I doubt not my impressions were similar to those of a recent guest at Tutankhamen's tomb. At this age my only text book was Porter and Coates' cheap edition of Wilson's American Ornithology more than a half century out of date, found in the village library; luckily the vernacular names were similar to those taught me by my father who was fond of hunting and never very consistently opposed my study.

I had not far to go for specimens, my favorite ground within three minutes walk was a worn-out clearing with a second growth of cedar

and berry bushes connecting a slashing of virgin soil, a jungle in luxuriance of sapling and vine, and the adjacent woodland of hill and ravine for miles along the slate ridge. Indeed my work has been confined mainly to this section, with a never-to-be-forgotten vacation with Lionel F. Bowers to Great Egg Harbor Bay, New Jersey, the type locality of some species of Wilson, Ord, Audubon and other worthies of times gone by. My friend recently reminded me of the occasion when I pulled him out of a slough in which he was fast sinking, but I remember best another rescue, when marooned on an islet in the gathering dusk and incoming tide, my friend appeared in a boat.

My earliest endeavors were linked with the Wilson Ornithological Club and I believe that I have served in every office except that of vice president. This club is the outcome of an earlier boyish organization away back in 1835, a period when amateur journalism flourished. Many youths combined the craze for printers' ink with the oological fad. The "Young Ornithologist" published in Boston, became the organ of the Young Ornithologists' Association which expired with the "Curlew" in 1889, to leaven the newly organized Wilson Ornithological Chapter of the Agassiz Association; of the original coterie, Drs. Pindar, Jones, Strong, and myself *sans* title, remain.

These organizations, followed by the Wilson Ornithological Club, long exponent of co-operation and specialization, conducted a generation of bird lovers from kindergarten to college. Late in 1900, soon after Jones had brought out my monograph of the Flicker, he wrote me that he would be unable to publish the BULLETIN the year following and suggested that I take up the burden for that period. The treasury was exhausted and my own time occupied with ten or more hours of physical labor beside evenings of accounts, estimation and correspondence, but I probably saved the little journal for the time being at some expense to myself.

The same year I brought out my sectional bird census, the pioneer attempt to enumerate a definite square mile of bird life and I say not in criticism of later efforts in this line but as a matter of record, that this work was not blithely consummated on a fair day in June but in a conscientious attempt to locate the individual nesting places, the labor of a season. Often, wet to the shoulders, I came in for a hurried breakfast and then rushed off to work without change of clothing, doubtless the source of later sciatica.

Personally I know that the difficulties of expression are enormously increased by a lifetime of manual labor and in all probability

I never would have attempted composition had I not become convinced that it was my duty to add my mite to our knowledge.

Though solitary observation has its disadvantages I have always felt that I could get better results alone. My study of the domestic economy of our local Wood Warblers, quoted in Chapman's Warbler book, was accomplished single-handed. I searched ten years before I found the Worm-eating Warbler nesting plentifully almost at my back door and therefore I was much gratified by the assurance of the late Thomas H. Jackson that mine was the most accurate biography of the species he had ever read.

When I intimate the advantages of lone observation perhaps I make the most of the peculiar situation which the dilettanti of scant means and remoteness experience. Soon after Dr. McCook moved into our neighborhood he appealed to me for a list of advanced students in all branches of Natural Science, with the object of forming a local society; my canvass revealed the species as quite rare. It is otherwise in antiquarian lore and I here confess to a love of local history in which I have had for a score of years the comradeship of the late Rev. Dr. Quimby, author of "Valley Forge", who first performed his ecclesiastical duty and a wide charity, yet had the energy to do upward of fifty miles on foot for the pleasure of historical research. I yet have to redeem my promise that I would gather in permanent form my own researches in local tradition and fact, which he thought more extensive than his own.

My good mother had often predicted that sometime I would fall from a lofty tree in some remote place and perhaps perish before found, but when I fell it was from the high gable of a building and during my five weeks' convalescence I found time to start a compilation of some sketches on Alexander Wilson.

I had long desired a small detached building in which to house my specimens and books as well as to serve as a quiet place for study. When this was accomplished in 1904, I found I had placed it too near the road, for some leisurely person was sure to drop in for the evening. Children would peep in at the window and often run away when I opened the door to bid a possible future ornithologist enter. Now and then I have a most welcome visitor, some one perhaps from afar. Once it was the late Frederic B. McKechnie from down East, who had loaned me a great mass of original material relating to our earlier ornithologists; later R. M. Barnes, of the *Oologist*, spent an afternoon in discussion of my contemplated bibliography of ornithological periodicals, which he so generously offered to publish. And I have guided

to the habitat of some of our local rarities some keen oologists. About this time I often had the company of Charles H. Rogers, Alfred C. Redfield, and Leonard Pierson, high school boys, non-collectors, good observers; one an excellent photographer; but they soon departed for college; later Guy L. Eadie, now with the National Zoological Park.

Years ago I planned an exhaustive study of the nesting habits of our birds, the printed forms called for an appalling amount of detail and the material returned proved inadequate; nevertheless the resultant papers on comparative periods of incubation, nestling life and nest-building appeared worthwhile as preliminary studies.

My business for the past thirty-five years has been that of a contracting painter. Twice I have had the labor unions' well nigh impossible demands disperse the shop in which I had tried to instill the *esprit de corps* so essential to efficient work. During the trying summer of 1919 I carried on with a single aid, a veteran color-bearer of the Civil War. Early in my business life I fixed upon a modest sum at which I could retire and devote more time to the birds, bees and garden; when this seemed within reach I found that the dollar had shrunk in purchasing power.

My public services have been small and extremely local. I served for a term of years as financial secretary to the volunteer fire company, beginning at a time when the organization was at its lowest ebb and ending when an efficient gasoline engine supplanted the primitive handtruck. I have also served for many years as a director of the building and loan association, and with the court of honor for the boy scouts, but have been absolutely unequal to public bird talks. As this is in the nature of a confession I will plead to an unmarried state, perhaps because of an incurable egoism, congenital shyness, failure to discover my ideal, prior claims of relatives or a combination of circumstances, who can say? I am fond of children and dogs—some children and some dogs—and can generally make friends with them.

For some time I had contemplated an avifaunal list of my native county and when the opportunity came to have it published in a desirable form, the World War, a strike, and the plague delayed the printing, necessitating proof-reading at a most inopportune time when burdened with a press of work in the heat of summer and resulted in some unfortunate typographical errors in technical names. Inadvertently I trampled some of the morning-glories! I had thought my work meritorious in comparison with like publications and the faults

superficial, nevertheless I purchased the remainder of the edition and withdrew it from circulation.

I have taken relatively few specimens in the last twenty years, not that I ever have been a great destroyer of bird life, for my collection is very incomplete, but because I am more concerned with data obtainable from the living bird; at the same time I regard all assertions that the public museum renders private collections superfluous as pure buncombe.

I have not attempted to analyze my preference for the study of birds, though undoubtedly I have followed my inclinations, and my persistence was not unmixed with a desire to prove that it is open to all; herein I erred, for the multiplicity and cost of the literature almost indispensable to keep abreast of the times has become prohibitive to the student of humble means. And then there is the matter of permits; Pennsylvania for instance provides a license for the professional teacher and a special one for the person "of known scientific attainments in ornithology," obtainable through the Game Commission! The beginner and would-be-collector may therefore condole with the heroine of that ancient ditty:

“‘Mother, may I go in to swim?’ ‘Yes, my darling daughter!
Hang your clothes on a hickory limb and don't go near
the water!’”

Our Commonwealth is vastly more liberal in the matter of gunners' licenses since it permits anyone to kill a liberal number of every kind of game provided he can do so. With over half a million sportsmen in the field it is possible to exterminate every game animal in the State without the average hunter taking his legal quota.

It is probable, especially in my earlier years, that there has been a great deal of misdirected effort upon my part. Properly directed as a training for accurate observation and logical thought, ornithology is a great study. It is always possible with one of the several low-priced and excellent textbooks, field glass and notebook, to derive much pleasure in bird study as a pastime and by specialization gain some knowledge not laid down in books.

One can truly state that notwithstanding a more or less tentative classification and a rather unstable nomenclature, ornithology has advanced steadily in recent years. Its popularization without deprivation of the essence of science by some of our leaders, has enormously increased the number of laymen and their interest, and has opened the way for an exhilarating relaxation from the daily grind.

BERWYN, PA.

NOTES ON BIRDS OF PINELLAS AND PASCO COUNTIES.
FLORIDA

BY WM. G. FARGO

In the years 1923-24-25 and '26, the writer has arrived in Florida about the middle of January and has spent some time, usually several months, at Pass-a-Grille, which is on Long Key on the west coast and at the north side of the mouth of Tampa Bay. In 1925 the entire time until April 10 was spent here in Pinellas County, and in 1926 practically all the time from January 11 until May 17.

Frequent excursions for bird study have been made to various parts of Pinellas County and into southern Pasco County, which joins Pinellas on the north. Pinellas County is a peninsula, bounded on the east and south by Tampa Bay and Old Tampa Bay and on the west by the Gulf of Mexico. Tarpon Springs is within and near the north boundary of Pinellas County and the observations on bird life, recorded in this paper, reach some six miles into Pasco County or about half way from Tarpon Springs to New Port Richie.

Thus the territory covered is essentially that Florida region in which W. E. D. Scott principally worked between 1879 and 1888. The present notes therefore in a measure will indicate the changes in bird life of this territory after a lapse of about 40 years. During this time Pinellas County has become thickly settled.

In general it may be said that the birds at all common during the years of Mr. Scott's observations may be seen in this territory today, but it is quite uncertain how long this condition will hold, as the central and southern portions of the state are being settled and cleared with great rapidity.

Great progress in Florida has been made in the past few years in creating public sentiment toward the protection of birds and enormous areas have been put into reservations where no killing of wild life is permitted. The last Florida legislature passed an Act providing for an adequate organization to enforce the existing game laws. The County Commissioners of Pinellas County at their spring session of 1926 voted to recommend to the next state legislature the setting aside of the whole county of Pinellas as a wild life reservation.

At present there are continuous reservations west of the Tamiami Trail, along the Gulf Coast of Florida, through Sarasota and Charlotte Counties and that part of Lee County south of the Caloosahatchee River and thence through Collier County down into the Ten Thousand Islands. In Tampa Bay there are two large and three small keys

which have been made Federal reserves. In these protected areas the birds soon lose their fear of a man and here in Tampa Bay close to populous communities, both of the egrets are breeding in numbers.

Before proceeding further it will be well briefly to outline the topography of the region covered by these notes.

As its name implies, Pinellas County originally consisted for the most part of (flat) pine woods. Between Clearwater and Tarpon Spring, however, the country is rolling, with ponds in many of the hollows. The soil throughout is sandy and hammock areas are few.

East of Tarpon Springs, there are high ridges on both sides of Lake Butler. All along the coast line bayous indent the shore.

Along Tampa Bay, especially towards its mouth, are vast areas of mud flats covered by water at high tide. These provide winter feeding ground for vast flocks of mixed "shore birds"; and numerous herons, gulls, and terns feed or nest there on the bars. Later, the resident gulls, terns, and Black Skimmers nest there as do some shore birds.

Such creeks as there are in Pinellas County are small, short, and unimportant. The Gulf beaches on the keys in Pinellas County are of sand and shells. The inner beaches on the mainland are usually covered with short marsh grass.

At the mouth of the Anclote River and thence northward, the Gulf shores are covered, often for great widths, with needle pointed tules often growing higher than a man's head and into which the tide rises.

Mangroves cover many of the keys and line much of the shore of the mainland.

On Bird Key (called Indian Key on some maps) off Maximo Point on the north side of and near the mouth of Tampa Bay, the nests of herons, egrets, ibises, and cormorants are in mangroves at heights of eight feet, to about twenty-five feet.

When Mr. W. E. D. Scott visited this key in the early summer of 1886, after an absence of seven years, he found that plume hunters had killed off the birds and what was once a vast breeding colony of divers species was only "a deserted mangrove island". In 1924, eighteen years after this key became a Federal reservation, there were nesting here sixty or more pairs of American Egrets, great numbers, perhaps 500 pairs, of White Ibises, moderate colonies of Ward's Herons, Little Blue, and Louisiana Herons, small colonies of both Black-crowned, and Yellow-crowned Night Herons, and probably nearly a thousand pairs of Florida Cormorants. Small numbers of Snowy Egrets nest here, and several hundred pairs of Brown Pelicans.

The Wards' Herons. Mrs. Katherine B. Tippetts, of St. Petersburg, tells me, have young in the nest nearly every month in the year, the season of greatest activity being the first six months of the year. The American Egrets begin nesting in February, while the smaller herons begin nesting early in April, as do the White Ibises, cormorants, and Brown Pelicans in this territory.

On Bird Key there are always a few (say 12 to 20) Fish Crows about seeking an opportunity to steal eggs while the owner is off the nest; however, the eggs are seldom left alone and it does not appear that many eggs are taken by crows. The warden, acting on orders from the Biological Survey, is shooting the crows with a .22 caliber rifle equipped with a silencer, and has also attempted to poison them with treated hens' eggs placed in empty nests. Owing to the wariness of the crows neither of these methods has been very successful.

While on the Key in 1925 and 1926 a Fish Crow entirely devoid of a tail was repeatedly seen. It seemed to fly about as well as the others but would not venture from cover in a stiff wind.

Mr. Harold Bennett, the warden in charge of the Tampa Bay reservations, writes me that in June, 1926, he found something was eating the young herons, leaving only the feet and bills. There are usually a few Black Vultures and Turkey Buzzards on the Key, perhaps less than a dozen of each. Suspecting these birds, he killed as many as possible and noticed no further trouble.

The other large key of the Tampa Bay Reservations, known both as Bush Key and as Tarpon Key, lies two miles to the south of Bird Key. While well adapted to bird nesting by reason of its cover of large mangroves, it is practically untenanted by nesting birds with the exception of a few Ward's Herons.

Southern Pasco County is somewhat rolling, it has more streams than Pinellas, there are more areas of hammock growth and much of the flat pine woods area is thoroughly cut up with small cypress swamps, usually occupying narrow depressions, winding about the plains. In this varied topography the tree growth and vegetation are also varied and here may be found a variety of birds not often seen elsewhere in the territory described.

On islands in fresh water ponds, the Anhinga and White Ibis nest as do the Florida Gallinule and the Coot. In the above described pine woods are found Pileated, Red-headed and Red-cockaded Woodpeckers, also the southern forms of the Hairy and Downy Woodpeckers. The Red-bellied Woodpecker is everywhere abundant. Here also are seen the Carolina Chickadee and the Florida White-breasted Nuthatch.

Doubtless the Brown-headed Nuthatch is here but the writer has not discovered it.

Along the salt marshes of the coast are found during early spring Scott's Seaside Sparrow and Marian's Marsh Wren.

The settlement of Pasco County has not yet reached a point resulting in the destruction of any considerable amount of bird coverts, hence the variety and amount of bird life is greater than in the more populous County of Pinellas. Little change in the avifauna of this region seems to have occurred in the past forty years.

In the following annotated list of birds of Pinellas and southern Pasco Counties, no records of species have been introduced where there was any reasonable doubt of identity. Specimens were collected of those species or forms marked * and these have been, in large part, deposited in the Museum of Zoology of the University of Michigan at Ann Arbor.

The writer desires to acknowledge the kindness of Mr. A. C. Bent in giving permission to use the various 1925 records credited to him in the text, and for identifying skins of Caspian Tern, Cuban Snowy Plover, Sharp-tailed Sparrow, Scott's Seaside Sparrow, Pine Woods Sparrow, Bachman's Sparrow, Sycamore Warbler, Long-billed Marsh Wren, and others.

For the determination of the Grasshopper Sparrow we are indebted to Mr. James L. Peters of the Museum of Comparative Zoology. For the determination of the Red-winged Blackbirds we are indebted to Dr. Charles W. Richmond and Mr. Arthur H. Howell, of the United States Biological Survey.

My own observations in the following list were made between January 11 and May 17, 1923, and during the same period in 1924, 1925, and 1926. If the year is not specified it may be understood to be 1926.

[The following list contains 184 named forms.—Ed.]

Horned Grebe—*Colymbus auritus*. A not uncommon winter resident.

Pied-billed Grebe—*Podilymbus podiceps*. Not uncommon in fresh water ponds.

*Loon—*Gavia immer*. Common winter resident in salt water. Not seen in breeding plumage.

Herring Gull—*Larus argentatus*. Common winter resident, the adults left early in April, the immature birds remaining until after the middle of April, 1926.

*Ring-billed Gull—*Larus delawarensis*. Common winter resident, although in fewer numbers than the preceding. The younger birds remained for several weeks after the adults left and then commonly were seen in flocks of fifty or more.

*Laughing Gull—*Larus atricilla*. Common resident; about 400 present on breeding ground south of Long Key, in May, 1926. Courtships began March 20, but no nests found on May 11.

*Bonaparte's Gull—*Larus philadelphia*. Occasional in winter. Not seen in 1926. None seen in summer plumage.

*Caspian Tern—*Sterna caspia imperator*. Three seen from late March to April 22, 1926. One collected from three seen January 26, 1925.

*Royal Tern—*Sterna maxima*. Common resident, breeds. A few in the dark hood by March 1, but some do not acquire it until a month later.

*Cabot's Tern—*Sterna sandvicensis acuflavida*. Mr. A. C. Bent "saw several and collected one" in the spring of 1925.

*Forster's Tern—*Sterna forsteri*. Not uncommon as a winter resident.

*Least Tern—*Sterna antillarum*. Appeared on Long Key, April 18, 1926, when a flock of twenty-seven were seen. On May 11, there were seventy or eighty at the nesting place on the first bar south of Long Key, at which time there were but four nests, only one having as many as three eggs. Nesting had just begun. Many Least Terns were also seen at Indian Pass, near Indian Rocks, Florida.

*Black Tern—*Chlidonias nigra surinamensis*. May 11 a flock of about sixty were seen at sunset on a bar south of Long Key. Not seen before nor afterward.

*Black Skimmer—*Rynchops nigra*. Common resident. They rest during the day on various bars where they are not likely to be disturbed, in flocks of 200 to 300. Nesting had not begun near Pass-a-Grille, on May 11, 1926.

*Water Turkey—*Anhinga anhinga*. Found in fresh water ponds in northern Pinellas and Southern Pasco Counties. Young in nests at least two weeks old on April 7, 1925. Not uncommon throughout Florida in suitable locations. They often flap and sail alternately and when they alight in water, submerge so that only the slender neck and head appear. In reedy creeks they are hard to flush.

*Florida Cormorant—*Phalacrocorax auritus floridanus*. Common resident. The crests appear on some birds early in March and are not seen after the breeding season, which begins about April first. Per-

haps about 1,000 pairs nest in the mangroves on Bird Key, about twenty feet up. There is another Cormorant rookery on the coast near Ozona, Pinellas County. During the years 1925, '25, '26 the cormorants have roosted on a bar just south of Long Key in numbers estimated in 1925 at 3,000.

White Pelican—*Pelecanus erythrorhynchos*. Seen during the winter months in flocks from three to twenty.

*Brown Pelican—*Pelecanus occidentalis*. Common resident. About April 10 they begin nesting at Bird Key. Prior to that time they rest and roost in large numbers on the bars south of Long Key, but during the breeding season only immature birds and non-breeding birds are seen there. Some adults have the dark neck early in March.

Frigate Bird—*Fregata aquilla*. Rarely seen in winter. They become more common early in March and gradually increase in numbers. On May 14, 1926, between 5:15 and 5:45 A. M. (before sunrise) there were counted 250 Frigate Birds sailing southeasterly over Long Key going to the Gulf from their roost on Bird Key. Mrs. Katherine B. Tippetts tells of seeing thousands of them here during mid-summer in recent years where they rob the pelicans. The writer has not seen them molesting other birds. They are not known to breed here. In a thirty-five mile gale they can turn in the air as on a pivot and move off in the opposite direction without flapping their wings.

*Red-breasted Merganser—*Mergus serrator*. Common winter resident. In the early spring of 1925 there were flocks up to several thousand about Tampa Bay. From January to May, 1926, only flocks of a score or two were seen. They are seldom molested by hunters.

Florida Duck—*Anas f. fulvigula*. Occasional.

Pintail—*Dafila acuta tzitzihoa*. Occasional in early spring.

Wood Duck—*Aix sponsa*. Two pairs seen several times in February and March, 1926, on Holmes' Pond northeast of Clearwater.

*Lester Scaup—*Marila affinis*. Most common duck in Florida in winter and are seen in both salt and fresh water. Many about as late as the middle of May, 1926.

*Ring-necked Duck—*Marila collaris*. February 8, 1926, saw four pairs on the pond next east of Holmes' Pond. A male duck collected in Pinellas County, April 2, 1925, appears to be a hybrid between *M. affinis* and *M. collaris*. This duck was found resting on the mainland beach opposite John's Pass. Apparently it was ill or injured although when skinned no wounds nor injuries were visible. The head and neck are essentially those of *M. collaris*, and it has the white chin patch of *collaris* although small, being one-fourth inch by three-six-

teenths inch. The upper breast is a little darker than *affinis*, likewise the back. The bill has the appearance of *affinis*, to which species it has more points of resemblance, as the speculum is white.

Roseate Spoonbill—*Ajaja ajaja*. Early in April a few birds usually appear about Tampa Bay. In July it is more common. There is no evidence of its nesting here.

*White Ibis—*Guara alba*. The White Curlew is uncommon here in winter. Usually a few including immatures at Bird Key then. Later the immatures are not often seen here. Late in March or by the first of April the adults begin to appear in flocks at their breeding places. During the years under the writer's observation a colony of several hundred pairs has bred on Bird Key, another of at least 50 pairs on an island in Holmes' Pond and a larger colony bred in 1926 south of Tarpon Springs. The nests are in bushes eight to twelve feet above ground, frequently there are green leaves in the nest; the eggs are laid early in April. The White Ibis feeds in both salt and fresh water, but seems to prefer the latter. They are easily approached.

Wood Ibis—*Mycteria americana*. The Flinthead is seen in small numbers from January to March, sometimes alone and sometimes with herons and egrets.

Bittern—*Botaurus lentiginosus*. Not uncommon in suitable localities, both in salt and fresh water marshes.

*Least Bittern—*Ixobrychus exilis*. Occurs same as last above.

Ward's Heron—*Ardea herodias wardi*. Well distributed throughout the state. Seems to nest nearly throughout the year except perhaps the last three months of the year.

*American Egret—*Casmerodias egretta*. Well distributed over the state. Common resident around Tampa Bay. They begin nesting early in April and forty to seventy-five pairs nest on Bird Key. Fewer nested there in 1926 than in the two years preceding.

*Snowy Egret—*Egretta c. candidissima*. Appears well distributed now over the Gulf Coast of Florida. Have never seen over twenty individuals together. The warden states that they nest on Bird Key. One was seen going on to its nest by A. C. Bent in 1925.

Reddish Egret—*Dichromanassa rufescens*. Rare now; seen in 1925.

*Louisiana Heron—*Hydranassa tricolor ruficollis*. Common and well distributed. Begins nesting early in April.

*Little Blue Heron—*Florida caerulea*. Same as last.

Green Heron—*Butorides v. virescens*. Common, especially in fresh water streams and ponds; breeds.

*Black-crowned Night Heron—*Nycticorax n. naevius*. Well distributed; nests early in April. A few appeared to be nesting on Bird Key in 1925.

*Yellow-crowned Night Heron—*Nyctanassa violacea*. Less common than the last: also nests on Bird Key early in April, well up in larger trees.

*Florida Clapper Rail—*Rallus crepitans scotti*. Common in salt marshes; nests in April and May.

Carolina Rail—*Porzana carolina*. Occasional.

Florida Gallinule—*Gallinula chloropus cachinnans*. Common on fresh water ponds and sometimes on brackish water. Breeds here.

Coot—*Fulica americana*. Common on fresh water ponds and at times seen on salt water.

Wilson's Snipe—*Gallinago delicata*. Not uncommon in winter and spring.

*Dowitcher—*Limnodromus g. griseus*. Common winter resident, leaves in April or early May.

Long-billed Dowitcher—*Limnodromus griseus scolopaceus*. Occasional in winter.

*Knot—*Calidris canutus*. Occasional in winter in the gray plumage, in flocks of fifty or more. In May this late migrant appears in numbers on the mud flats of Tampa Bay. A flock of 200 was seen on Mullet Key, May 14, 1926. They were not yet in full red plumage.

Pectoral Sandpiper—*Pisobia maculata*. Only seen in migration. (March 31, 1926).

White-rumped Sandpiper—*Pisobia fuscicollis*. A few in migration, May 14, 15, 1926.

Baird's Sandpiper—*Pisobia bairdi*. Migrants, May 14, 15, 1926.

*Least Sandpiper—*Pisobia minutilla*. Exceedingly common from January 11 to May 17 (the latter date ending observations).

*Red-backed Sandpiper—*Pelidna alpina sakhalina*. Same as last except in lesser numbers.

*Semipalmated Sandpiper—*Ereunetes pusillus*. Not common during winter, but numerous in May. Typical specimens may be distinguished from *P. minutilla*, in life, by the dark legs, stumpy bill and grayer appearance of back. Flocks of 200 seen up to May 17, 1926.

*Western Sandpiper—*Ereunetes mauri*. During winter often seen in small numbers with the other small sandpipers.

*Sanderling—*Crocethia alba*. Common in winter, leaves last of April.

Marbled Godwit—*Limosa fedoa*. One seen near Pass-a-Grille, March 2, 1925, and one at Cedar Keys, Florida, February 19, 1923.

Greater Yellow-legs—*Totanus melanoleucus*. Occasional.

Yellow-legs—*Totanus flavipes*. Less common than last.

Solitary Sandpiper—*Tringa s. solitaria*. Occasional in March.

*Willet—*Catoptrophorus s. semipalmatus*. Numerous in suitable localities about Tampa Bay in winter. Flocks up to 800 rest or roost on bars near Gulfport in 1925-26. They leave in late April and early May for their breeding places in the salt marshes along the Gulf coast, from the Anclote River northward.

*Western Willet—*Catoptrophorus semipalmatus inornatus*. Common in migration. Is said not to breed here.

Spotted Sandpiper—*Actitis macularia*. Few in numbers but not uncommon after February first.

Hudsonian Curlew—*Numenius hudsonicus*. In small numbers in April and May, 1926.

*Black-bellied Plover—*Squatarola s. cynosurae*. Common winter resident, leaving before the middle of May and before entirely attaining the breeding plumage.

Killdeer—*Oxyechus v. vociferus*. Common winter resident in small flocks.

*Semipalmated Plover—*Charadrius semipalmatus*. Common winter resident, more numerous than last.

*Piping Plover—*Charadrius melodus*. Seen in flocks of twenty to fifty in winter with the Cuban Snowy Plover.

*Cuban Snowy Plover—*Charadrius nivosus tenuirostris*. Not uncommon resident, appears to breed around mouth of Tampa Bay.

*Wilson Plover—*Pagolla w. wilsonia*. Common after March first. Earliest record, February 27, 1926. Nests on the little dunes which collect about tufts of beach grass. Lays three to four eggs, hatching about middle to last of May.

*Ruddy Turnstone—*Arenaria interpres morinella*. Common winter resident, never many together.

*Florida Bob-white—*Colinus virginianus floridanus*. Common resident, but becoming less numerous as the country is settled.

*Mourning Dove—*Zenaidura macroura carolinensis*. Common resident. Four taken from a flock, February 10, 1926, were all males.

*Ground Dove—*Chaemepelia p. passerina*. Common resident; breeds.

Turkey Vulture—*Cathartes aura septentrionalis*. Common resident; breeds.

*Black Vulture—*Coragyps u. urabu*. Common resident; breeds.

Marsh Hawk—*Circus hudsonius*. Common resident; said to breed.

Sharp-shinned Hawk—*Accipiter velox*. Common resident.

*Cooper's Hawk—*Accipiter cooperi*. Common resident.

Red-tailed Hawk—*Buteo b. borealis*. Common resident; breeds.

*Florida Red-shouldered Hawk—*Buteo lineatus alleni*. Common resident; breeds.

*Broad-winged Hawk—*Buteo p. platypterus*. Not uncommon in winter.

Bald Eagle—*Haliaeetus l. leucocephalus*. Common resident; breeds in numbers around Tampa Bay and adjacent Gulf shores. Often found close to populous communities. There are several nests, used from year to year on two of the golf links adjacent to St. Petersburg. Usually where pine trees provide suitable nesting places a pair of these eagles will be found in about every mile of shore line in this vicinity. Food is largely fish; some duck bones were found under nests, these being mostly merganser. They lay about December first and the young leave the nest in this latitude in March.

*Duck Hawk—*Falco peregrinus anatum*. Rare winter visitor, an adult female was taken March 11, 1925.

*Sparrow Hawk—*Cerchneis s. sparveria*. Common resident, but more numerous in winter. The migrants leave about March 15. *C. s. paulus* was not taken in this territory. A number of the smaller and darker birds were collected, but all proved to be *C. s. sparveria*.

Osprey—*Pandion haliaetus carolinensis*. Not uncommon resident. An empty nest found on Bush Key in 1924, had the appearance of an Osprey's nest. No other personal evidence of its breeding in this region.

*Barn Owl—*Tyto alba pratincola*. Resident; not common.

Short-eared Owl—*Asio flammeus*. Resident; not common.

Florida Barred Owl—*Strix varia alleni*. Common resident; breeds.

Great Horned Owl—*Bubo v. virginianus*. Mr. A. C. Bent reports a set of eggs taken on the Pinellas Peninsula, by Mr. Oscar E. Baynard of Plant City, Florida, in 1925.

*Florida Screech Owl—*Otus asio floridanus*. Not uncommon resident; breeds. The one specimen taken in 1925 and the one in 1926 were in red phase and both found dead in paved road.

Yellow-billed Cuckoo—*Coccyzus a. americanus*. Rather uncommon. Not seen in winter; earliest record, April 20. Is said to breed.

*Belted Kingfisher—*Ceryle alcyon alcyon*. Common resident; more numerous in winter.

*Southern Hairy Woodpecker—*Dryobates villosus auduboni*. Rather uncommon resident; breeds.

*Southern Downy Woodpecker—*Dryobates p. pubescens*. Fairly common resident; breeds.

*Red-cockaded Woodpecker—*Dryobates borealis*. Not uncommon resident of pineries; breeds.

*Yellow-bellied Sapsucker—*Sphyrapicus v. varius*. Not common winter resident.

*Pileated Woodpecker—*Phloeotomus pileatus*. Not uncommon north of Tarpon Springs and elsewhere in suitable hammocks.

Red-headed Woodpecker—*Melanerpes erythrocephalus*. Uncommon resident. Seldom seen in 1925-26 in southern Pinellas County.

*Red-bellied Woodpecker—*Centurus carolinus*. Abundant throughout the state; breeds.

*Flicker—*Colaptes a. auratus*. Abundant resident; breeds.

*Chuck-will's Widow—*Antrostomus carolinensis*. Common, arriving in March. Earliest nesting record March 24, 1925. The first syllable of the call is heard only when within about 100 yards of the bird. Across water, the latter syllables may be heard readily a mile away. One bird, heard repeatedly at Bonita Springs, Florida, gave the call "Chuck-widow-will." The birds heard in Lee County in April, 1926, seemed to give a louder and more distinct "chuck" than the birds of farther north.

Whip-poor-will—*Antrostomus v. vociferus*. A not uncommon migrant, and probable winter resident as one was seen by Mr. A. C. Bent in this territory in December, 1924. One was seen by the writer at Gainesville, Florida, February 17, 1923.

Nighthawk—*Chordeiles v. virginianus*. Seldom seen by the writer in Pinellas or Pasco Counties, and no birds were collected there. One taken in Lee County was *C. v. chapmani*.

Ruby-throated Hummingbird—*Archilochus colubris*. Not seen in winter. Early records: March 1, 1925; April 8, 1926.

*Kingbird—*Tyrannus tyrannus*. Common summer resident. First record in 1925, March 21; in 1926, March 24.

*Gray Kingbird—*Tyrannus d. dominicensis*. Common summer resident, arriving about April 18, 1926.

Crested Flycatcher—*Myiarchus crinitus*. Common summer resident. Early records: 1925, April 9; 1926, April 1.

Phoebe—*Sayornis phoebe*. Rather common winter resident.

*Florida Blue Jay—*Cyanocitta cristata florincola*. Common resident.

*Florida Jay—*Aphelocoma cyanea*. Rare in this territory, arriving early in April; breeds. Saw a pair building a nest near Gandy Bridge, April 9, 1925, and collected a pair near Indian Rocks, April 7, 1926.

Crow—*Corvus brachyrhynchos*. Not common; a few seen around a slaughter house north of Tarpon Springs in March and April, 1926.

Fish Crow—*Corvus ossifragus*. Common locally; feeds in flocks. It is often found around habitations and at the heron rookeries awaiting a chance to steal eggs. Steals many hens' eggs. Has a habit of taking its food to one certain place to eat it.

Bobolink—*Dolichonyx oryzivorus*. Migrant; not common on west coast.

*Red-winged Blackbird—*Agelaius phoeniceus phoeniceus*. Common resident (?); breeds. Young were flying May 6, 1926.

Northeastern Redwing—*Agelaius phoeniceus predatorius* (Wilson). Common winter visitor; probably does not breed here.

A series of ten of the breeding form of Redwing taken by the writer in Pinellas County in the first half of April, 1926, were sent to the U. S. Biological Survey, and Mr. Charles W. Richmond, Associate Curator, Division of Birds, writes regarding these specimens under date of August 14, 1926, as follows: "Mr. Arthur H. Howell reports the specimens to be typical *Agelaius phoeniceus phoeniceus*, which ranges from Carolina to Florida, the bird of the eastern and northeastern parts of the United States being *Agelaius phoeniceus predatorius* (Wilson), as shown by Dr. Mearns. All of this is at variance with the last edition of the Check-List but it probably reflects what will be given in the next edition."

Dr. Donald R. Dickey also reached the same conclusion regarding the form breeding in Pinellas County from a series of twelve sent to him by Mr. A. C. Bent in 1925.

*Southern Meadowlark—*Sturnella magna argutula*. Common resident; breeds; young were flying May 9, 1926.

Orchard Oriole—*Icterus spurius*. Appears April 1 to 3; breeds in northern Florida.

Rusty Blackbird—*Euphagus carolinus*. A few were seen late in March, 1925.

Florida Grackle—*Quiscalus quiscula aglaeus*. Common locally in many parts of Florida but not observed by me in Pinellas or Pasco Counties.

*Boat-tailed Grackle—*Megaquiscalus m. major*. Common resident; breeds. The males, the young males, and the females each flock by themselves in winter.

