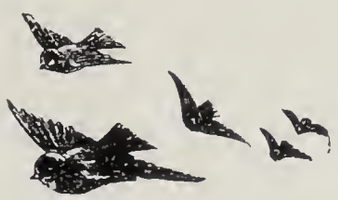
The Wilson Bulletin

Official Organ of the Wilson Ornithological Club

An Illustrated Quarterly Magazine
Devoted to the Study of
Birds in the Field

Edited by Lynds Jones



Nineteen Hundred and Twenty-three
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THE WILSON BULLETIN

OFFICIAL ORGAN OF

The Wilson Ornithological Club and The Nebraska Ornithologists Union

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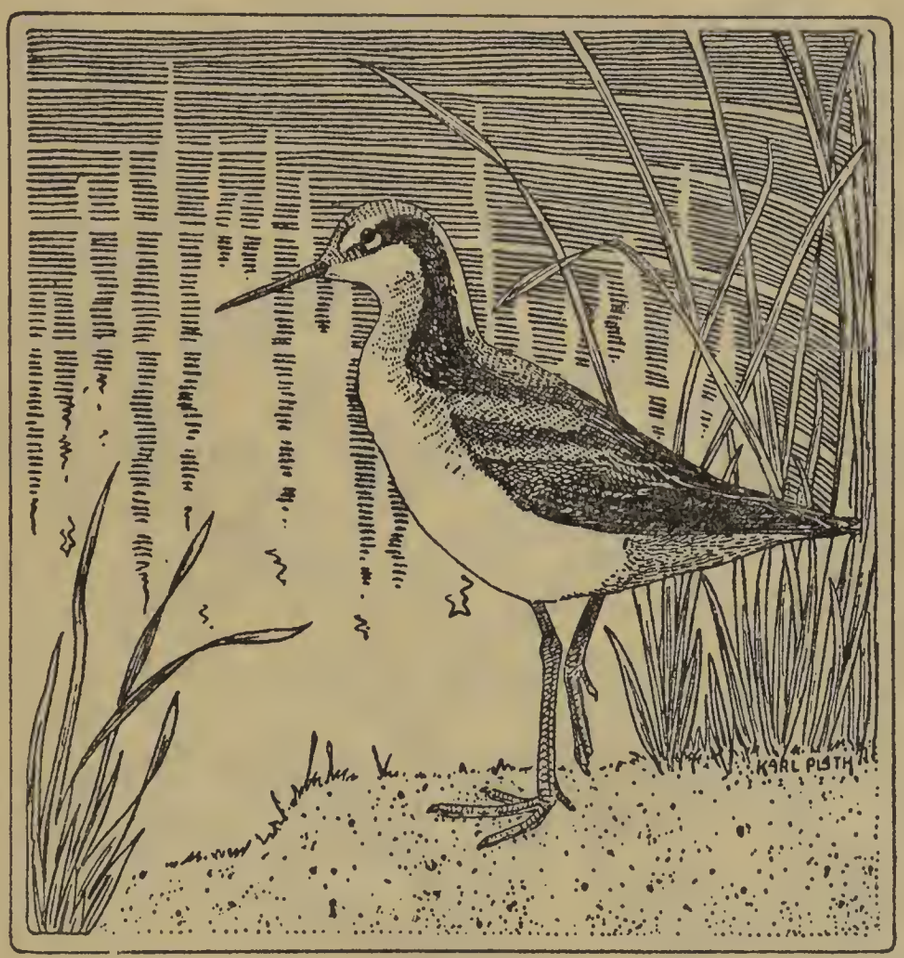

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THE WILSON BULLETIN

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AMERICAN ORNITHOLOGISTS' UNION

THE WILSON BULLETIN

A QUARTERLY JOURNAL OF ORNITHOLOGY

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OLD SERIES VOL. XXXV. NEW SERIES VOL. XXX.

OUR FRONTISPIECE

As a courtesy to the American Ornithologists Union and in honor of its first meeting in the Middle West, we have prepared the plate used as a frontispiece for this issue. In addition to the many visitors from the east, west and Canada, the central area furnished a full and representative delegation, and it is a source of satisfaction to be able to say that nearly all of those depicted are members of The Wilson Club as well as of the A. O. U.

The collecting of the names of the 108 people shown in this picture was no small undertaking. When the writer had reached the mark of 80 he found it necessary to send out an S. O. S. call for assistance. With much appreciated help from Secty. Palmer, of the A. O. U., Mr. P. B. Coffin, Mr. Ruthven Deane, Miss Althea Sherman and Mr. Wm. I. Lyon, the names of all but half a dozen have been gathered and are enumerated below.

The picture was taken just after lunch and it is to be regretted that some of our well known members, who were present, tarried so long at satisfying their gastronomic cravings that they came out too late for the photograph.

The names of the half dozen not as yet identified will be gladly received and published in a subsequent number. In order that the reproduction would show the figures as large as possible, the ends have been cut away and superimposed in spaces in the upper corners.

1 Jesse L. Smith
2 L. J. Walters
3 Benj. Gault
4 Mrs. Witmer Stone
5. Mrs. C. E. Hellmayr
6 Mrs. V. M. Reichenberger
7 W. H. Bergtold
8 C. C. Sanborn
9
10 Warner Taylor
11 Harry Harris
12 Dix Teachenor
13 A. C. Weed
14 Dr. Lyon
15 R. M. Barnes
16 C. W. Eifrig
17 Victor Kutchin
18 C. H. Rogers
19 Courtney Brandreth
20 Lynds Jones
21
22 L. A. Fuertes
23 Mrs. Cramp
24 J. H. Fleming
25 F. M. Woodruff
26
27
28 G. Deane
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30 Miss M. Fairman
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32 Mrs. W. D. Richardson
33 Mrs. C. B. Corey
34 Mrs. H. W. Brandt
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36 W. B. Tyrell
37 N. J. Leopold
38 Mrs. Margaret Nice
39 H. B. Conover
40
41 Mrs. J. W. Wheeler
42 K. P. Schmidt
43 Miss M. T. Cooke

44 Mrs. Deane
45 Mrs. T. S. Palmer
46 Mrs. H. J. Taylor
47 Mrs. Irene Wheelock
48 Miss C. A. Mitchell
49 Mrs. Levey
50 T. S. Roberts
51 E. H. Forbush
52 Mrs. Harrington
53 Miss Althea Sherman
54 W. E. Clyde Todd
55 Thos. L. Hankinson
56 Amos W. Butler
57 A. H. Wright
58 Ludlow Griscom
59 Frank M. Chapman
60 Francis Herrick
61 Leon J. Cole
62 Arthur A. Allen
63 Mrs. H. C. Miller
64 Wm. Kilgore
65 G. Finlay Simmons
66 R. C. Murphy
67 H. H. Covell
68 J. T. Nichols
69 C. E. Hellmayr
70 Otto Widmann
71 Herbert L. Stoddard
72 H. C. Oberholser
73 P. A. Taverner
74 Jonathan Dwight
75 D. R. Dickey
76 Rev. Geo. Bennett
77 H. K. Coale
78 A. H. Cordier
79 H. H. Ninninger
80 W. E. Saunders
81 Albert F. Ganier
82 Wilfred H. Osgood
83 S. Prentiss Baldwin
84 Fred C. Lincoln
85 Wm. I. Lyon
86 Dr. W. C. Herman
87 W. H. Shedd
88 John H. Sage
89 Wm. B. Barrows
90 F. W. Rapp
91
92 Casey Wood
93 Arthur C. Bent
94 Miss McGregor
95 Hoyes Lloyd
96
97 R. N. Davis
98 Ruthven Deane
99 W. E. Praeger
100 C. W. Richmond
101 S. N. Rhoads
102 R. M. Strong
103 H. B. Ward
104 Prof. MacBride
105 Witmer Stone
106 W. L. McAtee
107 T. S. Palmer
108 H. J. Perry

A. F. G.

CONDITIONS OF THE BREEDING GAME BIRDS IN NORTH DAKOTA, EXPEDITION OF THE CHICAGO ACADEMY OF SCIENCES

BY FRANK M. WOODRUFF

In completing the Chicago Environs Groups in the Chicago Academy of Sciences, it was found necessary to take a trip to North Dakota to obtain the young of the various Ducks and Waders which were once found in great numbers nesting in our Calumet Region.

In the early forties Canada Geese, Canvas-back and Redhead Ducks nested with us and as late as 1880 Mallard and Teal could be found nesting in Cook County.

On the invitation of Mr. H. E. Peck the writer left for Kenmare, N. D., on the upper DuLac Lake arriving July 12, 1915, finding Mr. Peck an enthusiastic bird student, always ready to help the scientist. I have never met a more generous or a bigger hearted man than Dad Peck as he was called by all that knew him. Mr. Peck placed his work rooms and his high powered Jack rabbit car at my disposal, and every day we toured the country visiting the Lakes for seventy miles around, enabling us to obtain all of the specimens necessary to complete our groups and also to get a fair idea of the conditions of the nesting game birds.

After the death of Mr. Peck, which occurred in 1919, I was

assisted in my work by Mr. E. H. Gross of Kenmare, who is an ardent sportsman and a skilled photographer.

We found the farmers without exception true sportsmen, protecting the game to the fullest extent, even objecting to our taking the few specimens which we collected after showing the necessary permits. In 1915, when the Spring shooting law went into effect, I found a pair of Pintail Ducks nesting on a small hillside. The following year I found eleven pairs in this same area, showing plainly the results obtained from the enforcement of this wise law.

WILLET ON NEST

It was a wonderful sight to observe the immense number of shore birds on Kenmare Lake, and to find our Wilson's Phalarope one of the most common of them all. The Willet nesting on the uplands in company with Bartramian Sandpiper. The series of photographs of the Willet which accompany this article were taken on the Kenmare Golf grounds. The members of the club staked off a large section of ground around the nest so that the bird would not be disturbed. In the picture where the bird is arising from the nest the young man had to lift her from the eggs before she would fly.

There are very few Lark Finches west of the Lake but they are replaced by the Chestnut-collared Longspur. In the Arroyos are found the Black-billed Magpies, the Ferruginous Rough-legged Hawk and the Western Horned Owl. A nest of

the Marsh Hawk can be found every mile or so, Sharp-tailed Grouse are plentiful—many young are seen in every stage of growth.

WILLET FLYING FROM NEST

I was agreeably surprised to see a pair of Bobolink on the road east of Kenmare, the only ones seen in this region. The Lark Sparrows are very plentiful; several pairs can be found on all of the fields under cultivation.

The mud flats of the upper DuLac Lake on July 13, 1915, abound with Limicolae. Thousands of the more common varieties of snipe are seen. Least Sandpiper, Semipalmated and Stilt Sandpiper, Dowitchers and Robin Snipe, also a few pairs of Marbled Godwit.

On the shores of the alkali lakes are found nesting, the Common Tern, American Avocet, Wilson's Phalarope, Canada Geese and the Gadwall. I do not understand why these birds prefer this filthy ground to nest on, as there are plenty of clean lakes in the vicinity. As you observe in the photographs, the geese and gadwall select a location where the ground is covered with rocks about the size of their bodies, depending entirely upon this resemblance for protection.

When the wind arises or there is any disturbence in the water the shores are lined with a white mass resembling soap suds. This is practically what it is for it is the alkali combined with the

NESTS OF HORNED GREBE

greasy matter in the water. The young Tern and Gadwall when disturbed would dive into this mess and it was a difficult matter to locate them. The outer white line in the photo of the Canada Goose shows this foam. A short distance from the nest of the Goose was found a nest of the American Avocet with seven eggs, also another nest containing three young birds which are now in the Academy collection.

In the Lost Lake Region 60 miles from Kanmare we found the small bays covered with the nests of the Horned Grebes. A little farther out the Eared Grebe is nesting. The former are the most plentiful. Many Western Grebe are seen far out in the lake but no nests of this species were found on any of my trips.

1. Mallard—*Anas platyrhynchos.*

From July 13 to 23, 1915, there were about 15 pairs with

MALLARD TURNING EGGS

young seen along the road from Kenmare to the Lost Lake region. In the marsh joining the upper and lower Du Lac Lake there are hundreds of young in all stages of growth. The Mallard nests in any location it takes a notion to, on top of hay stacks, piles of grass, along the stone fences, and on one occasion I found

one nesting on top of a small hill almost devoid of vegetation, the form of the bird standing in silhouette against the sky. There was a decided increase of birds in 1916, and many more in 1920.

2. Gadwall—*Chaulelasmus streperus.*

I find these birds prefering the Alkali lakes for the nesting

GADWALL SWIMMING

NEST OF GADWALL

sites, placing the nests among the rocks which are about the size of their bodies and making little or no attempt to cover the eggs.

YOUNG OF GADWALL HATCHING

PHOTOGRAPHING BALDPATE

About ten nests were found on Stink Lake 35 miles from Kenmare. A slight increase in numbers in 1916, and about as many in 1920. The first nests were found July 16, 1915. Eggs and young were taken for the Chicago Academy of Sciences on July 26, 1915. A fine series of photographs were taken of this species showing birds hatching, old birds swimming and asleep, and nests among the rocks.

NEST OF BALDPATE COVERED

NEST OF BALDPATE EGGS EXPOSED

3. Baldpate—*Marcca americana.*

Twenty-five or thirty nests were found of this species between July 13 and 23, 1915, containing eggs or young birds just hatched. Some of the nests were placed within four feet of the water's edge and in no case were they farther away than 200 feet from the water. In 1916 there was a slight increase in numbers, and in 1920, on June 28th, there were many more birds seen than in preceding years.

TEAL CAUGHT BY DOG

4. Blue-winged Teal—*Querquedula discors.*

On July 15th, 1915, most of the Teal were through hatching. Only one nest with fresh eggs was found, which are in the

Chicago Academy of Science collection. In 1916 the birds had increased in numbers. In 1920 the increase was enormous.

NEST OF BLUE-WINGED TEAL

5. Shoveler—*Spatula clypeata.*

On July 13th, 1915, a fifty-mile auto trip was taken along the

SPOONBILL AND YOUNG

road from Kenmare to the Lost Lake Region. Nearly every small pond passed had from one to ten females of this species with young just hatched. In no case did we find young more than a few days old.

On July 28, 1916, we found conditions about the same. On June 25, 1920, the birds are laying; no young seen. A slight increase in numbers of adults seen over 1916 and 1915.

NEST OF PINTAIL

6. Pintail—*Dafila acuta.*

Next to the spoonbill the pintail exceed in numbers all of the other ducks of this region. Their nests dot the hillsides and the fields. The farmers are kept busy plowing around the nests. On July 15, 1915, on a farm of 150 acres, we found seven nests of this species which were empty. The young on the neighboring sloughs were about two weeks old. Only one set of young were found just hatched. These were taken for the Chicago Academy of Science collection.

In this same field was also found a nest of the Short-eared Owl. The bird had commenced incubation upon laying the first egg. There were five young in the nest, one of them just hatched, the others ranging in size to one fully two weeks old. Five nests

of this bird were found, one of them only ten feet from a nest of the Pintail.

July 28, 1916, conditions were about the same in regard to this species. In June, 1929, nests with full complements of eggs were found.

PHOTOGRAPHING REDHEAD

7. Redhead—*Marila americana.*

In 1915 a colony of 20 pairs or more nested on the upper DuLac lake. Also every pond of any size between Kenmare and Lost Lake Region had from one to ten pairs nesting upon it. On Sweetwater Lake, 35 miles from Kenmare, I found 12 nests with fresh eggs July 15, 1915. The Redhead makes a much more substantial nest than the Canvas-back, and is usually placed on a small raft in the open spaces among the rushes. On this date a few young are hatched and a set of ten eggs and eight young were taken for the Chicago Academy of Science. In 1916 there was a decided increase in numbers but in 1920 there were few birds or nests found.

NEST OF REDHEAD

8. Canvas-back—*Marila valisinera.*

On my first visit to Kenmare, North Dakota, I found this species nesting very late. On July 13th the females were sitting on fresh eggs. There were no young to be seen. The first nest, containing 11 eggs, found July 13, was located within a stone's throw from the railroad round-house, almost in the heart of the city. About ten pairs were nesting in the upper DuLac. I also found a few pairs nesting at Thompsons Lake, 20 miles from Kenmare, and 15 pairs at Dead Dog Lake, 35 miles from Kenmare. This is a fresh water lake which is only 100 yards from an alkali lake known as Stink Lake. Here the nests were placed just inside of the heavy growth of rushes and were very carelessly constructed; in fact so thin that many of the eggs were lying on the bottom of the lake, where they had fallen through. The following year, 1916, there were very few Canvas-backs nesting in this region as the water was very high. Some of the nests were placed in the debris along the shore without any attempt at concealment. On June 21, 1920, the young were just hatching and I obtained a set of eleven eggs with the shells just pipped.

I rushed these home and improvised an incubator with my camera case and an electric light bulb. By noon the next day I had eleven young canvas-backs. These birds are in the Chicago Environs group in The Chicago Academy of Sciences.

NEST OF CANVAS-BACK

9. Lesser Scaup—*Marila affinis.*

Large numbers of these birds are nesting on ponds of any size throughout this region. On July 13, 1915, the birds were just hatching and I saw about thirty pairs with young. In June, 1916, the conditions and numbers of birds were about the same. In 1920 there was a slight increase in the number of nesting birds. Brood of eleven young in Academy collection, taken July 23, 1915.

10. Ring-necked Duck—*Marila collaris.*

Very few of this species were seen and no young birds. A rather strange fact to me as I had found them nesting plentifully in Minnesota some years ago.

11. White-winged Scoter—*Oidemia deglandi.*

On July 13, 1915, while walking along the shores of Thompsons Lake about sixty feet from the waters edge, the dog flushed

a female White-winged Scoter, from the heavy growth of bushes. The nest was beautifully constructed and from the amount of down it would seem as if at least three or four birds had contributed towards it. I had noticed three pairs of these birds swimming far out in the lake but had no thoughts of their nesting here. Mr. Peck informed me that this was the first record for this region.

NEST OF WHITE-WINGED SCOTER

12. Ruddy Duck—*Erismatura jamaicensis.*

On July 19, 1915, the Ruddies were in the height of the nesting season — both eggs and young were found. The largest birds seen were not over two weeks old. A set of five eggs was taken on this date; also five young birds which are in the collection of the Academy.

This species was found in about the same numbers in 1916. But in 1920 had become quite scarce.

13. Canada Goose—*Branta c. canadensis.*

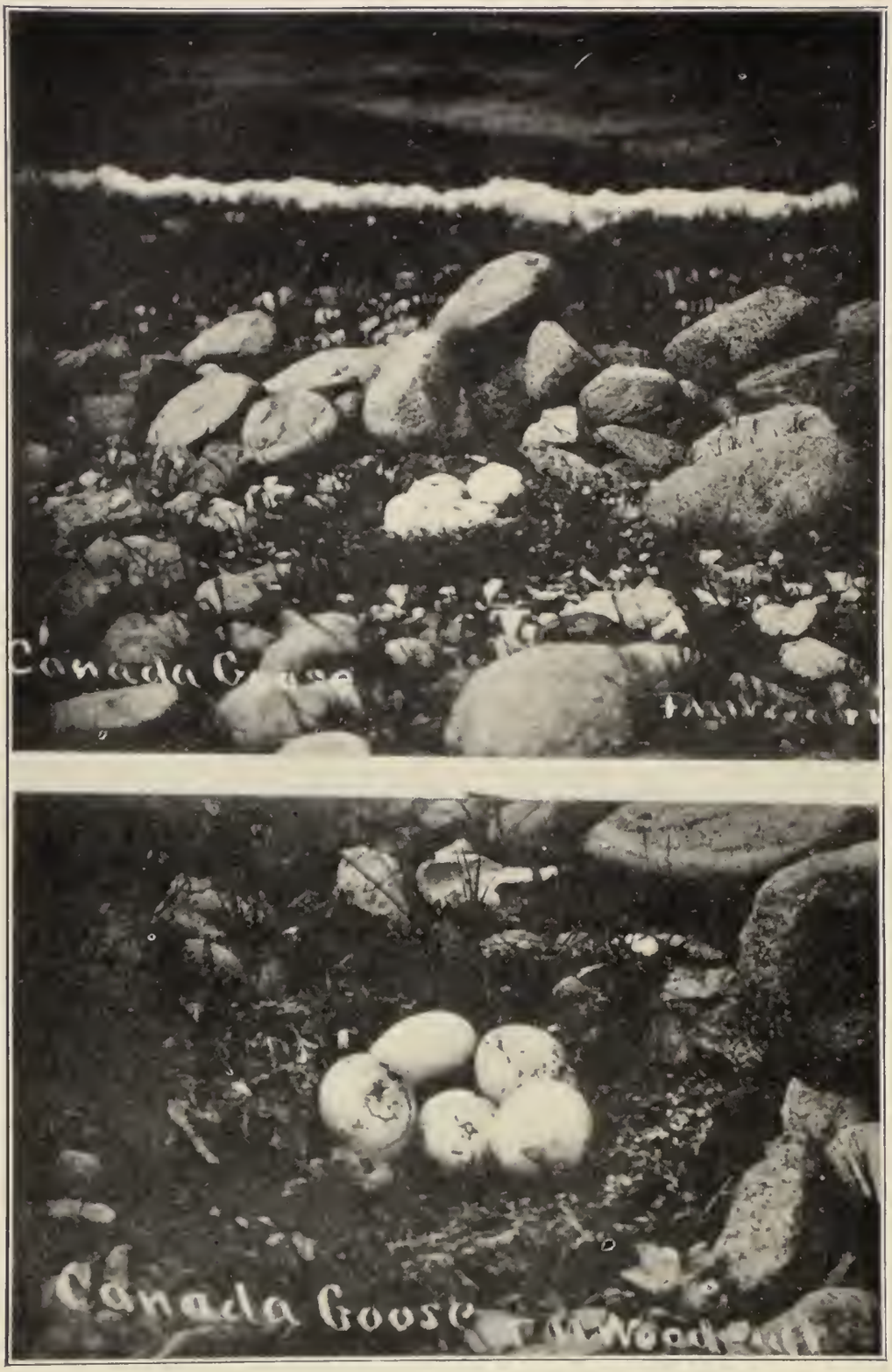
On July, 19, 1915, on a small island in Stink Lake, I found

this species nesting. There were five eggs laid on the bare sand with a few sticks laid around the outside. This island is covered with small boulders and rocks about the size of the goose. There was no further attempt of concealment. There were no geese

NEST OF RUDDY DUCK

nesting in 1916 or 1920. The farmers tell me that prior to 1915 there were quite a number of geese and a few Sandhill Crane to be found on this lake.

CARRYING EGGS TO SHORE



NEST OF CANADA GOOSE

NEST OF CANADA GOOSE

Chicago, Ill.

SUMMER BIRDS OF THE LES CHENEAUX ISLANDS

BY J. VAN TYNE

About eleven miles northeast of Macinac Island, along the Lake Huron shore of the Upper Peninsula of Michigan, lies a group of islands known as the Les Cheneaux Islands. This group of islands is about eleven miles long and about four wide. They are covered with a second growth, consisting largely of cedar, spruce, hemlock and poplar. The immediately adjacent mainland and parts of Marquette Island contain a considerable amount of cleared land, which of course makes for a greater variety of bird life.

The following list is compiled from observations made during June, July and August of the years 1917 to 1921 inclusive. In 1918 the first half of September was also spent there. The only previous list of the birds of these islands seems to be a list of the autumn birds by Mr. Walter C. Wood (Wilson Bulletin, June, 1905; March, 1907). Allowing for the difference to be expected between the summer and fall birds, the status of a number of birds seems to have changed considerably.

1. Pied-billed Grebe—*Podilymbus podiceps.*
   Noted at Steeles Creek August 29, 1918.
2. Loon—*Gavia immer.*
   This species was met with occasionally every summer, especially in the more open water. In 1918 an adult was seen accompanied by several half-grown young.
3. Herring Gull—*Larus argentatus.*
   A very common summer resident. A nesting colony of several hundred on Goose Island, the most isolated of the islands was visited July 3, 1918, when most of the young were hatched and out.
4. Caspian Tern—*Sterna caspia.*
   One seen near Hessel, June 29, 1920; also noted five times near Boot Island from July 14 to 28, 1921.
5. Common Tern—*Sterna hirundo.*
   Very common and nesting abundantly on all suitable islands and reefs.
6. Red-breasted Merganser—*Mergus serrator.*
   This species nests on all of the more isolated islands.
7. Black Duck—*Anas r. rubripes.*
   One seen at Steeles Creek July 5, and eight more on August 1, 1919.
8. Green-winged Teal—*Nettion carolinense.*
   Observed one near Hessel August 11, 1920.
9. Blue-winged Teal—*Querquedula discors.*
   One seen at Steeles Creek August 29, 1918.