Goldfinch—*Astragalinus t. tristis*. Rather common winter visitor, and usually leaves early in March.

Vesper Sparrow—*Poecetes g. gramineus*. Occasionally seen as a winter visitor; leaves in late March.

English Sparrow—*Passer d. domesticus*. Common resident; not observed to nest in winter.

*Savannah Sparrow—*Passerculus sandwichensis savanna*. Except the last, is the most common sparrow in winter. Left about April 15, 1926, except for a few stragglers.

*Grasshopper Sparrow—*Ammodramus savannarum australis*. One was collected near Elfers, Pasco County, March 26, 1926. Saw others.

*Sharp-tailed Sparrow—*Passerherbulus caudacutus*. Common winter resident in short-grass tide marshes, from Tampa Bay northward. Left about April 15, 1926. Out of ten collected in 1925-26, only two were adults.

*Scott's Seaside Sparrow—*Passerherbulus maritimus peninsulae*. A few in salt marshes west of Elfers. Collected one April 5, 1926, and on May 13 saw five in same marsh where they seemed to be nesting, although Scott says "Common from December to February, does not breed here."

Chipping Sparrow—*Spizella p. passerina*. Occasional winter visitor. Near Clearwater and Tarpon Springs flocks of fifteen and fifty, February 23 and March 5.

Field Sparrow—*Spizella p. pusilla*. Occasional winter visitor. (February 23, 1926).

*Pine Woods Sparrow—*Peucaea a. aestivalis*. Fairly common resident in certain open pine tracts where it is found usually in sawpalmettos along borders of swamps. Breeds. Very hard to flush.

*Bachman's Sparrow—*Peucaea aestivalis bachmani*. Less common than last. Took one and saw several west of St. Petersburg, March 26, 1925. Saw them in same place early in March, 1926. Collected one on the Anclote River plains March 13, 1926. Found no nests.

*Song Sparrow—*Melospiza m. melodia*. Uncommon winter visitor.

*Swamp Sparrow—*Melospiza georgiana*. Common winter resident.

Towhee—*Pipilo e. erythroplthalmus*. Common winter resident.

*White-eyed Towhee—*Pipilo e. alleni*. Common resident; breeds. Locally called Joree; is a fine singer.

*Florida Cardinal—*Cardinalis c. floridanus*. Common resident, nests in May. Well distributed throughout the state.

Indigo Bunting—*Passerina cyanea*. Uneommon migrant.

Painted Bunting—*Passerina ciris*. Mr. A. C. Bent saw one on Long Key in 1925.

Summer Tanager—*Piranga r. rubra*. Summer resident; breeds. Saw a male and female April 25, 1926.

Purple Martin—*Progne s. subis*. Summer resident; breeds. First seen in 1925 on March 24, and in 1926 on February 25. No specimens being taken it is possible the Cuban Martin visits this territory.

Barn Swallow—*Hirundo erythrogastra*. Migrant. First seen in 1926 on April 4, and for a week thereafter; none later. Seen at St. Marks, May 18, 1926.

Tree Swallow — *Iridoprocne bicolor*. Common winter resident; left about April 15, 1926.

Cedar Waxwing—*Bombycilla cedrorum*. Was seen with great floeks of Robins in latter half of January, 1926. Thirty to 100 waxwings seen, but none later.

*Loggerhead Shrike—*Lanius l. ludovicianus*. Common resident; breeds in Mareh.

*Black-whiskered Vireo—*Vireosylva calidris barbatula*. Summer resident. Saw three on Cabbage Key, May 5, 1926.

Mountain Solitary Vireo—*Lanivireo solitarius alticola*. One was seen near Tarpon Springs, Mareh 18, 1926. It was examined carefully with an 8x binocular at twenty feet for several minutes. The large bill and the bright color were very evident; it therefore seems doubtful that this was *L. s. solitarius*, the Blue-headed Vireo.

*White-eyed Vireo—*Vireo g. griseus*. Appears in late March or early April; said to breed in central Florida.

*Black and White Warbler—*Mniotilta varia*. Common winter resident, remaining until May.

*Prothonotary Warbler—*Protonotaria citrea*. Migrant; a little "wave" was observed April 6, 1925.

*Parula Warbler — *Compsothlypis a. americana*. Appeared in early March in 1925-26. Said to breed here. Seldom seen after early May.

Cape May Warbler—*Dendroica tigrina*. One male migrant, April 23, 1926.

Yellow Warbler—*Dendroica a. aestiva*. A few migrants, April 17 to 21, 1926.

Black-throated Blue Warbler—*Dendroica c. caerulescens*. A few male migrants, April 10, 1926.

Myrtle Warbler—*Dendroica c. coronata*. Very common winter resident; left April 3, 1926.

Magnolia Warbler—*Dendroica magnolia*. Occasional migrant. Was seen May 5, 1926.

Black-poll Warbler—*Dendroica striata*. Occasional migrant. Was seen May 7, 1926.

*Yellow-throated Warbler—*Dendroica d. dominica*. In 1924 several were seen January 29 and afterward. None were seen in 1925. In 1926 first were seen February 12. None were seen after March 16, 1926.

*Sycamore Warbler—*Dendroica d. albilora*. One was collected March 11, 1926. Positively identified another, which was close outside my window, on March 16, 1926.

*Pine Warbler—*Dendroica v. vigorsi*. Common resident in pineries; breeds.

*Palm Warbler—*Dendroica p. palmarum*. Most numerous and widely distributed of the warblers that winter in Florida.

Yellow Palm Warbler—*Dendroica p. hypochrysea*. None were identified positively. Scott (*Auk*, VII, page 20, 1890) says: "The examples of this subspecies that I have met with in the vicinity of Tarpon Springs are of rare occurrence, but they regularly appear in small numbers late in March and early in April, remaining but a few days. I have no fall records."

*Prairie Warbler—*Dendroica discolor*. Rather common resident of Florida. Early dates of its appearance in Pinellas County are: March 3, 1924; March 9, 1925; February 2, 1926. It was plentiful in each year after these dates.

Louisiana Water-thrush—*Seiurus motacilla*. Migrant. It was seen May 5, 1926.

*Florida Yellow-throat—*Geothlypis trichas ignota*. Common resident; breeds abundantly.

Hooded Warbler—*Wilsonia citrina*. Migrant; males were seen April 8, 10, 20, 1926.

Redstart—*Setophaga ruticilla*. Migrant; April 18, 19, 1926.

*Mockingbird—*Mimus p. polyglottos*. Probably Florida's most uniformly distributed bird, and perhaps the most numerous resident.

*Catbird—*Dumetella carolinensis*. Common resident; probably breeds.

Brown Thrasher—*Toxostoma rufum*. Not uncommon winter resident.

*Florida Wren—*Thryothorus ludovicianus miamensis*. Common resident; breeds. A clear, loud singer.

Bewick's Wren—*Thryomanes b. bewicki*. Uncommon winter resident.

*House Wren—*Troglodytes a. aedon*. Common winter resident.

*Short-billed Marsh Wren—*Cistothorus stellaris*. Not uncommon winter resident.

*Long-billed Marsh Wren—*Telmatodytes p. palustris*. Occasional in winter.

*Marian's Marsh Wren—*Telmatodytes p. marianae*. Locally common. April 5, 1926, found them abundant in salt marshes, west of Elfers; males had finished molting and were singing vigorously.

*Florida White-breasted Nuthatch—*Sitta c. carolinensis*. Uncommon.

Brown-headed Nuthatch—*Sitta pusilla*. Was seen in 1925 in this territory by Mr. A. C. Bent.

Tufted Titmouse—*Baeolophus bicolor*. Not uncommon resident.

*Carolina Chickadee—*Penthestes c. carolinensis*. Uncommon.

Ruby-crowned Kinglet—*Regulus c. calendula*. Uncommon winter resident.

*Blue-gray Gnatcatcher—*Polioptila c. caerulea*. Not uncommon resident; probably breeds.

Hermit Thrush—*Hylocichla guttata pallasi*. Migrant; not uncommon in spring.

Robin—*Planesticus m. migratorius*. Winter resident; wandering flocks, often of thousands, feed principally on the berries of the palmetto. When they leave a palmetto grove there are few berries left. Their numbers are so great that they make a great rustling in the dry leaves always present on the lower part of these trees. Except these wandering flocks, but few Robins are seen.

*Bluebird—*Sialia s. sialis*. Not uncommon resident; breeds throughout the state. Young birds accompanied by the parents were seen in late April and May, 1926, from Collier to Leon Counties. They prefer the pine woods.

JACKSON, MICHIGAN.

THE WILSON BULLETIN

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EDITORIAL

We are pleased to announce that the first contribution to the Endowment Fund has been made. It is not a large amount, but it makes a beginning. It may be of further interest to know that this particular contribution was a fee to one of our members for a bird lecture. This fact gives us the suggestion that other additions to the fund might be made by others who occasionally give bird talks for which they hesitate to accept compensation. Hereafter it will be proper to accept such compensation and turn the amount into the W. O. C. Endowment Fund. Such contributions are now temporarily deposited by our Treasurer in the Dayton Savings and Trust Company, Dayton, Ohio.

At the coming meeting in Chicago in November, definite arrangements will doubtless be made for the permanent care of the fund. In the meantime contributions may be sent to the Treasurer, or to any member of the Endowment Committee, as named in the last June number of the BULLETIN.

OUR NEXT MEETING

The next meeting of the Wilson Ornithological Club will be held on November 26-27, in Chicago, at the Chicago Academy of Sciences. The Academy is located in Lincoln Park, about eight minutes' ride from the loop district of the city. Our first meeting twelve years ago was held in the same place. The last two meetings at Kansas City and Nashville have been very successful, which gives us good reason to hope that the coming Chicago meeting will be the best one in our history. The Chicago Academy, besides being a comfortable meeting place, offers exhibits of particular interest to the student of birds. The fifty-five habitat groups of native birds will occupy one's attention between sessions. The overhead cases showing many birds in flying attitudes will also be of interest. No visitor should fail to see the Atwood Celestial Sphere in operation.

There will not be another issue of the BULLETIN prior to the meeting, but the Secretary's letter will give details concerning the program, hotel headquarters, etc.

The Inland Bird Banding Association will meet at the same time and place. Plans are being made for the largest attendance in our history.

A bibliography of 111 titles was necessarily omitted from the autobiography of Mr. Burns in this issue.

GENERAL NOTES

Conducted by M. H. Swenk

An European Goldfinch at Ann Arbor, Michigan.—On February 9, 1926, I took an European Goldfinch (*Carduelis carduelis*) at Ann Arbor. My attention was called to it by its peculiar call. Mr. Norman A. Wood of the Museum of Zoology, states that its feet indicate that it was not an escaped cage bird. The specimen is now in the Museum of Zoology, University of Michigan, Ann Arbor, Michigan.—LEONARD W. WING, *Jackson, Mich.*

The Western Meadowlark at Ann Arbor, Michigan.—I took an adult male of the Western Meadowlark (*Sturnella neglecta*) two and a half miles southeast of Ann Arbor, April 13, 1926. The primaries of the right wing were broken off a short distance from the wing. Mr. A. D. Tinker states it had been there for some time before I took it. The Van Tyne brothers inform me that they had heard it during the summer of 1925. The specimen is now in the Museum of Zoology, University of Michigan, Ann Arbor, Michigan.—LEONARD W. WING, *Jackson, Mich.*

A Late Occurrence of the Chimney Swift in Ohio.—On October 31, 1925, I saw a Chimney Swift (*Chaetura pelagica*) at Dayton, Ohio, flying above the snow-covered banks of the Miami River.*—ROBERT CUSHMAN MURPHY, *American Museum of Natural History, New York City.*

The Blue Grosbeak in Lake County, Ohio, in Summer.—On July 15, 1925, I found a male Blue Grosbeak in a small maple within the Painesville city limits, and watched it for a considerable period as it flew from one shade tree to another, singing at short intervals. The song was a low warble and could easily have been mistaken for that of a Purple Finch had the bird not been in sight. At times, though, there was a suggestion of the song of the Rose-breasted Grosbeak. The bird was still in the dapple-breasted plumage of a young male. The date is interesting since most northern records are made in the spring, at migration time, of birds presumably caught in the onrush of the migrating hosts and as a result passing beyond their usual limits.—E. A. DOOLITTLE, *Painesville, Ohio.*

Some Winter Birds of Iowa.—The following notes on birds seen here in the winter might be of interest. Five species were seen within three miles of my home, in Giard, Clayton County, Iowa, as follows:

Marsh Hawk (*Circus hudsonius*).—A straggler, a female, was seen on my place on January 12, 1924.

Red-winged Blackbird (*Agelaius phoeniceus*).—A straggler male was seen in a neighbor's corn-crib, feeding on mill feeds stored there, during a snow storm, on December 31, 1923.

*This date is later than any last date of departure of this species recorded from the United States in Dr. Oberholser's recent treatment of the migration of the swifts (in *Bird-Lore*, XXVIII, pp. 11-12) except in the case of four records, viz., Pensacola, Florida, November 2, 1919; New Orleans, Louisiana, November 4, 1896; Charleston, South Carolina, November 5, 1913, and Fort Wayne, Indiana, November 13, 1906.—Ed.

Purple Finch (*Carpodacus purpureus*).—A male was observed on January 25 and 26, 1924, feeding on weed seeds, on the banks of Bloody Run near Giard Station, Iowa.

Cedar Waxwing (*Bombycilla cedrorum*).—On January 19, 22 and 27, and on February 10 and 11, these birds came to my yard in flocks of seven to twenty-six birds and were seen to feed upon the frozen apples that still hung in the trees. I was at times able to approach within ten feet of the birds and they were all of the above species.

Winter Wren (*Nannus hiemalis hiemalis*).—On January 21, 1926, I observed a single bird of this species, in brush piles in a hollow that is being cleared. As I am familiar with the Winter Wren as a fall migrant, when they are common in this same place, collecting was unnecessary.—OSCAR P. ALLERT, *McGregor, Iowa*.

The Harris's Sparrow in Lake County, Indiana.—The Harris's Sparrow (*Zonotrichia querula*) is a very rare bird in Indiana, with only one or two records of its having been heretofore observed in this state. On May 17, 1926, I caught a male in a Lyon pull drop trap, along with four White-throated Sparrows (*Zonotrichia leucophrys*). I took it into the house, where we made positive identification, placed band No. 189152 on it, and released it to go on its way, destination unknown.

Butler's Birds of Indiana (1897) has no record of the Harris's Sparrow having been observed in Indiana, but in his hypothetical list, on page 1162, he states it might possibly be found, on account of having been reported in neighboring states. At page 1178 he states that John O. Dunn shot one in some bushes along the road east of Riverdale, Ill., on October 6, 1894. In the general notes in the *Auk*, XXV, p. 32, (1908) it is stated that one was taken by Mr. Wynian on October 13, 1907, at Beach, Lake County, Ill., and that one was observed by Mr. Ruthven Deane in Lincoln Park, Chicago, Ill., on May 11, 1904. Mr. H. L. Stoddard observed two at Miller; three were observed by Mr. Lyon at Waukegan, Ill., and six by Mr. J. P. Lewis at Chicago, Ill. See the *Auk*, XL, p. 412.—CLARENCE BRETSCH, 690 Broadway, Gary, Ind.

Peculiar Behavior of a Kingbird at an Orchard Oriole's Nest.—Mrs. H. W. Glossbrenner, Mrs. A. P. Thomas and myself were making observations at the nest of an Orchard Oriole (*Icterus spurius*) in Brown County, Indiana, on June 20, 1926, when we noticed a Kingbird (*Tyrannus tyrannus*) in an adjoining tree. Both the male and female Oriole having fed the young in the nest, which was placed in the topmost branches of a tall oak tree, had gone in search of food. In their absence the Kingbird flew directly to a dead branch two feet from the nest, then perched on the side of the nest, and, with wings extended and spread and tail spread to its fullest, made several dips with its head into the nest. It was so well surrounded with leaves that it was not possible to see what the Kingbird did. The Kingbird then flew to a perch three feet away as the female Orchard Oriole came back. She made a dart at the Kingbird, which did not leave, then went to the nest, continuing to scold a little. The male Orchard Oriole then came, struck at the Kingbird, sat on a perch six inches from the Kingbird and between it and the nest for several seconds, then went to the nest. Both Orioles left in a few seconds and the Kingbird repeated its per-

formance at the nest as before. When the Orioles again returned the Kingbird took its position three feet away. While an Oriole was near the nest and the Kingbird still on the perch three feet away, one of the fledglings, a bird perhaps five days old, dropped to the ground beneath the nest. It lived about twenty minutes. It did not appear to have been pecked. It showed no blood or bruises either from the fall or from an attack. The Kingbird left in less than a minute after the bird fell. The Orioles resumed feeding the remainder of the brood. We saw only one Kingbird about and could find no nest of a Kingbird in any neighboring tree.—SAMUEL ELLIOTT PERKINS, III, *Indianapolis, Ind.*

An Appreciation of the Scarlet Tanager.—One morning in the latter part of May I started for a walk in the woods to locate, if possible, some of the late migrants which, though past due here, had not yet been seen. I had scarcely entered the outskirts of the forest when I noticed a twinkling of scarlet among the pale green foliage of an oak tree. Closer investigation showed that it was a Scarlet Tanager (*Piranga erythromelas*). He was at work industriously collecting his breakfast. I observed him carefully, with the aid of field glasses. He examined the leaves and catkins about him very closely, discovering and devouring many slugs, green worms and small caterpillars. After proceeding thus with his meal for about fifteen minutes, he evidently decided to have something different for dessert, so he dropped down onto a wire fence beneath the trees to get a better view, and, watching after the manner of a flycatcher, he darted forth into the air a number of times, each time snapping up some delicacy and then returning to the fence. A few times also he dropped to the ground, like a Bluebird, picking up some luckless bug or worm on each trip.

When his meal was finished, he flew back up into the tree, calling several times "*chip-errrr*," with much emphasis. Next he entertained me with a concert of remarkably beautiful song. His song resembles that of the more common Rose-breasted Grosbeak very much, but is not quite so hasty, and, while the Scarlet Tanager is a brother to the Rose-breasted Grosbeak in song, he is a Scotch brother, for he has a quaint burr in his throat.

Any person who could thus observe this most gorgeously arrayed of all our many beautiful summer residents, without feelings of admiration and delight, would certainly have to have a head of clay and a heart of stone.—E. D. NAUMAN, *Sigourney, Iowa.*

Bird Roosts in East Central Ohio.—Near our home in Tuscarawas County are several breeding colonies of Red-winged Blackbirds and Bronzed Grackles. When the young are able to leave the nest the Red-wings have a common roost in a sedgy marsh, while the grackles have a roost in a thicket near the river. In the fall, after the summer dispersion, they seem to coalesce more readily. This coalescence is yet more noticeable in the spring migration, when several thousand birds of the different species have a common roost in some tangled thicket, and sometimes spend two or three weeks of the early spring there. They mobilize at the roost in the evening, and if the weather is fine, will spend some time in mass evolutions. In migration they move in large divisions, in mass formation. In the early morning, when they begin to move to their feeding grounds, they go in the smaller colony (?) groups. We have never noted them feeding in mass divisions except in mid-summer, when the young birds have gained

sufficient wing power to mobilize with the old birds in mass evolutions, and before the summer molt.

The Crows seem to preserve the family group until late summer, when they begin to mobilize at a common roost. Several of these roosts, varying in number of birds from five hundred to several thousand, we have had under observation in both fall and spring. A short time before the sun sets they mobilize enmasse for an evening vesper, though the music is not edifying to "uncultured" ears. At day break they begin to leave the roost for their feeding grounds in the surrounding country. They never move in a mass, but in neighborhood (?) groups of from twenty-five to one hundred.

We visited one Crow roost near our farm home on several moonlight nights. With a large wolf skin robe thrown over our head for a disguise, we could traverse the thicket without much disturbance to the birds. Many never awakened, but kept their heads tucked under the scapulars. There was no crowding, but each bird seemed to have a perch to himself. Numbers were so near the ground we could reach them, and it was amusing to see the awakened ones craning their necks in trying to see what manner of beast was trespassing on their private domains.

The juvenile Robins of a neighborhood usually have a common roost in some convenient thicket or sedgy tract, but we have never found them mobilizing in central Ohio in much greater numbers than the local population. Later in the fall we find large divisions of migrants moving in a mass, but their stay is short and there is not much time to note their movements. They winter in small numbers in sheltered places, and we have one record of a winter roost where thousands of birds spent the winter of 1911-12. We give two quotations from our notes of that time. "January 9, 1912. About an hour before sunset they (the Robins) commenced to come in from the hills west of the valley in companies of one to two hundred and continued until almost dark. They were flying low down and seemed bewildered by the biting wind that was blowing a stiff breeze from the W. NW." The temperature was below zero. "January 10, 1912. Took a trip this afternoon about two miles back in the hills and found them feeding on wild grapes, dogwood and gum drupes. This evening twelve flocks passed over to the east, each flock containing from sixty-five to two hundred birds."

This roost was twelve miles east of our home, in Harrison County. These groups continued to come almost daily to our neighborhood until March, and on the warm days of March seemed to be selecting mates, as there was much trouble among the males as they worked the fields and woods in search of food. In the spring migration we have a better opportunity to study their movements because their stay is much lengthened. They sometimes come in large mass divisions but these soon break up into smaller units—neighborhood groups(?)—to work the woods and fields. They do not have a common roost. The small units usually spend the night on the ground, in grassy meadows and pasture fields, and to some extent they roost in the fields in the fall. The local birds are nesting before these groups all leave us. Sometimes we find them in late April. Are they waiting for summer up in the Hudsonian Zone where these groups belong? Would it be "too curious" to think of this vast mobilized army of migrants, as its divisions near the front, having its group units spread out to

some particular section, with which they are familiar because at one time they were nestlings there?—CHARLES R. WALLACE, *Delaware, Ohio*.

The Red-headed Woodpecker Occasionally Wintering in Alabama.—

The Red-headed Woodpecker (*Melanerpes erythrocephalus*) is a summer resident in the vicinity of Auburn, Alabama, but also every winter a few of these birds are to be found with us. Their habit of retiring to the heavily timbered swamps explains why this species is not so often noticed during the winter months. The easily distinguished, whining "charr," uttered while on the wing, during migration, on the so-called "moonlight nights of September," has been noted by the southern observer since the days of the early settlers. This is the only note to be heard as the bird passes over at an altitude of about one hundred yards. At about two minute intervals the note is repeated.

The "late hatches" of the breeding season usually constitute the few that remain with us during the winter. But, before the bulk of the species has returned in April, the winter moult has already taken away the grayish feathers from the head of the young and they are dressed like the mature birds. This winter there was one pair of old birds and one young one left on the college campus at Auburn. During the early fall they were busily storing away the insect-infested fruit of the oaks and pecans, which offered an abundant supply. In winter, when food becomes scarce, the redhead returns for the insect larvae that have been kept in this manner. The pecan weevil, which causes a great deal of damage to the southern pecan crop, is largely controlled by this and its closely related species, the "Speckled Red-head" or Red-bellied Woodpecker (*Centurus carolinus*).

It is in winter that the Red-headed Woodpecker is most quarrelsome, uttering its "clattering" series of notes, which resemble the noise of so many strokes of a mowing machine knife while cutting. On warm clear days in February the well known whining "charr" is again heard, along with its numerous other notes which are characteristic of the breeding season, and its habit of "drumming" with its bill on hard surfaces of trees and roofs of buildings. The Red-headed Woodpecker, like the Red-bellied Woodpecker, always builds its nest in dead wood, using no nesting material other than the chips obtained from the making of the nest.

The redhead is very fond of insects. It delights in catching cicadas and grasshoppers, along with many other kinds of insects. Orchards are often attacked by these birds, which is one of its bad habits. But this can be overcome by supplying them with mulberry fruit (*Morus nigra*, *Morus rubra* or *Morus albo*), as the redhead prefers this fruit to any other. One or two trees will be sufficient to attract them from over an area of one square mile. Not only will mulberry trees attract the redhead, but they will tend to greatly increase the bird population in general in the immediate vicinity, as these trees ripen their fruit over the entire breeding season (May 1 to August 10).—T. R. ADKINS, *Auburn, Ala.*

BIRD BANDING NEWS

Conducted by W. I. Lyon

**SUMMARY OF TRAPPING AND BANDING OPERATIONS IN
NORTHERN MICHIGAN**

BY M. J. MAGEE

In the fall of 1915 I began putting out food for the birds. At first I was a little discouraged, for I seemed to be able to attract nothing but English Sparrows. However, I made war on the sparrows, and on February 17, 1916, a male and two female Evening Grosbeaks came in to feed. More and more kept coming until there were more than fifty feeding daily.

On April 6 of the same year the first Purple Finches came in. Since that time I have kept food out winter and summer: and it is very seldom that we sit down to a meal by daylight without the presence of wild birds at the feeding tray by the dining-room window or at the feeding booths on the nearby trees.

In 1917 I built a bird bath, which, in season, attracts many birds not interested in the seed foods. In 1921 I began, in a small way, to operate an ordinary sparrow trap. The next year I added a so-called bander's trap and enlarged the openings in the sparrow trap, because I found that it was almost impossible to get some of the birds, particularly the Purple Finch, to go through the small opening into the back of the trap. I also used one drop trap, which was used most of the time over a part of the bird bath.

Since that time I have tried almost every kind of a trap, and have finally settled down to the operation of six traps: these are, a Lyon sparrow trap, a sparrow trap with enlarged openings, two drop traps, an automatic trap, and a large drop trap over the bird bath. The last-named trap is 5x3 feet 6 inches on the ground, and eighteen inches high, with two doors on each side and four on top, thus making it possible to get into either side or any part of the top. The last two traps are of my own design.

This year I have enclosed my station with a cat-proof fence. The space enclosed extends from the back of my house to the back of my neighbor's house: and from the fronts of the houses to the front walk, giving me an area 75x175 feet, about one-quarter of which is covered with grass, a few shrubs and trees, while the rest of the area includes some trees and a thicket, left in a wild state.

I always cover my traps with pieces of blanket. It keeps the birds quiet, and they will go into the gathering cage as soon as the door is opened and a corner of the blanket is lifted. I also cover the gathering cage while carrying the birds around. Since doing this I have had little trouble with the birds injuring themselves by striking against the wires or poking the bill through the meshes.

I would have banded many more birds in 1922, but twice in the spring, and once in the fall, I was entirely out of bands: these were times when the Biological Survey was encountering difficulty in having the bands manufactured. Except less than a dozen birds, banded in 1921 and 1922, all my banding has been done within fifty feet of my dining-room window. Since 1922 I have not banded a fledgling, even when the birds are nesting right at the house. I find that I can get them in the traps as soon as they are able to get around, and then there is less danger of injuring the young birds.

One who is just beginning his banding work can scarcely realize how interesting it becomes as the years go by and the returns keep coming in. I remember very well the thrill I experienced when my first return came in on April 22, 1923; it was a Purple Finch (No. 30622) that I banded on July 11, 1922. This bird was back in 1924, but I have not seen it since. My second return was also a Purple Finch (No. 103609), an adult male when banded on July 28, 1922. This bird has been back every year since, and has repeated from one to eight times each year. As it was in adult male plumage when trapped in 1922 it must have been at least two years old at that time, and must now be at least six years old, it is as highly colored an old male as I have ever seen.

The first Song Sparrow to be trapped this year, 1926, was No. 61117; it was an adult bird when I banded it April 29, 1923, and has been back every year since. The first Robin was No. 269808, a young bird when banded July 13, 1924, and not trapped in 1925. On May 16 I trapped my first Chipping Sparrows for the year, three of them; one was an adult bird (No. 1558A) when banded June 5, 1924, and back in 1925. This year I also got my first return on a White-throated Sparrow, No. 164961, an adult bird when banded September 17, 1925.

On October 21, 1923, after returning from a walk with Dr. Christofferson, who has been scouting this territory with me and checking our birds both winter and summer since 1915, I set my traps and we went in to lunch. A few minutes later on looking out of the window, much to my surprise, I saw a female Scarlet Tanager in my automatic trap; a male tanager, showing some red patches, was on the ground just outside the trap. I believe this is a record late date for a Scarlet Tanager in anything like this latitude, 46° 30' North. A No. 119917 band was attached to the female, which was then held in my hand while the Doctor photographed it—this to forestall any question or argument as to the identification of the bird. This year, 1926, a full-plumaged male Scarlet Tanager came in to feed on May 20; it was feeding on the ground, in and out of my feeding boxes, or under the drop traps every day until May 29. On the 21st I banded it with No. 190588.

Some years ago White-crowned Sparrows were feeding in my window box off and on for a week or more. I noticed a bird among them that looked different; the head markings were distinctive, the outer black stripe reached from eye to eye, and the space in front of the eye was white instead of black. None of the other birds showed this solid black line. I looked through the bird books for any description or picture that would help to identify this color pattern, and finally decided that the bird was a Gambel's Sparrow (*Zonotrichia leucophrys gambeli*). But, not being sure, I did not report it. Since that time I have been on the lookout for another bird showing the same head markings. Last year, on May 21, 1925, I trapped one and banded it as a Gambel's Sparrow, No. 160668. In making the report to the Biological Survey I enclosed a sketch of the head. At the same time I sent a similar sketch to Norman A. Wood, of the University Museum of Zoology, Ann Arbor, Michigan. Under date of June 9, 1925, Mr. Wood wrote me as follows:

"Let me congratulate you on the new Michigan species. From your description and sketch I am quite sure you had a Gambel's Sparrow. I have examined ours in the Museum collection and find the grayish white lores, and the longer black line from eye to eye."

In Professor Barrows' Michigan Bird Life the Gambel's Sparrow is not mentioned, even as a possibility for Michigan. Considerable regret was expressed in several quarters that I had not collected the bird. However, I would rather look for a return of the bird alive than make a record with it dead. If I ever get another I shall photograph it as I did the female Scarlet Tanager.

Three of my birds have thus far been reported to Washington.

Purple Finch No. 118680, banded September 4, 1923, was found dead at a farm house three and a half miles from Sparta, Tennessee, on May 1, 1924. This bird had probably been farther south and was now on its way north, as I started banding Purple Finches in 1924 on April 21.

Purple Finch No. 160959, banded June 30, 1925, was reported killed on February 14, 1926, near Smaekover, Arkansas. Smaekover is in south-central Arkansas, not far from the Louisiana line, and about one thousand miles west of south from my banding station. I wrote to the party who made the report, and was told that Purple Finches wintered there in flocks ranging from one to two hundred in number. On May 20, 1926, I trapped Purple Finch No. 160960, which had also been banded on June 30, 1925. Of finches banded from June 27 to July 2, 1925, I have had twenty-one returns, the one just mentioned and Numbers 160901-3-5-9-16-18-21-24-25-26-29-30-32-45-48-49-54-70-98-99. It is possible that all of these birds may have been in the flock that wintered in southern Arkansas.

Evening Grosbeak No. 110630, banded on March 23, 1924, was reported by Deputy Minister L. K. Richard, of the Department of Colonization, Mines and Fisheries, Province of Quebec, as having been killed near Quebec. I wrote Mr. Richard and he replied, "Bird was killed at St. Charles, County of Bellechasse, some twenty-five miles east of Quebec on March 9, 1926." This place is some six hundred and fifty miles east of where the bird was banded. Dr. Christofferson and I have suspected for some years that there was more of an east and west movement of our Evening Grosbeaks than north and south. This report from Quebec strengthens our suspicion.

Some of my notes on the plumage of the Purple Finch were published in the *Auk* for October, 1924. Reprints were supplied to the U. S. Biological Survey for distribution to bird banders at that time.*

In these notes I stated that the notes on plumage should be considered only as preliminary. With one slight correction and two additions that report now stands as published.

Correction. Adult male—"Most, if not all, do not acquire the crimson plumage until two years old"; this should read, "The crimson plumage is not acquired until the bird is at least a year old, and in many not until at least two years old." Many young males trapped in the spring acquire the adult plumage by fall. So many of them, that some must be young of the previous year, but certainly all are not. Purple Finch No. 58864 was banded on May 12, 1923, as a young male or female; it had molted and repeated on September 4. At this time it showed no crimson color and I marked it as probably a female. It returned on May 7, 1925, in adult male plumage. This bird could not have been younger than a 1922 bird, and did not acquire the adult male plumage until 1924,

*I still have on hand a small supply of these reprints, and will be glad to send one to anyone upon request.

Of birds banded in 1922 I have had 41 back; one Song Sparrow and 40 Purple Finches. Of the birds banded in 1923 I have had 115 back; four Song Sparrows, five Evening Grosbeaks, five Robins, one Chipping Sparrow, 100 Purple Finches. Of the birds banded in 1924 I have had 115 back; one Song Sparrow, four Evening Grosbeaks, one Robin, one Goldfinch, one Chipping Sparrow, two Lincoln's Sparrows, 105 Purple Finches. Of the birds banded in 1925 I have had 114 back; three Song Sparrows, one Evening Grosbeak, one Robin, one White-throated Sparrow, 108 Purple Finches.

For plumage records repeats are important. I have been able to check many of my banded Purple Finches all through the molting season into the fall plumage.

The average life of our small birds must be very short. They suffer many casualties, and the mortality must be very great, even among those not migrating south of the United States. A check-up of my Purple Finch returns seems to indicate this very plainly.

TABLE 2. To show decrease in number of returns.

	Number banded	Number of returns			
		1923	1924	1925	1926 half year
1922.....	254	33	19	5	3
1923.....	1092		72	40	17
1924.....	1043			88	38
1925.....	1510				108

The successive decreases may, at least in part, indicate the mortality. My records would also seem to indicate that the average life of the male Purple Finches is longer than that of the females. Since starting to do banding up to December 31, 1925, I have banded 3,908 Purple Finches, of which 673 were in adult male plumage. Three hundred fifty-three of these have returned, of which 82 were in adult male plumage when banded. This makes the returns from all nine per cent, and from adult males alone twelve per cent. During the same time birds banded as young males or females that on last return were in adult male plumage total 135. Add these to the 82 banded in adult male plumage and we have 217 definitely known to be males out of 353; or 61.33 per cent of all returns have been males, and only 38.66 per cent have been females, with certainly some young males included. A similar result is obtained from a study of the returns for the first half of the year 1926, as may be seen from the following table.

TABLE 3. Sex of Purple Finch returns for first six months of 1926.

Of 3 returns banded in 1922,	3 are in adult male plumage
Of 17 returns banded in 1923,	9 are in adult male plumage
Of 38 returns banded in 1924,	28 are in adult male plumage
Of 108 returns banded in 1925,	74 are in adult male plumage
166	114

From these figures we find that out of the 166 returns during this six months period, 114, or 68.66 per cent, were positively known to be males.