10. Lesser Scaup—*Marila affinis.*
Common in early September, 1918.
11. Old-squaw—*Harelda hyemalis*
A solitary male in summer plumage was observed at very close range near Hessel August 11, 1920. The bird seemed to be in good condition and flew readily when too closely approached.
12. Canada Goose—*Branta c. canadensis.*
This species was noted twice, June 25 and July 7, 1920, in the vicinity at Hessel.
13. Bittern—*Botaurus lentiginosus.*
An abundant summer resident.
14. Great Blue Heron—*Ardea h. herodias.*
A nesting colony of these birds in the tall birch timber near the southeast end of Boot Island was visited on July 4, 1921. Twenty-seven nests were counted.
15. Virginia Rail—*Rallus virginianus.*
A Virginia Rail with downy young was seen on the marshy shore of the mill-pond of Hessel August 3, 1919.
16. Sora Rail—*Porzana carolina.*
Fairly abundant in the marshes around Steeles Creek in 1919.
17. Woodcock—*Philohela minor.*
A not uncommon summer resident throughout the islands.
18. Pectoral Sandpiper—*Pisobia maculata.*
Seen rather frequently during August of 1919 and 1920.
19. Least Sandpiper—*Pisobia minutilla.*
Observed once in September, 1918; five seen near Hessel August 1, 1920.
20. Greater Yellow-legs—*Totanus melanoleucus.*
Several flocks noted in August, 1918. One seen at Hessel July 13, 1919.
21. Lesser Yellow-legs—*Totanus flavipes.*
More abundant than the preceding. Flocks seen during August, 1918 and 1920.
22. Spotted Sandpiper—*Actitis macularia.*
Very common and breeding throughout the islands.
23. Killdeer—*Oxyechus vociferus.*
A common summer resident.
24. Ruffed Grouse—*Bonasa umbellus.*
Fairly abundant in the heavy woods throughout the region.
25. Marsh Hawk—*Circus hudsonius.*
Not uncommon.
26. Sharp-shinned Hawk—*Accipiter velox.*
Seen rather frequently during the late summer.
27. Red-shouldered Hawk—*Buteo l. lineatus.*
One seen near Hessel July 14, 1920.
28. Sparrow Hawk—*Falco s. sparverius.*
Quite a number were seen during August every year, but none earlier in the summer.

29. Osprey—*Pandion haliaëtus carolinensis.*
Fairly common.
30. Black-billed Cuckoo—*Coccyzus erythrophthalmus.*
This was the only species of Cuckoo noted. A nest with two nearly fledged young was found June 23, 1919, about a mile west of Hessel.
31. Belted Kingfisher—*Ceryle a. alcyon.*
Common in all parts of the islands.
32. Hairy Woodpecker—*Dryobates v. villosus*
Rather uncommon.
33. Downy Woodpecker—*Dryobates pubescens medianus.*
Common.
34. Yellow-bellied Sapsucker—*Sphyrapicus v. varius.*
A rather rare summer resident.
35 Northern Pileated Woodpecker—*Phlœotomus pileatus abieticola.*
Occasionally seen in the heavy woods.
36. Red-headed Woodpecker—*Melanerpes erythrocephalus.*
Rare. Several full-grown young were seen just north of Hessel August 6, 1920.
37. Northern Flicker—*Colaptes auratus luteus.*
Very common.
38. Nighthawk—*Chordeiles v. virginianus.*
Common.
39. Chimney Swift—*Chætura pelagica.*
Fairly common.
40. Ruby-throated Hummingbird—*Archilochus colubris.*
Rather uncommon.
41. Kingbird—*Tyrannus tyrannus.*
An abundant summer resident.
42. Phœbe—*Sayornis phœbe.*
Noted near Hessel June 17 and 19, 1918, and June 24, 1920. A nest with five eggs was found June 24, 1920.
43. Wood Pewee—*Myiochanes virens.*
Not uncommon.
44. Least Flycatcher—*Empidonax minimus.*
Rather rare. A nest was found near Hessel in June, 1918.
45. Blue Jay—*Cyanocitta c. cristata.*
Rarely seen near the shore. They were not uncommon a mile inland.
46. Crow—*Corvus b. brachyrhynchos.*
Common.
47. Bobolink—*Dolichonyx oryzivorus.*
Rare and very local in distribution.
48. Cowbird—*Molothrus a. ater.*
Common.
49. Red-winged Blackbird—*Agelaius p. phoeniceus.*
An abundant summer resident.
50. Meadowlark—*Sturnella m. magna.*
Rather uncommon.
51. Bronzed Grackle—*Quiscalus quiscula aeneus.*
Fairly common.

52. Purple Finch—*Carpodacus p. purpureus.*
Rather uncommon.
53. English Sparrow—*Passer domesticus.*
Breeding in small numbers in Hessel and Cedarville.
54. Goldfinch—*Astragalinus t. tristis.*
Abundant.
55. Vesper Sparrow—*Pooecetes g. gramineus.*
Fairly abundant.
56. Savannah Sparrow—*Passerculus sandwichensis savanna.*
One seen at Steeles Creek August 31, 1919.
57. White-throated Sparrow—*Zonotrichia albicollis.*
Abundant.
58. Chipping Sparrow—*Spizella p. passerina.*
Common.
59. Junco—*Junco h. hyemalis.*
Common.
60. Song Sparrow—*Melospiza m. melodia.*
Very common.
61. Lincoln's Sparrow—*Melospiza l. lincolni.*
One found dead a mile west of Hessel August 1, 1920.
62. Swamp Sparrow—*Melospiza georgiana.*
Uncommon. A nest was found July 1, 1919.
63. Chewink—*Pipilo e. erythrophthalmus.*
Rather rare and very local in distribution.
64. Purple Martin—*Progne s. subis.*
Abundant. Many large nesting colonies.
65. Cliff Swallow—*Petrochelidon l. lunifrons.*
Rare.
66. Barn Swallow—*Hirundo erythrogastra.*
An abundant summer resident.
67. Tree Swallow—*Iridoprocne bicolor.*
The most abundant swallow.
68. Cedar-bird—*Bombycilla cedrorum.*
A common nester.
69. Red-eyed Vireo—*Vireosylva o. olivacea.*
Common.
70. Black and White Warbler—*Mniotilta varia.*
Fairly common. Young just from the nest were seen on Boot Island July 22, 1921.
71. Yellow Warbler—*Dendroica a. aestiva.*
Common summer resident.
72. Black-throated Blue Warbler—*Dendroica c. caerulescens.*
Very rare.
73. Myrtle Warbler—*Dendroica coronata.*
Fairly common. Nests with eggs were found near Hessel June 23 and 25, 1919.
74. Magnolia Warbler—*Dendroica magnolia.*
Rare.

75. Blackburnian Warbler—*Dendroica fusca.*
Rather uncommon. Young still being fed by the parent bird were seen on Boot Island July 22, 1921.
76. Black-throated Green Warbler—*Dendroica virens.*
Common and nesting.
77. Oven-bird—*Sciurus aurocapillus.*
Fairly common.
78. Water-thrush—*Sciurus n. noveboracensis.*
Rare. A nest was found on a small island about a mile west of Hessel on June 23, 1920. The young left that day. One seen on Boot Island July 26, 1921.
79. Connecticut Warbler—*Oporornis agilis.*
Rare. A pair were seen in a "slashing" on the south shore of Mismer Bay on July 19, 1919. The female had food in her bill and scolded as though there were young nearby. A female was seen near Hessel August 9, 1919.
80. Mourning Warbler—*Oporornis philadelphia.*
Not uncommon in suitable clearings. Young that were still being fed were seen on July 14, 1920, near Hessel, and July 15, 1921, at Boot Island.
81. Maryland Yellow-throat—*Geothlypis t. trichas.*
Not uncommon.
82. Wilson's Warbler—*Wilsonia pusilla.*
One seen in a large flock of migrating Warblers on August 25, 1920.
83. Canada Warbler—*Wilsonia canadensis.*
Fairly common.
84. Redstart—*Setophaga ruticilla.*
A common nester.
85. Catbird—*Dumetella carolinensis.*
Very uncommon. A nest containing one half-grown young was found June 26, 1920, near Hessel.
86. House Wren—*Troglodytes a. aëdon.*
Very local in distribution but a fairly common nester in suitable burnt-over land.
87. Winter Wren—*Nannus h. hiemalis.*
Rather uncommon. A nest with five eggs was found on Boot Island July 22, 1921.
88. Brown Creeper—*Certhia familiaris americana.*
Fairly common. One was seen accompanied by three young on Boot Island July 23, 1921.
89. Red-breasted Nuthatch—*Sitta canadensis.*
Fairly abundant.
90. Chickadee—*Penthestes a. atricapillus.*
Common and nesting.
91. Veery—*Hylocichla f. fuscescens.*
A not uncommon summer resident.
92 Olive-backed Thrush—*Hylocichla ustulata swainsoni.*
A common summer resident.

93. Robin—*Planesticus m. migratorius.*
Common.
94. Bluebird—*Sialia s. sialis.*
A common breeder.

Ann Arbor, Mich.,
December 30, 1922.

NOTES FROM THE TENNESSEE CUMBERLANDS

BY ALBERT F. GANIER

During the latter part of May, 1922, I found myself confronted with my usual annual vacation and the rather burning question as to how and where it should be spent. Having narrowed the question down to making another ornithological reconnoisance in my home state, I applied myself to my maps and, contemplating the lay of the land from the high Alleghanies of east Tennessee to the Mississippi swamps on the west, I finally selected a wild and rugged area, which I had not as yet covered, lying about midway between Nashville and Chattanooga. This area consisted of the high plateau of the Cumberland Mountains which extend through the state in a southwesterly direction and forms a table land, roughly 15 miles wide and 40 miles long, with a nearly constant elevation varying from 1,800 to 2,000 feet above sea level. To the east and to the west it drops off abruptly, some thousand feet and more, and the watercourses which drain the plateau have cut jagged canyons or "gulfs" back into it at a depth of hundreds of feet. Aside from the interesting topography I was attracted by the fact that here were to be found vast unbroken tracts of virgin timber and unsettled country, far from the lanes of transportation, where one might reasonably expect to find still some of the larger and rapidly disappearing birds, such as Wild Turkey, Ruffed Grouse, Great Horned Owl, Northern Raven, Duck Hawk and, perchance, the Eagle.

And so it transpired that on the 21st of May, accompanied by E. M. McNish, a fellow enthusiast, I took the train to Beersheba, in Grundy County, which point is 18 miles beyond the end of a railroad branch line. We were equipped to bury ourselves completely in this wilderness for the two weeks at our disposal and to spend nights by a camp fire when the distance to our base was too remote at close of day. The base to which I refer was

an ancient summer hotel, the popularity of which was at its height in the days when stage coaches were first being displaced by railway trains. From the broad veranda, on the very brow of the plateau, we could look down into the gorge of the Collins River a thousand feet below, and up to the abrupt wooded slopes beyond to "Tother Mountain," on which we were told not even a trail had been worn. Up the gorge as far as the naked eye could see the timber was unbroken and the plateau was marked by a sharp escarpment of cliffs, some of which had a sheer drop of 125 feet. Two miles up, the river split into its three forks, each cutting its way back into the plateau through deep "gulfs" and the waters of the streams came tumbling down over huge boulders, worn round and smooth by the wear of ages. The plateau forest, as might be expected, was thin and open, and for the most part of deciduous trees, though there were also to be found large tracts purely of pine, and other tracts in which a dense deciduous second growth had followed the forest fires. Cedar and pine fringed the plateau's edge, the former hanging over the very face of the precipice of the escarpment. At the foot of these clifts and along all water courses there is a fringe of the picturesque hemlock. The streams are also bordered with dense growths of laurel and holly. We did not cover the cultivated portion of the valley, which began just below our headquarters and extended downstream; had we done so it is probable that we would have added to our list such birds as Bob-white, Sparrow Hawk and Green Heron.

Native hunters accompanied us on some of our more extended tramps and we asked many questions of them, and of others whom we met, regarding certain of the large birds which we felt they would know. And right here, I wish to say that eliciting correct information from a native on such matters is an art which requires experience and carefnl forethonght. Before allowing him to commit himself it is necessary to carefully lead np to his answer, lest he "go off half cocked" with an erroneons reply.

The notes which follow cover the species which were of greatest interest to us and inclnde our experience with the 17 species of the warbler family found to be breeding in this area.

Of the warbler family the Chat and the Prairie Warbler were abundant, the Black and White, Hooded, Pine Black-throated Green, Louisiana Water-thrnsh and Oven-bird were common,

the Cerulean, Kentucky and Black-throated Green were scarce, and the Blue-winged, Northern Parula, Redstart, Worm-eating, Cairn's and Maryland Yellow-throat were rare. The first two species mentioned, the Chat and the Prairie Warbler, were to be found on the plateau in every patch of second growth, which growth springs up quickly here on abandoned fields. A half-dozen nests of the Prairie contained young or eggs which indicated a range of laying dates extending from May 5th to June 2nd. The Black and Whites were, for the most part, feeding young out of the nest, as were the Pine Warblers, Oven-birds and Louisiana Water-thrushes. Two of the dainty nests of the Hooded Warbler were found, one with four fresh eggs on the 22nd of May, and the other, half incubated, on the 29th. The pine groves formed a splendid habitat for the Pine Warbler and although the bird was always to be found no nests could be discovered. Of more than ordinary interest to me was the finding of the Black-throated Green Warbler. The hemlock growth, at the base of cliffs and along the streams, offered the proper habitat, and here they were noted repeatedly feeding their young, showing, too, that it is an early breeder. The Kentucky Warbler was not met until the fourth day of our stay, when one flushed from under our feet on the mountain side, and disclosed its nest containing four incubated eggs. In this section of woods it was later found to be fairly common. The Yellow-throated Warbler was found feeding always among the pine trees on the table land, which habitat is radically different from that in which I had found it elsewhere in the state, i. e., along the sycamore-bordered banks of lowland streams. A nest of this species, with one broken egg, was found in a small pine at the top of a cliff, and nearby a family group were feeding. The Maryland Yellow-throat was conspicuous by its almost entire absence, though conditions were apparently suited to its liking. Returning one day, the 29th, from a long tramp up Savage Creek Gulf, we were attracted by the songs of some Parula Warblers, in a grove of walnut trees near the log house of an old settler. I wondered where they could be nesting, since we had seen but little of the usnea moss, but on nearing the walnut trees we perceived that some of the limbs were dead and that a fair growth of usnea was attached to them. A few minutes watching rewarded us with seeing one of the Parulas fly into a bunch of the moss and no time was lost in climbing to investigate. The nest was found to be incomplete,

the bunch of moss having been opened out in the center and the bottom apparently knit together to hold the lining.

Our most interesting warbler find occurred on the 26th, when some nine miles from camp and walking through thick second growth in a thin plateau woods, we discovered a compact little nest four feet up in a small oak sapling. A female warbler was on the nest and by stalking stealthily we approached to within six feet. She slipped off the nest but later returned and was readily identified as the Cairn's Warbler (*Dendroica caerulescens cairnsi*). The nest was collected with its four fresh eggs, during which time the male joined its mate and protested from a safe distance. The eggs are marked with much smaller specks than those I have taken of this warbler in the Great Smoky Mountains to the eastward. We saw no other birds of this species during our stay at Beersheba so regard it as rare and probably of very local distribution. This breeding record extends the known range of this species to probably what will prove to be its extreme southwestern limit.

The woodpeckers were not a numerous tribe in this area; only one Red-head was seen, while the Red-bellied, Hairy, Downy and Flicker were scarce. The pine groves were carefully scanned for the Red-cockaded but while none were seen, Prof. H. C. Fortner, of Knoxville shot one here in December of 1921. The Brown-headed Nuthatch was also sought among the pines and it was without surprise that none were found. That most picturesque of our native woodpeckers, the Pileated, was met often, and gave us the thrills that always come with close contact with this fascinating bird. I say fascinating, for there is something about him which sets him well apart from all other of my feathered acquaintances and makes him my favorite. I have observed the nesting and home life of many pairs of "Log Cocks" and I added further to my experiences when on the 27th of May a nest was found. The dead pine stub into which the nest had been chiseled, was standing in a small upland swamp and the parent birds were called up close by clapping of hands. After watching them for half an hour and listening to their resonant call, my companion approached the nest stub and hammered vigorously. To our surprise, an apparently full-grown female appeared from inside the cavity and then launched itself forth, followed by another and smaller one. These proved to be young

and their flight had been their first experience on their own wings.

The Wild Turkey and Ruffed Grouse were among the birds which we had hoped to meet but the heavily foliaged woodlands militated against us and we came away unrewarded. Inquiry however among one native after another, made it evident that there was no doubt but that these birds, though now scarce, are regularly killed each winter by hunters. The Grouse, which is known through Tennessee mountains as "Pheasant," is said to be always found near the laurel covered banks of the mountain streams and in this thick evergreen cover it finds refuge from pursuit during the winter. It is said that the fox is chiefly responsible for its continued scarcity.

I have a rather firm conviction that the gathering of negative information regarding a species is of as much value from a distributional standpoint as the recording of actual experience and this will apply to the following remarks on the Northern Raven. I had heard that this rare bird was regularly to be found in this remote and rugged country so I decided that no small part of our time should be spent in verifying these reports. After days of skirting miles and miles of cliffs, "shooting up" the most promising ones and lying prone on some promontory scanning the gorges with binoculars, we came away without sight or sound of a Raven. There is no doubt however that this bird has nested here in the past and that it wanders here now regularly in winter. Hunters readily distinguish it from the Crow, describing its gutteral croak, its carrion eating habits, etc., and admitted that Raven scalps to the credit of local nimrods were few and far between, due to the great wariness of the birds. Even now breeding conditions would seem to be ideal, for the vast areas of uninhabited country and the great extent of high vertical cliffs offer a well suited habitat.

I will conclude these remarks with a few references to the birds of prey. Easily the most spectacular birds of the cliffs are the Turkey Vultures, which make such places their headquarters and soar the day long, up and down the gorge when there is breeze to assist them, and if this be lacking, partake themselves to higher strata, at times almost beyond reach of the eye. When one works his way along the ledges of the cliffs, as we frequently did while searching for nests, the Vultures would often soar down close and look at us with an expression which seemed to say, "if you slip and fall we'll know where to go for

dinner tomorrow." Oddly enough, the Black Vulture was not noted at all though in the central part of the state, about Nashville, it out-numbers its red-headed cousin.

I had entertained some slight hope that in such a rough, remote environment Eagles might still be found, but here again we had to return with negative information. Even the natives would not lay claim to its residence and recalled very few instances where it had been seen or shot during fall and winter. Further west, where many sheep are raised, Golden Eagles are killed and caught regularly in the lambing season and, rather rarely, the Bald Eagle is also taken at this time.

We were rather surprised to hear, from two different and apparently reliable sources, that a pair of Osprey bred regularly on the Collins River a few miles below our headquarters. These reports came to us too late to make personal investigation.

Of the hawks, we found the family rather sparsely represented, possibly due to the mountaineer's deadly accuracy with his "squirrel gun." The Sparrow Hawk to our surprise was not seen at all while of the Broad-winged only two were observed. In the deep narrow gorges we noted three splendid pair of Red-tails and the vigor of the flight of these mountain-bred birds contrasted sharply with those with which I had had experience in the lowlands. On May 27th a nest of one of these pairs was found which was more than ordinarily interesting. We were skirting the base of some high cliffs when suddenly we were greeted by the incessant crying of a Red-tail which beat short circles of flight directly over our heads. It was evident that we were the cause of her anxiety and, a hundred yards further on, she flew to a ledge on the face of the cliff and away again, thereby betraying the location of the nest which could now be readily seen from below. The location was quite inaccessible but, by climbing a nearby hemlock, it was found that the nest contained young nearly ready to fly.

The last species I shall mention was one which had largely been responsible for my selection of the locality for our trip, since my hopes of finding the Duck Hawk had been high and these hopes were not disappointed. On the morning of the 23rd, while sitting on a promontory scanning the cliffs across the gulf with our glasses, a falcon suddenly burst into view, about three hundred yards from us, and began a series of evolutions which for pure grace and utter abandon outdid the flight of any

raptore I had ever witnessed. Presently it was joined by its mate and together they performed nose-dives galore and all but "looped the loop." The ease with which, by means of a few graceful wing strokes, these birds could climb upward after a rocket-like dive, was a source of wonder and a sight I shall always remember. The performance lasted about fifteen minutes when suddenly the birds turned their ever beating wings up the gorge and disappeared. The sight of the pair spurred us to concentrate our efforts upon finding the nest and a great deal of our time during our stay was spent in searching the cliffs for miles around. Nearly a week later, while skirting under a high cliff which formed the dividing wedge between two "gulfs," we came upon feathers and bones of large number and variety, scattered about on the shelf which formed the base of the cliff. By climbing a hemlock, a quarter mile further on, we were enabled to find footing in a cleft of the rock and made our way to the top of the cliff. Thence we walked back to a point immediately above where the feathers had been found and from this point were able to work our way down, from ledge to ledge, to a point 60 feet below the top and as far from the bottom. The ledge, which apparently was used as the nesting site, was found to be quite inaccessible and most of its recessed surface was obscured by a jutting point of rock. The portion which was visible was littered with bones and feathers and was approximately 20 feet long by 3 feet wide. As we sat viewing the situation one of the parent Duck Hawks appeared off the side of the cliff and winged her way uneasily back and forth as though gun shy from some former experience. Lack of proper tackle and the lateness of the date caused us to abandon further attempt to reach the nest, until perhaps another year.

Duck Hawks were seen in three places, so well removed from each other, that we judged we had located as many pair. They are well known to native hunters who call them "Squirrel Hawks" as distinguished from "Chicken Hawks," by which name they know the Redtail. They attest its fondness for poultry but state that squirrels, caught among the tree tops, form its chief prey. They also claimed them to be more common than we actually found them and, if they are right, it is good news about a species that has been almost exterminated in the eastern United States.

Thus ended our stay on the Cumberland Plateau, a region

which so far as I know had never before been thoroughly gone over in an ornithological way, and one which doubtless would yield more of interest to the bird student who could spend there more than the brief time we had at our disposal.

The following list covers the 64 species of birds noted during our stay, all of which except the Waxwings, were no doubt breeding. The notations appended are as follows: A—Abundant, C—common, F. C.—fairly common, S—scarce, and R—rare.

Mourning Dove—*Zenaidura macroura carolinensis* S.
Turkey Vulture—*Cathartes aura septentrionalis* C.
Red-tailed Hawk—*Buteo b. borealis* 3 pair
Broad-winged Hawk—*Buteo p. platypterus* 2 noted
Duck Hawk—*Falco peregrinus anatum* apparently 3 pair
Screech Owl—*Otus a. asio* 1 taken
Black-billed Cuckoo—*Coccyzus erythrophthalmus* nest with 2 eggs

Several "Raincrows" heard every day, perhaps both species present.

Hairy Woodpecker—*Dryobates v. villosus* 3 noted
Downy Woodpecker—*Dryobates pubescens medianus* S.
Pileated Woodpecker—*Phlœolomus p. pileatus* F. C.
Red-headed Woodpecker—*Melanerpes erythrocephalus* only 1 noted
Red-bellied Woodpecker—*Centurus carolinus* only 2 noted
Northern Flicker—*Colaptes auratus lutens* S.
Whip-poor-will—*Chordeiles v. virginianus* S.
Chimney Swift—*Chætura pelagica* F. C.
Ruby-throated Hummingbird—*Archilochus colubris* C.
Kingbird—*Tyrannus tyrannus* only 1 noted
Crested Flycatcher—*Myiarchus crinitus* F. C.
Phoebe—*Sayornis phœbe* A.
Wood Pewee—*Myiochanes virens* S.
Acadian Flycatcher—*Empidonax virescens* F. C.
Blue Jay—*Cyanocitta c. cristata* F. C.
Crow—*Corvus b. brachyrhynchos* S.
Goldfinch—*Astragalinus t. tristis* F. C.
Chipping Sparrow—*Spizella p. passerina* C.
Field Sparrow—*Spizella p. pusilla* F. C.
Bachman's Sparrow—*Peucæa æstivalis bachmani* one noted, feeding young
Towee—*Pipilo e. erythropthalmus* 1 pair

Cardinal—*Cardinalis c. cardinalis*	S.
Indigo Bunting—*Passerina cyanea*	F. C.
Scarlet Tanager—*Piranga erythromelas*	F. C.
Summer Tanager—*Piranga r. rubra*	F. C.
Purple Martin—*Progne s. subis*	3 noted, together
Cedar Waxwing—*Bombycilla cedrorum*	flock of 20, May 22nd.
Red-eyed Vireo—*Vireosylva olivacea*	C.
Warbling Vireo—*Vireosylva g. gilva*	1 pair
Yellow-throated Vireo—*Lanivireo flavifrons*	2 noted
White-eyed Vireo—*Vireo g. griseus*	F. C.
Black and White Warbler—*Mniotilta varia*	A
Blue-winged Warbler—*Vermivora pinus*	1 male heard
Northern Parula Warbler—*Compsothylpis americana usnæ*	several pair
Cairn's Warbler—*Dendroica caerulescens cairnsi*	pair and nest
Cerulean Warbler—*Dendroica cerulea*	S.
Yellow-throated Warbler—*Dendroica d. dominica*	S., in pines
Black-throated Green Warbler—*Dendroica virens*	F. C., in hemlocks
Pine Warbler—*Dendroica v. vigorsi*	F. C., in pines
Prairie Warbler—*Dendroica discolor*	A.
Oven-bird—*Seiurus aurocapillus*	C.
La. Water-thrush—*Seiurus noveboracensis motacilla*	F. C.
Kentucky Warbler—*Oporonis formosus*	S.
Yellow-breasted Chat—*Icteria v. virens*	A.
Hooded Warbler—*Wilsonia citrina*	F. C.
Redstart—*Setophaga ruticilla*	1 only
Catbird—*Dumetella carolinensis*	F. C.
Brown Thrasher—*Taxostoma rufum*	F. C.
Carolina Wren—*Thryothorus l. ludovicianus*	C.
Bewick's Wren—*Thryomanes b. bewicki*	3 pair
White-breasted Nuthatch—*Sitta c. carolinensis*	1 only
Tufted Titmouse—*Baeolophus bicolor*	F. C.
Carolina Chickadee—*Penthestes c. carolinensis*	S.
Blue-gray Gnatcatcher—*Polioptila c. caerulea*	3 pair
Wood Thrush—*Hylocichla mustelina*	F. C.
Southern Robin—*Planesticus migratorius achrusterus*	S.
Bluebird—*Sialia s. sialis*	S.

Nashville, Tenn., October 24, 1922.

RANDOM NOTES FROM ARKANSAS

H. E. WHEELER

(Concluded from page 224, Vol. 34)

Bachman's Sparrow (*Peucæa æstivalis bachmani*)

The range of Bachman's Sparrow must now be extended as far West as Pope County in which territory several sets of eggs have been collected this season. Four is the usual complement of eggs, though three sets have been taken with five. It is quite rare to find a set with a Cowbird's egg in it, due doubtless to the difficulty of their finding a domed nest on the ground and placed in such situations as the Bachman's Sparrow prefers.

The first nests of this species, that is, the nests first constructed in the Spring, are masterpieces of the bird builder's art, but the second nests, when concealment is easier, or when the birds are pressed for time, are often very crude affairs, not always cylindrically shaped or even domed, and very poorly lined. They are then much like the nest of a Bob-white, but smaller and made of finer material.

These second nests are likely to be placed anywhere, but preferably in a clump of saw-briars where the grass grows sparingly. But for all this the nests are not easy to find and the parent birds are always wary. The males seem trained to do their singing at a safe distance from the nest, and to keep their mates posted as to any danger she cannot sense. And she is quite likely to leave the nest on the approach of danger without revealing its location. I have spent many hours afield in observing this species and do not hesitate to call it my favorite of all the species of our Arkansas *avifauna*.

Blue Grosbeak (*Guiraca cærulea*)

In the Summer of 1920 I located one nest of this species with young birds in the neighborhood of Fayetteville, but presuming it was a common species failed to make a record of the date. About the same time it was discovered that it was a rare summer resident in Yell County. But the first nest with eggs which seems to have been located in Arkansas was taken on the University of Arkansas farm at Fayetteville, on May 31st, 1922. Three days after the nest was completed it contained one Blue Grosbeak egg, and two eggs of the Cowbird. It was apparently deserted. Later in the season several nests were reported from Pope County, the records being made by Mr. Charles Miller of London.

Warbling Vireo (*Vireosylva gilva gilva*)

In Arkansas the Red-eyed Vireo seems to be the rarest of this tribe. Contrary to Howell's statement Bell's Vireo is perhaps the commonest of the Vireos, though this statement may need to be revised in favor of the White-eyed Vireo when the survey of the State is more complete. Bell's Vireo is a most sociable bird, singing persistently in many orchards, and loving to remain within calling distance of the farm houses in Central and Western Arkansas. Observations already made indicate the extension of its range to the Missouri and Oklahoma boundaries. Many sets of Bell's Vireo have been taken in Conway (Faulkner County) in the past three years. It is most frequently found nesting in low bushes bordering very small streams or drains, being particularly partial to young plum trees. Among its enemies must be mentioned the little green snake, and among the larger birds the Blue Jay and the Shrikes. On May 26th (1922) I heard a male singing in an apple orchard in Benton County, which is the county in the north-west corner of the state.

The Warbling Vireo has been found in both Pope and Faulkner Counties, but must still be considered a rare species with us. No authentic nesting records have as yet been reported from Arkansas.

Yellow-throated Vireo (*Lanivireo flavifrons*)

Two nesting records for Arkansas may be given. A beautiful nest with four eggs was taken in a ravine near Mulberry, Arkansas, on June 5th, 1921. And this season, on May 19, 1922, a nest with four fresh eggs and an egg of the Cowbird, was taken on the top of a ridge eight miles North of London in Pope county. The species has been noted in Faulkner County, but there are no nesting records as yet.

Pine Warbler (*Dendroica vigorsi*)

The Pine Warbler, hitherto suspected as a bird of the Pine Woods of southern Arkansas, has been observed in the rather sparce pine growths of Pope County. It has also been heard singing in a tall pine in the southern part of Faulkner County in June 1922.

Brown Thrasher (*Taxostoma rufum*)

The breeding area assigned to this species by Howell is the hill counties in the northwest part of the state lying north of the

Arkansas River, where he classes it as a rare summer resident. I have found it to be abundant in this area, as far east as the Iron Mountain Railroad, and a common summer resident in all of the hilly counties south of the Arkansas River as well. I have examined many nests of this species in Benton, Washington and Faulkner Counties.

Conway, Ark.

SOME MICHIGAN BIRD RECORDS

BY WALTER KOELZ

These records have been selected from the notes of several years of bird study. Occasions for the making of observations have been offered only at intervals and no pretension is therefore made of listing the avifauna of any region. The data are presented rather with a view of contributing to our knowledge of the occurrence of certain species in the state.

Holbœll's Grebe—*Colymbus holbœlli.*

This bird has never been met with except on the Great Lakes. Here, the fishermen say, it is not uncommonly taken in the gill nets set in shallow water, and sometimes in the pound nets. Two specimens were thus obtained off the Duck Islands on the Canadian shore of Lake Huron in October, 1919. One was seen off Les Petits Ecrits, Ontario, in Lake Superior on October 4, 1921, and one was taken in the gill nets the same day.

Ring-necked Duck—*Marila collaris.*

A male of this species was shot at Waterloo, Jackson County, in March, 1914. A female was obtained from a hunter on September 5, 1916, at Waterloo. The bird was a young one and may have been bred in the vicinity.

Sandhill Crane—*Grus canadensis mexicana.*

These birds still nest in the extensive marshes of northeastern Jackson County. They arrive from the fifth to the twentieth of March and leave again some time in October. How many individuals remain to breed is not known, but in late summer there are always from twenty to thirty in a flock which roosts every night within a mile of the village of Waterloo. Cranes are extremely wary and are seldom shot.

Wilson's Snipe—*Gallinago delicata.*

This species probably nests every year near Waterloo. Certainly the wing-song of the male can be heard at night in April over the marshes where the snipes would be likely to breed. The nest was found once in a large pasture marsh in May, 1911. The eggs were much incubated and all but one was destroyed in blowing.

Bartramian Sandpiper—*Bartramia longicauda.*

Two pairs formerly nested every year at Waterloo, but in the last two years none have been seen there.

Pinnated Grouse—*Tympanuchus americanus americanus.*

Prairie Chickens occur in varying numbers at Waterloo. In the winter of 1920 a flock of about a hundred wintered near the village. In 1921 only twenty were seen. A few miles farther north this grouse is said to be commoner than the Ruffed Grouse.

Pigeon Hawk—*Falco columbarius columbarius.*

An adult female was caught in a trap at Ontonagon, Ontonagon County, on August 24, 1921. Another was seen for several days thereafter, hunting on the dunes with the Sparrow Hawks.

Acadian Owl—*Cryptoglaux acadica acadica.*

A female Acadian Owl was taken alive in an evergreen at Ann Arbor on March 4, 1919. An individual of this species was seen in a tamarack swamp at Waterloo on December 26, 1920. One was collected on December 27, 1921, at Waterloo and another at the same place on February 15, 1922.

Red-bellied Woodpecker—*Centurus carolinus.*

At least one pair of these birds has lived every year for the last ten years in a certain ash and maple woods near Waterloo. A male was collected there on December 28, 1921. On March 26, 1922, another male was observed excavating a hole in the top of a dead ash.

Yellow-bellied Flycatcher—*Empidonax flaviventris.*

This species is not often recorded but doubtless could be found every year if it were sought at the proper time and in the proper places. It was common at Waterloo in the third week of May, 1918. Two specimens were collected on the 23d. It was most abundant in willow thickets.

Horned Lark—*Otocoris alpestris alpestris.*

On October 16, 1922, a male was shot in Washtenaw County, near the Jackson County line. There were about twelve birds in the flock.

Hoyt's Horned Lark—*Otocoris alpestris hoyi.*

A male specimen of this species was collected from a flock of about twenty-five on November 19, 1922, at Waterloo. Both this and the specimen of *alpestris* are now in the University Museum.

Orchard Oriole—*Icterus spurius.*

A few pairs of orchard orioles nest every year both at Waterloo and Ann Arbor. The birds return each year to the same nesting site.

Evening Grosbeak—*Hesperiphona vespertina vespertina.*

The Evening Grosbeaks have been seen at Ann Arbor every year in February since 1919.

Pine Grosbeak—*Pinicola enucleator leucura.*

On August 15, 1921, a flock of four juvenile birds was seen at Ontonagon. The early date suggests the probability that the birds were reared in the vicinity. Two specimens were collected. Four adults were taken at Waterloo on November 25, 1921. They had been seen by school children about three weeks earlier.

Lark Sparrow—*Chondestes grammacus grammacus.*

This sparrow nests not uncommonly on the sandy hills of the Huron-Michigan divide near Waterloo. In migration it is often quite common.

Lincoln's Sparrow—*Melospiza lincolni lincolni.*

On account of its secretive habits the Lincoln Sparrow must be sought in the densest thickets. Careful persevering search will always reveal it in the middle of May and it is sometimes present in numbers. Specimens were collected May 24, 1917, May 11 and 24, 1918, and May 12 and 14, 1920, at Ann Arbor. On the last mentioned date small flocks were observed. On October 3, 1920, several individuals were seen at Frankfort.

Rough-winged Swallow—*Stelgidopteryx serripennis.*

The Rough-wing occurs abundantly along the Huron River at Ann Arbor. Specimens are taken every year, in fact, are more often taken than the other species of swallows on account of their habit of alighting in low bushes within easy gunshot.

Bohemian Waxwing—*Bombycilla garrula.*

My first record of this Waxwing is of three seen feeding on frozen apples on February 18, 1920, at Waterloo. On the following day about a hundred were found sitting in a tree top in a red oak wood, bordering on a large rosebush swamp. These birds were apparently only the nucleus of a congregation, for during the next few minutes flock after flock arose from the swamp and joined those in the trees till there were fully a thousand birds assembled. Three flocks of about fifty birds each were seen feeding on juniper berries and rosehips on February 21. During January, 1922, a flock of about twenty Waxwings appeared at Ann Arbor and fed for several weeks on the fruit of the highbush cranberry growing in a yard in the city. On February 12 two were collected at Waterloo and it was reported that a flock of about fifty remained in the vicinity until March 18.

Blue-headed Vireo—*Lanivireo solitarius solitarius.*

This is the rarest of the vireos in my observation. One or two are, however, always met with early in May, both in Jackson and Washtenaw Counties. Specimens were collected at Alpena, Alpena County, on September 11 and 15, 1919.

Philadelphia Vireo—*Vircosylva philadelphica.*

The Philadelphia Vireo is usually to be found in some numbers at Ann Arbor every spring. Records of specimens collected range from May 17 to May 21. From August 27 to September 2, 1919, the species was rather common with the migrating warblers at Alpena. It was most often met with in the birches.

Prothonotary Warbler—*Protonotaria citrea.*

A male was collected along the Huron River near Ann Arbor on May 13, 1917. A female was taken on the 26th in the same locality.

Blue-winged Warbler—*Vermivora pinus.*

On May 4, 1919, a male was seen at Ann Arbor and a specimen, presumably the same one, was collected later on the same day.

Orange-crowned Warbler—*Vermivora celata celata.*

This is one of the earliest of the warblers, usually arriving along with

the main flock of the Myrtles. The species was noted for the first time in 1917 when a pair was seen at Ann Arbor on May 23. Of these a female was collected. On November 27, 1917, an adult male was taken with a flock of Tree Sparrows at Waterloo. The bird was apparently healthy and uninjured and appeared to suffer in no way, although the ground was covered with snow and the lakes were frozen. On May 4, 1918, several were seen feeding in the opening poplars at Waterloo. Two of these were collected. One only was taken in 1919, on May 3, though several were seen later. In 1920 they were abundant from May 11 to 13 at Ann Arbor, feeding on the opening buds of the underbrush along the river. In 1921 the species was observed only on one day, namely, the 8th of May, and in 1922 only on the 12th. The Orangecrown is both wary and restless and therefore often escapes observation.

Cape May Warbler—*Dendroica tigrina.*

The Cape May Warbler can always be found in some numbers in the spring with the last flight of warblers. It has been observed most frequently in willows. At Waterloo the species was very abundant from September 18 to 21, 1918, feeding with the Tennessee, *Vermivora peregrina*, on the juices of grapes.

Pine Warbler—*Dendroica vigorsi.*

The Pine Warbler is seldom seen at Ann Arbor. My only records are of one shot on May 6, 1917, of three seen on April 20, 1919, of which one was collected, and of one taken on May 11 of the same year. In September, 1919, it was one of the commonest warblers at Alpena.

Connecticut Warbler—*Oporornis agilis.*

This warbler has been rarely met with in the spring, though it probably could be found if sought for. During the last of August and the first week of September in 1919, at Alpena, individuals of the species were seen every day. Most of them were flushed from the brakes beneath the jackpines, but a few were also found in such situations as are frequented by the Yellow-throat. Specimens were collected on August 30 and September 5.

Bewick's Wren—*Thryomanes bewicki bewicki.*

A male was collected on May 22, 1920, at Ann Arbor, and a female on April 30, 1922, at Waterloo.

Short-billed Marsh Wren—*Cistothorus stellaris.*

This wren nests commonly in the vicinity of Waterloo. It frequents marshes which are too wet to mow, but which are still too dry for the Longbill.

Tufted Titmouse—*Bæolophus bicolor.*

One or two individuals are seen every year at Waterloo, chiefly in winter. A female was collected on November 7, 1921.

University of Michigan.
Ann Arbor, Mich.

NESTING OF THE SHARP-SHINNED HAWK

ALBERT F. GANIER

The generally recognized true summer home of *Accipiter velox* is in the northern states and Canada though it is also reported as a breeder in hilly sections of the south as well. I am unable however to find any published record of a nest south of the Ohio River and the following account of its breeding, 25 miles southwest of Nashville, Tenn., may prove of interest.

On a rocky bluff, overlooking the Turnbull River and the valley beyond, is a fringe of scrub pine averaging a hundred feet in width and about half a mile long. Here, on May 11th, 1919, while vainly searching the pines for a nest of the Pine Warbler, I came across a large nest which I took to be that of a crow. It was located 30 feet from the ground and 6 feet from the top of one of a thick growth of pines and was easily discernable. Choosing a rock I rapped vigorously on the trunk of the tree and to my delight I saw a Sharp-shinned Hawk rise quickly in the air and alight 20 feet away, peering at me and calling excitedly. I lost no time in climbing to the nest, while the one parent bird in evidence kept up her clatter, flying excitedly about and at times darting close to my head. Looking over the brim of the nest I viewed a clutch of four eggs, handsomely blotched with chestnut, which on blowing proved to have been incubated not more than two or three days. The measurements and shape of these eggs are quite uniform. The nest was at least a year old and the old portion underneath was not, as first supposed, that of a crow. It was constructed throughout of oak and pine twigs and was lined with twigs of small size. The eggs lay upon an additional lining of perhaps a dozen pieces of thin oak bark. Sixty feet away, in another pine, was an old nest of similar construction and it appeared not unlikely that this fringe of pines had been the home of these hawks for years. "Pineries," which are very scarce in this region of hardwood, are said by many writers to be a favored habitat of this species during the breeding season.

As I packed the eggs, a Broad-winged Hawk soared close overhead and alit in a nearby dead tree to look me over. Lack of time kept me from making a good search for its nest which no doubt was not far away.

Thinking that possibly another set of Sharp-shins might be

deposited later, in one of the two nests, I visited the place again on May 27th. Both nests were found to be empty and neither of the parent birds were to be seen.

May 11th, of the following year, found me on hand again in hopes of finding them nesting in the pinery. The two old nests were first visited and climbed to but neither had been repaired. A careful search of the pine clad bluff revealed no other nests nor were any Sharp-shins in evidence. Looking further up stream, I discovered another line of cliffs, a mile distant and likewise fringed with scrub pine. Though the hour was getting late I determined to investigate and shortly after my arrival was rewarded by seeing one of the small hawks fly from a pine in which was located a fine nest. I lost no time in buckling on my spurs and making the ascent where, peering into the nest, I saw that one egg had been deposited. Oddly enough, the parent birds did not show themselves while I was in the nest tree. Five days later, on the 16th of May, I returned and climbing to the nest found four handsome eggs. These I packed in my box and after photographing the nest, as best I could from the slender branches above, I descended. On this visit, one of the parent birds was quite pugnacious, darting at me most viciously while I was at the nest. Further search revealed the fact that two old Sharp-shins' nests were in pine trees nearby and this, added to the fact that the eggs were of an entirely different type of markings, made it evident that the pair was not the same as those visited the previous year. In order to ascertain if the birds had laid a second set, I returned three weeks later, but could find no new nests nor were any of the old ones occupied.

During the winter which followed, I determined to carefully investigate the small pineries further up the stream to see if still other pairs were breeding there. Accordingly, on Thanksgiving Day of 1920, I took the train to a station which enabled me, after a 3 mile walk, to tap the river 6 miles above the location of my last Sharp-shin's nest. A careful and leisurely search of all likely localities down the well wooded and sparsely settled river course led me to the conclusion that I had already found the only two pair on this stream and possibly in this section as well.

May of 1921 found me quite as eager as formerly to investigate my little *accipiters*, so on the 17th, I was again in their haunts. The grove of two years before was first well and fruit-

lessly searched and the two old nests, while still in good condition, showed no repairs. Next I wended my way to grove number two and, within 50 feet of last year's nest, I found a new one built like all the others and about 40 feet up and near the top of a slender pine. In fact this pine was so slender that my weight combined with a light breeze, caused the tree to bend and twist in a dangerous manner. The attacks of the one Sharp-shin on hand was most spirited, swooping to within inches of my head every few moments. The eggs were five in number and much like the set of four secured the previous year. Incubation was about three days advanced. As in previous years, I went to some trouble to ascertain if a second set would be laid and six weeks later a careful search of the pineries showed that these birds had found other diversions of greater interest than that of raising a brood.

As the 1922 nesting time came around I decided that I would defer my usual visit until some six weeks later than formerly in anticipation of taking some photos of well developed young in the nest. My trip was made as planned but I regret to say that no occupied nests could be found. Rather careful search for this species during the breeding season, at other likely points in this area, has met with no success and I am therefore inclined to record the Sharp-shinned Hawk as a very rare breeder here and one of probably very local distribution as well.

Nashville, Tenn.

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EDITORIAL

We are heartily in favor of the bird banding movement, and we not only wish it success to the highest degree, but we will do our little bit in the banding work. But we strongly urge that those who do not find it possible or practicable to join the banding game shall not let the work which they can do lapse. Bird banding naturally lends itself to the more intimate study of individual birds and their activities within certain definite limits. Let us not forget that we have hardly yet begun a study of the undsturbed activities of wild birds in their natural environments. Anybody with a little leisure may enter this field and he may do much or little as his training and inclination and time may warrant. But it is all important that the telling of what has been seen shall be in simple language and without additions or subtractions—that is, just as it actually was. A vast deal of the reports of observations that find their way into popular print are padded with all sorts of interpretations. Cut that sort of thing out.

We find, in the January-February, 1923, Condor a comment by the Editor which seems to us well worth quoting here entire. "The *Wilson Bulletin* for December, 1922, contains an article by Ira N. Gabrielson on 'Life Histories of Various Species of Birds,' which well illustrates the point that there is no one, anywhere, who is lacking in plenty of opportunity to contribute to avian natural history. The species dealt with by Mr. Gabrielson are all very common ones in the Mississippi valley. but he brings forward a considerable mass of accurate observational data, some of it, to the best of our knowledge, new, and all of it well deserving publication because of its corroborative worth. Here in the West we often find that scarcely anything of definite value has been published about the behavior of even an abundant species. We cite the *Wilson Bulletin* article as a pattern of what can and ought to be accomplished along this line much more frequently than is the case in the western states."

It need only be added that offerings of matter of this sort are earnestly solicited from everybody.

BIRD BANDING DEPARTMENT

Under the Direction of Wm. I. Lyon, Waukegan, Ill.

WHAT HAS HAPPENED IN NEW ENGLAND

BY S. PRENTISS BALDWIN

Bird banding is as catching as the flu, in New England. It is in the atmosphere, the mental atmosphere.

The history of New England is one of growth of intellectual atmosphere; the growth of science; and, with it, the study of the science of ornithology, until there are now more ornithologists per square mile, I almost said per acre, than in any other part of the country.

And as the scientific ornithologists lead in the study of birds, so they lead in educating the public to the importance of birds to agriculture, to the absolute necessity of protecting birds to preserve the food supply; and at the same time they arouse the interest of great numbers of persons, who become lovers of birds and who, if less scientific, are fully as enthusiastic in making friends and companions of our wild birds.

But we are not reviewing the history of the last hundred years, nor even that of the desultory bird banding in New England of the last fifteen years. We speak only of the rapid strides of bird banding as a method of study and protection of birds, since systematic trapping has been introduced.

Almost two years ago a business man of Boston wrote asking questions about trapping and banding birds; and during the spring of that year (1921) he followed instructions carefully and tried out trapping upon a country place in Cohasset, Mass.; and his eyes opened to the wonder and joy of this method of learning the birds.

Have you, reader, had this experience? Have you held a little, lively wild bird in your hands, petted him, and talked to him, and given him a numbered bracelet so as to identify him? And you discover that he is not much frightened? And that he comes back to your traps again and again? And brings his children when they come off the nest? Why, my old friend, Brown Thrasher No. 19247, has been coming back to me every year, for eight years.

This business man, Laurence B. Fletcher, and found something of great value, an absorbing, fascinating hobby; and with the health and energy so characteristic of him, he started out to encourage others to try this hobby

Mr. E. H. Forbush, the State Ornithologist, so well known for his life work in bird protection, Dr. Glover M. Allen, and Mr. Charles L. Whittle, well known scientific ornithologists, became actively interested; and in August, 1921, a group of fifty or more came together at the Boston Society of Natural History to hear the story of these methods.

Then followed a real canvass for converts to bird banding, with cordial backing of the ornithologists about Boston, and through Mr.

Fletcher's energy; the sending of circulars to Bird Clubs and Audubon Societies and bird lovers throughout New England, and a kindly exposition of it in the newspapers during the autumn of 1921.

Finally a meeting was called for January, 1922, to organize the New England Bird Banding Association. This meeting was held at the Boston Society of Natural History and was attended by nearly three hundred bird enthusiasts, who came from far and wide points in New England, and some even from Canada.

It was a wonderful audience to talk to, for every one was in earnest, and came there to learn all about the fascinating new methods of study: there were traps on the platform to illustrate the methods of trapping; and a live Brown Thrasher to show how quiet and well behaved a bird can be when he knows he is in gentle, firm hands. Many persons stayed long after the formal program to ask questions; and few, if any, left the hall without having registered as enthusiastic members of the Association.

And this happened only a year after Mr. Fletcher first began to ask, by letter, "what is this bird banding?"

Another year has now passed, and I have just been to the Annual Meeting of this Association in Boston, and what a growth there has been!

Again the audience came from all over New England, now active bird banders, of some experience, and the Secretary reports that there are four hundred of them; and that another hundred or more are in process of becoming members and bird banders.

A few items from the Secretary's report will give some idea of this one year of growth: 2500 letters answered; circulars sent out over the United States and Canada to the number of 20,000; letters or circulars to all members of the American Ornithologists' Union; to Bird Clubs, to all individuals who have written and published anything on birds in the last five years; notices to Coast Guard Stations and Lighthouse keepers to watch for banded birds; and already many members have been contributing interesting notes of returned birds to the bulletins that are issued bi-monthly by Mr. Forbush, State Ornithologist of Massachusetts.

"But," I hear someone say, "not all these members will have the patience and persistence to produce scientific results." "No," I reply, "but every one of them will become an active bird protectionist; and some are already obtaining interesting results which will have a cumulative value with the passing of years."

One interesting feature of bird banding has developed in New England, in that it has proved a wonderful aid to the Audubon Societies in their work for the protection of birds; because the bird bander, of necessity in his field, protects birds from their enemies, and provides shelter and feed for them; that is part of the bird banding game.

It is significant that the first President of the New England Bird Banding Association was Mr. Forbush, who is not only State Ornithologist of Massachusetts, but is Field Agent of the Audubon Societies, and has for many years been a leader in bird protection in New England. And such men as Ernest Harold Baynes and Herbert K. Job, who devote

their lives to the preservation of our wild birds, are high in their praise of bird banding and what it can do for the birds.

Another interesting fact has developed in New England, as it has elsewhere; I refer to the cordial support of bird banding by the scientific ornithologists.

As to this, it is significant that many of the members of the Nuttall Ornithological Club have become active members of the New England Bird Banding Association, and, in fact, nine of the twelve officers of the Association are members of the Nuttall Club.

The Nuttall Ornithological Club, the oldest and most conservative organization of scientific ornithologists in this country, has even spread upon its minutes a formal indorsement of bird banding.

The amateur, coming into bird study through bird banding, and hearing so much of it, may obtain an exaggerated view of it, and think it is some marvelous new idea which is going to overturn the whole science of ornithology and perhaps invalidate the work of the past.

But the ornithologist sees bird banding as simply a tool, a new method, which in no sense displaces the methods of the past, but which enables him to add new kinds of facts to the knowledge of birds; and to build further upon the splendid foundations already built by the other methods of study.

To the amateur, however, these methods open extraordinary opportunity to make real progress and read discoveries in the science, since there is so much opportunity for each bird bander to work out new forms of traps, new kinds of baits, and new methods of observation of bird habits.

Sportsmen have found bird banding to produce most interesting and prompt results, since so many game birds are shot in the season and are reported from various points. Members of duck clubs are finding it more interesting to trap and band ducks and trace their migration routes, than to shoot them; but the two forms of sport may be carried on together without injury to either.

We should not close this account of the remarkable growth of the New England Bird Banding Association without some reference to a second great regional association which has been recently formed, the Inland Bird Banding Association, which will organize this work through the great central area of America, from the Appalachians to the Rockies, and Canada to the Gulf. Persons in this area should apply for information to The Inland Bird Banding Association, Wm. I. Lyon, Secretary, 124 Washington Street, Waukegan, Ill.

BIRD BANDERS AND THE BIRD CENSUS

Bird banding and the making of censuses of breeding birds are, or should be, closely allied, since persons who operate banding stations are in close touch with the birds breeding in their respective neighborhoods. For this reason the Biological Survey is asking its bird banding coöperators to assist further by using their knowledge in making bird censuses.