TABLE 4. Distribution of all Purple Finch returns as to sex.

Year Banded	In adult male plumage when banded	Banded as young male or female. In adult male plumage on last return	Banded as young male or female. No change in plumage on any return.	Total
1922.....	11	10	19	40
1923.....	32	29	39	100
1924.....	20	41	44	105
1925.....	19	55	34	108
	82	135	136	353

To anyone about to start to feed or band birds I would say, if you keep a cat and are not willing to give it up, don't start. The house cat, and that means your cats and all your neighbors' cats, is the most destructive agency to bird life that we have in the towns. With me it has been a constant war on cats and English Sparrows. In 1924 and early in 1925 I know that cats got a number of my birds. I always kept a gun handy and shot any cat on sight, but I felt that I was not getting results; so I wrote to the U. S. Biological Survey and they sent me a reprint from the Yearbook of the Department of Agriculture, for 1919, entitled "Trapping on the Farm." This reprint describes a cat trap, and how to make it. I had one made, and it works. My neighbors, voluntarily or involuntarily, have stopped keeping cats.

TABLE 5. A record of cat and sparrow control.

	1921	1922	1923	1924	1925	6 mo. 1926	Total
English Sparrows destroyed.....	132	257	588	187	411	58	1633
Cats destroyed	1	2	7	4	22	25	61

SAULT STE. MARIE, MICHIGAN.

AN EXONERATION OF THE PURPLE FINCH

BY M. J. MAGEE

Is the Purple Finch (*Carpodacus purpureus*) entitled to its reputation? It is reported as "of doubtful utility", "the most confirmed bud-eater of all our birds", etc. Since 1916 I have had them feeding by the hundreds in my yard, from early spring until late in the fall.

On my lot there are a few apple trees, at least thirty-five years old; they have never been sprayed nor had any attention. In the *Auk* for October, 1924, I published some notes on the Purple Finch. Here I stated that "Last year more of the birds were here than ever before, and my trees never had more or better apples, hardly a wormy one in the lot. I doubt if their budding does any harm, certainly not to apples in any event."

In 1925 I made some photographs showing these apple trees in different stages of fruiting. Figures 1 and 2 show the same tree, which stands about

fifty feet back of the house, and about seventy-five feet from the bird bath. Figure 1 shows the tree in blossom. Figure 2 shows the tree propped up to keep the weight of the apples from breaking the limbs. Eleven and a half bushels of apples were gathered from this tree. Figure 3 shows about half of an apple tree, at my bird bath, just before the apples were picked. In a storm four



FIGURE 1. Apple tree in blossom, frequented by large numbers of Purple Finches.

years before this tree was split in two, and the back half of it is now gone; but it still bears fruit, and in 1925 yielded four and a half bushels.

All these apples were looked over carefully, and only about three wormy ones were found.

So, from these facts, I am convinced that the Purple Finches do no appreciable harm to the apple crop, even though they may be guilty of eating some of the buds in the springtime. On the other hand the fruit was abundant and unusually free from worms, while the birds, especially Purple Finches, were unusually abundant in the trees in the blossoming season. What connection there may be between these last facts we may only surmise, but it does not seem probable that we could reach a conclusion to the disadvantage of the birds. In 1925 I banded forty-nine warblers, of twelve species, and all but three or four were taken in the trap over my bird bath, shown in Figure 3.

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FIGURE 2. Same tree heavily loaded with fruit, and propped to prevent breaking of limbs.



FIGURE 3. Bird bath trap located under an apple tree which bore $4\frac{1}{2}$ bushels of fruit.

NOTES ON THE EVENING GROSBEAK

BY M. J. MAGEE

Since beginning my feeding of wild birds in 1915 I have had a flock of Evening Grosbeaks (*Hesperiphona vespertina*) here every winter except one, and several times a few have been here during the summer, the latter on three or four occasions being accompanied by young birds still fed by the parents. In 1923 I banded 59 of these birds: in 1924, 138; in 1925, 205; and 82 during the first half of 1926. During midwinter I do very little banding, because the snow is deep, and the grosbeaks have to be handled very carefully or they may injure each other. Every month in the year, for seven years, Dr. Christofferson, my associate in bird work, and myself have checked the Evening Grosbeak in the eastern part of the upper peninsula of Michigan. So in the future it will have to be put down as a regular resident of this locality, and not as an irregular winter visitor merely.

We have not yet been fortunate enough to locate any nests, so cannot say whether the males can be distinguished from the females before the young leave the nest. They can certainly be separated soon after. At the feeding station on August 18, 1924, a very young grosbeak was being fed pin cherries by the female parent. The young was fawn color, with wings and tail as in the adult female, except that the largest white patch on the wing was quite yellow.

On September 8, 1924, the feeding station was visited by one female grosbeak with one young, and by another with three. In general the color of the young was fawn, but somewhat darker than in the young of August 18. One of the young had the wing and tail markings of the female; the others had the large white wing patch of the males with a decidedly yellow tinge to the feathers of the breast and middle back, and tails like females. Bills of all were dusky, and considerably darker than the bills of females. The two old females were feeding the young with sunflower seeds, with an occasional pin cherry. Up to September 12 nine young visited the feeding station; one female with three young, two with two young each, and two with one each. On September 11 I trapped a young female. This bird was more mature than the young first seen on September 8, and was able to feed itself, though fed now and then by the old female. Its plumage was much like an adult female, but there was more fawn color about the head, the bill was darker, and the largest white patch on each wing was tinged with yellow. The feathers were quite downy, especially on the head. The throat was the same color as the sides of the head and upper breast, and bordered on each side by a distinct blackish line.

On October 18, 1921, I saw a young male with black and white on the wings, and yellow above the bill and eyes, as in the adult male; the body and tail were like the adult female. Of the many males I have had at the feeding station since 1915 this is the only young male I have thus far seen in changing plumage. And, judging from this one specimen we might conclude that the young males change very quickly into the adult plumage. The tail is the last to change, but by midwinter one seldom finds a male showing any conspicuous white on the tail; however, the presence of a little gray-white on some of the tail feathers does not necessarily indicate a young male. Grosbeak No. 110646 was banded on April 7, 1924, and when trapped on April 5, 1926, it had a gray-white patch on the inner web at the tip of each outer tail feather.

Although the birds rapidly change into the adult plumage, I believe, in most cases, the young birds can be distinguished from the old ones in late fall and early winter, and a few even in the following spring. The young males are more of a lemon yellow, and are much less bronzed than the older males. I am sure that the very heavily bronzed birds are old males, and the lightly bronzed birds are young males. Between the two extremes will be found an infinite variety of shadings.

The young females do not have the whitish throat; it is the same color as the sides of the head and upper breast. This gradually becomes lighter until the gray-white throat of the adult female is attained. In almost all cases the dark lines at the sides of the throat are present. Out of the thirty-eight females banded from November 11 to December 31, 1925, sixteen had the throat of the same color as the sides of the head and upper breast, although in some cases by ruffling up the feathers it could be seen that they were becoming lighter. All showed the dark lines at the sides of the throat except No. 331327, which was banded on November 22. On the latter's card at that time I noted that the "dark side markings are very indistinct."

The amount of white on the wings varies much in the females, hardly any two having exactly the same markings. I believe that those showing the least white are the young females. These young also show less of a yellow tinge on the feathers of the nape, back, and breast. I have never seen a female heavily tinged with yellow that did not have more than the average amount of white on the wings.

There is one correction that should be made in the usual description of the plumage of the Evening Grosbeak. After molting, the feathers in the white wing patches of both males and females are distinctly edged with yellow. All of the descriptions of the plumage that I have seen, from Audubon down, are very much as given by Professor Barrows in "Michigan Bird Life", in which for the male it is said, "most of the secondaries and their coverts snowy white"; and of the female, "primaries and secondaries black, boldly spotted with white." This limited description may be due to the fact that only specimens taken in the spring were examined. Practically all of my banding of these grosbeaks has been done in the spring, until last fall (1925); and then from November 11 to March 1 I banded eighty-four, forty males and forty-four females. The males had nearly all of the feathers in the white wing patch edged with yellow on the outer webs, except at the tips. This was true for the great majority of females as well; a few showed little, if any, yellow edging to the white markings on the primaries.

Either from wear or fading the yellow edging lightens; in the males, first on the white secondaries; in the females, on the white patches of the primaries. This fading of the yellow edging has been particularly noticeable since the first of March. I have banded several males showing no distinguishable yellow on the white secondaries, and a number of females showing none on the primary white patches. Sometimes the edging is very indistinct and can only be detected by getting the bird in a perfect light. On damp days the yellow edging is more noticeable than on dry days. Two males (No. 393387 and No. 393411) and four females (Nos. 393405, 393407, 393412, and 393413), all banded between April

4 and 10, showed no distinguishable yellow edging on any of the white wing feathers.

In addition to the variations in plumage already mentioned there are some in the plumage of the male which I believe are entirely accidental. The upper tail coverts are usually solid black, but quite a few have the two longest feathers tipped or dotted with yellow, and now and then the four longest feathers are so marked. In a few cases the markings are white, which I think can be accounted for through fading or wear. The yellow under tail coverts are black on the bases, and sometimes black patches show on the yellow portion of some of the feathers—in one case the under tail coverts were nearly half jet black.

During the winter of 1925-26 a number of my banded grosbeaks were seen at Hulbert, some forty-five miles west of the Soo; and under date of April 9, 1926, I received the following notice from the Bureau of Biological Survey: "Evening Grosbeak No. 110630, banded by you March 23, 1924, was killed at Quebec, Canada. Reported March 13, 1926."

SAULT STE. MARIE, MICHIGAN.

SPECIAL STUDIES OF MOURNING DOVES BY THE BIRD BANDING METHOD

BY WILLIAM BREWSTER TABER, JR.

The bird banding method has opened an enormous field of investigation which could not be carried on in any other way. It is a key that will unlock many an otherwise unsolvable problem. Indeed the trapping and handling of living birds brings to light phenomena to be explained which we did not even know existed. Although many of these investigations will not assist in clarifying our main problem, the mystery of migration, they will uncover new facts which will add materially to our present knowledge of bird life.

The last directory of bird banders, published by the U. S. Bureau of Biological Survey, lists under each person's name the special studies in which he is interested. It enables us to communicate with others doing similar research and in that way obtain helpful ideas. If we put aside our personal ambitions to obtain the honor of being the first to publish some new fact, and if we direct all of our efforts to discovering the truth, helping others engaged in the same search as much as we can and giving freely the information that we possess, our progress will be more rapid and the extent of our studies will be greatly increased.

It has been my good fortune to accidentally possess, on my farm, the means of attracting considerable numbers of Mourning Doves. Strange as it may seem this magnet is nothing else but a natural gas well. The well is old and the casing has rotted allowing the salt water, which is so frequently associated with the gas sand, to penetrate to the pocket at the bottom. When sufficient water accumulates it has been necessary to open a valve at the top of the well and allow gas and salt water to blow out, drenching the surrounding ground. This has been done periodically for the past few years, resulting in the saturation of the earth with salt and killing the vegetation. Like their relatives, the domestic pigeon, Mourning Doves are very fond of salt, so this salt peck has proved a strong attraction. Migrants and summer residents alike fly to it. It is not an

unusual sight to see several doves at once about the well busily pecking at the ground and perhaps a dozen or more perched on the top wire of the nearby fence. To begin with I used only a house trap located near the well and baited with whole grains of wheat and corn, but later added a slightly modified clover leaf trap situated within a few feet of the first. Of these two the clover leaf trap catches more doves, deriving its advantage from its three openings instead of only one, and its all wire construction.

In my location, central Illinois, the Mourning Dove trapping season opens the last few days of March, and soon after the first catches I find one or two of the earliest nests in the orchard. Many of the doves must arrive already mated. When two birds are caught together they are usually of opposite sex and when released usually fly away in company. During the month of April, 1924, forty doves were caught. Five catches were of two birds each, and in all of these cases they were paired off male and female. During April, 1925, thirty doves were caught. Three catches were of two each and in each case they also were male and female.

About the first of May successful nest locations have been secured and the doves are busy incubating their eggs. Instead of catching birds of either sex at any time of day it becomes evident the two sexes are now not feeding together, but that in the early morning most doves caught are males, in the middle of the day mostly females, and in the late afternoon males again. From May 1 to June 4, 1924, inclusive, a study of this phenomenon was made. Including repeats and returns 114 doves were caught, fifty-three females all but five of which were found in the traps between 8 A. M. and 2 P. M., and sixty-one were males all but nineteen of which were found caught either before or after those hours. Therefore the daily incubating period of the males must be from about 8 A. M. to about 2 P. M., while the females are on the nests for the remainder of the time. The exceptions may be explained by a number of reasons. Several may be late migrants. Several may be due to nests having been broken up by some marauders and the doves having not yet secured a new location. Also there must be a number of free unattached birds wandering about the countryside, for often when one brooding bird is killed the other secures a new mate astonishingly quickly. Dr. A. A. Allen in the January, 1924, *Auk* illustrates the presence of free unattached birds but considers them to be late young migrants. However, Mourning Dove 314133 (a female) is a wanderer, for it was banded by me on June 6, 1924, and was picked up with a broken wing at Pleasant Plains, Illinois, on June 22, which is approximately 110 miles west and only twenty-five miles north of Greenwood Farm. Clearly this dove was wandering, for this occurred at the height of the nesting season and neither the direction nor the distance would indicate migration.

There seems to be a general belief that, like their congener, the domestic pigeon, Mourning Doves mate for life, but the evidence that I have is most certainly negative, for I have not a single instance of one being caught with its former companion of opposite sex among seventeen such doves which have returned during succeeding years. Of course this evidence is not sufficient to be considered conclusive. However, it may be taken for whatever it is worth.

In the course of my banding operations, I have found that Mourning Doves have suffered from two major diseases. During the latter part of August and

the month of September, 1924, an epidemic of avian diphtheria attacked them. Out of eighty different doves handled during this period, six were affected. Only one bird of another species, a Blue Jay, had contracted it. This epidemic is of considerable interest because it occurred at the height of the dove migration and because during that fall this disease was particularly bad among the poultry of the middle west. However there is no evidence that doves gave the disease to the chickens. Indeed it may have been quite the reverse. The symptoms were yellowish white lesions in the back of the mouth or throat, swellings on the sides of the head, formation of a brownish scab on the edges of the bill, a grayish discharge from the corners of the mouth and nostrils, a general inflammation of the mucous membrane of the mouth and nostrils sometimes resulting in the complete closing of the latter and in severe cases even the sloughing off of portions of the bill. The bill of one immature dove was so badly distorted and deformed that the outer end of the upper bill was crossed to the left and the point turned down over the left side of the lower bill extending a considerable distance below it. Even if this bird recovered it must have been very difficult for it to pick up its food.

The other major disease is the bird foot disease which Mr. Stoddard, who is conducting the quail investigation in Georgia for the Bureau of Biological Survey, has advised me is the same as that which has been discovered by Mr. Baldwin and Mr. Musselman to be so prevalent among the Chipping Sparrows at Thomasville. A large number of doves have been affected by it at some time during their lives. However as far as their feet are concerned it does not seem to cause any serious inconvenience although in some cases nearly the outer half of several of the toes have sloughed off. Missing toe nails and outer portions of the toes indicate that the bird has at some time suffered from it. The symptoms of active cases are shortening of the toe nails, or even loss of nails and ends of toes accompanied by a cyanosis or darkening of the ends of the toes affected, or even dry gangrene at the ends of the toes. A typical severe case was submitted to the Laboratory of Animal Pathology and Hygiene at the University of Illinois for examination, and they reported that the disease was probably ergot poisoning or something very similar to it. Ergotism is caused by eating seed which has been attacked by the fungus *Claviceps purpurea* which is parasitic upon many members of the grass family. As Mourning Doves include various grass seeds in their diet, it is quite possible that it may be ergotism. However that is yet to be proved. Since ergot is an abortifacient as well as a powerful haemostatic it seems likely that if it actually is the cause of the disease its more serious effect would be to interfere with the egg laying function.

In closing, allow me to enter my plea, along with that of Dr. Gross, that more of us make use of the bird banding method for pursuing special studies besides that of migration. There are so many matters to investigate, so many of nature's secrets to disclose, that the efforts of all of us are needed. One investigation leads to another and so the interest never lags. And if we communicate with one another in a spirit of co-operative helpfulness our progress is sure to be rapid.

KANSAS. ILLINOIS.

Banding Barred Owls.—On May 9, 1925, Mr. L. Claire Hurlbert and myself set out for a wooded area about a half mile from the city of East Lansing prepared to take movies and still pictures of a Barred Owl (*Strix varia varia*) brood which had been under observation for some time. The nest was in a deep shagbark hickory stub about thirty feet high, whose top had been removed by the wind. The cavity made a securely hidden retreat for the three inmates who were about to leave the nest.

Aided by telephone climbers, I was able, finally, to stand upright on a limb, cling to the main trunk with one arm and reach into the nest with the other. By this time the parents were aware that we were intruding and came nearer the nest. Apparently the female was either the braver or the more concerned for she came nearer than her mate who seemed content to watch proceedings from a distance. The female perched on a limb less than a hundred feet from me and occasionally gave vent to a series of low calls.

As the third young bird was being transferred from the nest to the basket in which I intended to lower them to the ground for a sitting, Mr. Hurlbert began to hurriedly adjust the motion picture camera. When the female swooped down within a few inches of my shoulder, I realized what it was about. Whenever I would turn and look at her she would fly farther away and light on a limb as if she did not wish to be too near when under observation. In order to get a picture I deliberately turned my back, took a firm grip on the trunk and began to tease the young until they would utter a shrill squeal. After a few minutes the female swooped down and struck me on the shoulders with both of her feet. Although expected, the first impact was rather a surprise to me, and a new experience. The talons pierced my heavy shirt and underwear and left their marks in my skin. In about three minutes the female struck again and by this time the male seemed to think it must be a safe proposition for he, too, struck me, but with more caution and less damage. After the female had left her marks for the third time, Mr. Hurlbert thought that he must have some good films and I was more than ready to call it enough.

The young were then lowered to the ground, banded with the numbers 301851, 301852, 301853 and photographed. During this interval of about fifteen minutes the parents made no attempt to attack me as I kept them in mind and occasionally looked in their direction.

When returned to the nest, the young refused to stay inside and we finally left them perched on the edges of their former home. During the first week in June, I visited the same woods and observed five Barred Owls which I thought to be two adults and three young. Although I was unable to determine with a field glass whether any wore bands, I liked to think of them as my former acquaintances.—H. D. RUHL, *East Lansing, Michigan*.

Banding Great Horned Owls.—On April 18, 1926, in company with a friend I took a fifteen mile hike. We followed the railroad track south from Vicksburg, Michigan, until we crossed Big Portage Creek near Portage Lake. There we turned to our right and entered what had been a large tract of timber but now mostly second growth with a few large trees scattered here and there.

My friend, having left his boots at home, remained on the up-land, while I took a stroll through the swamp to see what I could find.

Nearing the creek at the west side of the swamp I flushed a Great Horned

Owl, and while watching him fly away spied a yellowish object sitting in a distant tree which turned out to be a young owl well feathered out but enough of the down left to give it a yellowish appearance. In another tree to the left was another owl somewhat nearer the ground.

Having brought my bird bands along it was my desire to band them, but how to do so was a problem as they were too far away from the main body of the tree and the limbs so small that climbing the tree would be of no use. So I stood there for half an hour watching and wondering. At last an idea struck me. There were lots of tall black alders standing near. I cut two of them and tied them together making a pole about fifteen feet long. I left a crotch at the top end, then I made a loop out of some heavy cord and fastened it into the split ends of the crotch and tied the other end of the cord to the pole. By raising the pole as high as I could reach, I managed to drop the loop over the owl's head. The rest was easy, that is, as far as getting the owl down was concerned.

Now for the banding: first I had the owl and then the owl had me, but after awhile I got hold of both feet with my left hand and placed him on his back, in this position he seemed quite content so long as my right hand did not come in contact with his claws, if it did it was another case of the owl having me.

At last I got a band on and let him go. When I would come toward him he partly spread his wings and would snap his bill at me. After watching him awhile and giving up all hopes of ever banding the other owl, I started back for my partner. I told him of my find and coaxed him to go along back if he thought he could hit the high spots and not lose his footing. It did not take much coaxing so we started, my partner arriving there without a mishap. After watching the actions of the banded owl which we had placed upon a large log, I still had a desire to band the other owl. So sizing up the tallest alder and the distance from the ground to the owl, I decided to make a try.

Cutting two of the tallest alders to be had and tying them together as before, I proceeded. On account of the length of the pole it made a rather limber outfit but after several attempts I finally succeeded in slipping the loop over his head, down he sailed as nice as could be. Having help this time it did not take long to band him, my partner holding him by the feet while I put the band on him. This finished we placed him on the log with the other owl and after watching them awhile, we started to go when off to the left about ten rods, I caught sight of another one perched upon an old stub about seven feet from the ground. I went over and caught this one with my hands and we soon had a band on him. He was a rather quiet bird, not much on the fight, easily handled. The other two were ready for a scrap all the time, they kept their wings extended like an old setting hen when she is protecting her chicks from an enemy, and when our hands came anywhere near they would snap at them and bite them.

The first two banded were much larger and lighter in color than the last one we banded. The largest one had a wing spread of forty-eight inches.

I had fourteen claw marks on my right hand when I got through and all bleeding. Our greatest regret was that we did not bring a camera, as they made a most beautiful sight perched upon that log.

We continued our journey home along the east bank of Little Portage Creek arriving home at 6:00 P. M., having observed fifty-one species of birds on the trip. So taking everything into consideration we had a very enjoyable day.—
F. W. RAPP, *Vicksburg, Michigan.*

NOTES HERE AND THEREConducted by **Gordon Wilson**

Dr. William T. Hornaday, director emeritus of the New York Zoological Park, has been presented with a gold medal by the New York Zoological Society for his thirty years of "loyal, able and efficient service."—*Science*.

The editor of this column is now conducting a column in the daily *Times-Journal* of Bowling Green, Kentucky, entitled "Birds and the Out-of-doors."

Mr. William I. Lyon, Waukegan, Illinois, the famous bird-bander, has evolved numerous types of traps for banders and now has out an attractive circular advertising his wares. As I have seen several of his traps, I can vouch for the oddity of many of them, designed to catch odd birds, but his own marvelous records as a bander show how excellent the traps must be.

A recent map issued by The Federation of the Bird Clubs of New England shows the location of ten wild life reservations secured by this organization in the single state of Massachusetts in the year 1925. All except one are on the coast, one being at famous Plymouth Beach; the inland reservation is at Watatic Mountain.

Mr. C. K. Lloyd, Oxford, Ohio, sends the following note to this column: "In the June, 1925, issue of THE WILSON BULLETIN Mr. Bailey has an article on the Scissor-tailed Flycatcher in Florida and states that the records of this bird in Florida are few. On April 4, 1926, my brother and I observed a pair of this species on Anne Maria Island, which borders the Gulf of Mexico. They were on a telephone wire close to a main-traveled road; and they appeared to be very tame. The birds were not collected, but the identification was positive."

We learn from the U. S. Department of Agriculture Press Service that Frank Bond, the well-known bird artist, has been transferred from the Land Office of the Department of the Interior to the Biological Survey. In the new capacity Mr. Bond will be assigned to special work in connection with Upper Mississippi River Wild Life and Fish Refuge.

Henry Hill Collins, 3rd, of Bryn Mawr, Pennsylvania, has devised some field cards of all birds found in the South, in the Middle West, and in New England, arranged for field-trip checking. All birds are arranged in the A. O. U. order and have annotations as to range, abundance, and seasonal distribution. They make good records for field study.

One of the undertakings of The Federation of the Bird Clubs of New England is to save the Heath Hen. There is a special reservation on Martha's Vineyard Island, Massachusetts. Last year the protection increased the numbers of this species.

The Michigan Audubon Society issues a Quarterly News Letter in mimeographed form containing news and notes of interest to the members. One very excellent feature in this little publication is a cartoon or other drawing each issue bearing on bird study.

Our energetic Secretary, like most of us, has more than one iron in the fire. His latest iron, straining the metaphor, is rattlesnakes. During the summer he spent two weeks in western Kansas and Colorado collecting these reptiles. As we feared, he was bitten by one of them after arrival home, and has been laid up for several weeks, but has now fully recovered.

Our former Secretary, Professor Gordon Wilson, has assumed another editorial role—now in the capacity of chief editor of the *Kentucky Folk-Lore and Poetry Magazine*, the first number of which was issued in April, 1926.

Our President, Mr. Ganier, has been a very busy man during the present year. In his office as president of the Tennessee Academy of Science he has taken an important part in the preparation of a "Brief and Argument of the Tennessee Academy of Science as Amicus Curiae" in the John Thomas Scopes case now before the Supreme Court of Tennessee. He is also a member of the City Planning and Zoning Commission of his own city of Nashville. And then, with Dr. Vaughn and Dr. Mayfield, he is developing as a summer home and bird sanctuary a tract of about twenty-five acres on the Stone River Bluffs some twelve miles south of Nashville.

We note that our fellow-member, Dr. George R. Mayfield, of Nashville, has become the editor of the *Journal of the Tennessee Academy of Science*. This *Journal* follows, after a lapse of nine years, the *Transactions*, and apparently is the result of the infusion of new blood. The *Journal* is a quarterly publication, of which the third number has recently been issued.

PROCEEDINGS

Proceedings of the Nebraska Ornithologists' Union

The twenty-seventh annual meeting of the Nebraska Ornithologists' Union was held at Omaha, Friday and Saturday, May 15 and 16, 1926. Twenty-six members were present. The first session was called to order at 2:45 p. m. in the auditorium of the Castle Hotel by the President, Mrs. C. W. McCaskill. President McCaskill and Vice-President Horsky reported for their offices, and M. H. Swenk reported for the office of Secretary-Treasurer. The financial report showed cash on hand, May 1, 1925, to the amount of \$147.94, to which had been added during the year \$134 from dues, \$21.25 from interest on investment, and \$4.88 from sale of publications. The expense of the office of Secretary-Treasurer for postage and stationery, including the cost of the Letters of Information, amounted to \$38.77, leaving a balance on hand, May 1, 1926, of \$269.30. The Secretary-Treasurer also reported that the membership was six honorary members and sixty-five active members, as of May 1, 1926; and seventy-two active members for the current year.

The President then called for the report of the special committee appointed to investigate and report concerning the advisability of having a state bird for Nebraska. This committee consisted of Mrs. Lily R. Button, Chairman, Mr. L. O. Horsky, and Mrs. H. F. Hole. The committee was not prepared to recommend that the N. O. U. should inaugurate and actively further a movement to have the Nebraska Legislature designate a state bird, but it unanimously voted the Western Meadowlark as its choice should at any time in the future a state bird be designated. This report of the committee was approved and adopted.

The Union reaffirmed its previous endorsement of the project of publishing the "Birds of Nebraska", and authorized the Secretary-Treasurer "to prepare the manuscript of the first part and to arrange for the illustrating and printing of the same in such manner as in his judgment was the best, compatible with the resources of the Society." It was also decided that this work, as issued in

parts, would be sold alike to members and non-members, and the Secretary was authorized to ask for advance subscriptions.

The following officers were then elected for the ensuing year: President, Mr. C. K. Hart, Prosser; Vice-President, Miss Susie Callaway, Fairbury; Secretary-Treasurer, Professor M. H. Swenk, Lincoln. It was decided to hold the next meeting at Hastings in May, 1927.

The following public program was then carried out. "History of the Nesting of the Pine Siskin at Wahoo", by Miss Mary St. Martin; "Rewards of Bird Banding", by Misses Agness and Susie Callaway; "Some Interesting Features of the Spring Migration of 1926", by Professor M. H. Swenk.

In the evening ninety-four members and guests sat down at the banquet table in the Castle Hotel. After dinner the retiring President, Mrs. C. W. McCaskill, gave an address on "The Cultural Value of Birds." Dr. H. Gifford also spoke on "The Impressions of a Nature Lover in the Orient." Mr. T. W. McCollough then gave a tribute on behalf of the citizens of Omaha to Dr. Solon R. Towne, the veteran ornithologist who has been a resident of Omaha since 1888. The Secretary announced that Rev. J. M. Bates had been elected to honorary membership. The resolutions included one endorsing the Bird Refuge and Marshland Conservation Bill.

On Saturday, May 15, 1926, the twenty-fourth annual field day of the N. O. U. was held in Fontanelle Forest and at Carter Lake. A total list of ninety-eight species was obtained. On the following day, Sunday, some of the members visited the sites of Fort Cabanne, Fort Lisa, and Engineer Cantonment, and made four additions to the list of the previous day.

Myron H. Swenk, *Secretary-Treasurer, N. O. U.*

Proceedings of the Kentucky Ornithological Society

The third annual spring meeting of the Kentucky Ornithological Society was held at Louisville on April 23, 1926. The afternoon program was devoted to a discussion of bird study in the schools, with Miss Emilie Yunker, School Garden Director for Louisville, in charge. The pupils of the bird club of the Louisville Normal Training School gave a program of interpretative dances, songs, and readings. There was also an exhibit of bird posters and bird boxes made by children of the schools.

At the evening program Mr. J. T. Berry, of Louisville, exhibited about fifty of the original Audubon prints belonging to the Henderson County Historical Society, and spoke interestingly on Audubon's life in Kentucky. Professor L. Y. Lancaster, of the Teachers' College, explained method of making plaster of paris casts of bird and animal tracks, and exhibited a collection of such casts. Mr. Charles F. Huhlein, of Louisville, showed a number of slides on rural life which he picked up on his recent trip around the world.

The following officers were re-elected for the ensuing year: President, Prof. Gordon Wilson, Bowling Green; Vice-President, Miss Emilie Yunker, Louisville; Secretary-Treasurer, Mrs. Charles McBride, Louisville. On April 24 the Society held a field day in Cherokee Park, and made a list of thirty-six species of birds. The fall meeting will be held at Henderson, the old home of Audubon. This meeting will have considerable historical interest.

Mrs. Merit O'Neal, *Historian, K. O. S.*

Proceedings of the Iowa Ornithologists' Union

The third annual meeting of the Iowa Ornithologists' Union was held in Atlantic on May 14 and 15, 1926.

The morning of the first day was set aside for registration, during which time friends renewed their acquaintance. About forty members attended the meetings. At 1:30 P. M. Mr. T. H. Whitney, President of the Atlantic Bird Club, gave the address of welcome; the response was made by Mr. A. J. Palas, of Des Moines. Reports of officers were then presented, and committees were appointed.

The first paper on the program was one by Miss Althea R. Sherman, on "Hours spent with the Rails." In the absence of Miss Sherman, the paper was read by the Secretary. Mr. Weir R. Mills, of Pierson, presented a paper describing the wild birds that come to his door-yard; this town lot is trained to grow wild, and is of unusual interest on that account. Mr. Phil Dumont, of Drake University, gave an interesting account of experiences in a marsh near Des Moines. Dr. Weeks presented a critique of Allen's "Birds and Their Attributes." Dr. F. J. Becker, of Atlantic, told how to handle the English Sparrow problem. Rev. George Bennett discussed recent efforts at wild life conservation, and explained Dr. Hornaday's plan for reducing the bag limit on game birds.

The following officers were elected for the ensuing year: President, W. M. Rosen, Ogden; Vice-President, T. C. Stephens, Sioux City; Secretary, Kenneth R. Nelson, Des Moines; Treasurer, A. J. Palas, Des Moines; Executive Committee, Dr. L. T. Weeks, Tabor; Dr. F. J. Becker, Atlantic; Weir R. Mills, Pierson.

A committee was appointed to consider the matter of a state flower. It was also voted to urge the Iowa senators and representatives in Congress to support the bill designed to effect a reduction in the federal bag limit on game birds. It was also voted to hold the next meeting at Des Moines in May. A banquet was held in the evening, following which the Union and its guests listened to an illustrated lecture.

On the following morning at five o'clock the members and friends assembled at Sunnyside Park, and then dispersed in small parties for a few hours field work. A breakfast was served by the Atlantic Bird Club at 7:30, which brought all together again for the final gathering. Comparison of notes showed that a composite list of about eighty-one species had been made. It seemed to be the unanimous opinion that the out-door session is a valuable feature of our annual meeting.

Kenneth R. Nelson, *Secretary, I. O. U.*

ORNITHOLOGICAL LITERATURE

BRITISH BIRDS. By Archibald Thorburn, F. Z. S. Longmans, Green and Co., Ltd. New York and London. 1926. Demy 8vo. Volume III. Per volume \$5.50.

The first two volumes of this work were noticed in our last March issue. Volume III is now in circulation. This volume treats of the herons, ducks, geese, swans, doves, rails, shorebirds, and gallinaceous birds. Ninety-one species of birds are illustrated in the forty-eight colored plates. As in the previous volumes the colored plates are of unusual beauty. We believe that the smaller page, as compared with the earlier edition of the same work, and the smaller colored

plate exhibiting fewer species, is much more satisfactory from every point of view. The artistic work of Mr. Thorburn is remarkably clear and forceful. The backgrounds are adequate, and do not detract from the figures. The workmanship in reproducing the plates deserves a word of praise. While the plates furnish the chief interest in the work, the text is interesting and sufficient. We know of nothing on British birds that is likely to be more suitable for the casual reader than this work; and the plates are a genuine treasure.—T. C. S.

- (1) THE STATUS OF THE SUBSPECIFIC RACES OF *BRANTA CANADENSIS*. By J. D. Figgins. *Auk*, XXXVII, 1920. Pp. 94-102.
- (2) ADDITIONAL NOTES ON THE STATUS OF THE SUBSPECIFIC RACES OF *BRANTA CANADENSIS*. By J. D. Figgins. *Proc. Colo. Mus. Nat. Hist.*, IV, No. 3, Dec. 15, 1922. Pp. 1-19.
- (3) SOME OBSERVATIONS RELATIVE TO HYBRIDS AND INTERGRADATION. By J. D. Figgins. *Proc. Colo. Mus. Nat. Hist.*, V, No. 1, June 19, 1925. Pp. 1-11.
- (4) SOME OBSERVATIONS RELATIVE TO METEOROLOGICAL INFLUENCES. By J. D. Figgins. *Proc. Colo. Mus. Nat. Hist.*, V, No. 2, July 20, 1925. Pp. 1-21.
- (5) "TWICE TOLD TALES." By J. D. Figgins. *Proc. Colo. Mus. Nat. Hist.*, V, No. 3, October 5, 1925. Pp. 1-31.
- (6) A REPLY. By J. D. Figgins. *Proc. Colo. Mus. Nat. Hist.*, VI, No. 1, February 8, 1926. Pp. 1-7.