Censuses of breeding birds have yielded some very valuable and interesting data and are a much more important method of investigation

than most people realize. They furnish our only means for the solution of certain problems concerning the distribution of bird life and its fluctuations. Exact information is needed to show how much birds have increased as the result of protective measures in their behalf, and what species have been most affected or need further protection. Bird censuses will furnish such data. Many more counts should be made each year, in order to accumulate more material for study. Studies thus far made have been confined to the most general phases of the subject, since in any attempt to solve a problem lack of sufficient data has proved a handicap.

The general plan of this work is to count the birds breeding on some selected tract of 40 to 80 acres, which represents as nearly as possible the average conditions for the locality in regard to the proportion of woods, cultivation, etc. The repetition of the census year after year on the same area is of as much importance as the selection of a special kind of land on which to make it. Moreover, in order to obtain any comprehensive knowledge of the bird life of the country as a whole, a bird census must take into account all sorts and conditions of land.

It is not necessary to find a place where birds are abundant in order to make a bird census; any convenient place is good, but preferably one where conditions are not likely to change materially for several years. In the past there has been too great a tendency to make the counts only where birds were especially plentiful. While counts of the birds breeding on a small area are not to be despised, the chief objection to them is that such tracts usually represent places that are virtually sanctuaries, where birds have been encouraged by means of special planting and feeding to nest abundantly. Obviously, such places can hardly be considered as representative of the bird population of any large area or section of the surrounding country. They are, however, interesting as examples of the result of special protection.

In view of their special qualifications for this work, all bird banders should give further coöperation in the studies of the Biological Survey by making bird counts. Detailed instructions and blanks for reporting the counts, together with return envelopes requiring no postage, will be furnished upon request addressed to the Biological Survey, U. S. Department of Agriculture, Washington, D. C.

M. T. Cooke.
U. S. Biological Survey.

NOTICE TO BIRD BANDERS

We desire to publish from time to time general district reports of the progress of the Bird Banding work. In order to do this it will be necessary for each Bander in the Inland district to send to Wm. I. Lyon, Waukegan, Ill., a general report of the totals of the number of birds handled, banded, returns, repeats, trapped, or immature, with any unusual events. These should be sent in by the first of May, August, November and February, so there may be time to make general averages and comparisons. The next report wanted will be from the first of this year to May 1st. Help us make this department interesting.

A letter addressed to the nearby Bird Banders whose addresses we had at the Waukegan office brought a fair number of reports to begin our attempt to gather some general data that would show results of the Bird Banding work for last year. The reports from thirteen banders show that they placed 3106 bands on birds covering ninety-four species, and the number covering the total birds handled was over 8000.

M. J. Magee, Sault Ste. Marie, Mich., had unusual success with the Purple Finches, placing two hundred and fifty-four bands on this species which, with others, made his total of bands placed at three hundred and forty-four. Mr. Magee's success with the Purple Finches puts him way in the lead on this species; he also had an unusual experience with a male red-winged blackbird, which came to his feeding station on November 1, 1921, and stayed all through the winter until April 23, 1922. On November 24, 1922, a male red-winged blackbird came to his feeding station and seemed perfectly at home, so it was concluded that he was apparently the same one that was there last year, and was observed daily feeding at the station with the Evening Grosbeaks until Christmas day. The next day one of the male Grosbeaks came back to the station with his leg hanging by a thread. The Redwing was never seen again, and apparently some one had shot at the flock. It seems to be very unusual for a Red-wing to winter so far in the North, but Mr. Magee's tempting food supply must have been the cause.

Mrs. R. C. Flannigan, Norway, Mich. Norway is close to the Wisconsin line in the mining district of the Northern Peninsula of Michigan: to Mrs. Flannigan goes the honor of placing the first band on a Hummingbird, also Bohemian Waxwing, and she is in the lead in banding Chipping Sparrows, Phoebe's and Chimney Swifts, 65 bands placed.

Herbert L. Stoddard, Public Museum, Milwaukee, Wis., has a new title—Inland Bird Banding Association Treasurer. Before the new duties were thrust upon him he had made a trip to Bonaventura Island at the mouth of the St. Lawrence River and banded 215 Gannets and Murres, which is the record for those species.

Mr. Stoddard is making plans for banding and study of the Bank Swallow in his campaign for the coming season.

Rev. George Roberts, Lake Forest, Ill., was a member of the American Bird Banding Association, and has been doing a small amount of banding for a number of years. He had one of the first returns with a Rose-breasted Grosbeak. Last year he banded the most Cowbirds out of the total of 95 bands placed by him.

W. S. McCrea, Chicago, Ill., placed 124 bands on 80 Herring Gulls and 44 Forster's Terns while on the small island in the northern part of Lake Michigan. A gentleman fishing at Traverse City in September noticed a gull apparently in trouble and went to its assistance and found that it was caught on a fish bait with one hook in the beak and another in the foot. These were removed and the bird flew away, seemingly all right. Two other returns came back, one from the coast of Georgia and the other from north central part of Texas, about one thousand miles apart in their winter homes.

Fred N. Hadley, Whiting, Ind., leads the list in banding Cuckoos last

year. This year he has changed to the Catbirds and Flickers; he also added a number of swamp birds to the total species, including 6 American Bittern and 6 Green Herons. Total number banded, 240.

Donald H. Boyd, Hobart, Ind., whose trapping station is just south of the southern end of Lake Michigan, and but a short distance from Whiting, placed fifty-one bands. Mr. Boyd works with Mr. Hadley of Whiting, in maintaining a Trapping Station in the Whiting Public Park, and as a matter of an experiment they took a number of White-throated Sparrows, trapped in Whiting, to Hobart, where they were released, in an effort to see if they would return to the same trapping station, but they were not successful. They both have been giving considerable attention to the study of individuality in birds.

Samuel E. Perkins III, Indianapolis, Ind., tied Mr. Stoddard, with 215 bands placed, and leads the list with 51 Robins, and is also high man for Mourning Doves, Brown Thrashers, Swallows, and Orioles. We know he must have been busy catching the two Killdeer chicks, as we had to run some to get two Piping Plover chicks that are on our list. Mr. Perkins' work covers twenty-nine species of birds, which means considerable time and effort.

Aldred S. Warthin, Jr., Ann Arbor, Mich., has carried on banding work during the winter months with a small trap cage at a feeding shelf on a second story window, which should be a strong argument against those who plead lack of space.

Another station was maintained about a half mile distant by Mr. J. VanTyne, and some interesting results were observed at both stations. A number of Chickadees, Downy Woodpeckers and White-breasted Nuthatches were banded. Five Chickadees banded by Mr. VanTyne have frequently been taken at Warthin's feeding shelf and three of his were taken at Mr. VanTyne's station; only one Downy crossed over, and no Nuthatches, showing Chickadees range farther in search of food. Total birds banded 51. We regret not having the VanTyne report for comparison.

F. W. Rapp, Vicksburg, Mich., leads the list on Purple Martins, with 35, and placed 58 bands.

Mr. Rapp got a Coot in some way and discovered that it had a poultry band around its neck. The band had number 30 stamped in the front and on the back was scratched the name Afton Reed. Who is Afton Reed? We want him for a Bird Bander.

Arthur D. Moore, South Haven, Mich., had a hard time getting bands, which delayed his real work for last year, but in spite of that he had an unusual record with a window box trap in catching a Wood Thrush, also a Carolina Wren, which was afterwards found dead and sent to Professor Barrows at Michigan University, who reported that it had been recorded about twelve times in that state. Thirty-three bands were placed.

Miss Kathleen M. Hempel, Elkador, Iowa, banded 221 birds, had 79 repeats and 21 returns. She is far in the lead in percentage of returns and in banding Woodpeckers, Nuthatches, and Chickadees. We hope she will explain methods for the benefit of other banders. She also leads in number of Blue Jays banded.

Waukegan, Ill. The station at Waukegan, Ill., has not missed a day, while they they were at home, in trapping at least one bird, in over two years. This steady persistent work is bound to bring results, and is well shown in the results of 1922, which shows a total of one thousand three hundred and eighty-four birds banded, and a total of over five thousand handled. In the total handled, besides those banded, were over twenty-four hundred repeats, seven hundred and fifty House Sparrows, and there were twenty-three returns, including some of those for the third time.

The main comment to be offered on the total record is on the Sparrow family. Twelve species were taken, as follows: Song Sparrow, 81; Chipping, 1; White-throated, 395; White-crowned, 33; Tree, 42; Field, 7; Lincoln, 35; Vesper, 1; Swamp, 4; Harris, 1; Savannah, 1, and Fox, 17; adding 750 House Sparrows destroyed, and 268 Juncos brings the total to 1,636. The Song Sparrows prove themselves to have the greatest possibilities for results in trapping. Out of 40 chances, 8 returned, and 1 for the third time.

The next surprise came from the Tree Sparrows. Last season we were successful in banding 46. This season, so far, we have had 8 returns, and according to last year's record we banded the last Tree Sparrow about April 15th, which would give us a month and a half more to get records of returns from last year's banding.

The White-throated Sparrows present another peculiar phase. All told we have banded 761, and up to date have not heard from a single one. This would bring up the question as to whether birds in through migration remember the feeding spots of last year, or whether they wish to avoid being retrapped.

The White-crowned Sparrows are present at our traps generally in a period from five to seven days.

Lincoln Sparrows were trapped in greater quantities than before, but with no returns.

During the fall migration Hermit Thrushes were around our yard in numbers for about ten days, giving us an opportunity to band 37.

The new woodpecker trap, which was made to trap the birds as they climb up the tree, was successful in taking 22 Brown Creepers, 1 Black and White Warbler, 2 Yellow-bellied Sapsuckers, and 2 Hairy Woodpeckers, which shows that we may expect more from this kind of a trap in the future.

Working along the shore of Lake Michigan, we were successful in running down 27 Spotted Sandpipers and 2 Piping Plover chicks. We found the method of driving the fledglings out of the small bushes more successful than hunting for nests.

Last year a Fox Sparrow stayed through the entire winter. This year an apparent immature male White-throated Sparrow came to the station in December and was taken every little while up to February, at the time this article was sent in for the press.

A few totals taken at random of the district show 189 Robins, 88 Catbirds, 57 House Wrens, 49 Purple Martins, 106 Grackles, 50 Red-Chipping Sparrows, 503 White-throated Sparrows, 194 Grackles, 50 Red-

winged Blackbirds, 97 Blue Jays, 39 Mourning Doves, 51 Brown Thrashers, 316 Juncos, and 208 Gannets. These totals show which are the leaders among the ninety-four species

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February 20, 1923.

Note:

It seems that Mr. Thomas E. Musselman of Quincy, Ill., is now at the trapping station of Mr. S. Prentiss Baldwin in Thomasville, Ga., and will have charge of that station during February and March; Mr. Baldwin will also be there during March.

Mr. Musselman is a graduate of the University of Illinois (1910) and received the degree of Master of Arts in 1913, upon a thesis based upon a study of Bird Migration. Since then Mr. Musselman has been a frequent contributor upon bird topics to the State Audubon Society Magazine, and to Country Life, and to other magazines and papers. Besides writing on the subject, Mr. Musselman has given many lectures on bird topics, illustrating them with lantern slides from his own pictures.

That Mr. Musselman will make most interesting use of the six weeks at his trapping station is evident from his telegram, just received by Mr. Baldwin, and describing the first day at the Station. The telegram is as follows:

Received at Cleveland, O., Feb. 20, 1923.
From Thomasville, Ga.

S Prentiss Baldwin,
Williamson Building, Cleveland, Ohio.

First morning fifty-seven birds fifteen with last year's bands. I captured five Quail, one Mockingbird, one Thrasher. Please send assortment of larger bands. I like Inwood, and the Clarks * have been wonderful to me. Glad to see you on the third.

(Signed) T. E. Musselman.

* Mr. A. B. Clark is manager of Inwood Plantation, which belongs to Mrs. J. C. Morse of Cleveland, this being the place where Mr. Baldwin has been trapping and banding since 1915.

IMPORTANT ANNOUNCEMENT

METHOD OF HANDLING BIRD BANDING RECORDS

As announced in Bird Banding Notes No. 4, it has been found necessary to make a change in the method of handling bird banding records in order to reduce the clerical labor in the Biolgical Survey. We plan therefore to return to the earlier method of using cards for reporting to the Bureau all newly banded birds.

Hereafter whenever bands are forwarded from the Bureau, a set of official, numbered cards will be sent also. The numbers on these cards will correspond to those on the bands, and in the case of particularly active permanent stations the name of the station and of the operator will also be filled in. For each new bird banded, it will then be neces-

sary for the operator to fill in only the name of the bird, its age and sex (if known), the date, and any pertinent remarks.

These cards should not be retained longer than one month after banding, but may be forwerded to the Biological Survey more frequently. Records of migratory game birds banded during the open season should be sent in promptly (daily if possible), as returns are frequently reported on them only a few hours or days after banding. If any repeats have been secured before the cards are forwarded, they should be entered in the "Record of Recovery" section, so that the record for each banded bird will be up to date when the card is sent to the Bureau.

Addressed envelopes and franks will be supplied as before, for use without payment of postage. When only five or six cards are sent at a time, they may be inclosed in a small envelope. The envelope will also hold ten or twelve cards if care is taken to tie a piece of string both ways around it. Larger consignments should be made into packets, both sides protected by stiff cardboard, and securely wrapped and tied. Franks should be used on such packages, and for safety, should be under the string.

It is expected that each operator will preserve a complete report of the activities of his station (including all records of "repeats") and forward a copy to the Biological Survey at least twice a year. These reports may well be of a seasonal nature and should be compiled during the slack periods that usually follow the spring and fall migrations. They should show, first, the complete history of each banded bird as observed at the station, and second, a brief account of the general conditions that have prevailed during the period in question. Schedules will be furnished by the Biological Survey for these reports, or each operator may use sheets of his own preference.

With this system in operation it is believed that the bird banding work will admit of unlimited expansion; and through the constant interest and energy of our coöperators, the Biological Survey feels confident that a great quantity of new and important data will be secured.

FIELD NOTES

JANUARY NOTES FROM MADISON, WIS.

The following list of birds was compiled in the vicinity of Madison, Wis., during January, 1923, by the undersigned. In all cases, save that of the goshawk, observed twenty miles away from the city, and the pileated woodpeckers, the birds were within six miles of the city limits. The census represents the result of seventeen special trips to favored localities, three of the trips involving major portions of separate days. In consequence of the varied types of country covered, and the large amount of time devoted, it may be assumed that the list is representative and fairly exhaustive.

Weather conditions during the month were extremely favorable for observations: the average daily temperature was 5.3 degrees above normal, ranging between 2 and 42 above zero; the precipitation was slightly below normal, as was the average wind velocity; there were no heavy storms; and the slight amount of snow on the ground, from two to four inches, made it easy to cover distance. But the relatively mild, open winter was the greatest contributing factor to the unusual length of the list. Theoretically, perhaps, only one other type of winter could produce a longer one, a winter that favored this region from as many points of view as the present, but that found heavy snows in Canada, and that gave rise to prolonged storms in the north, which exhausted themselves at the edge of the Madison district and brought in their wake such boreal birds as the crossbills, the grosbeaks, the northern owls, etc. Few of these northern types were seen in the region this winter. Where a bird in the appended list has any special interest attached to it, I am indicating the numbers observed. The total number of species was fifty.

30 American merganser.
1 Mallard.
1 Black duck.
8 American golden-eye.
Canada goose (113 observed feeding together in a field of winter rye).
2 Wilson snipe.
Bob-white (6 coveys observed).
4 Ruffed grouse (all observed separately).
Prairie chicken (2 coveys seen, one with 52 birds, the other of about the same size).
17 Mourning doves (in one flock)
4 Marsh hawk.
1 Goshawk (20 miles north of Madison).
4 Red-tailed hawk.
1 Krider's hawk (a mature specimen observed three times and studied carefully under favorable conditions).
3 Rough-legged hawk.
3 Long-eared owl.
3 Short-eared owl.
2 Barred owl.
1 Screech owl.
3 Great horned owl.
Hairy woodpecker.
Downy woodpecker.

2 Pileated woodpecker (25 miles north of Madison).
3 Red-headed woodpecker (not common this winter).
6 Red-bellied woodpecker (more common than usual).
1 Flicker.
3 Horned lark.
Prairie horned lark (one flock of 100).
Blue jay.
Crow.
7 Cowbird (one small flock wintering on the same farm at which the Mourning doves were observed).
Red-winged blackbirds (2 flocks of 20 and 125 birds seen near Madison, 2 others of 50 and 75 seen within 20 miles).
Meadowlark (1 flock of 12 birds, 1 separate bird).
Purple finch (very common).
Redpoll (observed on four occasions, the largest flock containing 20 birds).
Goldfinch (common).
Pine Siskin (fairly common).
Lapland longspur (1 flock of 10).
Tree sparrow.
Junco.
1 Song sparrow (1 other observed by William Schorger).
2 Cardinal.
2 Bohemian waxwing (associated with a flock of Cedars for ten days).
Cedar waxwings (common).
4 Brown creepers.
White-breasted nuthatch.
1 Tufted titmouse. (From one or two other reports about the state it would seem as if these birds were extending their range.)
Chickadee.
Golden-crowned kinglet (seen only in one stand of conifers, where they were common).
3 Robin.

In addition to the above Mr. William Schorger observed two bluebirds early in January, and Mr. Bert Laws a mature bald eagle at his place on the Wisconsin River. It appeared at intervals of two or three days.

Warner Taylor.

The University of Wisconsin,
February 10, 1923.
Madison, Wis.

NESTING OF THE BLUE-WINGED AND WORM-EATING WARBLERS IN TENNESSEE

In giving the southern breeding limit for the Blue-winged Warbler (*Vermivora pinus*), the A. O. U. Check List draws the line through Kentucky and does not mention Tennessee. It therefore afforded me considerable surprise and pleasure when on June 8th, 1917, I found a nest of this species seven miles north of Nashville, near Madison Station. The nest was found when the parent bird fluttered from the ground a few feet ahead of me and a brief search revealed the nest with its five fresh eggs. It was located in a rather open woods in an area which is partly

hilly and partly rolling. The nest was built at the foot of a small buckbush and was composed of fine bark and leaves with a lining of tendrils. The exterior was enveloped with leaves of the red oak, the stem ends of which projected upward and curled over the top in such a way that the sitting bird was well hidden.

The year following I made a special search for these birds and succeeded in locating three more nests within a short distance of the first. Of these, the first was found on June 4th and held three incubated eggs. The bird sitting on this nest would allow one to touch her before taking flight. On June 6th another was found which contained two eggs and which was later robbed by a snake. The last nest was located on June 12th at which time it held four fresh eggs. The last three nests mentioned were quite similar in location and construction to the first one described. During subsequent years I have not had opportunity to make careful search for additional nests but have heard the birds in the vicinity each summer.

In a paper on "Breeding Warblers of Tennessee" in the September 1916 Wilson Bulletin, Mr. A. F. Ganier writes of the Blue-winged Warbler as follows: "On June 24th, 1916, an immature bird was taken from a group of three, on a hillside, on July 1st another immature was collected and again it was noted on July 14th. These records may mean that this species will prove to be fairly common." The four nesting records above recorded apparently bear out his supposition.

In the paper referred to, sixteen species of warblers are recorded as breeding near Nashville and among them are the Worm-eating Warbler (*Helmitheros vermivorus*), which he had found feeding young in June. On May 7th, 1922, the writer, in company with Dr. George R. Mayfield, established a definite nesting record for this species by locating a nest containing five fresh eggs, on "the ridge" about twelve miles north of Nashville. The nest was located in a densely wooded ravine and was composed entirely of dead leaves except for the lining which was of fine red tendrils.

Edgar M. McNish.

Nashville, Tenn., Dec. 10, 1922.

SOME FURTHER IOWA OWL NOTES

I wish to record the occurrence of the Great Horned Owl (*Bubo virginianus virginianus*) in the vicinity of Winthrop, Buchanan County, Iowa.

On November 5, 1922, a cold and disagreeable fall day, I was tramping along Buffalo Creek, hoping to perhaps find something of interest in way of bird-life.

While passing through a grove I was surprised by an enormous brown form which slid from its position in a tall tree and quickly made away to the north. My fleeting glimpse of the bird bespoke an Owl, but of the species I could not be certain. It was easy to make out the Owl's whereabouts, for when it flew a flock of a dozen Crows and a Blue Jay sighted it, and in a frenzied mob they gathered about the low ash tree in which it had alighted and turned the otherwise peaceful air into a bedlam of hoarse yells and screams.

After a brisk walk I was among the rioters. The Owl flew to another low tree a short way off, but the excited band of tormentors followed persistently. I soon got near enough to the bird to see that it was a Great Horned Owl. My dog, who had been my companion on the walk, now came running up and I concluded that there was where my study of the Owl would end; but instead, contrary to my expectations, she ran up to the tree (unwittingly, of course), where the bird perched, and nosing around in the grass beneath, held the Owl's attention so very closely that I was able to get behind a tree only a short distance from the bird. The sun was shining, and from my vantage point I could study the bird to my heart's content; if I had been a collector I could have shot the bird with no trouble at all. After a time the Owl flew away and the flock of Crows which had flown away when they perceived my approach, took up the chase and were soon out of sight in the distance. This was my first record of the Great Horned Owl in this locality.

The occurrence of the Great Horned Owl in this vicinity is rare because there is a total lack of the dense woods which afford the seclusion this species loves. Buffalo Creek is bordered by a very narrow belt of trees and there are no heavy woods nearer than those along the banks of the Wapsipinicon River, several miles to the west, and those in the section near the village of Monti, about five miles south of my home here near Winthrop.

While I was so cautiously stalking the Owl I had another surprise. I was much startled by a sharp twitter in front of me, and glancing in the direction of the sound I saw a Woodcock (*Philohela minor*) making rapidly away; I was able to see all of its markings plainly. This was another new record for me. This species does not seem to be very common in Iowa.

Miss Wilda M. Griswold of Winthrop, has given me some notes on the very interesting performance of a Screech Owl (*Otus asio asio*), which she observed during the winter of 1921-22. The cage of the Griswold family canary hung in one of the windows of their home and in the winter evenings a Screech Owl would come and repeatedly fly against the window, either attracted by the light within or in an attempt to catch the bird it saw between itself and the light. The latter supposition is the more probable, I believe. The Screech Owl's peculiar practice was continued with so much persistence, Miss Griswold says, that it was necessary to pull the curtain down, because the canary was badly frightened. The Owl persevered in its unsuccessful quest on a great many nights during the winter; the pulling down of the shade seemed to be the only remedy at hand.

When motoring on the country roads at night, especially in the fall months, I often see the Screech Owl, his plump little body being plainly outlined by the beams of the headlights as he perches on some roadside telephone wire. He is the only Owl that we, in eastern Iowa, may call rather common.

Fred J. Pierce.

Winthrop, Iowa, Dec. 7, 1922.

NOTES FROM HILLSBORO, OHIO

Canada Goose—Four have wintered in the eastern part of the county, arriving about the first of December. These formerly common migrants have changed their migration routes in recent years, very few ever being seen here.

Wilson Snipe—Sportsmen report seeing this bird throughout the winter season. December 25, 1922, one at Berryville, Ohio; December 27, 1921, three at Berryville, Ohio; December 25, 1920, one at McCoppin's mill.

Mourning Dove—Two droves of 100 each January 20. Droves of five to twenty hover around feeding grounds throughout the winter.

Black Vulture—A drove of Black Vultures have taken up their permanent abode on the George Carlisle farm several miles from Hillsboro. During the summer the drove is increased by the Turkey Vulture. A few of the Turkey Vulture remain throughout the winter. The Turkey Vulture is a permanent resident in small numbers in several parts of the county.

Rough-legged Hawk—On account of depredations on his chicken yard a farmer set his trap and caught one of these hawks on December 2, 1917. Two had been in the vicinity about a month. During the months of December, 1922, and January, 1923, two have been in the western part of the county.

Red-headed Woodpecker—A larger number than usual have remained here during the winter.

Crow—From all over the county is reported a great increase in the always large number of Crows wintering here.

Mockingbird—This bird is not a rare summer resident, nesting twice during the season, and if either is destroyed will build the third nest. In all nests found in this section a layer of moss is placed between the coarser twigs and inner lining. The one staying in the vicinity this winter does not wish to share his tree with any other bird. The smaller ones vacate when he flies in and if the larger linger he puts them to flight by force.

Robins—Very common this winter. Droves of about 2000 passed over January 8, 11 and 20 about 3:30 p. m.

Bluebirds—More common this winter than usual.

KATIE M. ROADS.

Hillsboro, O., Feb. 5, 1923.

BOB-WHITE INCREASING

It is pleasant to note the rapid increase in the numbers of the Bob-white in Iowa. For many years this bird was almost exterminated, but, thanks to a long closed hunting season, it has become abundant in all regions. Every roadside willow hedge, thicket, and bushy place seems to have its flock of Bob-whites in the winter season. The sight of a flock (which is frequently large) of the little fellows huddling in the snow is an interesting one, and is especially pleasing in a state where resident game birds are not numerous. Everywhere there are reports of the growing abundance of Bob-white. Sometimes, though, a farmer will say that some hunter has "cleaned up" his flock of "Quails" that he had long been

watching on his land, usually near his cornfield. The farmer appreciates and loves the Quail, and these illegal killings are very unfortunate.

Under the present Iowa law, the Bob-white is protected until 1927. In my paper on "The Prairie Chicken in East Central Iowa," published in the June, 1922, Wilson Bulletin, I stated that the Iowa law also protected the latter bird until that year This is an error. The closed shooting season on the Prairie Chicken ended in 1922 and the bird may now be hunted during the three fall months of each year.

Winthrop, Iowa, Jan. 23, 1923. Fred J. Pierce.

SOME MIGRATION NOTES FROM OBERLIN, OHIO

This is the 28th year that careful records have been kept of the migrations of the birds at this station. A study of the records for this period brings out clearly the fact that at least the early migrants are profoundly influenced in their movements by temperature. Without going into detail on this point now, because I hope to present a study of the facts in the near future, it may suffice now to tell very briefly what effect the past two open winters have had on the first movements of these two years. The first movement in 1922 was on February 22, when crow, robin, bluebird, killdeer, song sparrow, Canada goose, meadowlark, bronzed grackle, red-winged blackbird, mourning dove, and greater scaup duck appeared. In this first "wave" there were mixed together all of the species of the first and second groups except the northern flicker and the towhee. The mild winter had made it possible for most, if not all, of the members of the second group to spend the winter well north, probably in Ohio, and the first warm spell caused them to move with the species of the first group. There was no other movement until March 5, when northern flickers and towhee came. The third movement began on March 12, and therefore is later than the limits of this note.

In 1923 the first indication of migratory movements occurred on February 23, when the crows began to forgather. This was followed on the 25th by the arrival of robins, bluebirds, meadowlarks, and song sparrows, and possibly cowbirds, because they were found on the 28th in considerable numbers. On the 2d killdeers arrived, and on the 3d bronzed grackles, northern flickers, red-winged blackbirds, rusty blackbirds, and fox sparrow, and on the 4th mourning dove, mallard, and canvas-back. Again the mixing of the second and first groups, with a smattering of the third group species can only mean that the mild winter made it possible for many birds to spend the winter well north of their usual range. Reports from down state bear this contention out. The most severe weather of the winter occurred just prior to the time of the first movement. Lynds Jones.

Oberlin, Ohio.

Mr. Roscoe J. Webb of Garrettsville, Ohio, sent to the editor a specimen of the Myrtle Warbler that had been killed by a cat in Windham, Portage County, on December 7, 1922. Mrs. H. J. Alford of Windham, sent the specimen to Mr. Webb with the particulars of its capture. This is the latest date for this warbler for northern Ohio.

PUBLICATIONS REVIEWED

Birds and Mammals of the Stikine River Region of Northern British Columbia and Southeastern Alaska. By H. S. Swarth.

This paper is a report upon the results of an expedition sent out by the Museum of Vertebrate Zoölogy of the University of California which penetrated the Alaskan interior for a hundred miles or so. This expedition was made possible by the generous support of Miss Anne M. Alexander, who has financed similar explorations on previous occasions. The present trip was undertaken for the purpose of studying the distribution of birds and mammals and of supplementing the collections of coastal species already possessed by the Museum.

About thirty pages are devoted to a geographic and ecologic account of the region traversed. An annotated list of mammals takes up nearly forty pages, and the remaining hundred pages are devoted to an annotated list of birds.

The account of the Bohemian Waxwing is especially interesting. A number of nests were found, some of which, with eggs, were collected. Not the least of value in this account is the historical summary of previously discovered nests of this species. A detailed description is given of the juvenal plumage, which very closely resembles that of the adult, except that the underparts present a somewhat streaked pattern that lacks the black throat patch. A beautiful colored frontispiece of two young Waxwings illustrates these facts.

A flight song of the White-winged Crossbill is described. One nest of the Pine Siskin containing three eggs was found. The author presents a full discussion of the systematic relationships of the Juncos of this region, which we would judge is a very scholarly treatment of the subject.

For the most part the notes relate to distribution, though in a few cases results of the examination of stomach contents are given. The paper is illustrated with numerous well-executed halftones. The high quality of workmanship in the typography and printing of this series of publications deserves notice and commendation.—T. C. Stephens.

The Proceedings of the Oklahoma Academy of Science, Volume II, 1922.

This volume contains several short ornithological articles, among which the following may be mentioned: A note on the incubation period of the Dickcissel, by Ed. D. Crabb. A Third Christmas Bird Census, by Mrs. M. M. Nice. The Sykes Alaskan Expedition of 1921, by Ed. D. Crabb; this paper gives a list of all specimens collected, including seventy birds. A note on the economic status of the Bald Eagle in Alaska, by Mr. Crabb. This volume is somewhat handicapped by the omission of a table of contents. The preceding volume I of the same periodical contains about eight ornithological notes, including one rather full article on Mourning Doves by Mrs. M. M. Nice.—T. C. Stephens.

Extracts From the Diary of Otto Widmann. Transactions of the Academy of Science of St. Louis. Volume XXIV, No. 8. Issue December, 1922.

The titles are "Nesting Habits of the Purple Martin," "How Young Birds are Fed," "Where Martins Roost," "The Crows' Winter Roost at St. Louis," "Our Birds in Winter," "Chaetura pelagica (Linn.) Chimney Swift," "Birds of the Ozarks," "Reminiscences of a Visit to Branson and White River, Spring of 1906."

The second and third papers are reprinted from Forest and Stream, 1884, and the third frof the Ornithologist and Oologist, Feb., 188. The first paper bears the date of "Old Orchard, Mo., January 24, 1890," while the rest are papers which have been read before the St. Louis Naturalists Club at various times. The gathering together of these papers under one cover is a happy plan, and we hope that others will follow in regular procession. Mr. Widmann has been an indefatigable worker in the field, and no one has a keener sense of proportion nor a happier literary style. Scientific facts are so woven into the tale that they stand out prominently and yet without any loss of interest on the part of the unscientific reader. L. J.

We are pleased to note that more than half of the formal matter in the January Auk is given to intimate studies of the life history of birds. In the first article Alfred O. Gross makes a distinct contribution to the life history of the Black-crowned Night Heron, illustrated with well chosen pictures. We are also pleased to note that this paper is to be concluded. Charles A. Urner follows with "Notes on the Short-eared Owl" in which additions are made which add to our knowledge of this species. Mrs. Margaret Morse Nice concludes her paper on "A Study of the Nesting of Mourning Doves," which all the way through shows rare discrimination in the interpretation of facts discovered as well as showing how much remains to be learned by a careful study of one of our most abundant species. We hope that these papers, along with others that might be cited, are an indication that students of birds are beginning to turn to a study of the activities of birds rather than the compilation of lists merely. Lists are necessary, to be sure, until we have covered the whole land in exploratory studies, but we can see no reason why such lists may not be accompanied with some notes, however few they may be, on the activities of the species noted in the lists. There is no field of inquiry that is wider open than this one.

Publications of the Wilson Ornithological Club

The complete series consists of the following publications:

The Ornithologists and Oologists Semi-Annual, three volumes, 5 numbers.

The Wilson Quarterly, one volume, two numbers.

The Journal, two numbers.

The Wilson Bulletin, three numbers in the first volume, two in the second, six numbers in each of the next four volumes, and four numbers in all succeeding volumes including the current volume–34.

Out of print numbers of this entire series are as follows:

Semi-Annual, Vol. 1, No. 1; Vol. 2, both numbers.

The Wilson Quarterly, both numbers.

The Wilson Bulletin, Vol. 10, No. 5; Vol. 16, No. 1.

The available numbers, to Vol. 32, will be sold at the rate of one dollar a volume.

— ADDRESS —

THE WILSON BULLETIN

SPEAR LABORATORY, OBERLIN, OHIO

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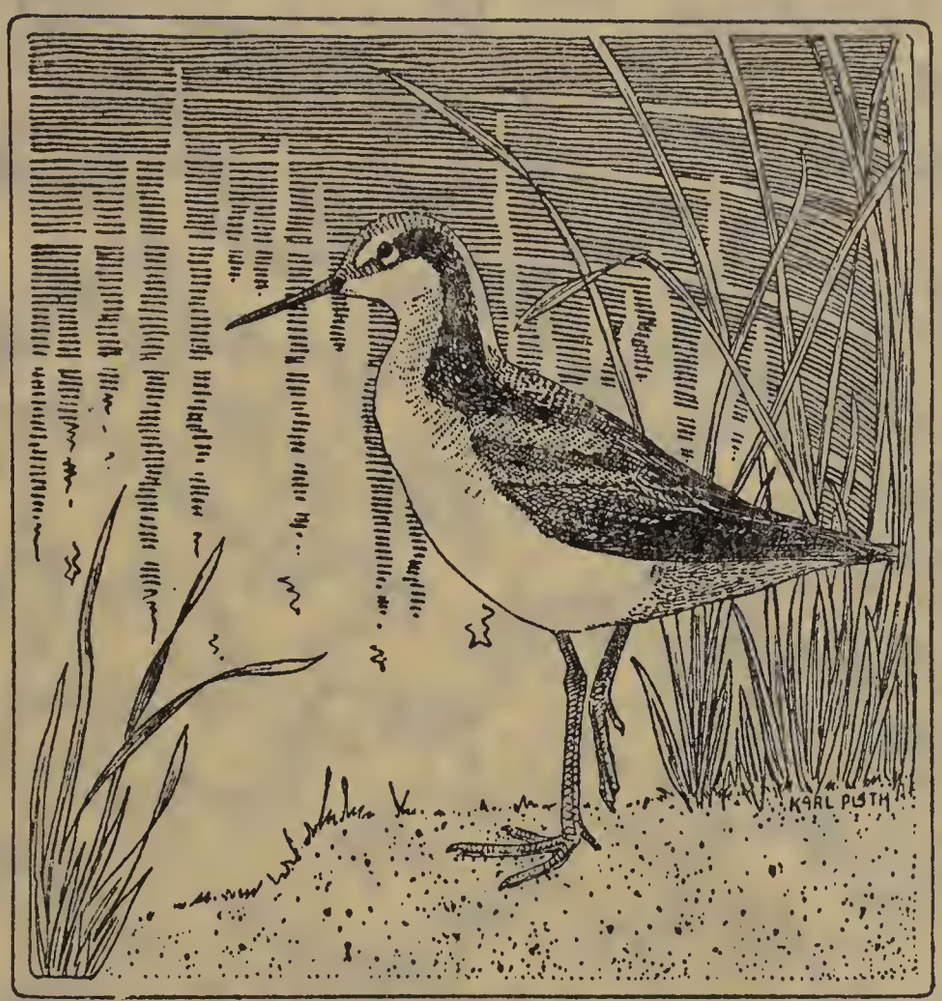
THE WILSON BULLETIN



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OLD SERIES VOL. XXXV. NEW SERIES VOL. XXX.

RANDOM NOTES ON THE FEEDING HABITS OF SOME KENTUCKY BIRDS

BY BEN. J. BLINCOE

In reviewing my Kentucky field-notes I find a number of interesting records relating to feeding habits of various birds. The greater part of this material so well corresponds with published accounts of feeding habits that it is deemed best to prepare for the present paper mainly such notes as deal with unusual incidents connected with feeding habits, though some well known habits are mentioned. The observations, from which these notes result, were made principally about my home, at the time, Cherry Hill Farm, near Bardstown, Nelson County, Ky.

The notes deal with five species, namely: Red-bellied Woodpecker, Purple Finch, Cedar Waxwing, Tufted Titmouse, and Carolina Chickadee. No attempt is made to give a complete account of the feeding habits of these birds, nor are these notes intended to bear on the economic status of the birds under consideration.

Feeding habits of our birds are none to well known. By dissection the food of a bird may be ascertained, but it is for the field observer to learn the details of how birds secure their food, and to note their peculiarities and characteristics while feeding. Perhaps these random notes will stimulate others to make more detailed studies along this line.

Red-bellied Woodpecker — *Centurus carolinus*

This species was one of the common resident birds about Bardstown. Being rather more noisy than other woodpeckers while feeding, its food habits were more frequently observed in the field than were the feeding habits of other members of its family. According to F. E. L. Beal, (Food of the Woodpeckers of the United States. Bulletin 37. Biological Survey.) a little more than two-thirds of the food of this bird consists of veg-

etable matter, and it is the smallest consumer of insects of the woodpeckers east of the Rocky Mountains.

The red-bellied woodpecker is a heavy feeder on beech and oak mast. In the early fall its incessant "cha-cha-cha" was a familiar sound in the beech woods about Cherry Hill. I never observed it in the act of storing beech mast though on numerous occasions red-bellied woodpeckers were seen carrying beechnuts to a considerable distance from the trees from which they were secured. Very likely many of these nuts were wedged in cracks or crevices for future use. However, in the fall of 1913, a red-belly was seen storing the acorns from a Chinquapin Oak (*Quercus acuminata*) which stood over the wood-pile at Cherry hill. The acorns were carried, one at a time, to fence posts ranging from twenty-five to three hundred yards distant from the oak tree, and were generally wedged in a crack in the post, usually near the top. One acorn was placed in a cavity caused by decay, and laid loosely on the rotten wood. As far as my observations went, but one acorn was deposited in a single post. Doubtlessly, the hoarding of mast by this bird is a common practice though it has received little attention from ornithological writers.

On May 4, 1920, I happened to notice a red-bellied woodpecker as it flew from the ground carrying the larger part of a walnut shell, which was taken to a large limb of a sugar maple. There the nutshell was held in its claws as the bird clung to the limb in true woodpecker fashion, and I could see that it was dipping its bill into the nutshell, evidently eating the kernel. A short time previous to this occurrence I had been cracking walnuts on the spot from which the woodpecker was seen to arise from the ground with the walnut shell between its mandibles. There was an abundant walnut crop in the autumn of 1920, the greater part of which remained on the ground in good shape until the following summer, a circumstance likely due to the mild winter. On April 26, 1921, a red-bellied woodpecker was seen to fly from a stump with part of a walnut shell and alight on a tree nearby. On approach it flew away out of sight, still carrying the nutshell between its mandibles. About fifteen minutes before this woodpecker was seen, I had been cracking walnuts near the stump on which I noticed the red-belly with the nut. Although these two incidents are hardly substantial evidence that the red-bellied woodpecker feeds on walnut kernels

under natural conditions they suggest the possibility of such a food habit. By wedging a walnut firmly in a crotch or crack, it seems possible that the red-bellied woodpecker would be able to drill through the shell and secure the kernel, but it is with considerable apprehension that I make this statement.

On the 2nd of March, 1917, snow covered the ground; while passing near the corncrib at my home my attention was attracted by a red-bellied woodpecker clambering over the outside of the building. The cause of its presence on the crib was quickly apparent. Pushing its bill between two boards it drew out a grain of corn, flew to a peach tree close by, and straightway made a meal of the kernel of corn. On another occasion, while working in the crib, a gentle tapping on the outside of the building was "spooks" until a harsh "cha-cha" announced the author of the mysterious knocking. At irregular intervals the tip of the woodpecker's bill appeared through the cracks between the boards, and finally it secured a grain of corn that lay on a part of the frame work of the building. It was frequently observed at the crib all through that same spring. During the exceptionally severe winter of 1917-18 a red-bellied woodpecker came frequently to my feeding station, but was so unpopular with the other birds that none of them would remain as long as the woodpecker was about. Crushed corn was eaten, though sparingly, and the bird kept up a continual outcry as if complaining for the want of something better.

Cherries both sweet and sour grew at Cherry Hill. In season both varieties were eaten by the red-bellied woodpecker, but the sour fruit seemed to be most relished. A tree standing in the corner of the garden farthest from the house, each year in the fruiting season, was more often visited by this species than any other cherry tree on the place. A fence post, directly under the branches of the tree, was invariably used as a "lunch counter," that is, on plucking a cherry, red-belly would drop to the top of this post to eat the fruit. All through the cherry season it was a common sight to see a red-bellied woodpecker, with a cherry between its mandibles, flying from toward the orchard to a woods a quarter of a mile distant. On May 17, 1921, I happened to notice a red-belly in a cherry tree that stood near the house. After a time it pulled a fruit and flew a short distance to a small dead sugar maple. The bird was not more than ten feet from the window through which I was observing its actions. I could see

plainly that it wedged the cherry behind a piece of loose bark and, bit by bit, devoured it. The actions of this bird clinging to the tree trunk, its tail pressed against the bark as it deliberately devoured the cherry, strongly suggested the movements of the yellow-bellied sapsucker in the act of extracting the sap from the holes which it drills for that purpose.

Throughout the summer the wild cherry (*Prunus serotina*) ripens and is an important element in the food of several species of birds at that season. In August both adult and young red-bellied woodpeckers fed on this wild-fruit which seldom failed at Cherry Hill.

On the morning of October 6th, 1916, while passing through the orchard, I observed a red-belly as it flew into an apple tree further on in the orchard. Approaching this tree rather cautiously, I came upon the woodpecker in the act of eating a hole in the side of an apple. For about two minutes the bird seemed unaware that it was under observation and continued to peck at the fruit. Then, as if realizing that it had been discovered, it suddenly flew off to the woods. Climbing the tree, I found that the apple on which it had been working bore a decayed spot near the stem and just at the edge of it, but entirely in the solid part of the apple, was a hole about half an inch across, and three-quarters deep. The bottom of this cavity contained several tiny holes, markings made by the woodpecker's mandibles. In the early winter, frequently, a red-belly would be seen feeding on an apple that remained on the tree, though decayed and practically dried up.

Although more common in the woods, the red-bellied woodpecker was not an uncommon bird in Bardstown, being frequently seen in street trees in the business section of the town. Possibly it will gradually become accustomed to the advances of civilization as its natural haunts are but slowly being destroyed in that locality.

Purple Finch — *Carpadacus purpureus purpureus*

The purple finch occurred irregularly as a migrant in the Bardstown region. It was abundant in the winter of 1919-20, the only time that I found it at all common at that season. During that winter some few notes were made regarding its feeding habits which may be of interest.

On February 16, 1920, I observed a small flock of purple

finches in a cedar thicket and one individual was under observation for several minutes as it fed on the cedar berries (*Juniperus virginiana*). The skin was removed from the seed before the bird swallowed it, the skin dropping on the snow-covered ground below. The snow under the tree on which the purple finches were feeding was strewn with the small particles of skin of cedar berries. Red cedars were apparently as attractive to the purple finch in winter as were the blooming elms in the spring.

The first week of March, 1920, was cold and blustery with several inches of snow on the ground. On the 8th I passed through the cedar thickets that had furnished winter food for the purple finch but now the trees were entirely stripped of berries. In the underbrush at the foot of a hill sheltered by a beech woods, I found a flock of purple finches. I noticed, in the snow, signs of some bird having fed on the berries of the buck bush (*Symphoricarpos vulgaris*) and as I had never seen any bird feed on the berries of this bush I became much interested and remained nearby to learn, if possible, what bird it was. Soon several purple finches flew into the brush near me and two of them alighted on clusters of berries on the buck bushes, and were seen to peck at the berries for sometime, apparently eating many of them. This shrub is one of the most common and widely distributed woody plants in uncultivated lands about Bardstown, but the large crop of berries produced annually seem to be almost wholly untouched by birds.

On March 12, 1920, I saw three or four purple finches on the ground in a woods searching among the fallen leaves. I could not determine on what they were feeding, but this is the only instance of ground feeding of this species that I have ever observed.

Whenever present, the purple finch is closely associated with the blooming elm trees in the spring. On numerous occasions I have observed it feeding on the buds and blooms of both the common elm (*Ulmus americana*) and the slippery elm (*U. fulva*). To my mind, one of the most delightful treats of the spring migration in the Bardstown region was the return of the purple finch. Usually appearing when the odor of blooming elms seems to blend with their wild, delicate warble, the purple finch is the embodied spirit of a fair March day.

The spring of 1920 was very backward. Slippery elms were still blooming late in April. On the 27th a dozen or more purple finches were observed feeding on the bloom of several small slippery elms growing along the bluffs overlooking the Beech Fork river. Four birds from the flock flew down to a smooth sumach (*Rhus glabra*) near where I was standing and for some time all four of them fed on the sumach seed.

Cedar Waxwing—(*Bombycilla cedrorum*)

Having a reputation as a large feeder on fruit and a small consumer of insects, I was greatly interested to find, some years ago, a flock of cedar waxwings that seemed to be feeding entirely on insects. This occasion was on the afternoon of May 14, 1916. I chanced to be at the Beech Fork River, a mile south of Cherry Hill, and on my arrival I noticed quite a number of small birds "flycatching" over the river. A flock of flycatchers would have been a novelty indeed, so with keen anticipation I approached the river bank where the birds were perched in the sycamore trees and willow bushes that lined the river shore at this point. I was surprised, though not disappointed, to find that my "flycatchers" were cedar waxwings.

There were, possibly, a hundred individuals in the flock, but it was very difficult to determine their exact number owing to the constant flying from place to place of many birds at the same time. While perching they sat very erect, assuming the pose of flycatchers, and like flycatchers they chose points of vantage from which to fly out after a passing insect. In action they appeared almost as expert as phoebe or wood pewee, catching many insects at the first attempt, while others were pursued with much turning and twisting on the part of the waxwing. Ten to twenty birds were always on the wing in the act of pursuing and capturing insects. They were so very alert, or so craved insect food, that frequently two birds gave chase to the same victim, and several times three birds pursued the same one.

Most of the waxwings were well up in the trees and capturing insects thirty to sixty feet in the air; a few, however, were stationed atop some willow bushes growing in the water and these caught low flying insects. After making a capture the waxwings frequently returned to the point from which they flew, but more often other favorable perches were chosen, and frequently a bird flew entirely across the river after making its

catch. It was impossible to keep a particular individual under observation for more than two or three minutes as they were continually shifting their positions, and so many birds on the wing at one time was often very confusing when attempting to follow up the movements of a certain bird.

I could not determine the identity of the insects caught but it could be seen that different size insects were captured, and it seemed that every insect, regardless of species, was pursued immediately on being perceived by the waxwings. It was likely that the larger part of the insects caught were small diptera as there were many insects of that order in flight. After watching these birds for nearly an hour, apparently they pursued insects with as much vigor as when I first arrived at the river, and their numbers had not decreased. There was no fruit, either wild or cultivated, anywhere nearby and as the waxwings kept to the sycamores and willows, directly on the river bank, it appeared that insect food, taken on the wing, was the only thing that attracted them at the time.

A week later, May 21, 1916, I visited the same place and found about twenty-five waxwings engaged in "flycatching" as actively as on the other occasion, a week previous. However, on visiting the river on May 28, 1916, expressly for the purpose of determining if the waxwings were still lingering there, I found that they were not, and they were not seen again during the summer along the river.

On a number of occasions in late summer and early fall cedar waxwings were noticed "flycatching" from the tops of the apple trees in the orchard at Cherry Hill Farm. Several times in the fall I have seen individuals of a flock capturing insects from the tops of red cedars (*Juniperus virginiana*) while others of the same flock fed on the cedar berries. At all times while capturing insects on the wing, the attitude of the waxwing while perching was strictly a characteristic flycatcher profile. In a hawk-like position, with crest erect, the attitude of the flycatching waxwing was quite a contrast with the seemingly indolent attitude assumed by the cherry-eating waxwing.

During the apple bloom season of 1916, cedar waxwings were continually present in small flocks among the blooming apple trees in the orchard at Cherry Hill Farm. I had supposed that they were among the apple blossoms for the purpose of catching

insects as were the orioles and warblers, but watching them closely on one occasion I saw that they were pulling the petals from the apple blossoms and swallowing them. Nearly every bird in the flock was eating apple bloom petals and those that were not sat lazily among their companions as if they could eat no more. I observed the same thing on several subsequent occasions, and it appeared each time that the waxwings fed solely on the apple bloom and in no way molested the hordes of insects among the blooming trees.

Sour cherries were sometimes eaten by the waxwings at Cherry Hill but usually only at the time that the fruit was just beginning to ripen. The actual loss from the depredation of waxwings was altogether insignificant as far as the cherry crop at Cherry Hill was concerned. The wild cherry (*Prunus serotina*) was much eaten in season by this species whenever it was present, though frequently it was absent during late summer at the time wild cherries abound. The frost grape (*Vitis cordifolia*) seemed to be a favorite food in the fall and as long as they remained on the vines in winter. Hackberries (*Celtis occidentalis*) were also eaten in winter and as they remained on the trees well into the spring they were probably eaten at that season.

Catbird — (*Dumetella carolinensis*)

The catbird has a wide reputation as a cherry and strawberry depredator. During the cherry season at Cherry Hill it was one of the most regular visitors to the cherry trees but the actual loss of cherries eaten by birds was not noticeable. The first few strawberries were usually punctured by catbirds but by the time the berry season was well started the berries were seldom molested.

On June 12, 1920, while standing near a large sweet cherry tree in the yard at Cherry Hill, I noticed a catbird perched on a large knot on the trunk of the tree seven or eight feet above the ground. In the center of the knot there was a small hole, caused by decay, from which emerged a steady stream of termites, or "flying ants," on which the catbird was feeding. It snapped up the insects just after they took wing and were still within a few inches of the hole from which they flew. During a minute's time it caught at least twenty of the insects, every one in the air, but the bird sat on the knot and turning its head to conform

with the direction in which the termites flew, snapped them up as dexterously as a flycatcher would have taken them on the wing. Too near approach, on my part, caused the catbird to fly.

Tufted Titmouse (*Baeolophus bicolor*)

During twelve years residence at Cherry Hill Farm I had never seen any species of bird eat cultivated grapes, of which there were many on the place, until August 9, 1921. While standing under an arbor covered with Concords on that date, a titmouse flew from the orchard nearby and alighted among the grapes only ten of twelve feet from me. Flitting among the grapes it soon pulled one from a bunch and quickly swallowed it; after a few seconds it pulled another grape and swallowed it as quickly as the first. Then, as if entirely satisfied, it flew off to the orchard to join several of its kind who were busy among the orchard trees.