These papers may be said to represent an effort to show that the subspecies concept has been overworked, and that it has resulted in abuses and confusion. The discussion arising from these several papers will perhaps be of sufficient interest to our readers to justify the following resume.

(1) The author here considers the subspecies of *Branta canadensis*. In comparing *B. c. hutchinsi* with *B. c. occidentalis* he finds that they are separated by a difference in wing-length of .07 inch. Other authorities, he states, give a variation of 14 to 20 rectrices in *canadensis*, which is the same in *occidentalis*, while *hutchinsi* shows a variation of 14 to 18. Then follows a lengthy consideration of the color in the several subspecific forms, as described by various authorities. The author concludes "That it is not possible to identify a specimen as *hutchinsi* without disregarding strong evidence of its being either *canadensis* or *minima*. That such identification is largely a matter of personal preference—so-called *hutchinsi* being merely examples of *canadensis* that present one or two measurements below the minimum or specimens that are the result of a cross between *canadensis* and *minima*." Likewise, as far as measurements, number of rectrices, and color pattern are concerned, *occidentalis* is included within *canadensis*. The author concludes that *hutchinsi* and *occidentalis* are not valid subspecies, that *minima* and *canadensis* should be regarded as of specific rank, and that the "occasional 'inextricable' examples be recognized as hybrids."

A reply to this paper by Mr. Swarth¹ admits that "some of the characters first ascribed to the subspecies are unreliable", but claims that "The fact that the type specimen of *occidentalis* is not representative of the mode of that subspecies, as now defined, is obviously no reason why the form should not be

¹The Subspecies of *Branta canadensis* (*Linnaeus*). By H. S. Swarth. *Auk*, XXXVII, 1920. Pp. 268-272.

recognized." Mr. Swarth prefers to "regard *Branta canadensis* as a variable species, divided into four recognizable subspecies, *canadensis*, *occidentalis*, *hutchinsi*, and *minima*", as now given in the A. O. U. Check-list. Willett² also affirms the validity of *occidentalis* as a subspecies, and believes that Mr. Figgins was "misled by the erroneous nature of the characters given by many authorities as distinguishing this from the other allied subspecies."

(2) In this paper Mr. Figgins recurs to the subject of hybridism, and points out certain cases in the Flicker, in snails, and in wild sheep, which are interpretable as hybrids, and which he regards as comparable to the facts presented concerning *Branta*. The breeding ranges of the races of *Branta* are then considered, and evidence is presented to show that the breeding ranges of *canadensis* and *minima* are connected and overlapped by the breeding range of *hutchinsi*. The breeding range of *occidentalis* seems to be undetermined.

(3) This paper is called forth by Mr. Swarth's reply in the *Auk*.¹ The author here goes into the subject of hybridism rather fully, discussing the cases of the Junco, Flicker, Mallards, deer, etc. The gist of the paper is that hybridism is of frequent occurrence and doubtless explains a good many of the described subspecific forms.

(4) The author describes two localities in Colorado about twenty miles apart. One is a lake and marsh region, the other is dry and arid. Towhees (*Pipilo*) breed in both localities, and at the beginning of the breeding season the Towhees in both these areas are identical in plumage color. Later in the season the birds in the arid foothills are found to be much paler than those of the humid area. The author selected three typical specimens from the humid lake region "identical in coloration and in no respect separable from the birds of the foothills, taken at the same time." These skins he subjected to different physical conditions. Specimen No. 1 was returned to the cabinet to be used as a control. Specimen No. 2 was placed in a *moist* box and kept in direct sunlight. Specimen No. 3 was placed in a similar *dry* box, and exposed to the same light conditions. At the end of twenty-eight days Specimen No. 2 was unchanged, while Specimen No. 3 "was faded to a remarkable degree—equal to the palest birds of the foothills, at the end of the breeding season." Here, the differences in color were traceable directly to climatic causes. The author does not think such differences are of subspecific value; they are the result of external factors, while proper subspecies should depend, at least in part, upon certain internal factors. He therefore distinguishes between environmental variations, as above, on the one hand, and true geographic races, on the other hand. The remainder of this paper presents additional cases in point.

(5) In this paper the author points to a number of instances of perpetuation of erroneous identification by repetition, until finally the errors were accepted officially. The paper also contains a brief discussion of the criteria of subspecies, wherein it is urged that definite standards and limits be employed in distinguishing subspecies.

One other recent paper on this subject is one by Major Allan Brooks³ in which he reviews some of the previous literature, and wherein he summarizes

²Ornithological Notes from Southeastern Alaska. By George Willett. *Auk*, XXXVIII, 1921. Pp. 127-129.

the situation in five propositions, viz., (1) "It is impossible to identify the species from the points of differentiation laid down by their original describers." (2) "The series in most museums is very inadequate, and in every one of them it is safe to say that there are birds that are wrongly identified." (3) "This is largely the result of lack of acquaintance with Geese, which have far greater variation in size than most other birds, due to age and the longevity of their kind." (4) "Both breeding and winter ranges as given in the A. O. U. Check-list are in error." (5) "Few writers on the group have studied the species in life."

Major Brooks' conclusion is that *Branta canadensis*, *Branta hutchinsi*, and *Branta minima* are distinct and separate species; and that *Branta canadensis* is divisible into two subspecies, viz., *canadensis* and *occidentalis*.

Mr. Swarth contends that *Branta canadensis* is a variable species, which is divisible into four subspecies, *canadensis*, *occidentalis*, *hutchinsi*, and *minima*, as now recognized by the A. O. U. Check-list.

Mr. Figgins' position may be summed up in the proposal that *hutchinsi* and *occidentalis* should be retired to the hypothetical list until the breeding ranges and the causes of the enormous variation between *minima* and *canadensis* are understood, *hutchinsi* being but one stage of that variation.—T. C. S.

The volume V (1925) of the Proceedings of the Oklahoma Academy of Science (Univ. Okla. Bull., April 1, 1926) contains three articles on birds. (1). "Evidence of Increase in Certain Rare Species of Birds in Oklahoma", by R. O. Whintenton, in which some data are given concerning the Wood Duck, Avocet, Whistling Swan, Hudsonian Godwit, and Harlin's Hawk in Oklahoma. (2). "Some Materials Used in Nest Construction by Certain Birds of the Oklahoma Panhandle", by R. C. Tate, in which are presented notes on the materials and structure of the nests of twelve species of birds. The Magpie's nest is described as having a mud cup lined with rootlets. (3). "Some Bird Observations in Cleveland County in 1924", by Margaret M. Nice and L. B. Nice, in which notes are given on twenty-four species. The volume also contains interesting short lists of amphibians and reptiles for the State.—T. C. S.

The *Cardinal* is published by the Audubon Society of the Sewickley Valley, in western Pennsylvania. The issue for July, 1926, contains twelve pages of miscellaneous bird notes. One of the most interesting notes reports that South American Tinamus (*Nothura maculosa*) are being extensively imported into this country and used by restaurants under the name "imported quail." It seems that someone has slipped through a modification of the law prohibiting the importation of game birds; and these curious birds are being shipped into our country in quantities which seriously threaten their extermination. Some one should become interested in this matter. The leading article is a list of the mammals of the Sewickley region. The *Cardinal* is published twice a year, for which the subscription is fifty cents. Subscribers may address Mr. Frank Semple, Jr., Sewickley, Pa.

Bird Banding Notes, published by the U. S. Biological Survey and distributed to the volunteer co-operators in the bird banding work, has now reached No. 19.

³Notes on the Geese of the *Branta canadensis* Group. By Allan Brooks, Col. M. B. O. U. *Ibis*, April, 1926. Pp. 339-346.

This is a mimeographed publication which contains a large amount of valuable information—most of which is found nowhere else. For this serial, and for the very efficient way in which the bird banding work of the government is being handled, we are indebted to Mr. F. C. Lincoln. Those who receive *Bird Banding Notes* should keep it intact and complete. In time it will be difficult or impossible to obtain early numbers, and then there will be plenty of demand for complete sets.

Nature Notes from the Yellowstone Park for March, April, May, June, and July have reached our desk. This publication, if it may be so called, is also printed by the mimeograph process, and has, in the June number, been reduced to letter size, which is better. We surmise that the credit for this energetic serial belongs to Mr. E. J. Sawyer, the Park Naturalist. It includes many short notes on all phases of the natural history of the Park.

We acknowledge the receipt of the 1926 *Bulletin of the Indiana Audubon Society*. In addition to several articles pertaining to bird study and bird protection this pamphlet contains important records of the recent occurrence in Indiana of the Starling, Harris's Sparrow, and Burrowing Owl, these notes being brought together by Amos W. Butler.

The *Maine Naturalist* for March, 1926, (VI, No. 1) contains the first instalment of an article on the "Birds of Brunswick, Maine", by J. Weston Walch, which is accompanied by a very excellent photograph of the Ruffed Grouse on its nest, by Dr. A. O. Gross. This creditable local magazine is edited by Arthur H. Norton, and is published quarterly at 22 Elm Street, Portland, Maine.

We have before us a set of four booklets dealing with four of the thirty-six Iowa State Parks, viz., Dolliver Memorial, Eldora Pine Creek, Pilot Knob, and the Ledges. These booklets describe the natural features of the parks, and include small maps, which in two instances, however, are rendered useless by being printed on purple cover paper. The reading matter includes a discussion of the history, physiography, and to some extent the natural history of the parks. The list of birds for the Eldora park is anonymous. No bird list is given for the Pilot Knob park or for the Dolliver park. The Ledges guide contains a list of the common, rare, and extinct birds, to the number of 204, by Carl Fritz Henning. This is a valuable list, and it should be republished with more complete annotations, because it will then make the most complete list of birds we have for the central part of the State.

NECROLOGY

On July 21, 1926, Frank M. Woodruff, Curator of the Chicago Academy of Sciences, and a well-known ornithologist of the Mississippi Valley, died at his home in Chicago. He was born at Leavenworth, Kansas, July 16, 1867. In 1884 he visited in Deer Park, Maryland, where he made a large collection of birds and mammals. In 1888 he was associated with Colonel Francis W. Parker at the Cook County Normal School, leaving there to assist in the collecting and mounting of the Illinois State Ornithological Exhibit at the World's Fair in 1893. From that time on he was connected with the Chicago Academy of Sciences. In 1907 the Chicago Academy published as a Bulletin his "Birds of the Chicago Area." He has also contributed other short papers to various scientific periodicals, including THE WILSON BULLETIN.—W. F. Worthley.

TO OUR CONTRIBUTORS

Our members are urged to submit articles for publication in the BULLETIN. Short items are desired for the department of General Notes, as well as longer contributions, especially pertaining to life-history, migration, ecology, behavior, song, economic ornithology, field equipment and methods, etc. Local faunal lists are also desired, but they should be annotated, at least briefly, and should be based upon sufficient study to be reasonably complete. Authors are asked to include the common name, the scientific name (from the A. O. U. check-list), and annotations, and they should be arranged in this order. The annotations should include explicit data concerning unusual species. Omit serial numbering.

THE MANUSCRIPT. The manuscript, or copy, should be prepared with due regard for literary style, correct spelling and punctuation. Use sheets of paper of good quality and of letter size (8½x11 inches); write on one side only, and leave wide margins; if at all possible manuscript should be prepared with a typewriter, using double spacing and a reasonably fresh, black ribbon.

The title should be carefully constructed so as to indicate most clearly the nature of the subject matter of the contribution. Where the paper deals with a single species it is desirable to include in the title both the common and the scientific names, or, to include the scientific name in the introductory paragraph. Contributors are requested to mark at the top of the first page of the manuscript the number of words contained. This will save the editor's time and will be appreciated.

Manuscripts intended for publication in any particular issue should be in the hands of the editor thirty days prior to the date of publication.

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BIBLIOGRAPHY. The scientific value of some contributions is enhanced by an accompanying list of works cited. Such citations should be complete, giving author's name, full title of the paper, both the year and volume of the periodical, and pages, first and last.

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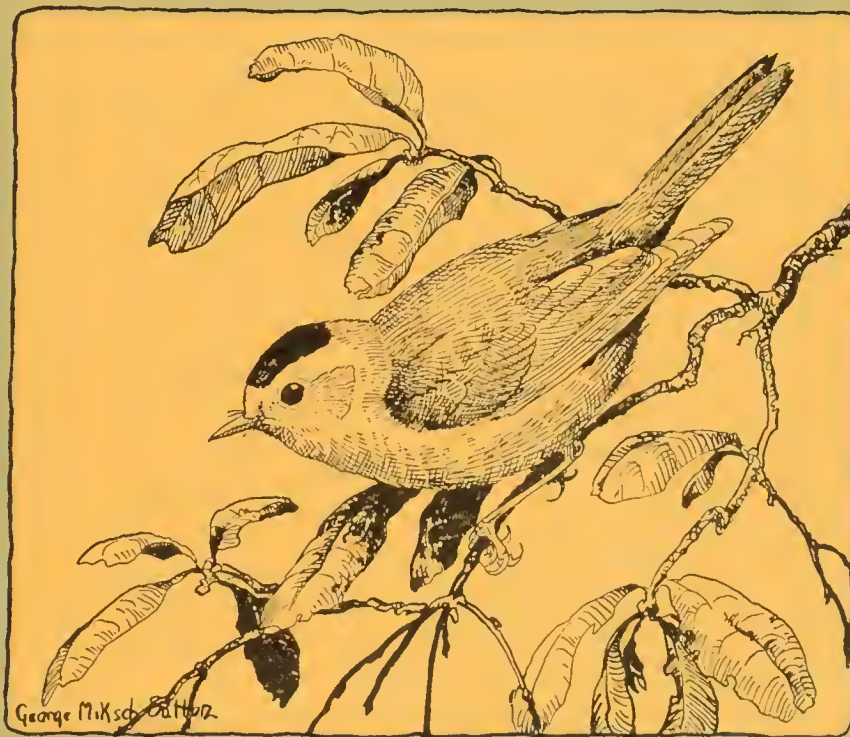
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A STUDY OF A NESTING OF MAGNOLIA WARBLERS (DENDROICA MAGNOLIA).

BY MARGARET MORSE NICE.

It had been my chief ornithological ambition during the summer of 1925 to discover the nest of a Magnolia Warbler. And when my wish came true, watching the little family grew to be my main occupation in life. It was a never-to-be-forgotten experience—the long hours by the nest in the juniper, recording the doings of the exquisite little birds and listening to the marvelous song of the Hermit Thrush.

Grey Rocks, in Pelham, a hill town in central Massachusetts, is a fascinating place for the nature lover. It is a hill top (700 feet above sea level) from which a wide view of the Connecticut Valley may be seen, bounded on the south by the Holyoke Range, on the north by Mount Toby and Sugar Loaf, with the Berkshire Hills lying to the west. The hilltop itself is rendered picturesque by junipers and cedars; there are also white and pitch pines, grey birches, maples and oaks. The surrounding woodland is largely made up of white pines and hemlocks to the west, and hardwoods to the south and east. In the woods there are rushing brooks, ferns, wild flowers and many kinds of animals: chipmunks, red, grey and flying squirrels, porcupines, foxes and deer. There is only one pest—mosquitoes, for we have no chiggers, wood ticks, black flies, nor English Sparrows.

The avifauna belongs to the Transition Zone with a marked Canadian element. Some of the most characteristic songsters are the Whip-poor-will, Phoebe, Field Sparrow, Chewink, Scarlet Tanager, Red-eyed Vireo, and in the western woods the Solitary Vireo. But the glory of Grey Rocks lies in its thrushes and warblers. Ovenbirds and Maryland Yellow-throats are abundant and insistent; the Black and White, Nashville, Myrtle, Magnolia, and Black-throated Green Warblers are constantly heard near my mothers' house on the hilltop; the Chestnut-sided abounds in the cut-over land to the east; the Black-throated Blue, and Blackburnian nest in the hemlock woods to the west and one or two pairs of Canada Warblers are to be found in the deep woods. Veeries sing from the swamps to the south, while on

the hilltop we are blessed with the wonderful music of the Wood Thrush and Hermit Thrush.

Magnolia Warblers are uncommon in this region; it is only within a mile of Grey Rocks that we have ever seen them during the breeding season. There was but one pair nesting near the house in 1925; this fact was a decided advantage for I always knew that the singing and other activities were those of this particular pair of birds. Moreover, the male had a peculiar song so that I was able to distinguish him even when a visiting Magnolia Warbler appeared upon the scene.

THE SONGS. Instead of the great variety of songs mentioned by some writers^{1,2and3}, this particular example of *Dendroica magnolia* had only two songs, each of which was varied at times by the addition of one or two syllables; one of these I called *weechy weech* and the other *sing sweet*.

Weechy Weech. This was a plain little song, yet with something of a sweet and lisping character. At close range short preliminary and final syllables were discernible—*Ye weechy weechip*, but at some distance only *weechy weech* could be heard. The accent was always on the last *weech* which was higher than the other notes. This was evidently a shortened form of the most characteristic song of the species; very occasionally this warbler would give the proper song—*Ye weechy weechy weechip*. Two other Magnolia Warblers heard in this region June 30, July 2, 4, and 19 sang the complete form.

Weechy weech was primarily a day song, seldom being heard very early (I only once recorded it about 4 A. M.⁴ and twice about 5 A. M.) nor was it ever the last song in the evening; rarely occurring after 7 P. M. and only once as late as 7:30 P. M. During the period of incubation it was the perch song, the one proclaiming territory and appeared to be taken as the serious business of life. I never saw this warbler flitting about between *weechy weeches*; at this period he always sat at the top of a tree and devoted himself to his singing. Between each song he gazed about or sometimes preened himself; during the song he looked skyward. His little head seemed such a bright blue in the sunshine, his breast such a brilliant yellow and the black stripes so decorative that he made a lovely sight.

During the feeding of the young, the warbler must have interspersed *weechy weech* between his searches for insects. As I was watching activities at the nest at this time, I never happened to see him

¹S. E. White, *Auk*, X (1893), 228.

²Lynds Jones, *Wilson Bulletin*, XII (1900), 36-38.

³F. M. Chapman, *Warblers of North America*, 1907, p. 125.

⁴All hours are given in Eastern Standard time.

while singing this song, but I did hear his *weechy weech* constantly from different points of the compass and often recorded during the space of one minute several songs and the appearance of the bird with an insect in his bill. Another Magnolia Warbler on July 4 (apparently an unmated bird) was singing while flitting about.

When singing steadily, the warbler uttered *weechy weech* from six to seven times a minute, nine songs being the most ever recorded during sixty seconds. In two sets of long series—fifty-seven different minutes on July 9 and seventy-eight on July 14, the average of each series was five songs a minute, varying from one to nine on the earlier date and one to seven on the later. In both cases he was gathering food for the nestlings.

The shortest interval between two songs was five seconds. During his time of leisure when there were eggs in the nest, he often sang at quite a regular rate: on June 29 at 10:30 A. M. the number of seconds between seventeen consecutive songs were 8, 7, 9, 9, 8, 9, 9, 7, 8, 8, 9, 9, 10, 8, 9, 7, 8. An hour later the intervals for two minutes were 7, 8, 9, 7, 8, 9, 10, 10, 8, 8, 9, 8, 8, 10.

Weechy weech was sung throughout the day while the eggs were in the nest and also during the first three days after the young hatched. The next four days it was hardly heard at all but it was renewed in full vigor the next day—July 14. After the young left the nest it was sung less and less and was heard for the last time before 6 A. M. on July 23.

Sing Sweet. This song usually consisted of two notes but occasionally of three and very rarely of four. It was more musical than *weechy weech*, a somewhat bell like note: it seemed loud for so little a bird. Both syllables were equally accented, but the second was slightly lower than the first; in the *sing sing sweet* variation, the third was slightly lower than the first two. I cannot find any description in the literature that fits this song, nor have I heard other Magnolia Warblers singing it (my experience with this species has been limited.)

This was primarily a feeding song; in every case but one, when I could see the warbler he was flitting about as he sang. The one exception was at 8 A. M., July 17, when I observed him sitting on a branch and preening himself between songs. His favorite place while he sang *sing sweet* was a pitch and white pine grove about 100 yards northwest of the nest; his favorite time was from a half to three-quarters of an hour in the evening. The last *sing sweet* was heard at the following times on fourteen evenings: June 30, 7:37; July 4, 7:35; July 5, 7:46; July 7, 7:37; July 8, 7:40; July 10, 7:48; July 11, 7:45; July 12, 7:49; July 13, 7:37; July 14, 7:42; July 15, 7:30;

July 17, 7:25; July 24, 7:13. It may have been equally characteristic of the early morning but unfortunately I was often asleep at that time; on twelve mornings I recorded this singing very early—from 3:30 to 5:00. During incubation and feeding of the young *sing sweet* was not usual during the day, but it became so after the young had left the nest. It was the only song heard from July 24 to 29; at 6:27 A. M. the last one of the season was recorded.

Sing sweet occurred as many as eleven times a minute when the bird was singing steadily, but usually the rate was less. The average of fifty-two minutes recorded at different times was six songs. The intervals between songs was quite variable as the following records on June 30 will show: eight seconds, 13, 6, 10, 5, 5, 25, 13, 7, 7, 14, 9, 10, 5, 15, 10. Another sample of two minutes showed more regularity: 5, 7, 5, 13, 5, 5, 6, 6, 5, 5, 5, 8, 10, 4.

The common form of this song was *sing sweet*, but *sing sing sweet* occurred irregularly: sometimes one or two were interspersed between *sing sweets*, but at other times for a number of minutes there would be a continuous series of the longer forms. Curiously enough when the warbler was thoroughly in the mood of *sing sing sweet*, he usually uttered soft *tit-tits* between each song. Thus one minute's record ran as follows: sss-sss-tt-tt-tt-sss-tt-tt-sss-tt-sss-tt-tt-tt-tt. In one minute there were six *sing sing sweets* and thirteen *tit-tits*; in another four of the former and ten of the latter; while during a third minute nothing but twelve *tit-tits* were heard. One had to be very close in order to detect the *tit-tits*: I ascertained that they did not occur when he was singing *weechy-weech* nor *sing sweet*. Sometimes there were only a few of these little chirps between the *sing sing sweets* and occasionally none at all. This *tit-tit* seemed much the same as the alarm note.

Weechy weech and *sing sweet* as a rule indicated different moods—the one typically proclaiming territory and the other a feeding song: usually one would be sung consistently for some time—in the case of *weechy weech* for hours—before changing to the other, and there was nearly always a period of silence between the two kinds of songs. Occasionally, however, especially in the early evening, the warbler might switch back and forth rather freely: thus from 6 to 7 P. M., July 8, he changed five times, the series varying from sixteen to seventy-nine songs of one kind, separated by intervals of silence lasting from two to five minutes except in one case when it was less than a minute. On only two other occasions did I hear a sudden change from one song to the other.

HISTORY OF THE NEST. Magnolia Warblers were first seen and heard singing on Grey Rocks May 19 and 20, 1925, but after that were

absent, so that I had begun to fear that we were not to be favored with a nesting pair on the slope south of the house as we had been in other years. But on June 17 I was rejoiced to hear *wecchy weech* in this region and to see the pair of birds. The late date would indicate that a nest had been started elsewhere and had come to grief.

It was *sing sweet* that led to my discovery of the nest. This was a new song to me when I first heard it the evening of June 18; on searching for the singer among the cedars about 200 feet south of the house I saw the female Magnolia Warbler with nesting material in her bill; she appeared twice, both times disappearing into a white pine and once struggling out of a juniper. Her mate continued to sing but did not come into view. The next morning I found a little incompleting nest in the juniper.

The nest was entirely hidden from sight. It was thirty-three inches from the ground in an upright clump of juniper: the only opening was on the north side, from this direction the incubating bird could barely be seen. When finished, the nest was a rather simple affair; it was composed of dried grass stems, lined with white pine needles and black horse hairs. Cedars, white pines and grey birches were the chief trees surrounding the site.

ACTIVITIES DURING INCUBATION. For fear of frightening away the warblers I did not disturb them at all during the process of nest building and visited them but seldom while the eggs were in the nest. These were laid June 22, 23 and 24. Whenever we went to the nest the female stayed on her eggs until nearly touched when she slipped off, flew a few feet and quietly waited. The male never objected to our visits; indeed, I doubt whether he knew of them, for his singing would go on without interruption.

The chief occupation of the male bird during this period was singing, interrupted by occasional sallies to drive off a Myrtle Warbler. *Weechy weech* with sometimes a change to *sing sweet* could be heard nearly all day long from a variety of positions—sometimes as near to the nest as twenty yards but most of the time further away. He usually sat on the very top of different cedars, sometimes facing the nest but often not. I never could see that he had any favorite "singing tree."⁵

On June 23 at 4:30 P. M. I was astonished to hear a curious new note from this bird—a loud shrill *eep*; this was recorded on four other days: July 3, at 7 P. M. for several minutes between two series of *sing sweets*; July 4, at 3:30 P. M.; July 9, when there was no singing in the evening, only some *yeeeps* about 7:20, and July 13 at 8:25 A. M. I

⁵H. Mousley, *Auk*, XXXVI (1919), 339-348.

do not know what state of mind this note indicated; with the exception of the last time the warbler was at his feeding grounds, not near the nest. Twice I recorded it from the female while the young were in the nest; on the second occasion it seemed to be a scolding note—a use for which it appeared eminently fitted.

There was only one special adventure that I witnessed during the period of incubation and that was the visit of a rival. On July 2 at 6 A. M. I heard *weechy weechy weechip* south of the house and hastened out to discover the explanation. There was a new male apparently bent on luring the lady Magnolia from her home. The wrathful husband chased the newcomer around and about, but the impudent stranger would pop up unabashed on top of a juniper bush, singing his song with as much assurance as if he expected an extra two syllables to captivate the lady. This contest continued for ten minutes or so, the warblers answering each other, each singing his own song consistently, until the interloper departed. At 7 o'clock there was only *weechy weech* to be heard and this appeared to have a triumphant ring about it; it was sung practically all morning long, as if the little warbler were guarding his home with redoubled zeal.

Two days later I heard *weechy weechy weechip* from a Magnolia Warbler about 300 yards north of the nest, but I never heard it later in this locality: this might well have been the unmated bird that had caused the excitement on July 2.

ACTIVITIES WHILE THE YOUNG WERE IN THE NEST. At 8:15 A. M. on July 6, the eggs were not hatched, but at 6 P. M. there were three tiny blind orange-red infants, naked except for a few minute tufts of black down.

The next morning at 9:52 I quietly ensconced myself in a chair fifteen feet north of the nest in the shade of a cedar and partly concealed by it. The nest was beautifully protected by the juniper branches so that the sun never shone on it except for a short time each morning. At 9:56 the female appeared, seemed disturbed, flirted her tail, sat in the cedar south of the nest and uttered a gentle *tit*. At 10:03 she went to the young and brooded them without feeding. She left at 10:17, returned at 10:20, fed quickly, waited a moment and then flew away. When she returned, however, she was overcome with timidity and stood about with an insect in her bill, flirting her tail and saying *tit, tit, tit*. Suddenly the male appeared with uplifted tail and quivering wings—apparently in a courting attitude; she flew to a nearby cedar, he followed and both disappeared. In a minute or two

she came to the nest and started to brood; immediately the male appeared on the brim, she slipped off and he followed.

In the hour and a half of observation this first day the female fed the young five times and brooded twice; she was intermittently troubled by my presence. The male paid no attention to me; he did a deal of singing but his activities at the nest were confined to one visit, the result of which was to drive his mate away.

On July 8 the father was beginning to realize the situation for he fed the young seven times in comparison to his mate's thirteen during three hours' observation. Neither bird showed any timidity, even though in the afternoon, driven by lack of shade, I moved to a new position within eight feet of the nest and finally as near as five feet. After this I sat at a distance of eight feet from the nest in the mornings and six feet in the afternoons. Twice a red squirrel worried me by passing through the birches and cedars not far from the nest. From 6 to 7 P. M. the male sang during forty of the sixty minutes, uttering *weechy weech* 102 times, *sing sweet* 133 and *sing sing sweet* seven times.

Both parents usually flew to the cedar south of the nest and then approached from below, almost always using as a ladder a steeple bush that grew just north of the nest. Occasionally, however, they flew directly to the nest either from the cedar south of it or the pine to the west. The juniper branch containing the nest had one large opening to the north and a narrow one to the east; this north entrance was always used by the male for both entrance and exit; in leaving he usually flew off to the northwest but a few times went to the northeast. The female, on the other hand, although at this time always coming to the north entrance and feeding from there, usually left by the east opening; this was the direction she regularly faced while brooding.

The third day the female seemed to have a great deal of cleaning to do inside the nest; she put her head down and rooted around, she rose, she moved about, and finally settled down facing north or west instead of the usual direction east. She brooded after seven of the ten feedings during two and a half hours in the morning; as always she left the nest at the approach of her mate. He seemed to have thoroughly wakened up to his duties, for he fed the young nine times. He sang *weechy weech* 286 times—singing being recorded during fifty-seven of the 150 minutes. Both birds showed slight nervousness at first, uttering the gentle *tit* a number of times before they came to the nest to feed; the female also on one occasion said *ip. ip. ip. eep. eep*—the first time I had heard this note from her. To human ears it seems

well adapted to express disapproval, disgust, rage, while the *tit* was so soft as to be almost inaudible.

From 2:25 to 4:25 the male fed the young twice as often as his mate, although she showed no timidity towards me until the very end. Once they were together at the nest rim, the male fed first and flew away, the female then fed and settled down to brood. At 4:02 the evil squirrel came to a blueberry bush about five yards east of the nest and started to regale himself with the unripe berries; I rose in righteous wrath and frightened him away. The little mother must have been near for at 4:06 when she came with a caterpillar, she seemed timid all at once and could not screw up her courage to come to the north entrance which was so near to me; she shortly solved her problem! coming into the narrow east opening for the first time; she fed a baby, ate an anal sac and settled down to brood facing me.

On July 10 it rained all morning and I heard no singing; during the two afternoon sessions of nest watching the male did not sing at all; in fact the only songs I heard all day were ten *sing sweets* and three *sing sing sweets* from 7:46 to 7:48 in the evening. The parents were equally solicitous in feeding the nestlings.

The miserable squirrel was about again and I resolved to get rid of him if I possibly could, so when I returned at 3:42 I was armed with a shot gun. A curious change had come over my attitude during these days of watching the little brood; before this I had never felt any enmity towards red squirrels; I knew, of course, in an academic way, that they robbed birds' nests but I had never felt called upon to interfere. Reason without emotion leads to no action. But now since my affection for these particular little birds had grown so strong and along with it my apprehension that at each visit I would find a despoiled nest, I had come to hate that squirrel with a perfect hatred.

As I sat there waiting, six feet from the nest (I always had to be near in the afternoon to escape the sun), the female seemed a little troubled. My proximity, added to the fact that I was dressed in khaki instead of my usual green dress, seemed to tax her wits; she did not waste time objecting at me, but she squeezed in between the juniper branches from the south—this being a brand new way of entrance; she fed and then brooded, facing south. This was 4:05; at her next visit—4:23—she came to the north entrance, but at 4:29, 4:32, 4:37, and 4:42 she struggled in from the south, always leaving, however, by the large north opening. As she was peacefully brooding after the last feeding, a rustle in the blueberry bush announced the arrival of the enemy; a few moments later that menace was ended and a great load had been

lifted from my mind. But the poor little mother had darted off as fast as she could at the sound of the terrible report!

The next morning it was plain to be seen that I was eyed with great disfavor by the mother bird after yesterday's experience; she spent almost the whole hour that I watched in chipping at me. She fed only three times and brooded once for two minutes. She was clearly much agitated, she did not hunt for food—except for herself—but sat still most of the time and preened herself to an accompaniment of *tits* at the rate of about thirty a minute. One of her most used perches was in the cedar just behind me, which brought her much nearer to me than if she had been at the nest. I did not record each and every *tit*, but I calculated that in that short space of time I had been reproved with at least a thousand.

The male showed a return to his conduct of July 7 for he seemed bent, strangely enough, on courting his mate. Twice when he saw her he made a curious little squeaky, grating note *kree-ee kree-ee*, in the meantime spreading his wings and tail.

The main features of the sixth day from 9:30 to 11:30 and 3:22 to 4:52, were the entire absence of singing and of brooding, the greater devotion to the young of the male than the female—he feeding twenty times to her eleven—and the increased self-assertiveness of the young. The female did not spend time objecting at me (she seemed almost over her gun shock); she simply absented herself for considerable periods from the nest, the longest of these being forty-one minutes. In the morning she came to the north entrance each time and left the same way except twice when she slipped out the east opening; in the afternoon she squeezed through the south side once, used the east entrance once and the north twice. The male gave his courting note once.

This was the first day on which the young made themselves conspicuous. Whenever a parent left after feeding there was sure to be one little head at least that waved itself about disappointedly before subsiding. In the morning there was quite a breeze that kept intermittently rocking the juniper branch that held the nest and as continually raising false hopes in three hungry little birds. Eighteen times in the two hours I recorded a jerk by the breeze and the consequent excited heads. In the afternoon one baby was trying to preen its little breast with his eyes half opened, nearly falling over in the attempt. Later one stood up on its feet. At one time all three heads could be seen on the nest rim, whereas before this I could never see the babies except when they stretched up their heads to be fed. At this stage they could hardly be called beautiful from our standpoint as they gaped over the edge of the nest with their enormous red and yellow open bills.

black goggle eyes tight shut and tufts of black down standing pompadour!

On July 13 the female unfortunately seemed to have remembered about the dreadful noise for she spent much of her energy scolding; at times she did not seem much troubled and the rate of *tits* per minute dropped as low as twenty but again they rose to forty-five and fifty a minute. She flirted her wings and tail when chipping vigorously, but preened herself or gathered insects for her lunch when her agitation seemed half forgotten. In the hour and three-quarters that I watched in the morning the male fed eleven times to his mate's three. Once I heard him say *eep, eep*, twice give the courting note and eleven times sing *weechy weech*.

From 6 to 7 P. M. the male again on three occasions quivered his wings and said *kree, kree, kree*, his mate being near him each time. It was hard for her to get sufficient confidence to feed the young, but twice she hurried up after the male had gone to the nest and fed directly after him. She spent some time in the cedar a few feet above me; I seemed to have a sort of horrid fascination for her.

The eighth day was particularly interesting both during the three morning hours of observation and the hour and twenty minutes in the evening. In the first place the nestlings had changed over night from hideous frights to bonny fluffy baby birds. Moreover, the male was in full song again, uttering *weechy weech* 384 times in the morning (singing being recorded during 78 of the 180 minutes) and sixty-one songs in the evening. Another curious thing was the brooding of the young by the female from 8:03 to 8:20 although the temperature was no colder than it had been the day before—62 degrees.

As the little mother sat on the nest she looked the picture of lovely contentment and very pretty with her soft blue grays and bright yellow throat. After a while she moved as if somewhat buffeted by hungry heads but she settled calmly down again with the air of knowing better than her children did what was best for them. The first time that she came to feed she squeezed through the prickly branches to the south and the next time she forced a new entrance to the southwest, but after that she always came and left by the north opening. She spent some energy in chipping at me, but not very strenuously; two minutes that I counted averaged twenty-three *tits* while one had as few as eleven.

Despite the fact of the male's singing so constantly he fed the young eighteen times to his mate's nine. Indeed, he was so busy with both occupations that one minute's record actually stands thus: 9:26—*weechy weech*. Male in cedar with green caterpillar, flies directly to

nest, feeds one young, leaves as usual. *Weechy weech*. Both these songs were uttered as always while he was out of sight. Three times there were evidences of amorousness and once the female responded by quivering her wings, but then flew directly away.

The nestlings were all the time growing more active; they stretched, rearranged themselves, preened their wings and sometimes stood up on their feet. Once they nearly stepped out of the nest in their eagerness to welcome their father. For the first time I heard them give a faint note *zee, zee, zee*.

From 6:20 to 7:40 that evening the young were fed at a more rapid rate than during any other period of observation—once every 3.3 minutes. The female showed no fear at all, always going to and leaving the north opening and hardly saying any *tits* at all. The male sang *sing sweet* three times, *weechy weech* five times, then fifty-three *sing sweets* with a few *sing sing sweets* in between. On the three occasions when the parents were together the male gave his *kree kree* note and his mate always hastened away.

Although the evening before the female had accepted me as harmless, on July 15 her former agitation returned; she protested for half of my morning visit at the rate of twelve to thirty *tits* a minute. However she always entered and left by the north entrance. The male sang only seven *weechy weeches* from 8:30 to 10:00. Part of the time he was searching for insects in sweet fern bushes within a few feet of me, uttering a few *tits* as he did so. He continued his courting of his mate, saying *kree, kree* on four occasions and interestingly enough he was once answered by the female with the same note; immediately afterwards they each fed the young, the male then flying out of sight while the female took up one of her favorite positions, the cedar behind my chair, and started to *tit*.

The young were prettier than ever and more vocal, at one time greeting their father with squeals of welcome.

An hour in the afternoon from 2:10 to 3:10, gave different results from any obtained before; there was no singing, no brooding, no courting and only two meals given and these by the male. The female came once with a caterpillar but must have eaten it herself; she spent thirty-eight of the sixty minutes in scolding. The curious thing was the wide variety of notes employed by her on this occasion, who before, with one small exception of five *eeps*, had confined herself to the most wearisome iteration of *tit*. This time she began with *tits* but all at once introduced a loud *yap* and again an *eep*. One series went like this: *eep, yeeep, peep, tit, tit, yap, yeeep*—the new notes being deeper and harsher than the old *tit*. Meanwhile the young kept very quiet. The male had come

with food but perhaps was impressed by the female's attitude, for he also ate his caterpillar and began to *tit* at me. She continued *pip, yip, yip, yap, eep*. Later the male fed the young while the female indulged in her everlasting *tit* twenty-five to a minute. The last notes I heard were *yeep, teep, yeep, tit, tit*.

I was unable to visit the nest again until 8:30 the next morning when to my bitter disappointment I found it empty. It may have been that the female's return of her fear of me and her curious new alarm notes had some relationship to the imminency of the young's leaving.

Although I searched and searched I never found the brood nor their mother. The little father I often saw and his singing was heard until July 29. *Sing sweet* was sung appreciably more than *weechy weech*, but both songs were recorded each day until the 23d; after that he only sang *sing sweet*.

GENERAL SUMMARY

Data on the nesting behavior of Magnolia Warblers have been given by two writers—Miss Cordelia Stanwood⁶ and Mr. Henry Mousley⁷.

The former article is concerned mostly with the structure of nests and nestling plumages; there are several items of interest besides: that in once case the male brought material for the nest, that three of the nests were built in six days, that two different females exhibited the broken wing ruse (one with eggs and the other with young that had left the nest), and finally that one brood left at the age of eight days and two broods at nine or ten days. Mr. Mousley watched two broods of this species, one for two days and the other for some hours each day but one from hatching to the departure of the young. The male of the second brood fed the female on the nest and also ate the faeces—two things my warbler never did. The young left the eighth day instead of the ninth or the tenth as was the case with mine. His warblers resembled mine in several points: his male did not start to feed the young until the second day; no faeces were eaten after the first three days; both of his males showed great variations in the amount of singing, the second bird singing during the first five and on the eighth day but not on the seventh.

A brief summary of some of the aspects of the home life of the birds watched by me will be given.

BROODING. For the first four days the female brooded after thirty of her forty-two feedings; after that she was observed to brood

⁶"A Series of Nests of the Magnolia Warbler." *Auk*, XXVII (1910), 384-389.

⁷"A Study of the Home Life of the Northern Parula and Other Warblers at Hatley, Stanstead County, Quebec, 1921-1922." *Auk*, XLI (1924), 263-288.

only twice—on the fifth and eighth days. The male never brooded. There was no sheltering of the young from the sun because it was never necessary. The average number of minutes of each period of brooding was 10.7, almost exactly the same as with Mr. Mousley's Magnolia Warblers—10.5. The percentage of time that the young were brooded in comparison to the time of observation was as follows for the nine days: 19; 56; 33; 45; 3 1-3; 0; 0; 10; 0. (The first day was hot—81 degrees, while the temperature on the others varied between 62 degrees and 76 degrees, except on the afternoon of July 9.)

FEEDING. The parents never gave any note as they approached or left the nest. The food was always visible in the parents' beaks, it was thrust far down into the throat of the nestling, and if not swallowed at once, was removed and given to another. Almost all the food given consisted of green larvae; there were seven round white objects that might have been spiders, and three grasshoppers during the last two days besides a number of miscellaneous insects. Almost without exception, the birds brought only one thing at a time; twice two small caterpillars were noted and once three.

The rate of feeding fluctuated from once every thirty minutes, to once every 3.3 minutes, the average being once every 7.6 minutes; with Mr. Mousley's birds the rate was once every 8.2 and 9.8 minutes. Since there were three young in my nest, and at one-tenth of the visits two young were served, each bird was fed on an average once every twenty minutes during the 26½ hours I watched.

REACTION TO OTHER BIRDS. In general the relations of these warblers with other birds was not unfriendly; no attention was paid to passing Chickadees nor to Chewinks and Maryland Yellow-throats that nested near. The only birds towards whom the male showed animosity were a male Myrtle Warbler that he drove away both during incubation and while the young were in the nest, and the male of his own species who came to call July 2. On July 8 the female warbler gave short shrift to an inquisitive female Black-throated Green Warbler that seemed to wish to inspect the household.

They did not seem to notice the squirrel who several times came within fifteen feet of the nest. The bark of a dog up at the house brought a reaction: on July 9 the mother looked up quickly and panted while on the nest, and July 14 the young stopped their preening on the instant.

As to their human admirer, the male hardly ever seemed to mind me except on two occasions for a short while when my appearance was changed by a different costume. The female objected more than he from the very first; her timidity was increased when I moved very near

NESTING ACTIVITIES OF A PAIR OF MAGNOLIA WARBLERS

Date	Time	Hours	Number of times fed by		Average rate of feeding in minutes once in brooded minutes	Time brooded in minutes	Times faces eaten by		Times faces removed by	Number of songs		Temp.	
			female	male			female	male		female	male		Ww
July 7	9:50-11:22 A.M.	1½	5	0	18	2	17	?	0	0	?	13	81°
July 8	10:45-11:15 A.M.	½	0	1	30	1	28	?	0	0	?	0	72°
July 8	12:30-3:00 P.M.	2½	11	4	10	6	64	4	0	1	141	20	71°
July 8	6:00-7:00 P.M.	1	2	2	15	3	44	1	0	0	102	150	
July 9	8:35-11:05 A.M.	2½	10	9	7.9	7	65	2	0	2	286	0	62°
July 9	2:25-4:25 P.M.	2	5	10	8	4	47	1	0	3	3	0	80°
July 10	12:40-2:10 P.M.	1½	4	6	9	4	47	0	0	1	0	0	68°
July 10	3:42-4:42 P.M.	1	5	4	6.6	4	21	0	0	3	0	0	
July 11	10:13-11:13 A.M.	1	3	5	7.5	1	2	0	0	2	0	0	73°
July 12	9:30-11:30 A.M.	2	7	11	6.6	0	0	0	0	1	0	0	76°
July 12	2:22-3:52 P.M.	1½	4	9	7	0	0	0	1	2	0	0	
July 13	7:36-9:20 A.M.	1¾	3	11	7.5	0	0	0	0	3	11	0	63°
July 13	6:02-7:02 P.M.	1	4	6	6	0	0	0	0	2	0	0	
July 14	7:50-10:50 A.M.	3	9	18	6.6	1	17	0	0	3	384	0	62°
July 14	6:20-7:40 P.M.	1½	13	11	3.3	0	0	0	2	2	5	56	
July 15	8:30-10:00 A.M.	1½	6	9	6	0	0	0	2	2	7	0	62°
July 15	2:10-3:10 P.M.	1	0	2	30	0	0	0	0	1	0	0	
Total		26½	91	118	7.8	33	352	8	0	17	21	939†	239

*Singing *weechy weech* about one-half the time.†Singing *weechy weech* about one-third the time.

‡Not complete.

the nest, when I rose to frighten away the squirrel, and most of all after I had shot the gun.

BEHAVIOR OF THE FEMALE WARBLER. The mother warbler had a most interesting character; her conduct was often hard to explain. She fluctuated between boldness and timidity without any apparent cause. After the squirrel incident, the sight of me often inhibited her impulse to feed, yet after a while her agitation would practically vanish, she would preen herself and collect insects for her own dinner, letting the infants go hungry. She showed considerable ingenuity in her discovery of new methods of entering the nest.

As to her notes, I once heard her give the courting note *kree*, and on two different dates, July 9 and 15, she gave utterance to the loud unmusical *eep* and variations of the same nature. Her favorite expression, however, was the gentle alarm note *tit*; I must have listened to its utterance several thousands of times.

BEHAVIOR OF THE MALE WARBLER. The male seemed to have a more straight forward nature than his mate; the only inexplicable thing about his conduct was his determination to court the female at the very end of this belated nesting cycle. The attention that he paid to his nestlings increased from zero on the first day to moderate interest on the second, equal zeal with his mate on the third day and after that to greater devotion than hers. From the fifth day on he outdid the female in all but one of the nine periods of watching; moreover he fed two nestlings nineteen times in contrast to her three times. He was in full song the first three days, was nearly silent the next four, in full song on the eighth, but hardly sang at all the ninth and tenth.

His songs were two: the day song and perch song *weechy weech* and the feeding and vesper song *sing sweet* with its variation *sing sing sweet*. He used three different notes: *tit* the alarm note, *kree* the love note, and *eep*, the significance of which I never fathomed.

Acquaintance with the personalities of these enchanting little birds was one of the chief rewards of this study—the appreciation of the vagaries of one, the indefatigability in song and devotion to home of the other, and the courage, beauty and charm of both.

NORMAN, OKLAHOMA.

NESTING OF THE COMMON TERN AT THOUSAND ISLANDS,
JEFFERSON COUNTY, NEW YORK

BY CLARENCE BRETSCH

For at least twelve years Common Terns (*Sterna hirundo*) have nested at the Thousand Islands, St. Lawrence River, Jefferson County, New York. Eaton's late edition "Birds of New York" states that these birds are not known to breed within the limits of New York State except on the east coast. Mabel Metcalf Merwin, of Clinton, N. Y., observed them nesting near Clayton June 26, 1916, (see the *Auk*, Vol. 35, page 74, 1918) and I had observed them for years prior thereto in small numbers. They have been increasing quite rapidly in the past few years. The natives call them gulls.

The terns follow the fishing guides' boats, having learned that is the quickest and easiest way to procure food, picking up dead minnows that are thrown away, and when fish are not biting many fishermen amuse themselves by throwing minnows in the air and watching the terns catch them before they hit the water. They are very tame, many times coming within ten feet of the boat. When one of the terns catches a minnow, he immediately sets up a screeching that attracts the others, and they at once commence to chase it and try to take the same away.

In the narrows at the head of Thousand Island Park, Hanlon Nulty and Hugh Dickinson, during the summers of 1924 and 1925, maintained a dock where they sold live bait to fishermen. By throwing out the dead minnows several times a day to the terns, they succeeded in taming them to such an extent that many times while I was there, with not a tern in sight, they would go on to the dock, call and make a motion with their arms and hands, and the terns would immediately come if within hearing or seeing distance.

Since becoming a bird bander, I have given the terns as well as all other birds, closer study and attention. One can find these terns breeding from above Clayton, N. Y., to Fishers' Landing, N. Y., a distance of over seven miles, usually from June 10 to July 10. There are two islands, called First and Second Shoals, directly opposite Fishers' Landing, and about five hundred feet from the main landing, with no trees or vegetation on them—just bare rocks three or four feet above the water, and here the terns lay their eggs on the rocks in small depressions, without building any nests and in many instances without any lining whatever. On other islands I have found them near small tussocks of grass, and find they usually have from two to three eggs. I observed one nest with four eggs. Hundreds of motor boats pass

them daily, and in many instances only ten or fifteen feet away. I have never observed any of the terns brooding, although I have kept a careful watch for this during the day time. Query: Do they brood at all? If so, are these birds here an exception, or do they depend upon the rays of the sun to hatch the eggs?

There is a low island above Clayton, N. Y., near the head of Grindstone Island that for fifty years or more has been called by the natives "Gull Island," and several smaller islands around there called "Little Gull Islands," and here the terns breed by the hundreds, but this year, 1926, scarcely a bird was hatched. I only found one young tern all summer, and this one on August 2, an extremely late date for this locality. I placed band No. 397970 on it. This year I arrived at my summer home at Thousand Islands on July 8, and the next day, in company with my captain, E. H. Halladay, visited all the breeding islands, intending to band a large number of young terns, but much to my surprise found none. I found a large number of eggs on all of the islands. I counted 137 eggs on a small part of Gull Island. We continued to visit this island twice a week, but never could we find any results, the eggs remaining the same, excepting the one young tern found on August 2. On August 18 Herring Gulls (*Larus argentatus*) suddenly appeared in large numbers, and the terns at once departed. On August 22 I broke open over twenty-five eggs, and all were spoiled. There must have been three hundred eggs still left unhatched on the different islands. Natives reported a very cold June, and I am of the belief that the eggs must have become chilled: but whatever the cause, one thing is sure — scarcely a young tern was hatched in that locality during the year 1926.

GARY, INDIANA.

A FIELD TRIP IN THE SIERRA

BY MRS. H. J. TAYLOR

In the Eldorado Forest Reserve near Echo Lake, California, the city of Berkeley maintains each summer, for nine or ten weeks, a Municipal Camp. It lies on an open flat of 7600 feet elevation, overlooking Lake Tahoe four miles distant. Echo Lake is half a mile or more west of the Camp. A flume carries water power from the lake to remote parts, running as a surface stream to the Camp then underground for a distance, again gushing forth soon to join the American River.

The banks of the flume are gorgeous with columbine, Indian paint brush, pink and yellow mimulus. The tall delphinium and quaint monk's hood peer from the shrubbery, the white blossoms of cow parsley and false hellebore, standing three or four feet tall, make the bank of flowers and shrubs a solid, unbroken mass—a secure place for the feeding and nesting of birds.

Beyond the thicket lie the little meadows, moist with bubbling springs. Rare ferneries are hidden in damp, sheltering coves. The tamarack pine, the stately red fir, the graceful hemlock lift their heads high in the air all through this region. It was here that on July 16, 1926, I took my field trip, going from the Camp along the flume for about half a mile, then returning to the Camp through the little meadows which lie ten or fifteen rods above the flume. The day was fair and grew warmer as the sun rose higher. From 5:00 A. M. to 7:30 A. M. I recorded the following species, the number of individuals being shown in parentheses:

- Cabanis's Woodpecker. *Dryobates villosus hyloscopus*. (1).
- Willow Woodpecker. *Dryobates pubescens turati*. (1).
- White-headed Woodpecker. *Xenopicus a. albolarvatus*. (2).
- Arctic Three-toed Woodpecker. *Picoides arcticus*. (2).
- Red-breasted Sapsucker. *Sphyrapicus r. ruber*. (2).
- Red-shafted Flicker. *Collaptes cafer collaris*. (1).
- Calliope Hummingbird. *Stellula calliope*. (1).
- Olive-sided Flycatcher. *Nuttallornis borealis*. (2).
- Western Wood Pewee. *Myiochanes r. richardsoni*. (10).
- Blue-fronted Jay. *Cyanocitta stelleri frontalis*. (6).
- Western Evening Grosbeak. *Hesperiphona vespertina montana*. (3).
- Cassin's Purple Finch. *Carpodacus cassinii*. (3).
- Pine Siskin. *Spinus pinus*. (3).
- Thurber's Junco. *Junco hyemalis thurberi*. (25).
- Green-tailed Towhee. *Oberholseria chlorura*. (1).
- Western Warbling Vireo. *Vireosylva gilva swainsoni*. (15).
- Calaveras Warbler. *Vermivora ruficapilla gutturalis*. (2).
- Lutescent Warbler. *Vermivora celata lutescens*. (3).
- Audubon's Warbler. *Dendroica auduboni*. (3).
- Black-throated Gray Warbler. *Dendroica nigrescens*. (1).
- Hermit Warbler. *Dendroica occidentalis*. (3).
- Macgillivray's Warbler. *Oporornis tolmiei*. (2).
- Golden Pileolated Warbler. *Wilsonia pusilla chryseola*. (20).
- Sierra Creeper. *Certhia familiaris zelotes*. (1).
- Slender-billed Nuthatch. *Sitta carolinensis aculeata*. (2).
- Red-breasted Nuthatch. *Sitta canadensis*. (4).
- Mountain Chickadee. *Penthestes gambeli gambeli*. (3).
- Western Robin. *Planesticus migratorius propinquus*. (10).

The Thurber's or Sierra Junco is the most abundant species of this region. A year ago I located seventeen nests. One was in an old stump about five feet above the ground; all the others were in small depressions on the ground, hidden by the basal leaf of the mountain daisy. Queen Anne's lace, or false hellebore.

The Blue-fronted Jay is the most conspicuous bird. His voice compels attention. The beautiful iridescence of his blue coat as he sails, kite-like, through the air goes far to offset his raucous voice and bold manners. The young are a noisy lot.

The Western Tanager is the most brilliant in plumage. His short, cheery song of "pretty, pretty" is very true of his yellow-orange attire, set off by a red crown patch and black wings. He is unafraid, hopping about for food only a few feet away from one. As I sat in front of my tent a tanager alighted on my arm, looked about for a moment, then hopped to the ground for food.

The Robin is not abundant, but is seen daily about the Camp. The Western Evening Grosbeak is not uncommon. Twenty feet above ground, in a tree just back of one of the tents, a brood of lively young was reared.

The Olive-sided Flycatcher cannot be seen every day, but he can always be heard in the early morning and at twilight calling "where be-e-you?" The Red-breasted Nuthatch begins his "yank yank" about 3:30 A. M.

Two little fir trees stood ten or fifteen feet from the door of my tent. To these I fastened some suet. In less than two hours the Red-breasted Nuthatch was feeding. At 4:45 A. M. on the following day he was again at the suet. When the raucous jay found the suet, he guarded this forage beat. In his absence the Red-breasted Nuthatch, Western Tanager, and Willow Woodpecker helped themselves. The Calliope Hummingbird was a frequent guest, sipping nectar from the penstemon and columbine blossoms I had gathered. A Sierra Grouse and her four chicks came at early dawn almost daily, feeding at the edge of the Camp. A Mountain Quail with a flock of ten or twelve little ones was not far from the Camp.

The forage beat of many of these birds seemed to be very definitely defined. About half a mile from the Camp I found four or five Green-tailed Towhees feeding in the chaparral. These I saw daily for a week, in the same location.

Warblers were abundant, especially the Golden Pileolated. Often I saw twenty on a trip, and in about the same locality. I found two or three Lutescent Warblers in the same shrubbery on three successive mornings. A pair of Arctic Three-toed Woodpeckers spent several hours in a small group of trees. I found them in the same group on the following day. Three weeks in the Camp gave me a list of forty-two species.

BERKELEY, CALIFORNIA.

THE BIRDS OF THE CHOCTAWHATCHEE BAY REGION OF
FLORIDA

BY W. W. WORTHINGTON AND W. E. CLYDE TODD

INTRODUCTION

Peninsular Florida has so long been a favorite field for ornithological activity that its avifauna is by now fairly well known. But the northwestern part of the State, stretching along the shore of the Gulf of Mexico, has for some reason received little or no attention, although in more recent years a little work has been done in the coast region of the adjoining State of Alabama. Believing that this section of Florida would repay investigation from an ornithological standpoint, the senior author in the fall of 1902 made a proposition to the authorities of the Carnegie Museum involving a six months' collecting trip to the region of Choctawhatchee Bay. This proposition having been duly accepted, he went to Pensacola, Florida, by rail, and thence by schooner to the Bay. Portland had provisionally been selected as headquarters, but upon his arrival there it seemed best to locate in Whitfield, a village about a mile to the south of the other, at the head of Alagua Bayou. He arrived here the second week in November, 1902, and began operations on November 15, continuing without interruption until May 14, 1903. He was joined here on March 21, 1903, by the junior author, who remained until May 6, his stay thus covering the height of the spring migration. During this period of six months thirteen hundred and sixty-four specimens of birds were collected and preserved, many of them in excellent series. The present paper is based on a study of this collection, and on the field notes of both authors made at the time. The delay in its preparation and appearance is to be regretted, and may be explained, if not excused, as being due to pressure of other and more important work, but now that we are looking forward to the early publication of an authoritative distributional list of the birds of Florida by Mr. Arthur H. Howell, it seems desirable to put the facts on record without further delay. Scattered references to some of our observations have already appeared in various places, nor have such always been entirely accurate.

DESCRIPTION OF THE REGION

The coastal plain of western Florida, fronting on the Gulf of Mexico, is low and flat; any elevation of twenty feet is a "hill" high enough to excite remark. The slope is imperceptible, and the water of the streams sluggish. The soil is sandy, and mostly unfit for cultivation. The prevailing tree is the long-leaf pine (*Pinus palustris*), which

covers the whole country, except in the immediate vicinity of water, forming an open forest of a monotonous character. To one who has been accustomed to a varied landscape and flora the sameness of such a forest, stretching away interminably in every direction, and appearing to close up like a wall at a little distance, is somewhat confusing, and a good sense of direction is needed to find one's way through it. The bird life of this pine forest is limited to a few species which are suited to such a habitat: the Sparrow Hawk, Mourning Dove, Red-cockaded Woodpecker, Bachman's Sparrow, Summer Tanager, Yellow-throated Warbler, Pine Warbler, Brown-headed Nuthatch, and Bluebird are the most characteristic. The ground beneath is mostly covered with bunchy grasses, with here and there areas of scrub palmetto and sometimes low bushes—good covert for such species as the Towhee, House Wren, Brown Thrasher, etc., but in general birds are not abundant here, at least in the nesting season.

The course of every stream, no matter how small, is marked by a fringe of hardwood trees and shrubbery, visible for a long distance through the pines, which in some places have been much thinned out by lumbering. Among the trees composing this alluvial forest are the magnolia, live oak, tupelo, maple, second-growth cypress, etc. A rich forest of this kind grows along the Alaqua River, which we explored from its mouth at Whitfield to Portland, about a mile above, and along a couple of short creeks emptying into the bayou in the immediate vicinity. The water in these creeks is so deep, even near their heads, that we had no difficulty in ascending them in the small boat from which much of our shooting was done. These shady woods, interspersed by stagnant pools, and with an undergrowth of bushes and vines and high ferns, are favorite resorts for such birds as the Prothonotary, Swainson's, Parula, and Hooded Warblers, Cardinal, Acadian Flycatcher, Pileated Woodpecker, etc., with a variety of other kinds during the season of migration. Where this woodland gives way to the pines there are frequent areas of dense thicket, which afford congenial haunts to the Catbird, Blue-gray Gnatcatcher, Carolina Chickadee, etc. Cultivated areas had their quota of the Mockingbird, Bobwhite, Meadowlark, Orchard Oriole, and others.

To the east of the mouth of the Alaqua River there is a marsh several acres in extent, across the middle of which, at the time of our visit, ran an elevated board-walk, unused and fallen into decay, but still passable. This marsh was not negotiable in any other way, except by paddling around its edge, and for this reason could not be thoroughly explored. American and Least Bitterns, Sora Rail, Long-billed Marsh Wrens, and Florida Yellow-throats were common here.

but were all difficult to obtain. We explored also a cane-brake on the western side of the bayou, but found it destitute of bird life.

On May 4 and 5 we visited Horseshoe Bayou, on the south side of Choctawhatchee Bay, in a schooner chartered for the purpose, and thence crossed over to the Gulf Coast proper. Horseshoe Bayou is situated in Longitude $86^{\circ} 20'$ West, not far from the little town of Santa Rosa, in a desolate region surrounded by sand-dunes, covered with bushes and scrub. Continuing southward, we came to a tract of sand-hills rising fifty or sixty feet above the general level, and mounting one of these the Gulf of Mexico presently came into view, although a considerable stretch of sand-dunes still intervened. Crossing these, we found ourselves on a gently sloping beach averaging less than a hundred feet in width, faced by a bluff of varying height, and all of the purest white sand, dazzling white in the sunshine, contrasting finely with the waters of the Gulf, which were of the clearest green, the whole forming a beautiful picture. Here we found a few shore-birds, including the Cuban Snowy Plover, and in a marshy place at Horseshoe Bayou encountered a flock of Boat-tailed Grackles, the only ones seen during the trip. It is a matter of regret that our time here was so limited.

REMARKS ON MIGRATION

One hundred and sixty kinds of birds were recorded during the period covered by our stay. Of this total fifty-three species, or one-third of the list, come under the class of summer residents and transient visitants. On going over these one is struck not only by the brevity of the list itself, but even more by the many species which were recorded as rare and seen on only a few occasions. If we were disappointed in the results of the work during the winter months, having failed to find so many kinds that we had reason to expect, we were doubly disappointed with the spring migration. There were a few kinds that arrived and became common in due course, but the anxiously awaited "bird wave" never materialized. The riparian woodland looked like an ideal place for birds, but the birds were not there, aside from a few common kinds. The Swainson's Warbler was in fact the only "desirable" species which actually came up to expectations. What we failed to find was of more significance than what we did find. The late Prof. Wells W. Cooke used our experience as a text whereupon to hang an important discovery in bird migration. We quote the following from his paper on the subject (Bull. U. S. Depart. Agric., No. 185, 1915, p. 33):

"During the spring migration of 1903 two experienced ornithologists spent the entire season on the coast of northwestern Florida, visiting every sort of bird haunt. They were eminently successful in the long list of species identified, but their enumeration is still more remarkable for what it does not contain. About 25 species of the smaller land birds of the Eastern States were not seen, including a dozen common species. Among these latter were the chat, the redstart, and the indigo bunting, three species abundant throughout the whole region to the northward. The explanation of their absence from the list seems to be that these birds, on crossing the Gulf of Mexico, flew far inland before alighting and thus passed over the observers."

Cooke's explanation is undoubtedly correct, as will readily be seen from a comparison of our list of species observed at Whitfield with that given by Mr. Arthur H. Howell in his "Birds of Alabama." It would be most interesting to learn if the same condition held also for the fall migration, that is, if there are species which do not reach the Gulf Coast at that season, but begin their flight some miles back of it. The general unsuitableness of the pine barrens for the great majority of the species is probably one of the causes for this avoidance of the region. In the case of such Mississippi Valley species as migrate through peninsular Florida, it is quite likely that their route carries them north-westward directly upon leaving it, and so they do not enter the Choctawhatchee Bay region at all.

LIST OF THE SPECIES

[The following list contains 160 named forms.—Ed.]

The sequence and, in general, the nomenclature of the A. O. U. "Check-List" have been followed in the present paper, but an effort has been made to bring the names used down to date, in certain cases where the changes proposed seem to us to be justified. A few additional changes of this nature have been suggested. For all critical matter in the present paper the junior author is responsible, and he has also contributed such of the biographical notes as deal with the species that came under his observation.

HORNED GREBE. *Colymbus auritus*. A common winter resident on Choctawhatchee Bay, where good-sized flocks were seen on November 8. Many birds of this species died during the winter, apparently of starvation. Several were caught alive, being much emaciated, and too weak to fly or dive. Dead individuals were also seen, but owing to crabs, gars, and other scavengers few of those which perished were likely to be noticed. The species was last seen alive on February 11. Six specimens were secured (December 3-10).

PIED-BILLED GREBE. *Podilymbus podiceps*. Like the last a common winter resident, frequenting the shores of the Bay, where it was

found singly or in small parties. April 11 was the latest spring date for it.

LOON. *Gavia immer*. A not uncommon winter resident. Numbers were seen on the bay on November 8, and it was noted almost daily up to April 10, while a single belated bird was seen as late as May 4.

RING-BILLED GULL. *Larus delawarensis*. Rather common on the lower bay on November 8, but none visited the upper bay thereafter, nor the bayous.

LAUGHING GULL. *Larus atricilla*. Two seen on the lower bay on May 4, on our trip to the Horseshoe Bayou, were the only ones observed

ANHINGA. *Anhinga anhinga*. A single bird was seen on April 9, sailing high in the air over the waters of the bay.

DOUBLE-CRESTED CORMORANT. *Phalacrocorax auritus auritus*. Apparently rare. Two were noted on November 8, and it was seen on an average about twice a month up to March 7, after which no more were observed until May 4, at Horseshoe Bayou.

RED-BREASTED MERGANSER. *Mergus serrator*. A winter resident, somewhat rare. A flock of eight was noted on December 11, a single bird December 23, and a flock of six January 19. Owing to constant persecution from local pot-hunters, what few ducks were seen were extremely shy.

HOODED MERGANSER. *Lophodytes cucullatus*. Rare in winter. A flock of four seen January 15 (one of which was secured), and a single individual on January 17, were the only recorded occurrences.

MALLARD. *Anas platyrhynchos*. A winter resident. A flock of sixteen was noted on December 1, and a few stragglers were seen up to February 6, but none thereafter.

FLORIDA DUCK. *Anas fulvigula fulvigula*. Small flocks of ducks, believed to be of this species, were seen occasionally, from November 10 up to February 19, but unfortunately none were secured.

BLUE-WINGED TEAL. *Querquedula discors*. A small flock was seen on December 3, and two individuals on April 16. A winter resident.

PINTAIL. *Dafila acuta tzitzihoa*. A small flock haunted the bay shore from February 24 up to March 10. The last seen were two on March 27.

WOOD DUCK. *Aix sponsa*. One male bird was flushed near the head of one of the creeks, where it was feeding among the aquatic plants, on April 14.

LESSER SCAUP DUCK. *Marila affinis*. Occurs as a rather rare winter resident. Dates of record are November 18 (a flock of eight), 26, December 3, 10, and May 4 (a party of three at the Horseshoe Bayou). The last is a late date for so far south.

WHITE IBIS. *Guara alba*. Small flocks were seen in flight over the Alaqua River and Bayou on March 17, April 21, 27, and 29. We could find no evidence that the species was breeding in this vicinity, although the dates would suggest that it probably was.

AMERICAN BITTERN. *Botaurus lentiginosus*. The Bittern doubtless occurs as a winter resident, but it was noted only once in the fall, November 24, and but twice in the spring, March 28 and April 22 (a rather late date), on each occasion in the swamp at the mouth of the Alaqua River.

LEAST BITTERN. *Ixobrychus exilis*. This species probably breeds in the marsh at the mouth of the Alaqua River, where one was secured April 7. Another individual was seen at Horseshoe Bayou on May 5.

WARD'S HERON. *Ardea herodias wardi*. A not uncommon resident bird, noted regularly throughout the winter and spring. A nest was found in an immense pine tree, built far out on the end of a limb overhanging the water, about forty feet up, and inaccessible by ordinary means. When visited on March 23 it probably contained eggs, judging from the actions of the parents, which kept hovering around, and on April 16 we could hear the young calling.

LITTLE BLUE HERON. *Florida caerulea*. Probably a summer resident here, but we found no evidences of its breeding. The first was seen on March 21, and a flock of twelve the next day. Occasional small parties and single birds were seen through most of April, and again on May 5, at Horseshoe Bayou. Only one specimen was secured.

GREEN HERON. *Butorides virescens virescens*. Not uncommon as a summer resident, although not actually found breeding. It was first observed on March 19, and thence up to the end of our stay, usually along the creeks. The two males secured are obviously darker and more richly colored below than the five females.

BLACK-CROWNED NIGHT HERON. *Nycticorax nycticorax naevius*. Rare; one was seen on May 13.

KING RAIL. *Rallus elegans elegans*. One was put up in the high marsh grass along the shore of the bayou on March 30, but was not

brought to bag. Its haunts and habits are such that it is probably more common than this single record would indicate. It probably breeds here.

SORA RAIL. *Porzana carolina*. The Sora Rail probably passes the winter here, occasionally at least, since one was seen on December 18, but it was not again recorded until April 20, and then on April 27 and May 4, and lastly on May 7. The remarks on the last species apply to this one also.

COOT. *Fulica americana*. An abundant winter resident, found in flocks of hundreds along the shores of the Bay, where it feeds on the seeds of the rushes growing in the shallows, and often straggling up the bayous and the streams, especially in windy or stormy weather. It was already common on our arrival on November 8, and was seen last (a single bird) on April 28.

AMERICAN WOODCOCK. *Rubicola minor*. A single individual was seen on May 9, which would indicate that the species breeds in this vicinity, as it is known to have young much earlier than this at other points on the Gulf Coast.

WILSON'S SNIPE. *Capella delicata*. A winter resident, apparently of rare occurrence. One was seen on February 9, a party of three February 20, and one April 1.

SEMI-PALMATED SANDPIPER. *Ereunetes pusillus*. A party of five small sandpipers, identified as this species, passed over Alaqua Bayou on May 11, just out of gunshot, flying northward.

SANDERLING. *Crocethia alba*. A small flock, out of which three individuals were secured, was noted on the Gulf beach May 5, and a single bird was with the flock of Semipalmated Sandpipers referred to as having been seen May 11. The three specimens secured were all females, undergoing the prenuptial molt.