Carolina Chickadee (*Penthestes carolinensis carolinensis*)

I had never seen any bird feed on the seed of the redbud tree (*Circes canadensis*), nor can I find any published account of such an occurrence. Therefore, the following incident may be worth recording: On August 23, 1921, I was in a small thicket where redbud trees were numerous. Hearing a peculiar noise that somewhat resembled the grating of a squirrel's teeth on the surface of a hard nutshell, but realizing that it came from some other source, I curiously walked toward the direction from which the noise seemed to come. I had not moved more than ten steps before I discovered the origin of the unknown noise. In a low redbud tree, on which there was an abundant crop of the dry seed pods, three chickadees were busily pulling the pods and extracting the seeds. The breaking of the dry pods was the curious noise that I had heard, and as the three birds were continually working at the pods the crackling noise was likewise continual. Apparently, these three chickadees fed on the redbud seeds with appetite as, for several minutes, my presence very near them did not disturb their work. It was plainly seen that they were not merely nibbling at the seeds, but were swallowing them as fast as they could be removed from the pods.

Covington Pike, Dayton, Ohio
February 4, 1923.

SUMMER BIRDS OF CAPE COD COMPARED WITH THOSE OF MISSOURI

BY GORDON ALEXANDER

One accustomed to the more varied and abundant bird life of the Missouri river territory cannot fail but be impressed by the relative poorness of the summer bird fauna of Cape Cod both in number of species and number of individuals. This statement of course does not apply to birds typical of the sea-coast, gulls and terns especially, but as a general statement it is true. That was the impression I gained from observations made in the summer of 1921. With the exception of that one summer, my own experience with birds has been gained in Missouri. From the second week in June to the fourth week in August, 1921, I was a member of the collecting crew of the Marine Biological Laboratory at Woods Hole, Mass.; and in such capacity often had the opportunity to make interesting observations of birds. This was, however, only incidental to the regular collecting work, which involved marine invertebrates and fishes, principally.

The territory of the report includes the "heel" of the Cape—the east shore of Buzzards Bay north to its head, at Onset, west along Vineyard Sound to Waquoit Bay; Marthas Vineyard and Nantucket Islands; and the Elizabeth Islands. For my basis of comparison in Missouri I have selected the Missouri river country in the central part of the state, for I am most familiar with that region. One may ask with good reason what may justify the comparison of such widely separated localities. To this let me say that the separation in miles is not the basis of the comparison. Other factors are involved, — factors which might just as easily be present in adjoining territories. The facts discovered may not lead to an absolute generalization. They only furnish data that may be interpreted as links in the chain of ecological factors that conspire to make one fauna different from another. And ecology not only yields information to the theoretical student of organic evolution, but has an economic value as well.

At Woods Hole, I was continually struck by what seemed to me the poverty of the territory from the standpoint of a bird student. This was partially due to my lack of familiarity with the territory, but surely not altogether. I have the more reason to doubt that since Mr. Henry W. Henshaw, who was at Woods

Hole a part of the summer, expressed that opinion regarding the Woods Hole region. His basis for comparison was the territory about Washington, D. C. And with such extensive experience as his back of his statement, I could not help but feel that there was some foundation for my impression.

In searching for an explanation of this condition, I have come to the conclusion that the most potent factor involved is the relative acreage of land under cultivation. The land along the Missouri river is largely in farms. There is very little waste land. On the other hand, Cape Cod is not an agricultural territory. Much of the land is overgrown with straggly pitch pine, and the soil is not valuable when tilled. The pitch pine is not good bird-cover, and very little good bird-cover will grow where this awkward, angular tree flourishes. Of course all of Cape Cod is not such a barren waste as one sees in the dune region of northern Indiana, but there is enough of this kind of territory to consider in a study of birds, nesting birds especially. The deciduous trees on the mainland have suffered extensively from the gypsy and brown-tail moths, but I saw no evidence of damage on any of the Elizabeth Islands. Nevertheless, bird life was nowhere abundant, although some few species were much in evidence. It is to be noted that there were fewer insectivorous birds in numbers of individuals than there were birds of other food habits. From this fact I believe that that scarcity was due, not to poor bird-cover, but to the lack of insects for food.

Cape Cod is representative of the eastern transitional or Alleghenian life zone. Missouri, at least that portion concerned in this comparison, is eastern Upper Austral, or Carolinian. The differences between the two zones are not great, and there is naturally much overlapping. Furthermore the comparison is not altogether that of zones. Cape Cod is, I believe, hardly typical of the Alleghenian, and yet it is just as truly of that zone as is the larger portion of Wisconsin. Both Cape Cod and Missouri are in the so-called humid area, but the humidity is decidedly greater on the Cape. This difference can not be of great significance, however. Aside from the fact that the areas are in different life zones, as I have said before Missouri has a much larger acreage under cultivation, relatively speaking as well as actually, than has Cape Cod. Then too, that which is "cultivated" on the Cape is largely in the nature of "land-

scaped" estates which may provide bird houses but seldom brush piles for the birds. These facts largely explain the apparent scarcity of summer birds on the Cape, while the differences in zone explains the distinctive characters of the two faunas.

I could not help noticing the absence of certain species and the comparative scarcity of certain others which I had expected to find abundant. During the entire summer I saw no Nighthawks, Bluebirds, Brown Thrashers, or Blue Jays. Robins were not common, nor were Field Sparrows. On the other hand, Song Sparrows were everywhere. They were very abundant. Barn Swallows were very common. Purple Finches were common, as also Maryland Yellow-throats and Chestnut-sided Warblers. The Song Sparrows, Purple Finches, and Chestnut-sided Warblers are typical of the Alleghenian zone.

Two groups of birds seemed to be particularly uncommon. A Marsh Hawk on Nantucket Island was the only bird of prey I recorded all summer. A Bald Eagle was recorded by a student at the Laboratory, from Buzzards Bay, that being the only record other than my own of which I heard. The woodpeckers were also rare. Of these I saw one each of the Downy and the Flicker — not another individual. I can make no suggestion in explanation of the rarity of the hawks. (Regarding the woodpeckers, see annotations under species.) The summer of 1921 may have been exceptional from the standpoint of this observed rarity but my observation was certainly true for the period of time covered.

The appended list includes the forty-nine species that I observed with five added that were only recorded by students at the Laboratory. A summer list for Missouri (reflecting the same amount of observation) should show some sixty-five or seventy species nesting. It is to be remembered, too, that the following list includes not only nesting birds but some early fall migrants and a few non-breeding, irregular, summer residents. For information on the presence of certain species in Missouri I have referred to the reports of Mr. Otto Widmann of St. Louis, and Mr. Harry Harris of Kansas City. I have also checked my Cape Cod records with the reports of competent authorities for that region. I am indebted to Mr. George M. McNeil of Ithaca, N. Y., for first-hand information regarding sea-birds. He was engaged for the first part of the summer in collecting birds of the open ocean to the south and east of the territory of this report.

1. Loon—*Gavia immer.*

Two were seen July 29 a short distance off shore in Buzzards Bay. Others were reported during the summer. These were very likely non-breeding individuals. In Missouri, where I have never seen it, the Loon is only an uncommon transient or winter resident.

2. Herring Gull—*Larus argentatus.*

Not uncommon up to the last of June. Immature individuals rather common after August 15. Occasional, non-breeding individuals were seen during July and the first half of August. Herring Gulls are regular, though not common, migrants on the Missouri.

3. Laughing Gull—*Larus atricilla.*

Very common throughout the season. Nested on the Weepeckets, Buzzards Bay, about three miles from Woods Hole. Extra-limital in the Middle West.

4. Common Tern—*Sterna hirundo.*

The more common tern. Nesting on the Weepeckets and Pine Island in company with the next following species. Spring transient (May) in Missouri, but rather rare.

5. Roseate Tern—*Sterna dougalli.*

Fairly common, but less so than the Common Tern. Readily distinguished in flight by its longer tail, and its black bill. The pinkish tinge to the breast is not then noticeable.

I have seen neither the Common nor the Roseate in Missouri, where I have noted only the Least as breeding, and the Black Tern as a transient.

6. Wilson's Petrel—*Oceanites oceanicus.*

A few were observed on Nantucket Sound several miles from shore.

7. White-winged Scoter—*Oidemia deglandi.*

Several flocks of non-breeding stragglers remained in the vicinity of Woods Hole throughout the summer. One individual was picked up in a famished condition and taken to the Laboratory, where it died in a short time. The bird's feathers were not oily. I have no explanation of its inability to get food.

8. Little Blue Heron—*Florida caerulea.*

One or two birds which I identified as belonging to this species were seen at Hadley Harbor, Uncatena Island, the second week in August. Little Blue Herons regularly wander north after the nesting season on the Atlantic Coast as well as in the Mississippi Valley. They are frequently observed along the Mississippi in Missouri, but are less common on the Missouri in the central part of the state.

9. Green Heron—*Butorides v. virescens.*

Fairly common throughout the summer. Present with the same status in Missouri.

10. Black-crowned Night Heron—*Nycticorax nycticorax naevius.*

Several pairs were observed at a fresh-water pond at Falmouth, where we frequently collected planarians. Though I saw no nests, they were doubtless in the vicinity. I have never seen the species in Missouri, but it was formerly regular though uncommon as a transient and as a summer resident.

11. White-rumped Sandpiper—*Pisobia fuscicollis.*

On July 29 I saw a flock of fifteen of these birds on Cuttyhunk Island. The species is rather rare in Missouri, but I believe more common on the Atlantic Coast.

12. Least Sandpiper—*Pisobia minutilla.*

One individual was seen at Cuttyhunk July 29. Fairly common transient on the Missiouri River.

13. Spotted Sandpiper—*Actitis macularia.*

This species proved to be fairly common on the Cape throughout the summer, and was doubtless breeding, though I saw no nests. Present in the Missouri River bottoms during the summer, but far more common as a transient.

14. Piping Plover—*Ægialitis meloda.*

Two individuals were noted on the beach at Nantucket July 24.

15. Bob-white—*Colinus v. virginianus.*

Fairly common summer resident. Somewhat more common in Missouri.

16. Ruffed Grouse—*Bonasa u. umbellus.*

One adult and one young grouse were flushed together in timber land near Waquoit Bay. Formerly present in Missouri, but now believed to be extinct here.

17. Marsh Hawk—*Circus hudsonius.*

The only Raptore noted during the summer. One individual was flushed from a grassy meadow on Nantucket Island July 24. A regular, not uncommon transient, and occasional winter visitant along the Missouri River in Missouri.

18. Black-billed Cuckoo—*Coccyzus erythrophthalmus.*

Recorded as fairly common near Falmouth. Uncommon in Missouri, where the Yellow-billed is far more abundant.

19. Belted Kingfisher—*Ceryle a. alcyon.*

Frequently recorded during the summer; probably nesting. More common than in Missouri during the summer.

20. Downy Woodpecker—*Dryobates pubescens medianus.*

Only one individual observed. The woodpeckers of the Cape were very rare; while along the Missouri they are distinctly abundant. This abundance is due, I believe, to the extensive areas of uncleared land along the river overgrown with deciduous trees.

21. Flicker—*Colaptes auratus luteus.*

Only one individual recorded. Very common in Missouri.

22. Chimney Swift—*Chaetura pelagica.*

As in Missouri, a very common summer resident.

23. Kingbird—*Tyrannus tyrannus.*

A common summer resident about Woods Hole and Falmouth. Somewhat more abundant in Missouri.

24. Wood Pewee—*Myiochanes v. virens.*

Fairly common summer resident. About the same relative abundance in both territories considered.

25. American Crow—*Corvus b. brachyrhynchos.*

A very common species both on the Cape and in Missouri; and in both areas evincing a great fondness for water—not so much for the

sake of the water, of course, as for the food in and near it. On the Cape, Crows were very common along the shore; in Missouri they gather in small flocks on the sandbars of the Big Muddy.

26. Cowbird—*Molothrus a. ater.*

Common at Falmouth. Present with the same status in Missouri.

27. Red-winged Blackbird—*Agelaius p. phoeniceus.*

Commonly nesting in marshes along the coast. More common along the Missouri, however, where nests are built in the willows as well as in the marsh grass and cattails.

28. Meadowlark—*Sturnella m. magna.*

Very common summer resident in Missouri, but recorded only from Nantucket Island during the summer of 1921. It was apparently fairly common there.

29. Baltimore Oriole—*Icterus galbula.*

The Baltimore and Orchard Orioles are both very common summer residents in Missouri, but only the former is present regularly on the Cape. There I found it fairly common.

30. Purple Grackle—*Quiscalus q. quiscula.*

The common Grackle of the Cape, replaced in Missouri by the apparently larger, and certainly lighter-colored, Bronzed Grackle (*Q. q. aeneus*). Probably the color accounts for the apparent difference in size, as it is a well-known, psychological fact that lighter-colored objects appear larger than darker-colored ones of the same size.

31. Purple Finch—*Carpodacus p. purpureus.*

I found this species very common at Woods Hole. Young out of the nest were seen the last week in June. Present as a winter resident or transient in the Missouri River country.

32. Goldfinch—*Astragalinus t. tristis.*

Rather common about the town of Woods Hole. About the same relative abundance in Missouri.

33. Vesper Sparrow—*Pooecetes g. gramineus.*

One individual was seen near Falmouth the 15th of July. I do not believe that the species was common on the Cape. It is not a regular summer resident in Missouri, but is not uncommon during the migrations.

34. Chipping Sparrow—*Spizella p. passerina.*

Common summer resident in both regions compared.

35. Field Sparrow—*Spizella p. pusilla.*

Only occasionally heard or seen on the Cape, but one of our most abundant sparrows in Missouri.

36. Song Sparrow—*Melospiza m. melodia.*

I was greatly impressed by the number of nesting birds of this species about Woods Hole. It is present as a winter resident in Missouri, and is then very common in the dense willow growths of the river bottoms.

37. Towhee—*Pipilo e. erythrophthalmus.*

As a summer resident of the Cape, the Towhee was more in evidence than it is in Missouri. It was fairly common, and its call note was frequently heard.

38. Cliff Swallow—*Petrochelidon l. lunifrons.*

On July 24 I saw several birds of this species at Nantucket. They were lined up on telephone wires along a dusty road. Rather uncommon transient in Missouri, and decidedly rare as a summer resident.

39. Barn Swallow—*Hirundo erythrogastra.*

Very abundant in the Woods Hole region. Much less in evidence, though common, along the Missouri River in this state.

40. Bank Swallow—*Riparia riparia.*

Several recorded at Nantucket July 24. Locally present in colonies in Missouri.

41. Red-eyed Vireo—*Vireosylva olivacea.*

One recorded at Woods Hole the middle of August. Not uncommon summer resident in Missouri.

42 Black and White Warbler—*Mniotilta varia.*

Fairly common summer resident on the Cape. Rarely nesting in Missouri.

43. Yellow Warbler—*Dendroica ae. aestiva.*

Only fairly common on the Cape, but a very common nesting bird of the Missouri River bottoms where its nests are easily found in the willow "brakes."

44. Chestnut-sided Warbler—*Dendroica pensylvanica.*

Very common nesting bird about Woods Hole and Falmouth. Two families of young birds were seen out of the nest on July 4. Present in Missouri only as a rather uncommon transient, much more regular in the eastern than in the western part of the state.

45. Oven-bird—*Seiurus aurocapillus.*

The song of the "Teacher-bird" was among the most common in all the timber-land of the Woods Hole region. The bird is rare as a summer resident in Missouri.

46. Maryland Yellow-throat—*Geothlypis t. trichas.*

Common on the Cape—as much so as in Missouri, where it is very much in evidence.

47. Catbird—*Dumetella carolinensis.*

Present, but not so abundant on the Cape as it is in the dense timber-land of the Missouri River bottoms.

48. Chickadee—*Penthestes a. atricapillus.*

Summer resident in the Woods Hole region, but more common in Missouri.

49. Robin—*Planlestieus m. migratorius.*

As I have mentioned previously, this species was much less abundant at Woods Hole than I expected to find it. It could only be considered as fairly common there, while it is distinctly abundant in the territory I have used for my comparison.

The following species were reported on good authority, but were not on my list:

50. American Bittern—*Botaurus lentiginosus.*

One individual.

51. Woodcock—*Philohela minor.*

One individual, near Woods Hole.

52. Bald Eagle—*Haliæetus l. leucocephalus.*
Recorded as flying over Buzzards Bay.
53. Swamp Sparrow—*Melospiza georgiana.*
One seen near Woods Hole.
54. Prairie Warbler—*Dendroica discolor.*
A pair was reported as nesting near Woods Hole.

Marshall, Mo., June 28, 1922.

NOTES ON THE BIRD LIFE OF ALLEGHENY COUNTY, PENNSYLVANIA

Thomas D. Burleigh

Allegheny County lies in the southwestern part of the state and because of its varied topography offers an interesting field for bird study. A limited field, however, for the city of Pittsburgh occupies its center and one can cross the county line within twenty miles of practically any point at the edge of the city. As is more or less well known the Allegheny and Monongahela rivers unite here to form the Ohio, and these rivers unquestionably are an important factor in the distribution of the bird life of this region. This is not only true of the migrants which follow these streams in their journeys north and south but also of the breeding birds, for there are some species such as the Blue-gray Gnatcatcher which I have found only in the stretches of woods bordering these rivers or along their larger tributaries, and others show a decided preference for such localities. On the whole this region is rather hilly and what might be termed moderately rough for the rivers are bordered by high bluffs cut at irregular intervals by open valleys or ravines and it is necessary to go back some distance before reaching much level country. This last is more often than not merely low broad plateaus between the numerous streams so a walk of any duration necessitates the crossing of occasional valleys or gulleys. Much of the land is farmed, but there are numerous stretches of woods covering not only hillsides and the scattered ravines and gulleys but also some of the more level country. The timber consists largely of second growth hardwoods of which many species are represented, those predominating being the white oaks, black oaks, hickories, ash, black willow, beech, black locust, white elm, red maple and sycamore. Conifers are scarce and widely scattered. An occasional field will be found over-

grown with scrub pine (*Pinus virginiana*) and in some of the ravines there are still a few small hemlocks and white pines. Where protected these latter occasionally form small pure stands but this is an exception.

Living in Pittsburgh I was able to do extended field work only over the week-ends but the city parks afforded an opportunity for securing data of interest that in some cases I could not get elsewhere. Highland Park, probably the largest in the city, contains the two large reservoirs that supply the city with water and being within fifteen minutes walk of my home I was able to visit them frequently during the spring and fall migrations and record the water birds that found these bodies of water pleasant and safe spots to break their long flights. Schenley Park, possibly the second largest, lacks this attraction but it does possess a large golf course which is much favored by the Prairie Horned Larks and is the only place within the city limits where this species breeds. At the south end of the city, tucked away in a ravine on the far side of the Monongahela river, lies one of the smaller recreation spots of the city, McKinley Park. It is not very well known except to those living in its immediate vicinity but its brush covered hillsides, scattered large trees and the small stream running through it attracts a surprisingly large number of birds and I found it both pleasant and profitable to wander through it at intervals.

At some time or other I have covered practically all the open country about the city that lies within the county limits, but the one locality that I know best is that about Harmarville. This is a small town ten miles up the Allegheny river that can offer within reasonable walking distance as much varied topography and ideal conditions for bird study as I have ever found anywhere. Deer Creek, which flows into the Allegheny river here, is a stream some twenty feet across at its widest, and it offers enough water and shallows to attract such species as the Belted Kingfisher, Spotted Sandpiper and Green Heron. The wooded hillsides and open fields that border it, intermixed with fields overgrown with underbrush, old orchards, cat-tail swamps, alder thickets, low cliffs and sandbanks, offer inducements that cause the breeding birds here to be many and varied. Squaw Run is another spot which I have worked to some extent but the stream here is much smaller and dwindles away within five miles of

where it flows into the Allegheny river. The valley itself is not very wide and soon narrows into a rugged ravine, the sides of which are thickly wooded. Possibly I know it as well as I do because it is within three miles of the city limits and must be passed in order to reach Harmarville.

The following list may and undoubtedly is not complete as far as migration records go but I feel that as far as the breeding-birds are concerned that few additions will have to be made in the future. Bird life does change to some extent as time goes on but after working this section rather thoroughly for five years and at infrequent intervals for the next seven years there should be little room for error. Like all beginners I made no attempt at first to keep careful field notes and some of the data that I did record has been mislaid somewhere so some of my statements may seem unjustified, but they are all based on careful observation. To the best of my knowledge but little has ever been published concerning the bird life of this part of the state so these notes may be of some interest and value.

Holboell's Grebe—*Colymbus holboelli.*

I have but one record for the occurrence of this species here. On Sept. 13, 1913, one bird was seen on one of the deeper stretches of water on Deer Creek.

Horned Grebe—*Colymbus auritus.*

During the spring of 1914 this species was frequently observed on the two reservoirs in Highland Park, and it probably is a fairly common migrant here. The first bird was seen April 1 and for the next month there were few days when one or two were not in evidence. They usually fed near the shore so there was seldom any question as to their identity. The last bird was seen May 2, on the upper reservoir. On April 8, 1917, nine birds were seen, the largest number I had ever recorded at one time, four being on the lower and five on the upper reservoir.

Pied-billed Grebe—*Podilymbus podiceps.*

I have but one record for the occurrence of this species here, although one might reasonably expect to find it a regular and fairly common migrant. October 27, 1913, one bird was seen on the lower reservoir.

Loon—*Gavia immer.*

A scarce spring migrant and seen invariably on the lower and larger reservoir. There, however, it evidently suited them pretty well for they usually lingered a few days before moving on. In 1914 one bird was present on the 8th and 9th of April, and again on the 27th, 28th and 29th of the same month. For 1916 I have but one record, one bird being seen on April 25, but in 1919 one bird appeared surprisingly late, May 22, and

remained for three days apparently little inclined to depart for its breeding grounds. None have ever been recorded during the fall migration.

Herring Gull—*Larus argentatus.*

This species is a regular spring migrant but at best decidedly erratic. During 1912 it was unexpectedly plentiful, for first seen February 10 it gradually increased in numbers until on March 29 fully forty were found resting quietly on the water on the lower reservoir. They showed no haste to depart that year for they decreased in numbers very gradually until April 21, when two were seen for the last time. Before and since but few have been recorded and there is no fixed date when they can be expected to arrive and depart. In 1913 three birds were seen for the first time on Feb. 12 feeding on the Allegheny River and the last bird was seen March 29 on the lower reservoir. In 1917 two birds were found April 6 resting on a sand bar in the middle of the Allegheny River.

Common Tern—*Sterna hirundo.*

On April 20, 1914, four birds were seen, one on the lower and three on the upper reservoir, resting quietly on the water. This is my only record for the occurrence of this species here.

Red-breasted Merganser—*Mergus serrator.*

A scarce and irregular migrant, and seen entirely on the lower reservoir. In 1913 two birds were seen March 26, and during the fall migration one bird lingered for five days, from the 26th through the 30th of October. In 1914 but one bird, a male, appeared during the spring migration but it made up for the lack of its fellow voyagers by remaining for ten days, from the 3rd through the 12th of April.

Black Duck—*Anas rubripes.*

A regular but scarce migrant, avoiding the larger open bodies of water and showing a decided preference for the smaller ponds and streams. My only record for 1913 is one bird seen Oct. 5. In 1914 two birds were flushed on the 11th and 12th of April from a small swamp, and again on the 3rd of September one bird was found on Deer Creek.

Baldpate—*Mareca americana.*

What records I have show it to be a scarce spring migrant only. In 1914 I saw one bird on April 8, with a flock of Scaup Ducks on the lower reservoir, and in 1917 a flock of seven birds, three of them males, were seen April 6 on the upper reservoir.

Scaup Duck—*Marila marila.*

Lesser Scaup Duck—*Marila affinis.*

Sight identification of these two species being impracticable and shooting impossible within the city limits I have never definitely known which was the commoner migrant although both undoubtedly occur here. They are abundant during both the spring and fall migrations and are one of the first of the water birds to arrive and the last to go. I have found them only on the two reservoirs and never for some unknown reason on the Allegheny river. In 1913 the first birds, three males, were seen March 23 and they were then plentiful until April 14 when four birds were seen for the last time. In the fall a flock of sixteen birds

appeared Oct. 26, the first for the fall migration, and Oct. 29 seven birds, two of them males, formed the last record for the year. In 1914 a flock of seven birds was seen February 22, my earliest record for the spring migration, and by the latter part of March flocks of varying size were in evidence daily. The last bird was seen May 17, a single bird on the lower reservoir.

Golden-eye—*Clangula clangula americana.*

During the spring migration of 1914 only did I record this species. March 16 one bird was seen and April 4 a flock of eight, the latter all males.

Bufflehead—*Charitonetta albeola.*

I have but one record for the occurrence of this species here. April 4, 1914, three birds, two of them males, were seen on the lower reservoir.

Old-squaw—*Harelda hyemalis.*

This species is seemingly but a straggler here. I have recorded it but once, three birds appearing April 25, 1914, and remaining for three days on the lower reservoir.

White-winged Scoter—*Oidemia deglandi.*

This species I likewise have but one record for, one bird being seen May 13, 1914, on the lower reservoir.

Ruddy Duck—*Erismatura jamaicensis.*

May 13, 1914, one bird was found on the upper reservoir. It was feeding near the shore and when approached dived quickly and remained under water for some time.

Canada Goose—*Branta canadensis canadensis.*

Only once have I recorded this species here. November 1, 1913, while returning from a day's tramp through the woods a flock of fourteen birds was seen, flying noisily by overhead.

Whistling Swan—*Olor columbianus.*

This was one species I had never expected to see within the city limits of Pittsburgh but April 8, 1914, I was pleasantly surprised to find two birds on the upper reservoir. They remained there the entire day and although they stayed well out from the shore they showed remarkably little concern over the people that frequently paused to watch them.

Bittern—*Botaurus lentiginosus.*

My only record is a bird flushed May 4, 1914, from the edge of a small pond in an open ravine.

Great Blue Heron—*Ardea herodias herodias.*

I have but one record for the occurrence of this species here. July 19, 1914, one bird was seen while following up Deer Creek for a short distance.

Green Heron—*Butorides virescens virescens.*

A common summer resident. My dates for the arrival of this species in the spring are April 21, 1912, April 21, 1916 and April 25, 1919. They are common within a few days after the first one is seen. My breeding records are May 20, 1911, five slightly incubated eggs, nest ten feet

from the ground in the outer upper branches of a haw; May 13, 1912, five fresh eggs, nest fifteen feet from the ground in the outer upper branches of a haw, and May 22, 1912, four slightly incubated eggs, nest thirty feet from the ground in the top of a slender elm. The nests are always in thick underbrush near water and never more than one pair of birds can be found in any one locality. My latest date for the occurrence of this species in the fall is one bird seen September 14, 1912.

Sora Rail—*Porzana carolina.*

My records would indicate that this species is a very scarce summer resident although it may, owing to its secretive habits, be much commoner than is supposed. On May 28, 1912, while hunting through a small cat-tail swamp at Harmarville I unexpectedly stumbled upon a nest that held twelve well incubated eggs. It was substantially built of broken pieces of cat-tails and was but a few inches above the water. This is my only record for even the occurrence of this species here and I know of no other breeding records for this section of the state.

Woodcock—*Philohela minor.*

A common summer resident, and found either in marshy fields overgrown more or less with scrubby underbush or about small streams in the scattered short stretches of woods. April 26, 1914, a nest was found near Oakmont that held four slightly incubated eggs. It was a hollow in the ground lined with dead leaves and was at the foot of a small tree at the edge of an open field. June 7, 1915, three young birds, almost fully grown, were flushed in some underbrush at Harmarville.

Wilson's Snipe—*Gallinago delicata.*

I have but one record for the occurrence of this species here, two birds being flushed April 11, 1914, from the edge of an open field.

Least Sandpiper—*Pisobia minutilla.*

A scarce migrant. In 1912 one bird was seen August 15 and 16 at the lower reservoir and in 1914 one bird was seen at the same place May 11.

Solitary Sandpiper—*Helodromas solitarius solitarius.*

This species is a common migrant here and has the distinction of being the first to reappear in the fall. The few dates I have for the spring migration are fairly uniform for in 1913 the first bird was seen April 26 and last seen May 24, and in 1914 the first bird was recorded April 25 and last seen May 16. My fall migration notes are even more meager for but little of the summer has ever been spent in Pittsburgh and this species is a remarkably early migrant. In 1913 I found a single bird feeding about a small pond on July 28 and my last record that year was one bird seen September 6.

Spotted Sandpiper—*Actitis macularia.*

A common summer resident, breeding about all the more open streams and larger ponds. My records for the first birds seen in the spring are April 27, 1912, April 14, 1913, and April 19, 1914. They soon become plentiful and remain so until late in August when they gradually disappear and are usually gone by the end of the first week in September. In 1912 one bird lingered at the lower reservoir until September 29, by

far the latest I have ever found this species here, my other dates for the last bird seen being September 6, 1913, and September 8, 1916. May 26, 1915, a nest was found with four slightly incubated eggs, well concealed in the tall grass in an open field three hundred yards from a creek. This was undoubtedly a second attempt to rear young for that same day three young birds were seen barely out of the nest.

KILLDEER—*Oxyechus vociferus.*

A common summer resident, frequenting open pastures and fields under cultivation, often far from any water. My migration records are March 23, 1912, March 14, 1914, and November 16, 1912. September 16, 1916, a flock of fully seventy-five birds was seen, feeding at the edge of the Allegheny river. On May 21, 1910, a nest was found with four well incubated eggs, in the middle of an asparagus bed in an open field.

SEMIPALMATED PLOVER—*Ægialitis semipalmata.*

I have but one record for the occurrence of this species here. September 16, 1916, one bird was seen along the Allegheny river, feeding at the edge of the water.

BOB-WHITE—*Colinus virginianus virginianus.*

Resident, but decidedly scarce, and seldom seen or heard. The frequent hard winters probably have something to do with this but the hordes of hunters that invade the country during the fall unquestionably keep the birds from recuperating their diminishing numbers. I have at long intervals flushed single birds but I have yet to see my first covey in Allegheny county.

RUFFED GROUSE—*Bonasa umbellus umbellus.*

This species can be found throughout the year in the larger stretches of woods and at one time was fairly plentiful here, but each year has seen a decided decrease in its numbers and unless rigidly protected for a time it will soon be entirely wiped out.

Pittsburgh is producing too many hunters in proportion to the game available for a species such as this to long survive.

RING-NECKED PHEASANT—*Phasianus torquatus.*

December 20, 1915, one bird was flushed at the edge of a short stretch of woods. It was almost walked on before seen but once it had left the ground it flew quite a distance before coming to the ground again.

MOURNING DOVE—*Zenaidura macroura carolinensis.*

A very common summer resident. My dates for arrival in the spring are March 30, 1912; March 20, 1913, and March 26, 1914. In the fall the last bird was seen October 25, 1912, and October 26, 1913. Data on thirteen nests give April 18, 1912, as the earliest date on which a full set of fresh eggs was found, and June 9, 1912, the latest date. By the latter part of April the majority of the birds are incubating full sets, which invariably consist of two eggs. In situation the nests vary from five to fifteen feet from the ground, and have been found on horizontal limbs of apple trees in orchards, in thick grape vines, on the top of a stump, on a piece of bark that had fallen from a large dead tree

and lodged in another tree, in thick bushes and in crotches of the larger trees at the edge of short stretches of woods.

Marsh Hawk—*Circus hudsonius.*

A scarce and irregular migrant. My records for its occurrence here are single birds seen April 5, 1915, August 14, 1916, and January 27, 1917.

Sharp-shinned Hawk—*Accipiter velox.*

A scarce summer resident. June 11, 1916, a nest was found at Harmarville that held five well incubated eggs, twenty feet from the ground in a crotch of a wild cherry tree at the side of a path through a stretch of woods.

Cooper's Hawk—*Accipiter cooperi.*

Resident throughout the year in small numbers. A nest with three fresh eggs was found April 26, 1919, in Squaw Run, sixty feet from the ground in an upper crotch of a large white oak toward the top of a wooded hillside. It was placed on the top of an old Crow's nest and was well built of sticks and twigs, with a lining of finer twigs and a few pieces of bark. The bird was incubating but on being flushed disappeared silently and was not seen again.

Red-shouldered Hawk—*Buteo lineatus lineatus.*

Of irregular occurrence during the fall and winter, and frequently found nailed to the side of a farmer's barn.

Broad-winged Hawk—*Buteo platypterus.*

A fairly common summer resident, showing a decided preference for well wooded ravines and hillsides. April 30, 1911, a nest was found at Harmarville that held four slightly incubated eggs, forty feet from the ground in a crotch of a large tree near the foot of a wooded hillside. Because of the early date and the unusually large set this record was several times questioned so the eggs were sent to Richard C. Harlow of State College, Pa., for verification and he pronounced them to be undisputably of this species.

Sparrow Hawk—*Falco sparverius sparverius.*

Resident, and fairly common throughout the year. The only nest found was in a large bird box on a private estate, and on May 22, 1915, held five small downy young.

Osprey—*Pandion haliaetus carolinensis.*

I have but one record for the occurrence of this species here. In 1912 one bird lingered on Deer Creek for over a week, being seen at practically the same spot from the 27th of April through the 4th of May.

Screech Owl—*Otus asio asio.*

A common breeding bird, and seen or heard throughout the year in the scattered short stretches of woods and old apple orchards. I never actually found a nest but on May 19, 1912, and again on June 8, 1913, I saw four young birds that were well grown but were seemingly out of the nest but a short time. Each time one of the adult birds was present and showed real concern over my presence..

Yellow-billed Cuckoo—*Coccyzus americanus americanus.*

A common summer resident. My dates for arrival in the spring are

May 17, 1913, and May 17, 1914, and for departure in the fall October 16, 1912, and October 1, 1913. My earliest breeding record is May 30, 1909, three slightly incubated eggs, and my latest August 26, 1910, two fresh eggs. The latter nest is by over two months the latest I have ever known this bird to have fresh eggs for a nest found June 20, 1917, with four incubated eggs is my next latest record. Nests average from four to twenty feet from the ground and are practically always built of coarse twigs, lined with fragments of dead leaves. A nest found June 16, 1916, however, was unusually well built of twigs and coarse grasses, having an outside height of fully two inches. It held on that date two half-grown young.

Belted Kingfisher—*Ceryle alcyon alcyon.*

This species is common during the summer months and of irregular occurrence during the winter. My dates for arrival in the spring are March 31, 1912, March 21, 1913, and March 28, 1914. In 1911 the last bird for the year was seen November 11 but other years individual birds lingered throughout the winter so I have no other dates for their departure in the fall. During the winter of 1913 Deer Creek froze almost entirely over, but on December 28 one bird was seen about a short stretch of open water. May 4, 1912, a nest was found with seven slightly incubated eggs in a three foot hole in a low bank at the side of Deer Creek, and on the 22nd of June of the same year another nest was found that held seven well incubated eggs.

Hairy Woodpecker—*Dryobates villosus villosus.*

A fairly common resident, showing a preference for the larger stretches of woods during the fall and winter but appearing in the spring in many of the old apple orchards to breed. A nest found April 24, 1914, held three slightly incubated eggs and was fifteen feet from the ground in a dead limb of an apple tree in an orchard.

Downy Woodpecker—*Dryobates pubescens medianus.*

Resident, and common everywhere. A nest found May 14, 1910, held five slightly incubated eggs and was twenty feet from the ground in a limb of a large dead tree standing at the edge of an open field. On December 31, 1914, a bird was seen eating the berries of a large poison ivy vine.

Yellow-bellied Sapsucker—*Sphyrapicus varius varius.*

A common migrant. My dates for arrival in the spring are March 31, 1912, March 22, 1913, and March 31, 1914, and for departure May 5, 1912, April 29, 1913, and May 2, 1914. It is usually a week or ten days before the birds really become plentiful but for a few days then they can be seen literally everywhere. In the fall the first bird appeared September 28, 1912 and September 22, 1913, and the last bird was seen October 3, 1912, and October 11, 1913. As in the spring there is a day or so when they are much in evidence but they never linger long on their way south.

Red-headed Woodpecker—*Melanerpes erythrocephalus.*

A fairly common summer resident, and seen invariably about large dead trees standing well out in the open. My dates for arrival in the

spring are May 11, 1912, April 30, 1913, and April 29, 1914, and for departure in the fall September 13, 1912, and September 22, 1913. My two breeding records are June 1, 1911, nest with three slightly incubated eggs, thirty feet from the ground in a limb of a large dead tree at the side of a road and June 12, 1912, nest with three fresh eggs, thirty feet from the ground in a limb of a large dead tree at the edge of a short stretch of woods.

Northern Flicker—*Colaptes auratus luteus.*

Common during the summer months and of regular occurrence, but scarce during the winter. The following dates when single birds were seen will give a fair idea of just how many do linger through the winter months: 1912, February 10, November 30, December 30; 1913, January 11, January 20, February 2, February 12; 1914, December 31. My dates for the arrival of the first migrants in the spring are March 16, 1912, March 23, 1913, and March 15, 1914. Breeding records: May 15, 1912, six slightly incubated eggs; May 9, 1914, six fresh eggs.

Nighthawk—*Chordeiles virginianus virginianus.*

A common summer resident, and far more plentiful within the city limits of Pittsburgh than in the open country about the city. These birds were not long in finding out that the gravel roofs of the larger buildings were ideal breeding sites and the English Sparrow is now no longer the only bird life found in the congested business districts. My dates for arrival in the spring are remarkably uniform, being May 4, 1912, May 5, 1913, and May 3, 1914. Last records for the fall are September 14, 1912, and September 20, 1913. All my breeding data is of eggs found on gravel roofs of the larger buildings in Pittsburgh; June 10, 1910, two incubated eggs; June 19, 1912, two fresh eggs; June 1, 1914, two fresh eggs; June 2, 1916, two slightly incubated eggs; June 29, 1917, two slightly incubated eggs; July 1, 1920, two well incubated eggs.

Chimney Swift—*Chaetura pelagica.*

A common summer resident, breeding to some extent within the city limits of Pittsburgh. For many years now a pair have nested in a chimney of a church within a hundred yeards of my home and I know of several private residences where the birds return year after year. My records for the first birds seen in the spring are April 21, 1912; April 26, 1913, and April 25, 1914, and for departure in the fall September 7, 1912, and September 20, 1913.

Ruby-throated Hummingbird—*Archilochus colubris.*

A fairly common summer resident. My dates for arrival in the spring are May 17, 1913, and May 25, 1914, and for departure in the fall September 9, 1912, September 15, 1913, and September 16, 1916. June 20, 1914, a nest was found at Harmarville with two incubated eggs, twenty feet from the ground at the outer end of a limb of a large beech tree in a ravine in the woods.

Kingbird—*Tyrannus tyrannus.*

This is one species that has always puzzled me for while it should breed here I have yet to record it during the summer months. Even my migration data is meagre for my records for arrival in the spring

are May 5, 1912, and May 16, 1914, and for departure in the fall, August 11, 1912, and August 14, 1916. It may possibly breed sparingly but as far as my experience goes it is a decidedly scarce bird at all times.

Crested Flycatcher—*Myiarchus crinitus.*

A common summer resident, in the larger stretches of woods and more rarely about old apple orchards. My dates for arrival in the spring are April 29, 1912, April 26, 1913, and April 26, 1914, and for departure in the fall August 16, 1912, and September 8, 1913.

Phœbe—*Sayornis phœbe.*

A very common summer resident and found wherever there is a suitable place for them to nest. Their arrival during the latter part of March is governed to a large extent by the weather and a backward spring causes them to appear much later than usual. My dates for the first bird seen in the spring are March 30, 1912, March 20, 1913, and March 15, 1914. In the fall I recorded the last bird October 21, 1912, and October 26, 1913. They nest indiscriminately under bridges, on ledges of cliffs and on beams in sheds and old buildings, and almost invariably the nests are made of green moss, a few grasses and considerable mud, lined with fine grasses and gray plant fibres. My earliest record for a full set of eggs is April 24, 1916, a nest being found that day with five fresh eggs and one of the Cowbird, and my latest, June 26, 1915, a nest with five well incubated eggs. Intermediate dates are April 26, 1913, five fresh eggs; May 16, 1914, five slightly incubated eggs; May 27, 1911, five incubated eggs, and June 7, 1915, five slightly incubated eggs.

Wood Pewee—*Myiochanes virens.*

A common summer resident in all the scattered stretches of woods. My dates for arrival in the spring are May 13, 1912, May 16, 1913, and May 16, 1914, and for departure in the fall September 13, 1912. A nest found June 17, 1912, held three slightly incubated eggs and was thirty feet from the ground in a horizontal crotch at the outer end of a limb of a large beech tree on an open hillside. Another nest found August 14, 1916, held small young and was twenty feet from the ground at the outer end of a large sugar maple at the side of a road.

Acadian Flycatcher—*Empidonax virescens.*

A common summer resident, but found only in wooded ravines where there is running water. My dates for arrivals in the spring are April 26, 1913, and May 4, 1914, and for departure in the fall September 20, 1912, and October 3, 1913. In nesting a decided preference is shown for a beech (*Fagus americana*), for of six nests found in 1916 and 1917 four were in beeches, one in a hemlock and one in a sugar maple. The nests are always half suspended from a fork at the extreme outer end of a lower limb, usually from ten to fifteen feet from the ground, and are shabby and often frailly built of fine twigs, weed stems, vine tendrils and coarse grasses, lined with fine grasses and at times gray plant fibres. As far as my experience goes three eggs are invariably laid, and full sets of fresh eggs can be found after the first week in June, June 11, 1916, being my earliest date and June 22, 1917, my latest.

Many in full song. A nest with young was shown me in the small club house near the golf course.

93. Worthington's Marsh Wren (*Telmatodytes palustris griseus*).
Heard singing in the marshes daily.

94. Brown-headed Nuthatch (*Sitta pusilla*).
Only three observed. Probably common and breeding in the pine woods.

95. Blue-gray Gnatcatcher (*Polioptila cærulea cærulea*).
Often seen and heard.

96. Robin (*Planesticus migratorius migratorius*).
Only one was seen. This was on the morning of May 6. Does not breed here.

97. Bluebird (*Sialia sialis sialis*).
Common in the more open areas. One nest noted.

A MILD WINTER AND ITS EFFECTS ON THE MIGRATION OF BIRDS AT CHICAGO

C. W. G. EIFRIG
RIVER FOREST, ILLINOIS

The winter of 1920-21 was a memorable one for its mildness, not only for Chicago and vicinity, with which the writer is concerned, but for nearly the whole continent. Those members of the Wilson Club who attended the last meeting at Chicago will perhaps mentally put a question mark behind the statement, as regards Chicago at least, for they found the weather decidedly boreal during the last days of December, reaching —4° on the 28th, and plenty of snow too. But that was about the only real wintry spell we had. Lest anyone suspect the writer of undue meteorological enthusiasm or a too lively imagination along weather lines, let me quote from the official monthly summaries of the Chicago bureau. To go back as far as October 1920: "The mean temperature for the month, 61.9°, was the highest October mean recorded since the station was established in 1871. Mild weather was continuous from the 3rd to the 27th. Precipitation was about three-fifths of the normal. Sunshine was above the normal." "As a whole, November was mild with only light precipitation. The mean temperature, 40.20°, was 1° above normal." "In December moderate temperature prevailed throughout the first half of the month, etc. The maximum was 62° on the 3rd, the minimum was —4° on the 28th. No severe storms occurred, with the exception of a period extending from the 13th to the 15th." "January, as a whole, was mild and dry, with no severe storms. Aside from one moder-

ately cold period, 12th to 17th inclusive, every day was above the seasonable average in temperature, the excess ranging from 15° to 26° in nine days. The total precipitation, amounting to 0.97 inch was less than one-half, and the total snowfall, 3.2 inches, less than one-third of the normal. There was an unusually large amount of sunshine, 100 per cent of the possible amount being recorded on seven days." "In February mild, dry weather prevailed during most of the month. The mean temperature, 33.4°, was 8° above normal, and this was the sixth successive month with a mean temperature abnormally high. The absolute maximum of 66° on the 15th exceeds all previous February records. The small snowfall of the entire winter to February 28th, 9.4 inches, likewise breaks all previous records." "March, 1921, with a mean of 45.8°, exceeded all previous records with the single exception of 1910, while the maximum of 68° on the 5th is the highest ever recorded at Chicago so early in the season. Vegetation made rapid advancement until the 28th, when growth was checked by a freeze which injured tender plants." "April is the eighth consecutive month with abnormally high temperatures. However, unseasonably low temperatures prevailed on the 10th - 11th and 16th - 17th, with frosts and freezes, causing much damage to fruit and tender plants." Finally May: "As a whole May, 1921, was warm and dry. However, rather cool weather prevailed at the beginning and the middle of the month, with light frost on the 16th, followed by unseasonably high temperatures during the remainder of the month. The highest temperatures of record for so early in the season were registered on the 23rd and 24th. This is the ninth consecutive month with high mean temperature, the average daily excess from September 1, 1920, to May 31, 1921, being 6.6°. The total precipitation, 0.80 inch, was the least on record for May at Chicago." Accordingly, fall, winter, and spring were abnormally mild or warm, dry and lacking in the usual storms or gales which have earned for Chicago its well-known sobriquet "windy city." There was also more than the usual sunshine, but all this was interfered with in April and May by alternate unseasonably cool or cold and warm or hot weather, which then retarded the migration of some species, or otherwise interfered with it, broke it up more or less.

As a consequence of all this, one would expect large numbers of our hardy summer residents, such as Robin, Flicker, Killdeer,

eggs: May 14, 1914, four fresh eggs; both nests arched over and well concealed in deep grass.

Baltimore Oriole—*Icterus galbula.*

A common resident, many nesting in the larger trees in the residential section of Pittsburgh. My dates for arrival in the spring are May 2, 1912, April 28, 1913, and April 27, 1914, and for departure in the fall August 21, 1912, and August 20, 1913. A nest found May 28, 1910, held five slightly incubated eggs and was ten feet from the ground at the outer end of a limb of an elm overhanging a road.

Rusty Blackbird—*Euphagus carolinus.*

I have found this species a regular but scarce migrant, although it may be commoner than my personal experience would indicate. In 1912 I recorded it but once, three birds being seen April 30. In 1913 it was seen twice during the spring migration, a flock of ten birds March 29, and one bird April 9, and during the fall migration it was again recorded but twice, a single bird October 4 and November 23. In 1914, in the spring migration, two birds were seen April 4, and one bird April 7, and in the fall one bird was seen November 26.

Bronzed Grackle—*Quiscalus quiscula aeneus.*

A common summer resident, breeding in small colonies in many places within the city limits of Pittsburgh. That this species is becoming thoroughly civilized is easily seen from the fact that many nest each year in crevices in the spire of one of the larger churches in the middle of the city. My data for arrival in the spring are March 17, 1912, March 9, 1913, and March 16, 1914 and for departure in the fall, November 3, 1912, and October 31, 1913. In nesting the birds show considerable variation in selecting a suitable site for I have found nests on cross-beams of telephone poles, in cavities in old dead trees, in crotches of large dead trees with no attempt at concealment, and again well concealed at the tops of living trees from ten to forty feet from the ground. But one brood is raised a year, and by the first of May the majority of the birds are incubating full sets. My earliest date is April 26, 1912, five fresh eggs, and my latest May 9, 1912, five slightly incubated eggs. By the middle of June the birds have already gathered into small flocks and have begun foraging over the surrounding country.

Purple Finch—*Carpodacus purpureus purpureus.*

A regular but rather scarce winter resident. Small flocks are seen at frequent intervals during the fall, winter and early spring, but there is no time when they can be definitely looked for. Some of my dates for the occurrence of this species here are February 22, 1912, a flock of ten birds, October 17, 1912, three birds, April 30, 1913, a flock of ten birds, October 18, 1913, one adult male, November 1, 1913, three birds, January 2, 1913, a flock of eight birds, three of them adult males.

Redpoll—*Acanthis linaria linaria.*

I have but one record for the occurrence of this species here. During the winter of 1916-17 these birds were unusually plentiful in various parts of the state, and on November 30, 1916, I saw a flock of twelve flying noisily by overhead.

Goldfinch—*Astragalinus tristis tristis.*

Resident, and common throughout the year. During the winter they are always much in evidence for they rove the country in flocks of seventy-five to frequently one hundred or more birds, and they feed largely then in the tops of the larger sycamores. The majority of the birds are incubating full sets by the first week in August, but there are a few pairs that are always belated, so it is not uncommon to find fresh eggs as late as the first of September.

Pine Siskin—*Spinus pinus.*

This species is of uncommon occurrence during the winter, small flocks being seen at infrequent intervals feeding usually on the seeds of weeds sticking above the snow. An unusually late record is May 9, 1914, a flock of ten birds being seen at the edge of an orchard.

Snow Bunting—*Plectrophenax nivalis nivalis.*

I have but one record for the occurrence of this species here. On December 28, 1915, one bird was seen feeding with a flock of twenty Prairie Horned Larks in the middle of a large field on the seeds of weeds sticking above the inch or so of snow on the ground.

English Sparrow—*Passer domesticus.*

Abundant throughout the city of Pittsburgh, in all the smaller towns and about all the farms. An unusually interesting breeding record is an incomplete set of two fresh eggs taken January 8, 1912, in a cavity in a corner of the porch of an unoccupied house. The female was caught on the nest, but that she sat so tight was not surprising considering the fact that the temperature that day was eight degrees above zero, with four inches of snow on the ground. April 20 is the average date on which full sets of fresh eggs can be found. My latest breeding record is a nest found July 20 with four incubated eggs.

Vesper Sparrow—*Pooecetes gramineus gramineus.*

A fairly common summer resident about open fields and pastures. My dates for arrival in the spring are March 29, 1913, and March 28, 1914, and for departure in the fall, November 21, 1912, and November 1, 1913. The latter date is the usual time when these birds disappear, the former record being unusually late for the occurrence of one of this species here.

Grasshopper Sparrow—*Ammodramus savannarum australis.*

A fairly common summer resident, and one easily overlooked, their short inconspicuous song being the only evidence of their occurrence in the scattered open fields.

White-crowned Sparrow—*Zonotrichia leucophrys leucophrys.*

A scarce migrant, and seen only during the spring migration. It may possibly be present in the fall, but if so the birds are so few and far between that to date I have entirely overlooked them. My records for the occurrence of this species here are: 1913, May 13, two birds, May 18, one bird; 1914, May 12, one bird, May 14 three birds; 1919, May 22, one bird.

White-throated Sparrow—*Zonotrichia albicollis.*

A common migrant, and found singly or in small flocks, feeding in

thickets and underbrush bordering short stretches of woods or open fields. My dates for arrival in the spring are April 14, 1912, March 21, 1913, April 18, 1914, and April 25, 1919, and for departure, May 7, 1912, May 8, 1913, and May 14, 1914. In the fall the first birds appeared September 29, 1912, and September 11, 1913, and the last bird was seen November 16, 1912, and November 2, 1913. I have but two records for the occurrence of this species here during the winter, one bird being seen December 14, 1913, near Squaw Run, and two birds being found in a thicket near the same spot January 4, 1915.

Tree Sparrow—*Spizella monticola monticola.*

A common winter resident, varying little in abundance during the hardest or the mildest winters, and seemingly unaffected by the deepest snows and lowest temperatures. My dates for arrival in the fall are November 1, 1912, and November 1, 1913, and for departure in the spring April 15, 1912, April 14, 1913, and April 11, 1914.