SOLITARY SANDPIPER. *Tringa solitaria solitaria*. A spring transient, for which there are only four records, the first on April 25 and the last on May 11.

SPOTTED SANDPIPER. *Actitis macularia*. A common transient, noted first on April 3, and last seen on May 15.

KILLDEER. *Oxyechus vociferus vociferus*. Rather common for a time (January 19-February 26) on the shores of the outer bay, but not noticed during the breeding season.

CUBAN SNOWY PLOVER. *Charadrius nivosus tenuirostris*. One shot on the Gulf beach on May 5 was our only note for this species, which has already been recorded by Cherrie (*Auk*, XIV, 1897, 402) as com-

mon and breeding on the outer beach of Santa Rosa Island, a few miles away. The specimen is strikingly different from a series of true *nivosus* from the Pacific Coast, the pileum and upper parts being soiled white, and the whole appearance of the bird, as well as its separated range, suggests its specific distinctness from that form. Its light coloration harmonizes well with the glistening white beaches which it inhabits.

BOB-WHITE. *Colinus virginianus virginianus*. An abundant resident, equally common in the cultivated fields and the open pine barrens, but usually taking refuge in the thicker growth along the streams whenever pursued. The farmers complained that the "partridges," as they called them, were in the habit of eating their garden peas. The series secured are typical of *virginianus*, and show no approach toward the race *floridanus* of peninsular Florida.

WILD TURKEY. *Meleagris gallopavo silvestris*. A tolerably common resident species. A flock of about a dozen birds which haunted the vicinity were in the habit of coming into the fields, within sight of the dwellings, to feed. The single specimen secured compares favorably with northern examples.

MOURNING DOVE. *Zenaidura macroura carolinensis*. Common throughout the winter. A few probably breed, since some were noted as late as April 22.

TURKEY BUZZARD. *Cathartes aura septentrionalis*. A common resident; probably breeds.

BLACK VULTURE. *Coragyps urubu*. Common throughout the winter probably breeds.

SWALLOW-TAILED KITE. *Elanoides forficatus forficatus*. Not common, and its exact status here unknown. Four were seen on March 7, flying high in the air, two on March 9, and one on March 18.

MISSISSIPPI KITE. *Ictinia mississippiensis*. The first individual of this species was noted on April 15, and a few at intervals thereafter up to May 15, so that it doubtless breeds here. It was usually observed perched on the top of some tall dead tree, and did not seem particularly shy. Three specimens were secured.

MARSH HAWK. *Circus hudsonius*. One was seen on February 11.

SHARP-SHINNED HAWK. *Accipiter velox*. Occasional through the winter, single individuals having been seen at intervals up to March 12.

COOPER'S HAWK. *Accipiter cooperi*. Only one seen (March 5).

RED-SHOULDERED HAWK. *Buteo lineatus lineatus*.

FLORIDA RED-SHOULDERED HAWK. *Buteo lineatus alleni*. The species was of fairly common and regular occurrence during our stay, and was usually seen in the rich growth along the streams. Of two specimens secured, one is a typical, even an extreme, example of *lineatus*, while the other is better referred to *alleni*. The latter must be the breeding form of the region.

BALD EAGLE. *Haliaeetus leucocephalus leucocephalus*. Not infrequently observed throughout the winter, from December 23 up to as late as May 5, when it was seen at the Horseshoe Bayou. It probably breeds, but no evidence on this point was uncovered.

SPARROW HAWK. *Falco sparverius sparverius*. Rather common during the winter months, and noted regularly from November 17 to March 16. The specimens taken are all typical *sparverius*, and two of the males have the rufous crown-spot reduced to a mere trace.

OSPREY. *Pandion haliaetus carolinensis*. A resident species, but more conspicuous than common. One pair were nesting on Alaqua Bayou, and they remained in its vicinity all winter. On February 20 four were seen, evidently migrating individuals, and a very few others at intervals. A nest was found at Horseshoe Bayou on May 5.

FLORIDA BARRED OWL. *Strix varia alleni*. Five individuals were noted, two of which were secured, between December 22 and March 28.

FLORIDA SCREECH OWL. *Otus asio asio*. A resident species, but far from common. One was shot December 12, in a grove of young pines in the barrens, and another May 5, at dusk, in shrubbery near a stream.

GREAT HORNED OWL. *Bubo virginianus virginianus*. A resident species, noted but once (March 30) on the northern side of the Bay, and again at Horseshoe Bayou on May 4.

YELLOW-BILLED CUCKOO. *Coccyzus americanus*. A common spring migrant; probably breeds. It was noted first on April 20, became common on April 25, and continued so to the end of our trip.

BELTED KINGFISHER. *Ceryle alcyon alcyon*. A winter resident, noted regularly from November 18 to April 29.

SOUTHERN HAIRY WOODPECKER. *Dryobates villosus auduboni*. A rather common resident. The series taken indicate that in this southern race there is a marked tendency toward a division of the red nuchal crescent of the male into two spots.

SOUTHERN DOWNY WOODPECKER. *Dryobates pubescens pubescens*. Like the last a resident species, but more common. The series secured are very uniform in their color and markings—much more so than the northern form.

RED-COCKADED WOODPECKER. *Dryobates borealis*. This is the common woodpecker of the open pine barrens. A nest was found April 1 in a living pine, but whether with eggs or young was not determined. Specimens shot in December and January were in fine fresh plumage, but by the end of March the feathers of the lower parts had become soiled from contact with the tree-trunks. Variation in the amount of black spotting on the outer rectrices is evident in the series.

YELLOW-BELLIED SAPSUCKER. *Sphyrapicus varius varius*. A common winter resident, noted regularly from November 13 to March 30. A pair of young birds taken as late as March 4 were still largely in juvenal dress. Females appear to have more yellowish white on the outer rectrices than males.

PILEATED WOODPECKER. *Phloeotomus pileatus pileatus*. A tolerably common resident, haunting the mixed woodland along the Alaqua River and its tributaries. Four specimens were taken.

RED-HEADED WOODPECKER. *Melanerpes erythrocephalus*. This species was not observed during the winter months, nor indeed until April 15, not becoming common until a month later.

RED-BELLIED WOODPECKER. *Centurus carolinus*. A common resident. This and the last species feed very largely upon mulberries in season, and together with the Summer Tanager, contrive to keep the trees so well stripped that it is scarcely possible for the owners to get any of the ripe fruit for their own use.

FLICKER. *Colaptes auratus auratus*. A common resident. Specimens compare favorably with others from peninsular Florida.

NORTHERN FLICKER. *Colaptes auratus luteus*. A pair of birds shot January 23 come within the range of measurements assigned to this race, which in our opinion rests upon very slender characters indeed, and is scarcely entitled to recognition by name. These individuals were doubtless winter visitants from farther north.

CHUCK-WILL'S WIDOW. *Antrostomus carolinensis*. A tolerably common summer resident, but more often heard than seen, keeping mostly to the drier parts of the woods and thickets, and coming out into more open spots at dusk. Efforts to secure specimens at such times did not bear fruit, owing to the brief duration of twilight in this latitude, and to the difficulty of locating the singing birds even when close. Their call is deceptive in intensity, appearing to come from near by even when the birds are really at some distance. They are more apt to be active and vociferous somewhat earlier on a dark, cloudy evening. When flushed in the daytime they invariably alighted on trees. The first individuals were noted on April 10.

WHIP-POOR-WILL. *Antrostomus vociferus vociferus*. This species appears to be occasional in winter, having been noted twice, November 18 and February 17, and secured on the latter occasion.

NIGHTHAWK. *Chordeiles minor minor*. Common in spring migration. Nighthawks were noted first on April 7, but whether of this form or the next it is impossible to say, as none were secured on that date, or indeed until April 23. The last bird of the present form was shot May 2.

FLORIDA NIGHTHAWK. *Chordeiles minor chapmani*. Two specimens of this, the summer resident form, were taken, on April 24 and 25 respectively. Nighthawks of both forms were fond of alighting on a sandy road where it crossed an open space. Even at this season they were excessively fat.

CHIMNEY SWIFT. *Chaetura pelagica*. First noted in spring migration on April 13, and common by April 20.

RUBY-THROATED HUMMINGBIRD. *Archilochus colubris*. This species was noted on March 10 and 13, which is certainly an early date of arrival, if indeed it does not suggest wintering. It was seen again on April 9 and 23, but seems to be a rare bird here.

SCISSOR-TAILED FLYCATCHER. *Muscivora forficata*. A single bird of this striking-looking species was seen and positively identified on May 15, but not secured. It is of course merely a straggler so far east, although there are several other records from Florida and one from Alabama, and it is rare in Louisiana.

KINGBIRD. *Tyrannus tyrannus*. A common summer resident, whose arrival was recorded on March 28. Specimens taken here are entirely similar to northern examples.

CRESTED FLYCATCHER. *Myiarchus crinitus*. A common transient and presumable summer resident, first seen on April 1. A series of fifteen specimens were secured, which are indistinguishable from northern birds. We are unable, after examination of considerable pertinent material, to verify the characters claimed for the supposed race *boreus* by Mr. Howell (Birds of Alabama, 1924, 187).

PHOEBE. *Sayornis phoebe*. Rather common as a winter resident, from the time our work began until March 17. Specimens taken at this latter date had already lost most of the yellowish bloom below which characterizes the fresh winter plumage.

WOOD PEWEE. *Myiochanes virens*. This is no doubt a summer resident here, as it is in adjacent parts. Its arrival was recorded on April 4, and it was common before the end of the month.

ACADIAN FLYCATCHER. *Empidonax virescens*. Doubtless a summer resident species, and rather common, frequenting the swampy forest along the streams. April 6 was the date of its recorded arrival.

FLORIDA BLUE JAY. *Cyanocitta cristata cristata*. A resident species, very common. Jays from this region average rather darker-colored than those from peninsular Florida, but the latter vary a great deal among themselves. One specimen (No. 11.817), indeed, has the under parts decidedly suffused with purplish blue.

FLORIDA CROW. *Corvus brachyrhynchos pascuus*. A resident species, not very common. We are informed that as a result of a bounty on Crows, paid a few years before, large numbers had been shot and poisoned, which would account for their reduced numbers.

The single specimen secured is a female, which we are unable to distinguish satisfactorily from specimens from peninsular Florida. Mr. Howell has proposed to call the Crows of Alabama by another name, *paulus*, on account of their relatively smaller size, but if the (admittedly scanty) material before us is at all representative we see no need for this innovation.

FISH CROW. *Corvus ossifragus*. A few were seen in November, February, and March, and in April they became rather common, but were very shy.

BOBOLINK. *Dolichonyx oryzivorus*. A spring transient, not common, observed only from May 3 to May 6.

FLORIDA RED-WINGED BLACKBIRD. *Agelaius phoeniceus phoeniceus*. Red-wings of one form or another were common throughout the winter months, and some that were seen at Horseshoe Bayou on May 4 must have been *phoeniceus*. The series of specimens from Whitfield are difficult to place. Some have the stout bill and long wing of the northern form, to which we are compelled to refer them. Others have the wing almost or quite as long as the northern form, but the bill is long and slender, while others still have short wings and a rather short bill. Unfortunately, none are breeding birds.

RED-WINGED BLACKBIRD. *Agelaius phoeniceus predatorius*. Four specimens (December 30-March 23) we would refer to this race with but little hesitation; although their middle wing-coverts are deeper buffy than any of the northern birds, this is probably due to season, while in other respects they agree better with *predatorius*. They were doubtless birds which had come from the north.

SOUTHERN MEADOWLARK. *Sturnella magna argutula*. A common resident, frequenting the more open situations. A nest with five eggs

was found at Horseshoe Bayou on May 5. It was built in the low grass a little back from the wet marsh, and scarcely protected from view, save by its being partially domed over. The song of the Meadowlark here differs decidedly from that one hears in the north; it is weaker, and sounds as if it were cut off before coming to the end.

The *Sturnella* of peninsular Florida differs from the northern bird as said by Mr. Bangs, and is doubtless separable, as he claims. But the series from Whitfield, taken from November 18 to March 19, are certainly very puzzling, presenting as they do different combinations of characters in varying degree. Some are nearly or quite as large as northern birds, while others are as small as the average specimen from peninsular Florida. But the smallest specimens are not always the darkest, nor the largest the lightest colored. There is no assurance, moreover, that the series secured correctly represent the breeding bird of the region, since eggs were not taken here until early in May, while the latest specimen collected is dated March 19. There is an astonishing difference in the condition of specimens taken at the same time, some individuals showing the pure yellow under parts and sharply defined black collar of the breeding dress, while others have these parts and the collar heavily veiled with buffy, as regularly found in winter plumage. It may be a matter of age.

Dr. Chapman (*Bull. Am. Mus. Nat. Hist.*, XIII, 1900, 300) thinks that *argutula*, if recognized at all, should be restricted to the bird of peninsular Florida, but Mr. Ridgway does not accept this conclusion at all, but instead follows Mr. Bangs in using the name for the bird of the Austro-riparian Zone in the eastern United States (except for a part of Texas). The type-locality of *magna* (South Carolina), however, lies within this Zone, and it will therefore be necessary to further limit the assigned range—unless, indeed, South Carolina birds turn out to belong to the southern form, which is denied by Mr. Bangs and by Mr. Arthur T. Wayne.

ORCHARD ORIOLE. *Icterus spurius*. A common summer resident: seen first on April 7, and common on April 9, when it was observed in the scattered bushes in the swamp at the mouth of the Alaqua River. A specimen secured April 16 shows the stage of plumage in which the young male reaches the United States. Three other specimens, April 25 and 28 and May 13, are progressively more worn. All of them have scattering black feathers about the head, and all but one a few chestnut feathers below. No. 13,015 has the central rectrices extensively black—which we regard as an indication of individual precocity. No. 12,995, April 25, a male emerging into the second nuptial plumage.

still has a few greenish feathers about the head, widely greenish-tipped rectrices, and the lower abdomen and tibiae somewhat buffy. No. 12.958, April 21, a male in third (or later) nuptial plumage, shows the pale feather-tipping of the winter dress in process of wearing off, leaving the bird plain black and chestnut in "solid" areas, the rectrices narrowly tipped with buffy, and the remiges edged externally with greenish buffy (very pale).

BALTIMORE ORIOLE. *Icterus galbula*. One was observed on April 16.

FLORIDA GRACKLE. *Quiscalus quiscula quiscula*. This bird may be a resident species here, but it was not recorded until February 24, becoming common a few days later. Ten specimens secured are very uniform in color, the head, throat, and breast in the males varying only from steel blue to violet with slight purple reflections.

BOAT-TAILED GRACKLE. *Megaquiscalus major major*. This species was not detected on the north side of the bay, but at Horseshoe Bayou on the south side a flock of about twenty birds, mostly females, was encountered on May 4, as they were evidently about to go to roost, and two specimens were secured.

AMERICAN GOLDFINCH. *Astragalinus tristis tristis*. A winter resident, apparently rare: two were noted on January 5 and one on January 22.

VESPER SPARROW. *Pooecetes gramineus gramineus*. A common winter resident from November to March 30. In specimens taken in November the rich colors of the freshly acquired winter dress are still evident, although less marked, while the series that follows illustrate beautifully the gradual loss of these colors by wear through the winter months, until by the end of March they have almost entirely vanished, leaving the birds as they appear upon reaching their summer home in the north.

SAVANNAH SPARROW. *Passerculus sandwichensis savanna*. Not uncommon throughout the winter, from November 17 up to March 31.

GRASSHOPPER SPARROW. *Ammodramus savannarum australis*. Noted only during the spring migration, between March 17 and 31, and not at all common. It may winter here, and probably breeds.

HENSLOW'S SPARROW. *Passerherbulus henslowi*. This species appears to be a rather common winter resident, although difficult to collect by reason of the nature of its haunts and its shy and retiring habits. Ten specimens were secured, however, between December 4 and February 9. These are of course in fresh winter plumage, with the feathers of the back and scapulars prominently margined with white, producing

a squamate effect. The attempt to identify the series subspecifically led to results which are at variance with those published by Brewster a few years ago (see *Proc. New England Zool. Club*, V, 1918, 77-79), and which have not been questioned since. This author undertook to separate the Henslow's Sparrow of the Atlantic Coast from that of the interior, describing the former under the name *susurrans*, taking as the type-locality for it Falls Church, Virginia. But after having compared nine birds from Illinois and Wisconsin with an equal number from Washington, D. C., and vicinity, we can find no grounds whatever for separating the respective series as distinct races, for while there is some variation apparent, it is certainly not geographical. At any rate, it is impossible to find any distinctive characters whereby these winter birds can be recognized, or their summer range determined.

Dr. Oberholser (*Ohio Journ. Sci.*, XVII, 1917, 335) has proposed to separate this species generically under the name *Nemospiza*, on account of its stouter bill and shorter outer primary. Although these characters are evident, they do not appear to us to constitute sufficient grounds for keeping this species generically distinct from the Leconte's Sparrow, to which it is certainly very closely related, and with which it agrees in the shape of the rectrices, the proportions of the feet, and the pattern of coloration.

WHITE-THROATED SPARROW. *Zonotrichia albicollis*. Not common as a winter resident, and noted only between December 3 and March 11.

CHIPPING SPARROW. *Spizella passerina passerina*. A winter resident, abundant about the houses and clearings from November 20 to March 28. Of the specimens secured two, shot January 30 and February 6, have the pileum almost solid chestnut, as it is normally later in the season. Two others, dated March 17 and 21, show molt going on around the head and neck.

FIELD SPARROW. *Spizella pusilla pusilla*. A common winter resident from November 10 to March 30.

BACHMAN'S SPARROW. *Peucaea aestivalis bachmani*. A fairly common resident species, haunting the pine barrens. In its habits it is inconspicuous and secretive, preferring to run and hide in the grass and bushes, but occasionally, when hard pressed, alighting in the shrubbery. It has a beautiful song (heard but once), reminding one strikingly of that of the Vesper Sparrow, but longer and sweeter. A series of specimens were collected between December 16 and April 1, showing comparatively little wear until the latter date.

"FLORIDA" SONG SPARROW. *Melospiza melodia beata*. A rather common winter resident, last noted on March 24. As will be shown

in another connection, the name *beata* of Bangs, applied by him to a form supposed to breed in Florida, must be taken for the Song Sparrow of the region west of the Appalachian Mountains. The series from Whitfield (twelve specimens, the latest dated March 14) unquestionably belong to the present race.

SWAMP SPARROW. *Melospiza georgiana*. Like the last this is a common bird in the winter in its chosen haunts. The first was noted on November 19, and the last April 28. Examples shot during April show feather renewal going on about the head and throat. We find no winter birds with solid chestnut crowns, although the pattern of this part varies a good deal.

TOWHEE. *Pipilo erythrophthalmus erythrophthalmus*. An extremely interesting series of Towhees coming as they do from a point east of the type-locality of the supposed race *canaster* Howell (Mobile, Alabama), were taken between November 24 and April 10. Most of these are easily referable to the typical race, and probably represent winter migrants from the north, but they grade down from this type to birds that are only arbitrarily distinguishable from *alleni*.

WHITE-EYED TOWHEE. *Pipilo erythrophthalmus alleni*. This is the resident race of Towhee, and is common, associating with the other form during the winter months. The series collected, comprising twenty specimens, are not typical, at least as compared with skins from peninsular Florida, the birds being a little larger, and having more white on the tail. In fact, there is an unbroken series connecting the northern bird with *alleni* represented in the Towhees from this locality, but only a few of those here referred to *alleni* approach the measurements of *canaster* as given by Mr. Howell. This supposed form seems to have been based on intergrades between *erythrophthalmus* and *alleni*, and we do not consider that there is room for such an intermediate race. Nos. 13,096-7, May 14, are undoubtedly breeding birds, and while they are not typical *alleni*, we would refer them thereto without question. Mr. Howell has described *canaster* as having the females more grayish, less brownish above than those of *alleni*, but there is much variation in this respect even in the northern bird, although *alleni* averages grayer than the other in the female, and the smaller specimens from Whitfield agree with it in this respect. Only one of the specimens is marked as having red eyes.

Actual examination of a small series from Alabama (four of each sex, kindly loaned by the Bureau of Biological Survey) confirms in general the above impressions. The Whitfield birds are nearer *alleni*, while Alabama birds are a step nearer the northern form, the females

at least having more white on the tail. The desirability of recognizing these intermediate examples under a separate name is not obvious. The size is not especially different, considering that the specimens examined are all fully adult.

CARDINAL GROSBEAK. *Richmondia cardinalis cardinalis*. A common resident. We cannot see that the series secured bear out any of the characters assigned by Mr. Bangs to the supposed form from Louisiana (*Proc. New England Zool. Club*, IV, 1903, 5-7). It is true that they exhibit much individual variation, particularly as regards the exact shade of the red in males. No. 11,607 is the palest (pale rose doree below) and No. 12,479 is one of the darkest. Females which are washed with red below usually have some red feathers on the fore part of the crown as well.

ROSE-BREASTED GROSBEAK. *Hedymeles ludovicianus*. One was noted in migration on May 15.

SCARLET TANAGER. *Piranga olivacea*. A rare transient; one was noted May 13.

SUMMER TANAGER. *Piranga rubra rubra*. A common summer resident, keeping mostly to the pines. Its arrival was recorded on March 19, but it did not become common until April. Its song lacks the roughness of that of the Scarlet Tanager, and reminds one strongly of that of the Rose-breasted Grosbeak.

PURPLE MARTIN. *Progne subis subis*. A summer resident, common locally, first seen (and secured) as early as February 18, but the bulk not arriving until a month later.

CLIFF SWALLOW. *Petrochelidon lunifrons lunifrons*. This is merely a transient visitant, noted from April 15 to 23, and not common even then.

BARN SWALLOW. *Hirundo rustica erythrogaster*. Common as a spring migrant. It was first noted on April 14, when it was found coursing over the marsh at the mouth of the Alaqua River, in company with the Bank Swallow. May 11 was the latest date of record. On May 4 we encountered Barn Swallows in immense numbers at Horse-shoe Bayou, coursing over the marsh, and feeding as long as there was sufficient light. Just at dusk there was a commotion among them; they gathered together in a rather compact flock, mounted high in the air, and sailed off to the northward. This was evidently a migration flight, but this is one of the birds which has been supposed to migrate exclusively by day.

The small series taken were shot between April 14 and 23. The color of the under parts is variable, but probably the older the bird is the more richly colored it becomes. No. 12,913 is nearly or quite as deeply colored as *H. rustica tytleri*, and in No. 12,975 the pectoral collar is virtually complete.

TREE SWALLOW. *Iridoprocne bicolor*. A small flock was seen flying southward on November 29, but otherwise this species was not observed until March 22, becoming common the following day. April 23 was the latest date of observation.

BANK SWALLOW. *Riparia riparia riparia*. Noted as a transient in the spring, arriving on April 14, and common on April 17. In every case it was found flying over the water, or over the marsh at the mouth of the Alaqua River.

ROUGH-WINGED SWALLOW. *Stelgidopteryx serripennis*. Rather common, and doubtless a summer resident here as in neighboring parts. March 14 is the recorded date of its arrival. Like the Bank Swallow, it was invariably found near the water.

CEDAR WAXWING. *Bombycilla cedrorum*. Not observed in the winter months, but quite frequent in the spring, from March 8 up to as late as May 15. It occurs in flocks, wandering through the woodland; one such flock was found that must have contained one hundred birds or more.

LOGGERHEAD SHRIKE. *Lanius ludovicianus ludovicianus*. A resident species, fairly common, and noted regularly from November to May.

RED-EYED VIREO. *Vireosylva olivacea*. No doubt this is a summer resident, having been observed as late as May 8. The first was noted and secured on March 19. The small series taken show considerable variation in size.

YELLOW-THROATED VIREO. *Lanivireo flavifrons*. One was identified on April 16. A rare transient.

BLUE-HEADED VIREO. *Lanivireo solitarius solitarius*. Only two specimens clearly belonging to this, the typical race, were taken, on December 19 and April 28 respectively, the latter being a late date. It occurs of course as a winter resident, but is rare.

MOUNTAIN SOLITARY VIREO. *Lanivireo solitarius alticola*. Six specimens of this race were taken, at dates ranging from January 1 to March 9. These have been compared with a series of breeding birds from the southern Alleghanies in the Brewster Collection, and with a few fall birds from the same region, and, allowing for different degrees

of wear, etc., they seem to agree fairly well. This race averages larger than true *solitarius*, with more gray on the back, darkening the green of the upper parts. This latter feature, however, is more noticeable in worn breeding dress than at any other time. Some of the above have smaller bills than others, but the balance of the characters they show favors their reference to *alticola*, which evidently mingles with the typical form at this season in this region.

SOUTHERN WHITE-EYED VIREO. *Vireo griseus griseus*. A common summer resident, haunting the bushy thickets and the margin of the woods. A series of nineteen specimens were collected between February 26 and May 14, and will be made the text for a few remarks. They are very uniform, and differ conspicuously from northern birds in the pallor and restriction of the greenish yellow of the sides and flanks; the green of the upper parts is duller, and the yellow frontlet and superciliaries not quite so bright. They thus agree with the description of *maynardi*, described from Key West, which is supposed to be confined to southern Florida. From this latter region we have been able to examine a good series of specimens, including ten from Key West. These were shot in March, and are therefore strictly comparable with the Whitfield series (in large part). As a series the former are perhaps a trifle paler below, the throat and breast whiter, with less of a grayish cast, but the difference is very slight, and in my judgment not sufficient to justify calling them by a different name. This determination brings the range of *maynardi* suspiciously close to the type-locality of *Tanagra grisea* Boddaert, which is "Louisiana." Through the courtesy of Mr. Edward S. Hopkins, of the Louisiana Department of Conservation, we have been able to compare our series directly with specimens from that State. A pair of birds shot April 2, and which therefore probably represent the breeding form, prove to be absolutely indistinguishable from our series from western Florida. (A breeding bird from Clinton, Louisiana, in the collection of the American Museum of Natural History, is likewise similar). Moreover, Buffon's Plate 714, figure 1 of the *Planches Enluminees*, which is the basis Boddaert's name, agrees much better with this resident race of Louisiana and Florida than with the northern form. This should suffice to fix the name, even although the northern form is known to occur in migration in Louisiana, as is proved by a pair of birds shot September 9, and which are easily referable thereto. Accordingly, it will be necessary to alter the present arrangement of the races of this species. *Vireo griseus maynardi* (Brewster) thus becomes a synonym of *Vireo griseus griseus*, and *noveboracensis* of Gmelin will again become available for the

northern bird, this time in a subspecific sense. Our measurements indicate that *griseus* averages smaller than *noveboracensis*, not larger, as said by Mr. Ridgway (in his diagnosis of *waynardi*). In view of this fact the status of the supposed form *micrus* requires re-investigation. Specimens from Texas in the collection of the American Museum of Natural History are smaller and paler than Florida examples, but neither of these characters is very well marked. Breeding birds from Summerville, South Carolina, in the same collection, agree best with the Key West series, and indicate that the range of *griseus* extends at least that far north on the Atlantic coast. The English name "Key West Vireo" is so inappropriate under the circumstances that we would suggest that it be changed to "Southern White-eyed Vireo."

BLACK AND WHITE WARBLER. *Mniotilta varia*. Rare in spring migration; noted on March 23, April 10, and April 23.

PROTHONOTARY WARBLER. *Protonotaria citrea*. In the bushes and shrubbery along the streams and about the stagnant pools this warbler was a common species. As we drifted along in our small boat we often flushed the birds close to the water's edge, the brilliant yellow of their plumage standing out against the background like a flash of gold. Although favoring these shady nooks, and usually keeping low down, one would occasionally mount to the top of a tree and give utterance to a song which resembled that of the Black and White Warbler, but was much shorter, consisting of only about four notes. The first was seen on March 23, and on April 13 a female was discovered building a nest, which was collected on April 29, at which time it held five fresh eggs. It was built in a hollow stub, about two feet directly over the water of a stream. The eggs were white, richly marked with reddish brown blotches, in the usual warbler style.

SWAINSON'S WARBLER. *Limothlypis swainsoni*. This was one of the few species we had hoped to meet in this region which actually came up to expectations. The first was noted on April 4, and during the course of the next week or ten days it became fairly common. Its favorite haunts are the dense thickets on the edge of the lowland woods, where it contrives to keep so well concealed that were it not for its characteristic song its presence would go unsuspected. It is fond also of rank fern growth, where it is equally successful in eluding observation and capture. Only once did we find it in the dry upland, among the thick scrub oaks. The birds spend most of their time on the ground among the dry leaves, walking along gracefully, like the Ovenbird, and uttering their song at frequent intervals. The song is so loud that it can be heard at a considerable distance; it reminds one some-

what of that of the Water-Thrush, but is more musical. Virtually all of the individuals secured were taken by following up the singing birds, and waiting for them to come into sight. So long as they kept on the ground while singing, as they mostly did, it was next to impossible to catch a glimpse of them, but occasionally one would mount on a low bush to perform, and once we discovered a singing male perched on a tree, twenty-five feet up, but this must have been exceptional. Towards the end of our stay it became more easy to "squeak" the birds up into view, possibly because of the onset of the breeding season, and some females were thus taken, but we were not successful in discovering any nests. Special effort was made to secure this species, and twenty specimens were collected. The color of the pileum varies in this series from buffy brown to tawny olive to raw umber, with an indication of a median frontal streak of paler; the under parts in some specimens are pure yellowish, and in others soiled yellowish.

WORM-EATING WARBLER. *Helminthos vermivorus*. One shot April 27 was the only record for this species, which must be merely a migrant here.

BACHMAN'S WARBLER. *Vermivora bachmani*. This species, which we had hoped to find at least as common as Messrs. Brewster and Chapman did on the Suwanee River, not so far to the eastward, proved to be one of the rarer kinds here. Only three specimens were secured, on March 9, 10, and 27. The locality must be out of its usual line of migration.

BLUE-WINGED WARBLER. *Vermivora pinus*. Another rare species, included in the list on the strength of a single specimen shot April 24—no doubt a transient.

ORANGE-CROWNED WARBLER. *Vermivora celata celata*. This warbler appears to be a winter resident here, as it is in peninsular Florida, but it is not a common bird. Only two specimens were actually secured, on December 19 and February 9 respectively; like other Florida examples we have seen they are dull colored. A third individual was noted on March 27.

TENNESSEE WARBLER. *Vermivora peregrina*. One shot April 15 was our sole record for this species.

PARULA WARBLER. *Compothlypis americana americana*. A common species, no doubt a summer resident, although we did not chance to find any nests. Its favorite haunts were the live oaks and other hardwood trees along the watercourses, usually keeping rather high up,

and where at times it was exceedingly numerous. A good series were collected, some of which, as for instance Nos. 12,868 and 12,870, could be referred to *pusilla* without doing violence to the facts, but taking the series as a whole it is distinguishable on an average from a series of northern birds. The earliest date represented is March 9, the latest May 13, when the species was most likely breeding. It is of course conceivable that some of the above were migrating individuals, but in view of the fact that so few transient species were detected at this locality, and that birds taken early in the season are precisely like those shot later on, we infer that they belong to one and the same form, the resident form of this region. No doubt the name *americana* may be justifiably restricted to designate this small, pale resident race, which probably does not go beyond Florida in the winter, while *pusilla* regularly visits the West Indies.

YELLOW WARBLER. *Dendroica aestiva aestiva*. Unaccountably rare here as a transient, a very few having been noted between April 17 and 25, in every case in shrubbery along the water's edge.

MYRTLE WARBLER. *Dendroica coronata*. This and the Pine Warbler were the only really abundant warblers during the winter months. The present species was noted as early as November 17, but may have been present sooner, while the last was recorded on April 27. Migrating flocks were repeatedly observed during April. The entire series collected (November 17-March 28) are in winter plumage, and only birds shot on March 27 and 28 show any signs of molt.

YELLOW-THROATED WARBLER. *Dendroica dominica dominica*. A common summer resident, found mostly in the pine lands, but which occasionally enters the gardens and hardwood timber. It was first seen on February 26, and was in full song in March and April. Its song suggests that of the Yellow Warbler in timbre, and that of the Black and White Warbler in style, but with the latter part much run together. The fine series secured were taken between February 26 and May 1, the latter date being represented by a bird in juvenal dress—which circumstance shows how it happens that the species can molt so early and start on its southward journey by July. Males vary considerably with regard to the amount of black on the pileum, some few having the whole crown almost "solid" black. The yellow loreal spot is very faintly developed in some.

PINE WARBLER. *Dendroica pinus pinus*. An abundant resident species, confined to the pine barrens. A nest was found in process of construction on March 26, far out on the end of a horizontal limb of

a pine, close by our house. Between November 17 and May 14 an unusually fine series of this species were secured, fifty-five specimens in all. This lot of skins admirably illustrates the gradual change from the winter to the breeding dress through wear, the effect of which is to bring out the colors in greater purity and then to dull them through fading as the season progresses. The streaking below is more prominent in spring specimens also. Four young in full juvenal dress are dated April 30, confirming the above observation on the early nesting of the species here.

PALM WARBLER. *Dendroica palmarum palmarum*. Specimens of this race were shot November 18, December 15 and 30, February 18, March 9 and 25, and April 11. It is thus a winter resident here, as well as in southern Florida, but is not so common as *hypochrysea*, from which it is doubtfully distinguishable in life.

YELLOW PALM WARBLER. *Dendroica palmarum hypochrysea*. Seventeen specimens were shot between November 21 and March 25. This seems to be the commoner form of the Palm Warbler here during the winter months. A female taken on the last date is the only one showing any signs of molt.

PRAIRIE WARBLER. *Dendroica discolor*. Rare in the spring; a few records from March 25 to April 23.

OVEN-BIRD. *Seiurus aurocapillus aurocapillus*. One was identified but not secured on January 21, this constituting a rather unusual winter record. A second example taken on April 30 was the only other instance of its occurrence that came under our notice.

KENTUCKY WARBLER. *Oporornis formosus*. Noted a few times between April 20 and May 2, and apparently not common, although these dates would indicate that it breeds here. It was always seen in damp, shady woods near the streams.

MARYLAND YELLOW-THROAT. *Geothlypis trichas brachidactyla*. A female shot on February 14 is referred to this race, which is a winter visitant from farther north.

FLORIDA YELLOW-THROAT. *Geothlypis trichas trichas*. This is the common and resident form of Yellow-throat in this region. A series of specimens collected between December 17 and April 25 are easily distinguishable from winter birds from the north by their deeper, richer coloration, different wing-formula, and relatively longer tails. We doubt very much if this form ever migrates to Cuba, as Messrs. Ridgway, Howell, and others seem to think, and the alleged extra-

limital specimens should be re-examined. (Cf. Todd, *Annals Carnegie Museum*, X, 1916, 261).

If it is true that this is the resident race on the coast of South Carolina, as there is every reason to believe, this region being the type-locality for the *Turdus trichas* of Linnæus, we can see no reason why the shift in the names proposed by Dr. Chapman, but unceremoniously turned down by the A. O. U. Committee, should not be accepted (cf. *Auk*, XXIV, 1907, 30-31). Aside from this proposal, we can discover absolutely no grounds for the recognition of "*brachidactyla*."

HOODED WARBLER. *Wilsonia citrina*. A common summer resident, frequenting the same kind of covert as the Prothonotary Warbler, although not confined so closely to the edge of the streams as that species. It was first noted on March 23, and by April 2 had already become common and musical.

AMERICAN PIPIT. *Anthus rubescens*. Not uncommon as a winter resident, from November 26 to February 26. Specimens taken in February are much duller than those shot in December and January, and more worn.

MOCKINGBIRD. *Mimus polyglottos polyglottos*. An abundant resident, and in bad favor with the farmers because of the damage it is said to do to grapes and other fruits. The series show much variation in the pattern and extent of the dusky markings on the outer rectrices, scarcely any two specimens being exactly alike in this respect.

CATBIRD. *Dumetella carolinensis*. Found sparingly through the winter, but not common even in the spring. A nest was found on May 9.

BROWN THRASHER. *Toxostoma rufum rufum*. This is a not uncommon bird during the winter months, but none were observed later than April 30, and it is not clear whether it breeds here or not. One seen March 27 was in full song.

CAROLINA WREN. *Thryothorus ludovicianus ludovicianus*. A rather common resident. The specimens taken are all easily referable to the typical form, some of them being extreme in their paleness.

BEWICK'S WREN. *Thryomanes bewicki bewicki*. One seen on December 17 was the only record for this species.

HOUSE WREN. *Troglodytes aedon aedon*. Common throughout the winter, from November 8 to April 17. Since it has not yet been reported from Alabama, this occurrence is worthy of remark. Seventeen specimens were secured, which are clearly referable as a series to the typical race, though a few of them tend somewhat toward *parkmani*.

SHORT-BILLED MARSH WREN. *Cistothorus stellaris*. A not uncommon winter resident, but from the nature of its haunts difficult to secure. It keeps in the thickest bushy and weedy growth along the edge of marshy ground, where it skulks and hides with ease and success. Six specimens were taken, the first on December 9, and the last on May 5 at the Horseshoe Bayou—a late date.

LONG-BILLED MARSH WREN. *Telmatodytes palustris palustris* (?). Two specimens shot March 17, the day the species was first noticed, are doubtfully referred to this form. They are whitish below, but above are almost as pale as specimens of *paludicola*, and cannot be matched by eastern specimens, even those taken much later in the season being appreciably darker. Marsh Wrens became common on March 27, but whether of this form or the next cannot be said. They were plentiful in the marsh at the mouth of the Alaqua River, but were shy and unusually difficult to secure.

MARIAN'S MARSH WREN. *Telmatodytes palustris marianae*. A pair were shot in the marsh on April 18, both in molting condition. These were examined some years ago by Dr. H. C. Oberholser, who pronounced them *thryophilus* (cf. Ridgway, *Bulletin U. S. National Museum*, No. 50, III, 753), which name is now considered a synonym of *marianae*. They are decidedly darker than the two birds taken in March, and one of them has a gray tail. No doubt they represent the breeding race of this region. The last word is yet to be said on the subspecific division of the Marsh Wrens of this genus, but our material is inadequate for a full discussion of the problem.

BROWN CREEPER. *Certhia familiaris americana*. A winter resident, observed but three times, on November 29, January 7, and March 4.

SOUTHERN WHITE-BREASTED NUTHATCH. *Sitta carolinensis carolinensis*. Resident, but far from being common. Five specimens secured are really very little different from northern birds.

BROWN-HEADED NUTHATCH. *Sitta pusilla*. A common and resident species, characteristic of the pine barrens. A set of five eggs was taken on March 2 from a nest built in a rotten post in Alaqua Bayou, some distance from the shore—a rather unusual site.

TUFTED TITMOUSE. *Baeolophus bicolor*. A common resident. Specimens taken after the middle of February were beginning to get soiled below.

CAROLINA CHICKADEE. *Penthestes carolinensis carolinensis*. Like the last a common resident, and a good series of specimens secured.

GOLDEN-CROWNED KINGLET. *Regulus satrapa satrapa*. A moderately common winter resident, noted from November 17 to February 18.

RUBY-CROWNED KINGLET. *Regulus calendula calendula*. This species is likewise a winter resident, but is much more numerous, and appears to remain later in the spring, the last date of record being April 23.

BLUE-GRAY GNATCATCHER. *Polioptila caerulea caerulea*. One was shot on November 27, but no more until February 6, and a number through the rest of February and in March, but they did not really become common until the end of the latter month, and it is evident that the bulk of the species passes farther south to spend the winter.

WOOD THRUSH. *Hylocichla mustelina*. The occasional wintering of this species here is attested by the seeing of two individuals, on December 25 and January 13, the latter of which was secured. It is not known to winter in peninsular Florida, or in fact anywhere in the United States beyond eastern Texas, so that the present record is of considerable interest, being the farthest north known. No more were noted until April 18, and none after April 30, although it probably breeds here, at least in small numbers, since eggs have been found as early as this in the region immediately to the northward.

WILSON'S THRUSH. *Hylocichla fuscescens fuscescens*. Common as a spring migrant, from May 8 to the close of our work.

HERMIT THRUSH. *Hylocichla guttata faxoni*. Rather common throughout the winter, from November 18 onward. Most of them had gone by April 1, but a single straggler was taken as late as April 28, and another was seen May 7.

ROBIN. *Turdus migratorius migratorius*.

SOUTHERN ROBIN. *Turdus migratorius achrusterus*. Both races of the Robin appear to be represented in the small series of specimens secured, the most of which, however, are more or less intermediate, in their measurements at least. Robins appeared in large numbers on December 6, and remained common until March 13.

BLUEBIRD. *Sialia sialis sialis*. A common resident species, but more numerous in winter. A nest with one egg deposited was found April 4, and a set of five was taken on April 23.

SHELTER ISLAND HEIGHTS, N. Y., AND
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THE WILSON BULLETIN

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EDITORIAL

The Chicago meeting was held as scheduled on November 26-27, at the Chicago Academy of Sciences. The figures are not at hand but there can be little doubt that the attendance exceeded that of any previous meeting. The program was carried out almost precisely as previously announced. The mornings and afternoons of Friday and Saturday were devoted to the regular program of papers. On Friday evening an open public meeting was held in Fullerton Hall, of the Art Institute, with Dr. Lynds Jones presiding. Mr. S. Prentiss Baldwin at this time presented the motion pictures showing the life history of the House Wren. The banquet was held on Saturday evening at the Parkway Hotel. Dr. W. D. Richardson, acting as Toastmaster, called upon a number who were present, including Mr. Ruthven Deane, the recognized dean of ornithologists in Chicago. On Sunday one party was conducted to the Bird Sanctuary in Lincoln Park, while another group assembled at the Field Museum of Natural History. There are some very fine bird groups here, but, apparently, ornithology has not been featured as much as have some other departments of the Museum. The Museum is housed in a magnificent building. The guards told us that afternoon that more than five thousand people had entered the building since it was opened in the morning. Presumably most of these people were still present, since a cafeteria is operated for the convenience of visitors; and yet the halls and corridors were not crowded with this great number of people.

At the business meeting it was voted to incorporate the Club immediately, in order to be prepared to begin active solicitation of the endowment fund. The plan of the Endowment Committee was adopted practically as presented, which provides for the selection of a corporate trustee, who shall hold and invest the principal of the fund, turning over to the officers of the Club at intervals the accrued interest. It is also provided that a committee of the Club shall act in advisory, not mandatory, capacity in the investment of the funds. There may be a few minor changes necessary before the document is signed, but in its fundamental aspects the matter has been arranged, now awaiting only the action of the officers in carrying out the details. With the situation thus developed there should be no hesitancy on the part of those so inclined in providing for bequests, or in making immediate donations. Dr. Lynds Jones was elected as President, and Prof. J. W. Stack was made Treasurer for the ensuing year. The meeting was a complete success from every angle, and our Chicago

constituency is deserving of our cordial thanks and congratulations. The proceedings will be regularly published in the March number of the WILSON BULLETIN.

The Chicago meeting was strongly flavored with bird banding, as was also the Kansas City meeting. This has been a matter of some concern to some of those officials who are responsible for things. It has been the desire to keep the program in what might be called a balanced condition, not too heavy with any particular phase of ornithology. And this is a very laudable desire. But we believe that one thing was brought out on this subject at the recent meeting, if it had not been noted before. This one conclusion is that bird banding is not an end or a goal in itself, but is simply a novel method which has been added to the armamentarium of the ornithologist for the solution of his general problems. The bird banders themselves have been the first to realize this.

The striking fact has been that while our recent meeting has been notable for the number of banding papers on the program, yet, and this is the striking fact, there has been no monotony whatever in their presentations. There has been as much variety in the papers presented as before the banding method occupied our attention. One bander has investigated plumage changes, another has confined his attention to the study of body temperatures; another has learned interesting facts concerning mating and domestic relations among birds; still others are interested in the many phases of the migration problem; and thus the list of problems attacked by the bird bander might be greatly extended.

But, let it be observed, these problems are the same ones which the ornithologist has faced from the beginning. We therefore seem to be confronted with the fact that the bird banders are not a class *sui generis*, but are ornithologists with a new method of attacking their problems. This discovery clears the atmosphere. This being the case why should the bird banders have their "day," while others hold their distinctly labeled meeting? After the facts have been established it will matter little whether they were discovered by means of the shotgun, or by means of the trap.

The bird bander realizes the wealth of opportunity which lies within his reach, and is enthusiastic about it. He wishes for the work to proceed faster, and he longs for more helpers. He is anxious to present his case to the skeptics and the cynics, in order that he may win converts to his methods. He has the confidence and enthusiasm of achievement to hold him at his task. To the hard-boiled skeptic there is something suspicious or mysterious about the bird banders' enthusiasm. The hum drum routine of the staid laboratory worker does not furnish much excitement or enthusiasm until he stumbles upon some important discovery; then, usually, his human nature is expressed. A scientific fact is never discounted by intelligent men because it was discovered by an enthusiastic worker. Men of action are often emotional. Cynics usually have their emotions well submerged. Men of intelligence can distinguish fact from fancy, and are not blinded or misled by the incidental personal element.

We are not sure how much professional training should be demanded of the bird bander. Certainly he should have the training necessary for the work at hand. But how much is that? How much training is necessary for the banding of birds? We would say that he should have enough training to insure the

accurate identification of the birds handled. If he is to interpret results that may be a different matter; but every bander is not called upon to interpret results.

We believe, therefore, that bird banding is an established method of bird study; and that it will assist tremendously in the solution of those problems where the identification of the individual bird is required. The bird bander is an ornithologist, generically speaking; the ornithologist is a potential bird bander, and should at least be sympathetic with the banding method, and interested in the scientific results obtained by that method. More progress will be made if these groups commingle at our meetings and on our programs. The sequestration of the bird banders on the programs will not mean progress.

The dues for 1927 should be sent to the newly elected Treasurer, Prof. J. W. Stack, Michigan Agricultural College, East Lansing, Michigan.

GENERAL NOTES

Conducted by M. H. Swenk

The Black-bellied Plover in Oklahoma.—On August 18, 1925, an American Black-bellied Plover (*Squatarola squatarola cynosurae*) was identified by me at Gate, in northwestern Oklahoma. This species has not previously been recorded from this State. The plover was on a shallow fresh-water pond and was sufficiently tame to afford a splendid opportunity for observation and identification. The distinguishing white base of the upper tail coverts was plainly visible. It was under observation for about half an hour and permitted the observer to approach within twenty-five or thirty feet. Then it would fly up, and, giving its characteristic whistle, circle above the water and again settle down and resume its business of picking up insects on the pond.—WALTER E. LEWIS, *Gate, Okla.*

Aerial Maneuvers of Migrating White Pelicans.—On September 21, 1926, as I was coming up the street at 4 P. M., I noted several people looking up at the skies, and, on searching for the reason, I discovered a vast concourse of what I took to be White Pelicans (*Pelecanus erythrorhynchos*). I did not have my binoculars. The sheriff was standing near me and was looking at them. I asked him, "How many are there?" After scanning the milling mass for a few seconds, he said, "A thousand." They were too numerous to get anywhere near to one mass, but by gathering in layers there would be, say, three hundred swirling about in one crowd; a hundred feet below them another such crowd, and another hundred feet further down, another huge mass. They would be milling around in different directions. Maybe the upper mass would all wheel to the east; just as the middle mass would swing to the north, and the lower be moving to the west, marching and countermarching, for fifteen minutes. Then they seemed to break into separate flocks, heading off to the south in a V-shaped army.—LEROY TITUS WEEKS, *Tabor, Iowa.*

The Pileated Woodpecker in Tuscarawas County, Ohio.—Another rare nesting bird in Ohio, the Pileated Woodpecker (*Phloeotomus pileatus abieticola*), seems to be gaining in numbers in this county. A pair nested near our home in 1920. This nest was about fifty feet up in a green ash tree that stood about

200 feet from the bank of Stillwater Creek. A pair of Fox Squirrels preempted the tree for a home the following winter, and the woodpeckers have not occupied it since.

We have seen them on numerous occasions every year since 1920, but were not able to locate a nest until 1923. On May 30, about a mile down the valley, we found a pair nesting in a large dead beech stub, about forty feet up, which seemed to have been in use for several years. We visited the nest again on June 15th to try for some photographs, but on close inspection the tree seemed too dangerous to climb. We saw a pair at the tree the evening of January 4, 1924, but did not visit the tree in 1924 and do not know whether they nested there again that year or not.—CHARLES R. WALLACE, *Delaware, Ohio*.

An Unusual Nesting Site of the Prothonotary Warbler.—On July 13, 1926, while I was at the Boy Scout Reservation near Indianapolis, Marion County, I was informed that a Prothonotary Warbler (*Protonotaria citrea*) was nesting in a building used as a crafts workshop. Investigation revealed that three of the four fledglings had matured and flown, and the fourth was out of the nest on a ledge, calling loudly. Though well feathered it showed little yellow, resembling closely a phoebe fledgling. This baby had been reared in a nest of mosses, placed on the inside of the building on a two by four horizontal brace, four feet above the floor, in such a manner that the two by four itself made the bottom for an inch. Access to the building had been obtained through an open window eight feet west of the nest. This building was used by more than fifteen boys during the daytime in the study of blacksmithing, motor building, painting, and leather working, most of the time during the incubation and feeding period of the birds. The building was about fifty feet from water. The remaining fledgling was banded and tied under an improvised trap made of a window screen. With the help of the scouts the male adult bird was trapped and banded. Dr. Amos W. Butler considers this an unusual nesting bird record.—SAMUEL ELLIOTT PERKINS, III, *Indianapolis, Ind.*

Two Comments on the Nidification of the Acadian Flycatcher.—May 9, 1926. In the article "Acadians I Have Found" in the March, 1926, WILSON BULLETIN, the author has either made an error in identification or else the nidification of the Alder Flycatcher has been adopted, in this instance, by the Acadian Flycatcher. The Alder Flycatcher builds a fairly compact, high-walled nest, three to seven feet up in willow or alder crotches, along marshy pond margins or in sloughs of the old lake-bed type. The Acadian Flycatcher builds a loose, shallow, semi-pensile nest in beeches, witch-hazel, maples, horn-beam, etc., ten to twenty-five feet up in woods. They are birds of the forest shade. The number of eggs is two or three.—EDW. R. FORD, *Grand Rapids, Mich.*

October 2, 1926. I have just been reading the article by S. E. Perkins III, on pages 43-44 of the WILSON BULLETIN for March, 1926, and am moved to say that the description of the nest attributed to an Acadian Flycatcher seems to indicate that the birds were Alder Flycatchers, and not Acadians. The latter species, so far as I know, always nests in moist woodland, building a shallow nest *without lining* in the forks of a horizontal limb. The nest found by Mr. Perkins apparently answers the description of the ordinary nest of the Alder Flycatcher. It is to be hoped that the birds may return next year and thus afford an opportunity for further study. The wing formula given agrees with

that of the Alder Flycatcher rather better than with the Acadian.—ARTHUR H. HOWELL, *Washington, D. C.*

An Open Nest of the Prothonotary Warbler in Ohio.—Early in the spring of 1926, I had an argument with an ornithologist who claimed that the Prothonotary Warbler did not nest in Ottawa County, Ohio. I claimed that I had heard and seen the bird while on a fishing trip the year before, and promised to make it my business to find its nest. During the second half of June I observed a pair of Prothonotaries foraging along Sugar Creek, near Elmore, and carrying insects into a small thicket of shrubbery and weeds, as though feeding young. A group of Boy Scout bird students watched these birds on various days and tried hard to locate the nest without frightening the parent birds. I had become acquainted with this warbler and his nesting habits in Shelby County, Ohio, where the nest was made in a cleft in a decaying post, at the edge of Loramie Reservoir. Therefore we looked for a nest in a cavity, and were foiled, as we could find neither a cavity nor a tree or post big enough to contain a cavity, in the vicinity in which the birds appeared to be feeding their young.

The matter was reported to Prof. Mosely of Bowling Green, Ohio, who came to observe the birds on June 25th. He verified my identification, and together we watched the birds for some time. At length we found them feeding fledglings—not in a nest located in a cavity, but in an open nest placed in the crotch of a young ash tree.

Prof. Lynds Jones, to whom the observation was reported, and who is now in possession of the nest, observes: "Audubon stated that the Prothonotary Warbler built its nest in a bush, but it is now agreed that he was either mistaken or, not having seen a nest, assumed that it nested as the other warblers do." The undersigned is merely reporting an observation. Whether the pair of warblers under observation had built, found, or stolen this nest, we do not know, nor do we presume to offer a solution of the problem. But a pair of Prothonotary Warblers was observed feeding young birds in an open nest placed in the crotch of a sapling.—H. S. v. RAGUE, *Elmore, Ohio.*

An Unusual Flight of Cormorants.—On seeing in the Chicago Tribune for April 24, 1926, that a tremendous flight of loons had passed over La Crosse, Wisconsin, going up the Mississippi River during a gale and rain, I wrote to the postmaster at La Crosse, who turned my inquiry over to Mr. Mark Byers, Editor of the La Crosse Tribune, who writes me as follows:

"The flight first appeared over the river bottoms south of La Crosse about 3 p. m. It continued for two and one-half hours, more or less intermittently, although there were always from a dozen to hundreds of large flocks in the air. The birds were flying more or less directly north up the main channel of the Mississippi, and a great many of them circled and alighted in Target Lake, an arm of the river about three miles below the city. Others kept on going. They were evidently weary, frequently flying low to the water although no heavy north wind was blowing, such as usually forces wildfowl to fly low.

"The flight was so large that at times it was impossible to see the sunset sky through the mass. At other times they would be strung out in long irregular lines and groups —'like blackbirds'—says one witness. The number of birds is variously estimated, as from 100,000 to 1,000,000 birds. No sign of the birds was seen the next day."

The birds were identified as the Double-crested Cormorant (*Phalacrocorax auritus auritus*) by Prof. John P. Bird, of La Crosse, Wisconsin. I quote from his letter:

"The flight in question was moving northward and consisted of very many thousands, reaching for miles along the valley. I have never seen so large a flight of cormorants as this seems to have been."

At this date, September 7, I have seen no mention of this flight in our bird journals, therefore this account may be of interest.—FRANK GRASSET, *Glencoe, Ill.*

The Fishing Habit of the Bronzed Grackle.—The only reference that I remember having seen concerning the fact that grackles (*Quiscalus quiscula* subsp.) may be fishermen is the statement that fish were found in the stomachs of birds, made in the bulletin on food of the grackles. Yet my observations during the present season indicate that grackles living near the water may depend upon fish for their food to a considerable extent.

One morning while on a field trip in company with Dr. C. E. Ehinger, we were attracted to what we supposed to be a bathing party of Bronzed Grackles (*Q. q. aeneus*). On closer watch we found that they were fishing for minnows below the dam. The Mississippi River Power dam is approximately a mile in length, and at normal level the water is thirty-six feet higher above the dam than below. At points where the gates are open the pressure is sufficient to make a tremendous disturbance from the falling water, the spray rising as high as the dam itself and the water below being rough enough to capsize a good-sized boat. Where the gates are closed there is a constant dripping of water over the sloping aprons below the gates. Some gates which do not fit as tight as others permit a considerable amount of water to pass through. Where the birds were alighting on the cement the water was running in a stream about to their knees. Their long tails seemed to bother the birds by getting in the water and often throwing them off their balance.

We were able to approach within fifty to one hundred feet of the birds, and through our glasses to observe them closely. They would alight in the shallow water and watch until they were able to catch a passing minnow. Then they would fly to a nearby rock, or to the top of the dam, and hammer the little fish to death, after which they would fly away, probably to their nests. We did not see them feeding the fish to the young but from the fact that nearly all flew away with fish in their beaks we supposed that to be their object.

Having once noticed the fishing proclivities of these birds we went several different times to observe them, and took other persons to see them. Whenever we went we found the birds coming and going in considerable numbers, and seldom found any delay necessary in order to see them catching the minnows. It soon became evident that the Bronzed Grackle, in this neighborhood, at least, depends to a considerable extent upon fish for food. We are now wondering whether this trait has been generally overlooked, or whether we had not noticed the references to it in our literature.—FRANK C. PELLET, *Hamilton, Ill.*

The Mockingbird in Mahoning County, Ohio.—Very few definite records of the presence of the Mockingbird in Mahoning County, Ohio, have been made. Our home in Canfield Township has been favored twice. In the spring of 1923 a Mockingbird settled in our driveway, apparently looking for food. Again, a

Mockingbird, which may have been the one observed in the spring, came to our yard on November 23, 1923, attracted by the fruits of the shrubbery—the Sweet Viburnum (*Viburnum lentago*) especially. The bird was seen eating these berries often, and on several occasions the regurgitation of the seeds was observed.

We tied some suet to a branch of one of the Viburnums, and when sure the Mockingbird was feeding on it, we substituted a four mesh woven wire basket of suet, such as we had near the house for other birds. A week or so later, the Mockingbird came to the basket near the house, and soon took such complete possession of it that we had to put up some baskets at a distance for the other birds, which she was driving away relentlessly. She would perch near the basket and pitch at every bird approaching. Having observed her habit of dropping to the ground below the basket to pick up the bits of suet which fell there, Mr. George L. Fordyce placed a woven wire drop trap on this spot, caught the Mockingbird on April 22, 1924, and banded her. The incident did not seem to disturb the bird in the least, and she remained all winter.

The latest we saw the Mockingbird in the spring of 1924 was on April 26. She was next seen August 20, perched on a beanpole in the garden. Her familiarity should have assured us that she was the bird which left us in the spring, but the sight of the band on the leg was a satisfaction. She remained with us continuously until the following summer.

In the spring of 1925, thinking the mocker might go away again, as she did the previous year, we looked for her daily, in order to make a last record of her presence. Sometimes we would hunt all over the yard for her, for her visits to the suet basket were not at all regular when food became abundant. About the middle of April we heard her give a rather harsh and prolonged scolding note. Therefore the only note heard was a sharp smack. On May 1 we heard her in the orchard giving the scolding note repeatedly while chasing a Robin. We had become accustomed to looking for her in the orchard, but this was the first observation of her chasing another bird, except from the suet basket. Still our suspicions were not aroused until May 3, after seeing her chase a Robin for the third successive day. We then made inspection of the bordering Norway spruces, in one of which, about three feet from the ground, we found the Mockingbird's partly built nest. In an adjoining spruce was a Robin's nest. Here, then, was the cause of the trouble in the orchard.

The nest was completed in a few days, and the first egg was laid on May 7. When the fourth egg was laid, on May 10, the Mockingbird began her experiment of incubating infertile eggs. She abandoned this nest on June 1. On June 8, we found a new nest, at a height of eight feet, in a pear tree about fifty feet from the first nest. Four eggs were laid and incubation began June 12. One egg was punctured June 21, apparently the work of a House Wren. This second nest was deserted on July 1.

The Mockingbird was not seen between July 3 and September 14. We wonder if she went away to try once more to raise a fatherless family—and where or how far she went. Returning on the latter date, she remained, eating berries and suet. Undoubtedly she had settled down to spend another winter with us. The last record we made of her welcome appearance in our yard was on October 15, 1925.

On the morning of October 19 we found on our barn floor, immediately below a Screech Owl's favorite perch, feathers which looked like those of our Mocking-

bird. With them were numerous blue feathers. We collected them, and Mr. Fordyce sent them to Dr. J. T. Nichols, of the American Museum of Natural History, who returned them in two envelopes: one marked "Bluebird" and the other "Mockingbird." He wrote: "Dr. Dwight has compared these feathers with me and agrees that the identification is definite for both species."

We recall that the Mockingbird and some migrating Bluebirds were accustomed to roost in the Virginia Creeper growing on the barn. Just above this vine is an open hay-mow where the Screech Owl was in the habit of perching before starting out for the night. It is quite probable that it was from this point that he observed and caught his prey.—WILLIS H. WARNER, *Canfield, Ohio*.

Some Random Bird Observations from Texas.—Mr. J. A. McLaughlin's use of the word "pour" in connection with the going to roost of Chimney Swifts (WILSON BULLETIN, XXXVIII, p. 36) is a good one. I have watched them do the same in far-western Texas, only it was into the vertical entrance of a deep cave. As the Swifts poured into the seventy-five foot, or so, opening of one cave, at twilight, the bats, which were their fellow residents of the great subterranean chamber, streamed silently up out of the dark hole. Between dawn and sunrise it was the Swifts which streamed forth, and the bats which poured themselves back into Nature's jar of the genii. Of course, we threw rocks down into the underground stream that we could not see, and were rewarded by hearing an almost deafening chorus of squeaks and twitterings, and rushing wings, as parts of the cave's population whirred upward in a cloud of worried little bodies. I have some very fair photographs of this and other big caves, and intend eventually to write more about them and their queerly assorted feathered and furred populations, not to mention the snakes that having, presumably, somehow gotten in cannot get out and so have adapted themselves to their circumstances and bred to an extent that makes exploration hazardous for any but the most constantly alert.

Mr. Frank L. Burns speaks of Cowbirds riding the gale (WILSON BULLETIN, XXXVIII, p. 39). We of the coast know how the ominous figure of the Man-o'-war bird is borne inland from his lonely haunts in the outer reefs and barrier islands just ahead of a hurricane. Fishers and trappers of the coastal plains, who live with and by the wild things of the land-locked bays, the bayous, reefs, barrier islands and marshes, have theories of their own about migration. That birds they know to be given only to short flights, before tiring, can come and go across the waste of salt water between Texas and Mexico requires an explanation. One explanation that they have figured out is that the big birds involuntarily give the smaller ones a lift. I, for one, would admit the possibility of this, were it not altogether unnecessary. For more than thirty years I have seen little birds hop on the backs of big ones. Where the selected steed is sitting or standing, a threatening backward flirt of its head is sufficient to repel the small bird. But when it is a-wing, it is absolutely helpless. To rid itself of its unwelcome guest it must stop and alight, before it can reach around after the annoyer. All of which takes time enough for the little fellow to be gone before he can be punished. Chickadees, nuthatches, titmice and warblers are all prime offenders this way. I have had Mockingbirds, Catbirds, Robins, thrashers and thrushes and other nervous species reduced to hysteria by the particularly sinful eight little chickadees that all came from the same nest, between a spruce tree's trunk and a loosened section of its bark.

But here enters the second possibility: and one to which I unhesitatingly and unreservedly subscribe. As I have before stated, let him who will jeer. On the fitful little southeasterly winds that precede hurricanes strange things, besides the great Frigate Bird, come riding inland from the sand and mud barrens, and the offshore islands, of the farthest and loniest reaches of the broken land-fingers extending out into the Gulf of Mexico. Rarely, a Flamingo or two; often wonderful Tropic Birds; sometimes creatures of the gull, tern and allied tribes, that never come inshore unless driven; and occasionally land birds from distant, and far more southerly peninsulas, or from shell-bank and mud-flat islets, too often awash from human visitation otherwise than by accident. Note that these come *with* the precursors of imminent storms, but not *on* them. The source of our visitants' freightage is the same invisible force that covers the sky, high, high up, with ripples of tiny white cloud, like interminable flocks of sheep, all scudding madly northward and westward, though down at earth level the breezes sigh gustily, from this way and that; then die out as sharply as they arose. On late summer and stilly autumnal nights, when the migrating birds fly so low they can be identified by their call notes, there may not be enough air stirring to set the loose-hung leaves of our willows idly to vibrating. That is, what we *ground-dwellers* can perceive. But if there are any telltale little cotton-batting clouds to drift across the face of the moon, these fleecy small argosies will be seen to have southerly, southeasterly or southwesterly directions, especially straight southerly.

I will not here go into the autumnal behavior of my own Purple Martins, nor that of my Nighthawks and other high-flying, wing-feeding birds, nor of the wild birds I have watched, for nearly twenty-five successive seasons, down in this region of far-flung, open vistas where the watching is so very good, other than to say that, by the way all these fought their way up or down, through opposing air currents, unseen or otherwise non-perceptible except by the way the birds tacked and veered or were turned end for end when the currents were strong and themselves persistent, I am satisfied that they who hold that the birds simply mount until they strike an air current strong enough to support them are right. Just *how determining* a factor this is in migration as a whole, I do not know. That is, whether or not birds, restless and uneasy, because of a growing food scarcity, fly up and are caught by aerial streams, too powerful for them to do otherwise than let themselves be passively carried, north or south, as the case may be, and for hundreds of miles, till the intangible river sinks to low enough strata for them to alight, or its force and volume lessens with the same result; or, whether their rising, with vague ideas of changing their ranges for more abundantly supplied ones, brings them into contact with the warning chill of high currents flowing down from the north, long before such will be known below, and they thus flee, less actually *before* than *with* the first breath of these. That the question of food is the *first* motivating factor in the equation hardly admits of argument. Everyone knows these preliminaries to migration: That tender young insects and worms have grown mature and tough, often armor-encased, or else have walled themselves into cocoons or strong, ill-tasting shells of one kind and another. Also springtime's and early summer's fruits are wholly or nearly gone and autumnal, or later, ones are still unripe, when the first ripples of southward migration become apparent. All this independent of physiological conditions, or

of the tendency of the season's nestlings to follow anywhere and at any time the older bird's lead.

What seems to me pretty absolute proof that migration is far from being merely instinctive, is that of all the hundreds of migratory birds I have raised, I have never had one, unless where free to blindly stray after transients of its kind to show the slightest interest in the passing through of its relatives. That is, further than to fight at these, or to talk to them. My free Purple Martins would go off with passing flocks of Martins all right—Oonah often straggled with such to their roosting place for the night, so far from home that she might not get back until well after the next day's sunrise, but the others always came home in time to shuffle into their own sleeping baskets. And Oonah so invariably set up a mournful yelping to be taken in, of an early morning after one of her nights out, that had she ever failed to do so I would have known her to have met with an accident. Not that she always came directly to her own house. Uncounted times some neighborhood child has come to one of our doors and yelled: "Mrs. Reid, Mrs. Reid, Oonah is over on our street!", or "down at the car shed," or "out in the tankfield," or "up on the rice mill." Men at the rice mill would telephone me that Oonah was telling the world, from the top of the elevator, or one of the huge spider-legged water tanks, how wearied and hungry she was, and how wanting to fly down to me, or to be tolled the rest of the way home. Everybody knew her, and she would answer to her name, no matter who called. But she came down into my hands alone, and accepted food from no one else, which was the real cause of her death. Purple Martins, common as they are, and as well known, to a casual extent, are remarkable birds, in more ways than on the score of a high degree of intelligence.

Birds, taken after having migrated, are tremendously concerned over the flights of their leaving kind, and to a certain extent, about the reappearance of the homing ones stopping over here on their way up from the South. Hand-raised ones, which never made the journey, are worse than indifferent to the matter. There are other phases of the subject, likewise suggested by the ways of hand-raised birds. But what I have already said may be enough to insure my being turned out of the church!

The common, pretty, little American-beauty-pink, greyish-brownish, streaked-striped House Finch of the West will build anywhere, and with any of the same materials, as the English Sparrow. Aside from their pleasing appearance, and equally pleasing little warble, these hardy little fellows, if introduced into a locality in sufficient numbers, could hold their own against any species of approximately their own size or bigger. I have carried them around, from place to place, with me, and have had them show no ill effects from it, as well as quickly adapting themselves to an entirely new environment. And I have had them employ, in self defense, those tactics which alone make the English Sparrow so formidable, "ganging up" on a foe. Successfully, too. Whipping off such fighters as English Sparrows, Mockingbirds, thrushes, jays, etc.

Has an attempt ever been made to supplant our greatest imported pest by first cleaning them out as thoroughly as possible, and then releasing numbers of tame House Finches in their places? Of course the automobile, by taking away the horse's and the mule's occupations, and so making livery stables practically extinct, and more self-assertive civic consciences reducing the numbers and obviousness of manure and other refuse piles, have already dealt the nuisance what

will eventually prove to be its death blow insofar as *city* life is concerned. But it is possible he may utilize his amazing adaptiveness to where he can successfully compete for a living with the birds of the woods and the fields, though I do not believe this, otherwise than in greatly decreased numbers, because the very boldness which so fits him for town life will militate against him, where he must gain so many, to him, unaccustomed enemies, while at the same time he will have been robbed of most of his safe roosting and nesting sites. In any case, the birds previously established, and ready to prove that possession is nine points of the law, and just as able as himself at gang offensive and defensive, will have little to fear from him. And right now is the time to begin getting the House Finches together, for hand-raising, teaching them that humankind are their friends, and generally preparing them for being freed, as soon as they are able to care for themselves, so that they may make themselves at home long before winter sets in. Of course they should also be provided, for at least a season or two, with winter shelter, food and water. But their demands in these lines could be met at little expense, and with little trouble, since here again they show points of similarity to the English Sparrow, stowing themselves warmly away, sparrow-wise, for first preference around street or outdoor building lighting fixtures, and against chimneys, or under house eaves, and so forth, as well as making acceptable grist of practically all that comes to their little mills.—BESSIE M. REID, *Port Arthur, Texas.*

BIRD BANDING NEWS

Conducted by W. I. Lyon

BANDING GULLS AND TERNS IN LAKE MICHIGAN; 1924 AND 1925

BY FREDERICK C. LINCOLN

In the WILSON BULLETIN for March, 1924 (pp. 38-41), I presented under a similar title, an account of the banding work done at the Beaver Islands, in northern Lake Michigan, during the summers of 1922 and 1923, in co-operation with W. S. McCrea, of Chicago, who, with the help of Mrs. McCrea, carried on the initial activities there in 1922. Because of his continued interest in this work it was my privilege to continue banding operations at that point during the summers of 1924 and 1925.

Accompanied by Mrs. Lincoln, I arrived again at St. James on July 18, 1924, following two weeks work for the Bureau of Lighthouses at the Charity Islands in Saginaw Bay, Lake Huron, and at the lighthouse reservations in the Straits of Mackinac. We were cordially greeted by the McCreas and, taking advantage of calm weather, we made a trip that same afternoon to Mire Island. In 1923 this islet supported a colony of about 100 Herring Gulls, which in 1924 had grown to about 500. From subsequent observations a certain yearly fluctuation in the size of the colonies was evidently to be expected, for which I have no reason to offer, other than the idiosyncrasies of the birds, which cause them to abandon partially one island in favor of another that is seemingly not so well suited for their needs. This lack of consistency is reflected also in their migratory movements.

Despite the large number of adults present, only sixty-nine young were banded, the season apparently being early, since many young noted were already

flying. Stony Reef, a long narrow islet off Garden Island, we visited on the return trip and there we found a breeding colony of about 300 pairs of Common Terns. A few eggs had hatched and many chicks were found dead, probably from the cold and rain of the preceding days.

Two days later we cruised east to Hat Island and there too found an increase in the number of gulls. As at Mire Island, many young were then on the wing. We banded 181 birds and then crossed over to Little Hat Island to examine the colony of Caspian Terns, which likewise was in a prosperous condition. Many eggs were still unhatched but we easily banded 135 young. Returning to this point on the next with a small net, we erected a small corral with a V-shaped



FIGURE 1. The North End of Little Hat Island, with its Colony of Caspian Terns. Photograph from U. S. Biological Survey.

entrance, into which the young were carefully driven. We banded 365 of them and exhausted our supply of No. 6 bands.

Adverse weather kept us more or less idle for the next two or three days, but on the 25th we succeeded in reaching Gull Island, the day being the anniversary of my trip there in 1923 when 259 young gulls were banded. Naturally, a high score was anticipated, but we were disappointed as almost all the young were on the wing, and the careful searches of the entire party netted only thirty young, which were banded. Leaving this island we went to Trout and Whisky Islands, neither of which had previously supported many breeding gulls. On Whisky Island, however, we found a small colony and were able to add sixteen birds to the day's total. On the following day a short run to Stony Reef resulted in the banding of 101 young Common Terns and a Spotted Sandpiper.

The mortality among the young of colonial birds is usually more or less heavy, so whenever possible I endeavor to make "follow-up" trips to ascertain the percentage of banded young that died without reaching maturity. Work of this

nature at Little Hat Island on July 30 resulted in finding thirty-four dead young with bands, seven per cent of the number used. As this islet is devoid of vegetation, I am sure that we found all that did not survive, with the possible exception of such young as swam long distances from the island and were unable to return. Young gulls quickly become water-logged, but it has been my observation that the plumage of young terns is better able to withstand a wetting. At Hat Island only four dead banded gulls were found.

In 1925 we started the work earlier and arrived at St. James on June 20. Upon boarding the steamer at Charlevoix we were delighted to find as fellow passengers, Mr. and Mrs. Walter E. Hastings, of South Lyon, Mich., and Mr. and Mrs. Norman A. Wood, of Ann Arbor, Mich., and when we arrived at St. James we met Dr. and Mrs. Frank N. Wilson, also of Ann Arbor. Doctor Wilson and Mr. Hastings were engaged primarily in photography, although Mr. Hastings afterward continued his excellent work at Lone Tree Island in Saginaw Bay, banding more than 1,400 Common Terns.

Our early arrival in 1925 was due primarily to my desire to test one or two methods for capturing adult gulls, and with this in mind I had added to my outfit two powerful focusing flashlights. With the assistance of one of the fishermen, we rigged up a large dip net on an 8-foot pole. The plan was to proceed to a colony of breeding gulls and camp and then by working at night to approach the incubating birds, trusting in the glare of the flashlight to prevent them from flushing until we were close enough to use the net. Unfortunately, we were unable to decide upon the effectiveness of this scheme because of an exceptionally early season.

Mrs. Lincoln and I were landed with a light outfit on Mire Island in the evening of June 27, at about 8 o'clock, and by 9 o'clock our camp was in shape. As this was purely an experiment, arrangements were made for the boatmen to return for us the following morning. Our camp consisted only of a lean-to placed back against the hedge of white cedars that cover one end of the island, and although it was a raw, chilly night we felt that any kind of a light would injure our plans, so the comfort of a fire was lacking. It was after midnight when the moon set and it became dark enough for our purpose, but while waiting our attention was occupied in noting the behavior of the gulls at night. We were surprised to observe how many were in the air as revealed by their calls. Starting from our base with the lights, net, and bands, we made the complete circuit of the island, even to crossing it at two different places, without flushing a single adult gull. The young were everywhere but no nest was found containing fertile eggs; in fact, very few nests were found with either eggs or young, as the chicks seem to leave the nest shortly after they are hatched. We turned the lights out over the water and found the adults resting about fifty yards offshore. Whether they were aware of our presence on the island we were unable to determine but I am inclined to believe that this is a regular procedure after the eggs are hatched.

We returned to camp about 2:00 A. M., built a small fire, and at 2:30 had what we called "first breakfast." It began to get light about this time, and by 3:00 o'clock we could distinguish objects well enough to start to work. By 6:00 A. M. we had banded 100 young and we had covered only about half the island. A high wind came up so that it was only after a thorough wetting and much maneuvering that we were able to get aboard the power-boat that came for us at



FIGURE 2. Young Caspian Terns in the Corral, ready for Banding. Photograph from U. S. Biological Survey.



FIGURE 3. Experimental Trap for Herring Gulls, with a few Captured Birds. Photograph from U. S. Biological Survey.

6:30. The flashlight scheme needs further tests, but I believe it will prove useful.

Profiting by the experience gained in 1924, I had added to my equipment a net, seventy-five feet long and three feet wide, to be used at the Caspian Tern colony on Little Hat Island. Work was carried on at that point on July 19, the net being set in a wide V with the converging sides terminating in a corral or pocket. The entire party then proceeded by boat to the opposite end of the island and four drivers landed, the two small boats following slowly down the shores abreast the drivers. The young terns scuttled ahead and soon the ground was literally alive with them, much like the movements of the swarms of fiddler crabs on the South Atlantic coast. More than 600 were secured in this one drive. I had three assistants to help band while two others remained inside the corral to prevent the birds from crowding. This precaution is very important as it is easy for a large number of birds to be smothered. The pocket or corral should always be as large as possible and *never* have any corners into which the birds can gather. The dust from the feather sheaths is apparently a factor which can cause injury to closely packed birds, and operations of this character should not be undertaken except when sufficient help is available. As fast as the young were banded they were released headed toward the nesting ground, toward which they made with all speed. Less than two hours were occupied with the banding.

A trap for adult gulls was built also about a mile from St. James. It was baited with offal from the fish dock and while partially successful, did not capture as many birds as was desired. Altogether 1,753 of these birds were banded during the season.

U. S. BIOLOGICAL SURVEY, WASHINGTON, D. C.

BANDING GULLS AND TERNS ON UPPER LAKE MICHIGAN

BY WM. I. LYON

In 1924, the Inland Bird Banding Association had secured volunteers for a number of good gull and tern colonies; but no one had volunteered to take Green Bay and Lake Michigan's northwest shore, so the writer and his son decided to work in this territory.

On arriving on the islands, July 25, we found the Herring Gulls all hatched and most of them already in the water; but by steady searching, we were able to band 383. H. C. Wilson was with us and banded a few more, bringing his total to 150, and making the total for the district 533 Herring Gulls banded. There was much high wind and very rough water, and it was so rough we could make little headway in ordinary boats. Some kind person suggested that we appeal to the Coast Guards for help; the Plum Island Guards responded quickly, and pleasantly, and took us to Gravelly Island, Michigan, where we banded our first Caspian Terns, getting 126. It was a new thrill and an eventful ride in the life boat.

We returned to our headquarters at Ephraim where we tried the church for Chimney Swifts, and were successful in banding eighty. The first bird out of the chimney was a "return," one that had gotten into a neighboring house and was banded by H. C. Wilson in 1923. Three weeks later, this same swift was caught at Sturgeon Bay, Wisconsin. The band was removed and sent to Washington, D. C., and the bird released, we hope.

In 1925 we had hoped to be much earlier but were delayed until July 20. There had been a much earlier and warmer season, and we found the Herring Gulls all in the water. While sitting on the porch of the Plum Island Coast Guard Station in the evening of July 20, 1925, a Caspian Tern was observed hovering around the docks, watching for fish. He came to the same spot several times; then a Herring Gull came and alighted on the dock close by, which seemed to anger the tern very much, and he made several dives at the gull, forcing it to fly away. As soon as the gull was at a safe distance, the tern returned, hovered over his favorite fishing spot again, and immediately dived. At the instant the tern started down the gull started back and struck the water just a few feet from the spot where the tern had disappeared; and as the tern rose to the surface the gull seized the fish and wrested it away from the tern and flew about one hundred feet away and alighted on the water. As soon as the tern had recovered from the shock he made a wild dive after the gull and gave a loud cry as he almost struck the gull. This was repeated but the tern never actually touched the gull. In the meantime the gull had succeeded in swallowing the fish and flew away. The tern took one more dive, apparently got another fish, and he also flew away, but in the opposite direction. The gulls have been observed to rob the merganser ducks in the same manner.

On July 21, the Plum Island Coast Guards cheerfully responded and took Dr. Lewy, his son, and the writer to Gravelly Island, Michigan. As we approached the island, we could see with our glasses that the young Caspian Terns were assembled in a large flock on the higher part of the island. We landed as quietly as possible and set up a roll of poultry netting in a U-shaped corral. One man remained at each side of the opening and the rest went around very cautiously to the opposite side of the island, then started our drive. It worked perfectly except that the birds would stampede like sheep and even after they got into the corral they would rush for one side and knock our netting over and each time many would escape. We started with about 300 young birds in the corral and banded about 100. Then, by searching them out of their hiding places in the weeds and under rocks, we banded 52 more before a storm arose which compelled us to start on our twenty-five mile trip back to Plum Island.

On the west side of Green Bay on a small shoal near Bark River, Michigan, we found another small colony of Caspian Terns and banded eight. There was a small colony of Common Terns on the opposite end of the island and we banded twenty-eight of them.

Our next work was done at Goose Island in the Straits of Mackinac on July 25, with the assistance of the Mackinac Island Coast Guards. Here we banded 134 Common Terns and two Herring Gulls.

On July 27 we found a small colony of Common Terns on the islands just north of Thunder Bay, in Lake Huron. There were a good many nests with eggs, but we found only four young birds large enough to band.

Late in the afternoon of July 27 we went to Black River Island and banded over 100 Common Terns and thirty-one Spotted Sandpipers. Young Common Terns do not assemble in flocks, but hide away singly and should be banded and left in same spot where found.

Our next stop was at Michigan State College to inspect Professor J. W. Stack's trapping station. This was the first trapping station established in a

college. The campus has many excellent places for traps, which accounts for Professor Stack's unusual results.

The 1926 party consisted of C. C. Miller, H. C. Wilson, J. Gundlach, H. Anderson, G. R. Lyon and Wm. I. Lyon. Our first trip was made on July 8 to Hat Island, where we found plenty of young Herring Gulls, and banded 492. While waiting for our boat at Egg Harbor, we banded four young Killdeers and four Spotted Sandpipers, making a 500 banding record for the day. The next day at Sister Islands we almost equaled the same record.

On July 11 we visited Jack Island, Jack Shoal and Little Strawberry Island. These islands have been cleared and houses built which reduced our record to



FIGURE 4. Caspian Terns in corral on Gravelly Island, Michigan.
Photographed by Wm. I. Lyon.

only 200 gulls. The owners stated they hoped to be able to drive the gulls away from the islands next year.

By July 12 there was a high wind which made Green Bay very rough, so we tried the Lake Michigan side. Finding no boats available we telephoned to the Plum Island Coast Guard, and Capt. Solman responded cheerfully and took us to Gravel Island, Wis., where we banded eighty Herring Gulls. Then we went to the Spider Islands, which are connected now so there is but one island. After banding a few gulls, we all started for the Great Blue Herons. By much climbing and tree shaking we managed to band seventeen young great blues.

July 13. This was our lucky day, as we were off for Gravelly Island, Michigan, to our Caspian Tern Colony and had an early start. As we approached the island our binoculars revealed plenty of young birds to band. This time we tried driving them up on the center of the island into the weeds and low bushes with fair success. It was a cloudy day and poor for photographs, but was much cooler to work. We found a few dead young on the dividing line that had been

scalped by the old birds for intruding. The Caspian Terns have held the southeastern end of the island as their private grounds, while the gulls covered most of the rest of the island; but the northwest end was their real headquarters, although there were many more of the gulls in the tern's territory than in the two previous years. Our total banded for the day was 198 Herring Gulls, 310 Caspian Terns, six Red-winged Blackbirds, and two Killdeers, making a total of 516 for the record day.

On July 14 we stopped at Hog Island and banded seventy-four Herring Gulls and four Great Blue Herons. We passed Fish Island and Fisherman's Shoal, as we could see with the binoculars that there were not enough young in sight to warrant a stop, and continued to Little Gull Island where we banded 341 Herring Gulls and one Black Duck. The Coast Guards helped us in every way they could to make our stay pleasant and to assist in getting our fine record, and finally landed us at Gills Rock that night; we were soon back at our headquarters, Hotel Anderson, Ephraim, Wisconsin. Most of the 15th was spent in traveling. We stopped late in the afternoon to try the Dry Shoal in Misery Bay, but found that parties had been out on the shoal on July 4 and had disturbed the birds so the Common Terns had left. We managed, however, to band twelve Herring Gulls, one Red-winged Blackbird, three Killdeers, five Spotted Sandpipers, and two Mallards. We stopped at Escanaba, Michigan, for the night. July 16 was spent on the road, arriving at St. Ignace, Michigan, for the night.

On July 17 we crossed on the ferry to Mackinac Island and the Coast Guard Station; from here Capt. Eckoff took us to Goose Island. The Common Terns were all gone except one lone young bird. Here we banded one Mallard and twenty-four Herring Gulls. From appearances this island seemed to have been raided for eggs; and we afterwards heard rumors to that effect. Capt. Eckoff seeing our disappointment suggested that we try some nearby shoals. The first proved to have a fine Common Tern Colony; and we banded 174 young birds. There were many so small that they could not be banded, and there were twice as many nests with eggs so we were a little too early. There was another shoal not far away, and on landing we got a Red-breasted Merganser to band. There were apparently plenty of Herring Gulls to band and we started to work. About half way up the island some of those in advance noticed there was a difference in some of the young gulls, and that the new ones were smaller. It was then that we found that we were in the midst of a mixed colony of Herring and Ring-billed Gulls, and the baby chicks were so much alike that it was almost impossible to be sure of identification. Sixty-seven that were banded we were sure were Ring-billed Gulls. This brought our total up to 429 for the day. The 18th was spent on the road, arriving at Detour at night. Here we had a very pleasant evening with Rev. Geo. W. Luther and his wife.

On the 19th Rev. Luther took us in his boat up the Detour Channel to little Cass Island, and we banded 174 Common Terns and seven Herring Gulls. We drove to Sault Ste. Marie that evening, and had a very enjoyable evening with M. J. Magee and Dr. Christofferson. On the 20th we made a trip with Mr. Magee to Sand Island in the St. Mary's River; but the island had grown up to

brush so thick that the Common Terns had left: we saw many flying and were sure that the colony was not far away. We found an American Bittern, which we banded, making the trip total 2847. We had another very pleasant evening and motored for home.

WAUKEGAN, ILLINOIS.

Work with the Gulls on the Sister Islands in Lake Michigan.—

While the study of the Herring Gull (*Larus argentatus*) has always interested me greatly, the number of gulls I have banded would hardly stand as proof for my interest. My total number banded is but 259.

In 1923 I received my permit too late to do any work with the gulls, but in 1924 I ventured to order 150 bands. Because of a rising wind my first trip to the Sister Islands on June 25 was limited to two hours, in which time I placed eighty-two bands with the aid of three friends. Most of the gulls were full grown at this time. Although the spring of 1924 was late and cold, fishermen informed me that over one-half of the eggs were pipped the last of May.

July 3 I placed seventy-three bands, all had left. Of all the birds handled at this time only one gull carried one of my bands. I did find one dead gull, banded on the preceding trip, which had been eaten by some gull or animal. We encircled the island and counted several dozen dead gulls, mostly young, but none of these wore bands.

Last year I was prepared to band a great number of gulls, but found little time to carry out my plans. I visited the Sister Islands July 7 and found a great harvest awaiting me. After about three hours amongst the nettles and tangled weeds I had banded 102 gulls. I again walked around the island in hope of finding bands on some of the dead birds, but there were only two dead adults of the one hundred dead gulls. Many of these had been killed by other birds, as indicated by their lacerated heads.

It was the 18th of July before I could again visit the islands. Upon landing I discovered that the young could all fly, and quite well, too. After a diligent search of over two hours I found three gulls hidden under wild grape-vines where quick escape was impossible. Upon releasing them, they flew away as well as adults. My consolation on this trip was that of banding a few Red-winged Blackbirds and a Spotted Sandpiper. But I solemnly vowed all the way back to Ephraim that after the first week in July, 1926, there would not be an unbanded gull to be found on the Sisters.

My returns have been few. Of the two returns from 1924, one was found frozen in the ice at Venice, Ill., December 31, 1924. The other was caught by Ed. H. Bean at the Zoo, Milwaukee, Wis., and "interned" at the Zoological Garden January 13, 1925. One gull banded in 1925 was found dead in a fish net at Two Rivers, Wis., September 30 of the same year.—HAROLD C. WILSON, *Ephraim, Wis.*

ORNITHOLOGICAL LITERATURE

NATURALIST'S GUIDE TO THE AMERICAS. By Victor E. Shelford, and a group of special editors. Williams and Wilkins. 1926. Pp. 1-761. Price \$10.00.

The Naturalist's Guide appeared in the summer of 1926 after several years of effort on the part of the editors to produce a manual with descriptions of areas suitable for collecting and field studies. Such an object does not permit of complete accomplishment, but the editors deserve the congratulations of naturalists for approaching the objective as nearly as they have. The book will be of great value to naturalists who are traveling or taking up new headquarters in parts of the country with which they are unacquainted.

Descriptions of localities are written by many authors, all of whom are well known scientists selected from the hosts of field naturalists, evidently with considerable care and on the ground of their acquaintance with the regions which they describe. More than a hundred writers were engaged in the preparation of the descriptive portion of the work. Nineteen short papers form an introduction under the title "Uses, values, and management of natural areas." We find here many suggestions as to the administration of wild lands and conservation of wild life, along with other useful information. This is followed by about twenty-five pages of discussion of the original biota of America, together with a bibliography of the same subject.

The bulk of the book treats of "Natural Areas and Regions," and these regions are numerous within the extensive boundaries of North America and northern South America. The classification of these natural areas is based upon general ecological features, and is as follows:

Northern North America: Ice covered areas, Tundra, and northern Coniferous Forest.

Southern Canada and the United States.

- A. States, Provinces and Forest Districts, chiefly Coniferous Forest.
- B. States chiefly Deciduous Forest.
- C. States with Deciduous Forest, southeastern Coniferous Forest, and large Swamp Areas.
- D. States chiefly Oak Grove Savanna.
- E. States chiefly Grassland or Steppe.
- F. States chiefly Desert and Semi-Desert.

The Tropics north of the Equator.

- A. Mexico and Central America.
- B. Northern South America.
- C. Islands in the Atlantic and adjacent waters.
- D. Pacific Islands.

In the descriptions of the regions listed under each one of the subheadings indicated by capital letters above, there is no very close adherence to one outline, but in general the descriptions discuss the following: General Conditions, Geology, Physiography and Topography, Drainage, Maps available, Climate, Biota. Routes of travel, Soil, Pollution, etc. Lists of animals and plants are included. Some of these attempt completeness, while only the more important or prominent forms are selected in others. Ornithologists will find some useful bird lists, such as the Hudson Bay and Alaska region (p. 118), Athabasca region (p. 123), Yukon region (p. 135), Ohio (p. 357), Michigan (p. 381), and Mexico (pp. 580-593). About half of these lists give only the vernacular names of the species.

Locations of refuges, reservations, and National forests are given, with much else of value to the field naturalist, which will aid him in selecting regions for special investigations or faunal studies.

Little can be said in the way of adverse criticism of the Naturalist's Guide. As noted, such a work cannot approach completeness, but the lack of symmetry in treatment of the biota of many regions is puzzling and cannot be accounted for through lack of published information on the groups not treated. Fishes, amphibians, reptiles, insects, and mollusks are given little attention. In the case of the insects and other invertebrates the authors explain the omissions by referring to the small amount of ecological work that has been done on the invertebrates. This is surprising to the reviewer in view of the work of Forbes, Adams, Kofoed, and others in Illinois, Comstock, Baker, and Necdham in New York, and Smith in New Jersey, as well as other work which might be cited. Omissions are explained by saying, "The principal users will be students of mammals, birds, or general ecology including plants." In view of the disproportionate treatment of biota, one may question the fitness of the title. Perhaps the publication should have been called a manual of ecology of terrestrial vertebrates. It is hoped that the book is the beginning of a series of similar works, the others treating the forms omitted in this one; then it will justify its present title, the "Naturalist's Guide."

The many bibliographies in the book will be found helpful to bird students, as well as others. Notwithstanding the disappointments that will come to some naturalists, who fail to find their limited fields adequately treated, the work is a valuable one, and excellent "as far as it goes." Bird students, and ecologists generally, will ever be grateful to Dr. Shelford, and the other editors and many authors, for making available so much useful information in a compact, handy, and well-bound field manual.—T. L. HANKINSON.

BIRDS OF WESTERN CANADA. By P. A. Taverner. Museum Bull. No. 41, Victoria Memorial Museum. Published by the Canada Department of Mines, Ottawa, Canada, September, 1926. Pp. 1-380, 80 colored plates. Price, 75 cents in paper covers, \$1.00 in cloth.

After an interval of seven years this book appears as a complement to the earlier work by the same author on the "Birds of Eastern Canada." The new work makes a portly volume, which, with the beautiful colored plates, will be received as a welcome addition to our ornithological literature. The text is organized on the plan of the earlier volume; in places the earlier text is borrowed, but with much revision and with the addition of much new matter. Each species is described and annotated as to "distinctions," field marks, nesting, distribution, and economic status. All forms are discussed as species, but the recognized subspecies are mentioned and briefly discussed in a separate paragraph. This procedure is to be commended, we believe, in a work of this kind. This mode of treatment mitigates much of the inherent objection to the subspecific gradation. To the average reader subspecies are of but incidental interest, and he does not wish to be annoyed by having them thrust upon his attention. With the subjection of subspecies as effected in this work the reader is not likely to be annoyed, and he may even take an interest in the subject.

The illustrations are especially noteworthy. Altogether there are 315 text figures in black, showing characteristic structures, such as head, bill, feet, tail, feathers, etc. Especially valuable are the flight silhouettes of the birds of prey,

which also show, in some cases, useful diagnostic field marks. Each colored plate presents two or more species. Some of the paintings are the work of F. C. Hennessey, and first appeared in the "Birds of Eastern Canada." All of the new plates are by Allan Brooks, the authority on birds of the northwest. In comparing the work of these two artists we notice that Mr. Hennessey minimizes the background by using pale colors. Major Brooks, on the other hand, produces darker backgrounds with usually greater detail, thus approaching the style of Thorburn, the English artist. For this reason we believe the work of Brooks is more pleasing in its general effect, though we do not extend this comparison to the portraits of the birds, necessarily.

In general, the work presents the appearance of scientific accuracy, and will, at the same time, be acceptable as a popular treatise on the birds of the area treated; this area is so extensive, however, that the work is not local, and is by no means so limited in its usefulness.—T. C. S.

DELINEATIONS OF AMERICAN SCENERY AND CHARACTER. By John James Audubon. With an introduction by Francis Hobart Herriek. 1926. G. A. Baker & Co., 247 Park Ave., New York. Pp. 1-349. Price \$4.50.

We note with satisfaction an apparent renewal of interest by American publishers in the older ornithological literature. Those who are familiar with Audubon's Ornithological Biography will recall that the first three, of the five, volumes contained chapters giving details of Audubon's travels, observations, and personal experiences, these chapters being interrelated among those on the birds. Audubon's powers of observation were very keen, his literary style is unique, his place in ornithological history is well known and unquestioned; all of which combine now to make the writings of this early naturalist unusually entertaining. These writings, hitherto, have not been available to most present-day readers. The plates have been prohibitive in cost, and even the text, the Ornithological Biography, sells for about fifty dollars when a set can be found.

The title here reviewed presents in one volume all of these chapters, sometimes called "episodes," fifty-nine in number, together with the introductions to Volume II and Volume III. Professor Francis H. Herriek has written a biographical introduction, which gives briefly an appreciation of the great naturalist; we believe, however, that a typographical error has been made in the date at the bottom of page xi. The republication of this material is a distinct service to the great body of nature lovers, who, we believe, will be fully appreciative.—T. C. S.

WILD BIRDS IN CITY PARKS. By Herbert Eugene Walter and Alice Hall Walter. Pp. 1-111. The Macmillan Company, New York. 1926. \$1.50.

This small volume now appears in the twelfth edition, and shows considerable enlargement and revision. Earlier editions treated 145 species, while the present one includes 203 species, with an additional briefly annotated list of 108 rare, extinct, and introduced species. The present edition arranges the species in the order of the A. O. U. Check-list, rather than in the order of spring arrival, as in earlier editions. In the principal list each species is described with special attention to the field marks, the most diagnostic characters being italicized. A very ingenious field key which seems to be workable, and useful in reducing an unknown bird to a small number of possibilities, forms one of

the features of the book. Several other tables and charts combine to make this book serviceable to beginners in bird study in the northeastern United States.—T. C. S.

REPORT ON COOPERATIVE QUAIL INVESTIGATION: 1925-1926. By Herbert L. Stoddard. 1926. Pl. 5, pp. 1-62. Privately published by the Committee supporting the Quail Investigation in the South, in co-operation with the U. S. Biological Survey.

This paper is a continuation of the report of progress issued last year for the year 1924. The quail investigation now extends over an area of at least 20,000 acres, this much of the area being mapped in detail. Two men are at work on full time. Native quail to the number of 2,100 have been trapped and banded, thus being permanently identified. Of these banded 135 were later "returned" by hunters, while "fully another hundred" were retrapped by the banders. Out of seventy birds banded in the spring of 1925, 49 per cent (34 birds) were recovered during the next shooting season (seven to eleven months) within a quarter of a mile; 17 per cent (12 birds) were recovered at distances ranging from one to seven miles.

Some data are presented toward the solution of the problems of covey personnel and covey permanency. It is stated that remnants of reduced coveys often unite to form larger groups resembling original coveys. Although the hunter may leave a part of an apparent covey for "seed," he may in reality "be harvesting what has already been left for seed from several coveys" by previous hunters.

A favorite argument for the slaughter of quail is the assertion that shooting them up is necessary for dispersing the coveys in order to prevent the harmful and degenerative effects of inbreeding. On this subject the author states (page 26): "Harmful inbreeding would only seem possible in regions where quail are scarce and the coveys separated by considerable distances, and under such conditions only would a shuffling of the coveys be of possible value." We take it that this statement implies that inbreeding may be harmful and may result in degeneration if allowed to occur, even in nature. We wonder whether this is a biological fact. Where is the demonstration that healthy stock degenerates under inbreeding?

A very interesting chapter on the food habits of quail, by Mr. Charles O. Handley, is included in the report; the facts are summarized in tabular form. Considerable attention is given to the subject of quail enemies and diseases. The two reports indicate that the quail investigation has already been abundantly productive of results, and that the future is full of promise.—T. C. S.

NOTES ON THE BIRDS OBSERVED IN SOUTHERN FLORIDA. By Ernest G. Holt and George Miksch Sutton. Reprinted from *Annals of the Carnegie Museum* (Pittsburgh), Vol. XVI, No. 3-4, 1926. Pp. 409-439, 1 colored pl., 10 half-tones.

The area covered by this list includes the southeastern coast of Florida between Palm Beach and Biscayne Bay. One hundred and twenty-three species are recorded in the list, most of which are quite fully annotated. Considerable work has been recently published on the birds of Florida, and the U. S. Biological Survey also has a survey in progress. The present list contributes to our knowledge of distribution.—T. C. S.

BRITISH BIRDS. By Archibald Thorburn, F.Z.S. Longmans, Green and Co., Ltd. New York and London. 1926. Demy 8 vo. Volume IV. Per volume, \$5.50.

Volume IV of this splendid work has now reached this country. We expect to offer an extended review in a later issue.—T. C. S.

REPORT ON A COLLECTION OF BIRDS AND MAMMALS FROM THE ATLIN REGION, NORTHERN BRITISH COLUMBIA. By Harry S. Swarth. Univ. Calif. Pub. in Zoology, Vol. 30, No. 4, 1926. Pp. 51-162, pl. 4-8, 11 text figures.

This report is based on work done partly in northern British Columbia and partly in southern Yukon Territory in the summer of 1924, under the patronage of Miss Annie M. Alexander, who has shown much interest in the exploration of this northwestern country. Mr. Swarth was accompanied by Major Allan Brooks during the greater part of the summer. The frontispiece is a colored plate of the Golden-crowned Sparrow, immature and adult, by Major Brooks.—T. C. S.

REPORT OF CHIEF OF BIOLOGICAL SURVEY OF THE UNITED STATES DEPARTMENT OF AGRICULTURE. By E. W. Nelson, Chief of Bureau. 1926. Pp. 1-20.

One of the most interesting publications of the Biological Survey is the annual report of the Chief of the Bureau, giving a summary of the results of the year, a statement of the problems under investigation, and mentioning reports about to be published. The present report for the year ending June 30, 1926, contains much material of interest to ornithologists. Blackbirds were found to be doing enough damage to the rice crops in certain areas of the south to justify the use of poison and shotgun as deterrents. Fish-eating birds, such as the cormorant, great blue heron, bittern, loon, kingfisher, several gulls, terns and grebes were exonerated from any charge of serious damage to the food and game fishes in the north central states. The passing of Currituck Sound as a wild fowl paradise is noted. Considerable information is given on bird refuges and game preserves. There is also a report from the division charged with the enforcement of the federal game regulations.—T. C. S.

REPORT ON A COLLECTION OF BIRDS MADE BY J. R. PEMBERTON IN PATAGONIA. By Alexander Wetmore. Univ. Calif. Pub. in Zoology, Vol. 24, No. 4, 1926. Pp. 395-474, pl. 12-14, 11 text figures.

The title is explanatory of the work. The three plates in black and white are by Louis Agassiz Fuertes.—T. C. S.

HOMES FOR BIRDS. By E. R. Kalmbach and W. L. McAtee. Farmers Bull. 1456, U. S. Dept. Agric. July, 1925. Price 5 cents.

The bird lover has here a brief manual touching most of the problems concerning the construction and location of many types of bird houses.—T. C. S.

The *Journal of the Tennessee Academy of Science* for April, 1926, contains three interesting articles by our members. One article on the summer birds of the Great Smoky Mountains is by Mr. A. F. Ganier; another, by Prof. G. R. Mayfield, is entitled "Magni fumosi conservandi sunt," and will be remembered as a paper which was read at the Nashville meeting of the W. O. C. Another article, by Prof. Jesse M. Shaver, is on the flowers of the Great Smokies. There is still another article on the trees of this region. Those who have visited, or who expect

to visit, the area which is proposed as a new national park in the Great Smoky Mountains of Tennessee will find this number of the *Journal* of much interest.—T. C. S.

The *1926 Year book of the Public Museum of the City of Milwaukee*, which was issued in the fall of 1926, contains three ornithological papers, viz., "Making a three reel heron picture," by Owen J. Gromme; "On the trail of the Sandhill Crane," by Owen J. Gromme; "Photographing and banding Red-tailed Hawks," by Irving J. Perkins.

The October number of the *Chemical Bulletin*, Chicago, contains a most readable article on "Ornithology as an Avocation," by A. W. Schorger, Madison, Wisconsin.

Nature Notes from Yellowstone Park for August, September, and October have appeared. Herein are recorded many interesting observations in all phases of natural history, including numerous notes on bird life.

We have received from Mr. Alfred M. Bailey, of Colorado, the reprints of his ten articles in the *Condor* on the birds of northwestern Alaska and regions adjacent to Bering Strait.

COMMUNICATIONS

THE RIDGWAY MEMORIAL CAMPAIGN

The Wilson Ornithological Club, in co-operation with the American Ornithologists' Union, and the Cooper Ornithological Club of California, is now actively forwarding plans for a suitable memorial to the work and services of Robert Ridgway, the dean of American ornithologists. This memorial will, it is proposed, take the form of a sanctuary for birds and other wild life. The tract of land comprising eighteen acres, situated near Mr. Ridgway's home at Olney, in southern Illinois, named by him "Bird Haven," on account of its attractiveness to bird life, is admirably adapted to this purpose. Its varied topography of little hills, ravines, streams, woods, and open grasslands accounts for its remarkably large number of different trees, bushes, and flowering herbaceous plants, and for its variety of bird life. Nearly 150 species of birds have in the last few years been recorded from this area.

Mr. Ridgway has offered to donate this property for a wild life sanctuary if a fund sufficient for its maintenance can be obtained. This is therefore an unusual opportunity to save this area for the preservation of birds and plants, and at the same time to erect a fitting memorial to America's great bird lover.

A fund of \$35,000 is considered necessary to carry out this project. To raise this amount a committee has been appointed consisting of Dr. Harry C. Oberholser, of the United States Biological Survey, Washington, D. C., Chairman, representing the American Ornithologists' Union; Mr. Percival B. Coffin, 39 South LaSalle Street, Chicago, Illinois, representing the Wilson Ornithological Club; and Mr. Harry Harris, Box 123, Eagle Rock, California, representing the Cooper Ornithological Club. Bird lovers and all persons and organizations interested in conservation are urged to co-operate in raising the funds necessary to establish the Bird Haven Wild Life Sanctuary.

Remittances should be made out to the "Ridgway Memorial Fund" and may be sent to any member of the committee above mentioned.—HARRY C. OBERHOLSER.

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