Chipping Sparrow—*Spizella passerina passerina.*

A common summer resident, showing a preference for old apple orchards and shrubbery about houses. My dates for arrival in the spring are March 31, 1912, April 1, 1913, and April 16, 1914, and for departure in the fall October 15, 1912, and October 30, 1913. My earliest breeding record is May 16, 1911, four fresh eggs, nest ten feet from the ground in a crotch of one of the limbs of an apple tree in an orchard, and my latest a nest found June 19, 1915, with three incubated eggs, twenty feet from the ground in a large black locust at the side of a road. A decidedly unusual nesting site was that of a nest found May 21, 1915, with three incubated eggs, it being four feet from the ground, well concealed in a mass of dead leaves, weed stems and such debris that had lodged during high water in a crotch of a large bush at the side of a creek.

Field Sparrow—*Spizella pusilla pusilla.*

A common summer resident in fields overgrown with scrubby underbrush and about thickets and underbrush bordering roads and open fields. My dates for arrival in the spring are March 31, 1912, March 20, 1913, and March 21, 1914, and for departure in the fall October 30, 1912, and October 31, 1913. My earliest breeding record is a nest found May 18, 1913, with four fresh eggs, almost flush with the ground in the middle of a thick clump of weeds at the edge of an orchard, and my latest a nest found July 19, 1914, with four slightly incubated eggs, two feet from the ground in a small haw at the edge of a field. Full sets of fresh eggs, however, usually four, but at times three, and rarely two, may be found at almost any time between these two dates. With rare exceptions the nests are placed in one of three situations, three feet up in blackberry bushes in small thickets, within one or two feet of the ground in small bushy haws in or at the edge of fields, or resting on the ground in thick clumps of weeds.

Slate-colored Junco—*Junco hyemalis hyemalis.*

A common winter resident, and seen almost invariably in small flocks feeding about thickets or underbrush bordering open fields. In the spring migration the last birds were seen May 3, 1912, April 26, 1913, and May 2, 1914, and in the fall the first birds appeared October 3, 1912, and Sep-

tember 11, 1913. The last date is the earliest I have ever recorded this species here, the latter part of September being the usual time that these birds arrive.

Song Sparrow—*Melospiza melodia melodia.*

Resident, and common throughout the year. Unlike most species it does not gather into flocks during the winter but can be found singly or two or three birds together in thickets or underbrush bordering short stretches of woods and open fields. Data on thirty-four nests gives April 30, 1912, as the earliest date on which a full set of fresh eggs was found, and August 6, 1915, as the latest date. As a general rule the first nests are found on the ground, while the later ones are almost invariably in bushes or small saplings, varying in height in proportion to the density of the foliage. It is probably just a coincidence, but the nest found August 6, 1915, was also higher from the ground than any I have ever found before or since, being twenty feet up in a red maple at the side of the road. There is seemingly no definite requirement as to a nesting site, for the birds nest indiscriminately between the two dates mentioned above and place their nests anywhere that there is suitable protection. One situation especially favored is in the thick barberry bushes that border the paths in all the city parks. The nests are built of weed stems and grasses, well lined with horse hair, and when off the ground are often quite bulky. Four eggs constitute a full set as often as five, rarely three, and just once have I found a set of six.

Fox Sparrow—*Passerella iliaca iliaca.*

A common migrant, appearing singly or in small flocks, and often singing during the spring migration. My dates for arrival in the spring are March 18, 1912, March 20, 1913 and March 16, 1914, and for departure April 13, 1912, April 18, 1913 and April 15, 1914. In the fall the first birds appeared October 16, 1912 and October 1, 1913, and were last seen November 16, 1912 and November 23, 1913. Usually this species is wary and hard to approach and as it likes dense underbrush it would often be overlooked were it not for the disturbance it makes as it scratches vigorously in the dead leaves.

Towhee—*Pipilo erythrophthalmus erythrophthalmus.*

A common summer resident in thickets and underbrush bordering upon fields and the edges of woods. My dates for arrival in the spring are March 31, 1912, March 20, 1913, March 28, 1914 and April 3, 1915. In 1913 the last bird for the year was seen October 31, and this is the average date for the departure of this species. It winters rarely for I have but two records for the occurence of this species during the winter months. One bird was seen November 28, 1912 and again February 18, 1913 in a tangled thicket of grape vines in a wooded ravine, and two years later two birds wintered at this same spot, being seen November 26 and December 24 and 28, 1914, and January 4, 1915. My earliest breeding record is a nest found May 25, 1913 with three slightly incubated eggs, on the ground in an old apple orchard well concealed in the short grass, my latest a nest found June 22, 1912 with four incubated

eggs, two feet from the ground in a grape vine covering an old stump at the edge of a short stretch of woods.

Cardinal—*Cardinalis cardinalis cardinalis.*

Resident and common throughout the year, usually occurring during the winter months in small flocks of five to a dozen birds. My earliest breeding record is a nest found April 16, 1910 with three fresh eggs, my latest a nest found July 9, 1915 with three slightly incubated eggs. Almost invariably the nests are found in thick grape vines, varying in height from five to fifteen feet from the ground, and with very few exceptions three eggs is a complete set. Rarely a bird will lay but two eggs and just once have I found four. A nest found May 5, 1912 with two newly hatched young and an infertile egg differed from any others I have ever seen by being built in a thick brush pile at the edge of an open field. In construction the nests vary little, being somewhat bulky and composed of weed stems, dead leaves, occasional bits of paper and strips of grape vine bark, lined with fine weed stems or rootlets.

Rose-breasted Grosbeak—*Zamelodia ludoviciana.*

A common summer resident, being found in all the scattered stretches of woods. My dates for arrival in the spring are May 4, 1912, May 3, 1913 and April 28, 1914, and for departure in the fall Sept. 24, 1912 and Oct. 4, 1913. Usually they are plentiful within a few days after the first bird appears. A nest found May 18, 1912, with four fresh eggs, is my earliest breeding record, my latest a nest found June 22, 1915, with but two well incubated eggs. Underbrush bordering roads or at the edge of a short stretch of woods is generally selected as a suitable nesting site and here the nests may be found in bushes or saplings varying from five to fifteen feet from the ground. A full set may consist of three, four or five eggs, for of ten nests found four hold four eggs each, four three eggs and two five eggs each.

Indigo Bunting—*Passerina cyanea.*

A common summer resident in underbrush at the edge of stretches of woods. My dates for arrival in the spring are April 28, 1912, May 4, 1913, and May 10, 1914. The first week in June is the usual time for full sets of fresh eggs, although I did find one early nest on May 24, 1913, that held four slightly incubated eggs. My latest breeding record is a nest found June 16, 1916, with four fresh eggs. Almost invariably the nests are in small bushes within four or five feet of the ground, although I did come across one that was but a foot from the ground in a clump of tall weeds.

Scarlet Tanager—*Pyranga erythromelas.*

A common summer resident in the larger stretches of woods. My dates for arrival in the spring are May 4, 1913, and May 9, 1914, and for departure in the fall, October 4, 1913. A nest found May 30, 1913, held three incubated eggs and one of the Cowbird, and was fifteen feet from the ground in a horizontal crotch of one of the lower limbs of a large tree at the edge of a stretch of woods. Another found June 20, 1917, held four well incubated eggs and was fifteen feet from the ground

on top of a small blue beech at the side of a small stream in the woods.

Purple Martin—*Progne subis subis.*

A scarce and irregular migrant, and seldom seen during either the spring or fall migration. I have but one record for 1912, two birds being seen August 17, and but two records for 1914, two birds being seen April 19 and a flock of twenty birds September 1. Attempts have been made to attract this species by putting up large bird houses, but with as yet no success whatsoever.

Cliff Swallow—*Petrochelidon lunifrons lunifrons.*

I have but one record for the occurrence of this species here. On May 13, 1914, a flock of fully two hundred and fifty of these birds was seen on a telephone wire at the side of a road.

Barn Swallow—*Hirundo erythrogastra.*

This species is probably a fairly common summer resident here, although I know of but two barns at Harmarville in which it nests. My dates for arrival in the spring are April 26 1913, and April 19, 1914, and for departure in the fall September 2, 1913. My earliest breeding record is a nest found June 19, 1915, with five incubated eggs, and my latest a nest found July 20, 1912, with five fresh eggs.

Rough-winged Swallow—*Stelgidopteryx serripennis.*

A common summer resident, nesting in the banks along the Allegheny River and even more commonly along Deer Creek. I have never known these birds to colonize, however, but a single pair being found in one spot. My dates for arrival in the spring are April 27, 1912, April 19, 1913, and April 18, 1914. The birds disappear almost as soon as the young are able to fly so I have no actual records for their departure in the fall. My earliest breeding record is a nest found May 22, 1915, with seven fresh eggs, my latest a nest found June 10, 1910, with five well incubated eggs.

Cedar Waxwing—*Bombycilla cedrorum.*

This species is a common migrant here and possibly breeds sparingly, although I have no actual records of its ever having done so. I have never seen it during the winter and it usually arrives very late in the spring, my dates for its arrival being May 17, 1913, May 23, 1914, and, an unusually early date, April 3, 1915. In the fall the last birds were seen November 10, 1912, November 2, 1913, and November 26, 1915, the last being unusually late for the occurrence of this species here.

Migrant Shrike—*Lanius ludovicianus migrans.*

A very scarce migrant. I have but one record for its occurrence here, one bird being seen April 10, 1917, in the top of a small tree at the side of a road.

Red-eyed Vireo—*Vireosylva olivacea.*

A common summer resident in the scattered short stretches of woods. My dates for arrival in the spring are May 4, 1912 and May 2, 1914, and for departure in the fall October 3, 1913. Breeding data: June 9, 1912, three incubated eggs and one of the Cowbird; June 6, 1914, four incu-

bated eggs; June 6, 1915, four slightly incubated eggs and one of the Cowbird; June 20, 1917, three well incubated eggs. The nests average from four to eight feet from the ground and are almost invariably in saplings and not in the lower branches of the larger trees.

Warbling Vireo—*Vircosylva gilva gilva.*

A common summer resident, with a decided perference for the larger willows found at the edges of the larger ponds and streams. My dates for arrival in the spring are April 24, 1913, and May 3, 1914. In early summer the birds stop singing and few are seen then before all have disappeared for the year.

Yellow-throated Vireo—*Lanivireo flavifrons.*

A fairly common summer resident. They spend their time almost entirely in the upper branches of the larger trees at the edges of the woods, and they likewise nest well up from the ground, where their nests are hard to find and even harder to get at. One bird that I trailed for several hours was building in the very top of a large white oak at the side of a road and my limited experience would indicate that this is a situation often chosen for the nest. My dates for arrival in the spring are May 7, 1913, and May 2, 1914, and for departure in the fall September 4, 1912, and September 7, 1913.

Blue-headed Vireo—*Lanivireo solitarius solitarius.*

This species is probably a regular and more or less common migrant here, although my records for its occurrence are rather meager. During the fall migration of 1913 birds were seen at infrequent intervals from the 4th through the 26th of October, and in the spring of 1914 one bird was seen on the 25th and 26th of April.

Black-and-White Warbler—*Mniotilta varia.*

A common summer resident in ravines and on wooded hillsides. My dates for arrival in the spring are April 20, 1912, April 26, 1913, April 24, 1914, and April 21, 1916 and for departure in the fall September 17, 1912. I have seen young birds but recently out of the nest being fed by the old birds, but have never succeeded in finding a nest with eggs or young.

Worm-eating Warbler—*Helmitheros vermivorus.*

A common summer resident, but found nowhere but on wooded hillsides. My dates for arrival in the spring are May 3, 1913 and May 2, 1914, and for departure in the fall August 10, 1912, August 15, 1913, and, an unusually late date, September 5, 1914. A nest found June 3, 1911, held five newly hatched young and was in a depression in the ground at the foot of a small bush on a steep wooded hillside.

Blue-winged Warbler—*Vermivora pinus.*

I have but one record for the occurrence of this species here, two birds being seen May 9, 1914, feeding in underbrush at the edge of a short stretch of woods.

Golden-winged Warbler—*Vermivora chrysoptera.*

A common summer resident about old clearings or fields overgrown with shrubbery underbrush. They seem to prefer the vicinity of woods and the deeper in the woods a clearing may be the more probable it will

be that a pair of these birds will be found breeding there. My dates for arrival in the spring are May 5, 1912, May 3, 1913, and May 2, 1914, and for departure in the fall August 7, 1912, and August 13, 1913. A nest found May 25, 1913, at Harmarville held five fresh eggs and was well concealed in the deep grass near one end of an old deserted apple orchard.

Nashville Warbler—*Vermivora rubricapilla rubricapilla.*

This species is a fairly common migrant here but is one that is easily overlooked. This is specially true in the fall when its dull plumage is so much like that of many others of this family then much in evidence. April 26, 1914, is my earliest record for the spring migration and May 16 of the same year my latest. For the fall migration I have but two records, single birds being seen September 4, 1914, and September 16, 1916.

Tennessee Warbler—*Vermivora peregrina.*

This species is probably a fairly common migrant here, although my records indicate that I pretty well overlooked it. My two records are both for the spring migration of 1914, two birds being seen May 12 and one bird May 13.

Northern Parula Warbler—*Compsothlypis americana usneae.*

This species is fairly common during the spring migrations, but I have but one record for the fall. April 26, 1914, is the earliest I have ever seen it in the spring, and May 23, 1915, is the latest. My one fall record is a single bird seen October 4, 1913.

Cape May Warbler—*Dendroica tigrina.*

A regular but scarce migrant. My records for the spring migration are single birds seen May 13, 1913, and May 10 and May 14, 1914. My one record for the fall migration is a bird seen September 16, 1916.

Yellow Warbler—*Dendroica aestiva aestiva.*

A common summer resident in underbrush at the side of roads and bordering open fields. My dates for arrival in the spring are April 21, 1912, April 23, 1913, April 23, 1914, and April 21, 1916, and for departure in the fall August 10, 1912, and August 7, 1913. Nesting is started at almost the same time by practically all the birds, with the result that there is very little variation in the date when full sets of fresh eggs may be found. A nest found May 18, 1912, with five fresh eggs, is my earliest breeding record, my latest a nest found May 26, 1915, with five slightly incubated eggs. May 21 is the average date when the majority of the birds are incubating full sets. The nests vary from five to twenty feet from the ground and may be placed in elderberry bushes in thickets or in saplings or larger trees at the side of a road or at the edge of a field. One unusual situation was a nest built on the top of an old Goldfinch's nest, where it was remarkably well concealed. The nests are almost invariably compactly built of gray plant fibres and grasses, lined with plant down and horse hair.

(To be Concluded in Our Next Issue)

A NEW DOVE FROM FLORIDA

Zenaidura macroura peninsulari

(Florida Mourning Dove)

BY H. H. BAILEY

The type skin, No. 911 Bailey Collection Natural History, H. H. B. Collector, Miami Beach, Florida, February 3, 1923, can be easily distinguished from Zenaidura m. carolinensis in being smaller in all measurements, with upper tail coverts, secondaries, and entire length of back rusty, and belly and under tail coverts light buff, chest cinnamon, with little or no metallic on sides of neck. Female lacks the metallic gloss on neck, with chest olive instead of cinnamon as with male; feet and legs red.

As with the little sparrow hawk (*Falco s. paulus*), this dove can be distinguished in the field from the northern form by its size. Resident on the Peninsula of Florida the year round; no doubt intergrading with the large form through North Florida and Georgia.

Zenaidura macroura carolinensis

MEASUREMENTS IN INCHES AND TENTHS OF INCHES

Sex	Date	Locality	U. S. N. M. No.	Total Length	Wing	Tail	Culmen
Adult Male	April 12, 1888	Washington, D. C.	121450	11.1	6.	6.1	.53
Male	May 3, 1889	Laurel, Md.	176371	12.7	5.95	6.2	.65
Male	April 17, 1894	Patuxent River, Md.	220575	12.8	6.2	6.5	.6
Male	April 5, 1910	Washington, D. C.	212657	12.4	6.	6.	.6

Zenaidura macroura peninsulari

FLORIDA SPECIMENS

Male	Feb. 3, 1923	Miami Beach, Fla.	B. C. 911	10.	5.4	5.	.6
Female	Feb. 1, 1923	"	B. C. 903	9.5	5.5	4.9	.6
Male	Feb. 1, 1923	"	B. C. 902	11.	5.8	5.6	.6
Female	Feb. 3, 1923	"	B. C. 910	10.2	5.7	5.5	.6

THE WILSON BULLETIN

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EDITORIAL

Members should notice the announcement of our secretary that the next Annual Meeting will be held in Cincinnati in connection with the meeting of the American Association for the Advancement of Science, during the week in which the first of the year occurs. We ought, even at this early date, to be making our plans to attend this meeting. We may expect many of our members who live so far south that they have not felt able to attend the meetings that have been held in Chicago to attend this meeting, and we want to meet them.

According to his usual custom, the editor will be on the road with a party of students during the summer beginning on June 21st and will in all probability not be back in Oberlin until the middle of September. But letters may be addressed to 143 West College Street, Oberlin, O., and those that are urgent will receive attention. Generally speaking, it will be better to await his return home. But articles and notes inended for publication in the pages of the Wilson Bulletin may be sent in at any time.

We are pleased to note the vigorous prosecution of the bird-banding work, under the able direction of Mr. Baldwin and Mr. Lyon. So much of banding is certain to result in the collection of data that will be of invaluable aid in the further understanding of bird movements, at least, and almost as certainly in the advancement of our knowledge of their breeding and other habits.

MINUTES OF THE TWENTY-FOURTH ANNUAL MEETING OF THE NEBRASKA ORNITHOLOGISTS' UNION

One of the most successful and enjoyable meetings ever held by the Nebraska Ornithologists' Union took place at Fairbury, Nebraska, on Friday and Saturday, May 11 and 12, 1923. The sessions included a dinner Friday evening, followed by a public program and a business meeting, and a field day on Saturday. The meeting was the twenty-fourth annual meeting of the organization, and the members of the N. O. U., with their escorts and friends, were guests of the Bird Study Department of Fairbury Women's Club at this meeting.

The members and their friends assembled at the Mary-Etta hotel for dinner at 6:30 p. m., immediately after which they joined the local bird enthusiasts at the First Baptist Church, where the public program was held. About seventy persons were present. Mrs. H. F. Hole of Fairbury, called the meeting to order at 8:15 p. m., and on behalf of the Bird Study Department of the Fairbury Women's Club extended a cordial welcome to the visiting members of the N. O. U., which was responded to by Mrs. Addison E. Sheldon, President of the N. O. U. Mrs. Sheldon called upon the Secretary to explain the aims, history and achievements of the N. O. U. briefly, and to take the chair during the Presidential Address. This was on the subject, "American Poets as Ornithologists," and was much enjoyed by the audience.

Following the Presidential Address a symposium on the sparrow family (*Fringillidae*), as represented in Nebraska, was held. This symposium was conducted similarly to the symposium on the shore birds given at the 1922 meeting of the N. O. U. and the same persons participated. Prof. M. H. Swenk exhibited specimens of all of the "streaky" members of the family pointing out the best characters by which they could be identified in the field and outlining a key for field use, employing plumage, song and habitat characters. Prof. R. W. Dawson presented a chart illustrating graphically the migration of twenty species of the commoner Nebraska *Fringillidae*, chiefly the streaky sparrows, based on data compiled from over 500 field trips at Lincoln. Dr. R. H. Wolcott took up the nesting habits of the *Fringillidae* known to breed in Nebraska, illustrating his remarks with specimens of eggs of the several species discussed. The symposium concluded with a general discussion of the subject. The plans for the field day were then announced and discussed, after which a short recess was taken to enable those present who were not members of the N. O. U. to retire if they desired before the organization went into business session.

The President called the business session to order at 10:30 p. m. On motion, the reading of the minutes of the previous meeting was dispensed with, as they have been published in full in the June, 1922, number of the Wilson Bulletin. The President reported briefly for her office, following which the report of the Secretary-Treasurer was presented. The President then appointed an auditing committee, consisting of Dr. R. H. Wolcott and Miss Mary St. Martin, to examine and report upon the financial statement of the Secretary-Treasurer, and a nominating committee,

consisting of Mrs. L. R. Button, Prof. R. W. Dawson, and Mrs. H. C. Johnston.

Election of new members being next in order the Secretary-Treasurer reported that nine names had been presented by members of the N. O. U. for action at this meeting, as follows: Prof. C. O. Carlson of Crete, Mrs. George L. Day of Superior, Mrs. Charles Groves of Superior, Mrs. E. A. Holbrook of Lincoln, Mrs. George W. Trine of Red Cloud, Mrs. George O. Smith of Lincoln, Mr. Anton Stipek of Wilber, Mrs. T. H. Wake of Seward, and Mr. Leighton O. Williams of Lincoln. After discussion, on motion all were elected to membership in the society.

Two amendments to the Constitution of the N. O. U. next came up for consideration and action, the required one month's notice to all members having been given by the Secretary. They were as follows:

Article II, Section 2. "Honorary members shall be elected for their eminence in ornithology or for distinguished services in furthering the aims for which this Union is establshed."

Replace by "Honorary members may be elected for their eminence in ornithology or from among the members of the Union, past or present, for distinguished services in having furthered the aims for which this Union is established. Election shall be by the approval of three-fourths of the members voting on names submitted by the Executive Committee through a special mail ballot to be sent by the Secretary to all members of the Union in good standing."

Article VIII, Section 1. "The annual dues of the members shall be two dollars ($2), due in advance at the time of election to membership and on the date of each annual meeting thereafter. These dues shall also entitle the members to active membership in the Wilson Ornitho logical Club."

Omit the word "active" before membership in the second sentence.

The Secretary explained the objects of these amendments, which were, briefly, to make possible the recognition of some of our older Nebraska ornithologists at the quarter century annual meeting of the N. O. U. in 1924, as well as to provide a definite manner of electing to the class of membership, and to make the constitution conform with the revised articles of agreement with the Wilson Club adopted at the 1922 meeting of the N. O. U. After discussion both amendments were unanimously adopted.

Next in order of business was the presentation by the Secretary, and discussion by the members, of a plan to publish the long-proposed "Birds of Nebraska" in parts, issuing one each year until the book, which it is estimated will be of about 800 pages, is complete The plan met with general approval, and, on motion, the Secretary was authorized to proceed along this line, and, if possible, to publish the first part before the quarter centennial meeting of the N. O. U. next year.

The auditing committee then reported that the financial report of the Secretary-Treasurer, with accompanying vouchers, had been examined and found to be correct. On motion the report was accepted. The nominating committee then reported, and it was voted that the Secretary cast the unanimous ballots of the Union for the following officers for 1923:

President—Dr. R. H. Wolcott, Lincoln.
Vice-President—Rev. J. M. Bates, Red Cloud.
Secretary-Treasurer—Prof. M. H. Swenk, Lincoln.

Fifteen members were present at this session of the N. O. U., as follows: Mesdames Lily R. Button, Margaret M. Cory, Blanche Garten, H. F. Hole, H. C. Johnston, G. A. Loveland, L. H. McKillip, Mary St. Martin, Addison E. Sheldon, and Fred W. Tyler, and Messrs, J. M. Bates, R. W. Dawson, M. H. Swenk, R. H. Wolcott, and Leonard Worley.

Adjournment at 11:15 p. m.

On Saturday, May 12, the twenty-first annual field day of the N. O. U. was held. Following an early light breakfast start was made at 6:00 a. m. from the Mary-Etta Hotel. Forty-six persons participated in the field day. Four parties of about ten each were organized under the leadership of Messrs. R. W. Dawson, M. H. Swenk, R. H. Wolcott, and J. T. Zimmer, and local leaders acquainted with the territory, and available cars carried the parties to the following localities: (1) Rose Creek, about four miles south of Fairbury; (2) Kesterson woods, on the Little Blue River, south of Fairbury; (3) Crystal Springs, a splendid place for water birds, just west of town; and (4) the Fairbury Bird Refuge, about three miles north of Fairbury. All of the field parties reassembled at 10:45 a. m. at the Christian Church at Fairbury for a substantial breakfast served by the Fairbury hosts of the Union. A special treat occurred directly after this breakfast when Mr. J. T. Zimmer, a former member of the N. O. U., who has just returned from a fifteen months' ornithological collecting trip in Peru in the interests of the Field Museum of Chicago, gave an intensely interesting talk on the bird life of that region. At noon the parties returned to the field and continued until the middle of the afternoon. Although the morning was unseasonably cold and raw, a composite list of one hundred and fourteen birds, exceeding by nine the record 1922 list, was obtained, as follows:

Bluebird, Robin, Olive-backed Thrush, Gray-cheeked Thrush, Wood-Thrush, Blue-gray Gnatcatcher, Long-tailed Chickadee, Tufted Titmouse, White-breasted Nuthatch, Western House Wren, Brown Thrasher, Catbird, Mockingbird, Redstart, Yellow-breasted Chat, Maryland Yellow-throat, Kentucky Warbler, Louisiana Water-Thrush, Oven-bird, Cerulean Warbler, Myrtle Warbler, Yellow Warbler, Tennessee Warbler, Black and White Warbler, Bell Vireo, Yellow-throated Vireo, Warbling Vireo, Red-eyed Vireo, Migrant Shrike, Cedar Waxwing, Rough-winged Swallow, Tree Swallow, Barn Swallow, Cliff Swallow, Purple Martin, Scarlet Tanager, Dickcissel, Indigo Bunting, Western Blue Grosbeak, Black-headed Grosbeak, Rose-breasted Grosbeak, Cardinal, Arctic Towee, Towhee, Lincoln Sparrow, Song Sparrow, Western Field Sparrow, Claycolored Sparrow, Chipping Sparrow, Gambel Sparrow, White-crowned Sparrow, Harris Sparrow, Lark Sparrow, Western Grasshopper Sparrow, Savanna Sparrow, Goldfinch, Bronzed Grackle, Baltimore Oriole, Orchard Oriole, Western Meadowlark, Meadowlark, Red-winged Blackbird, Yellow-headed Blackbird, Cowbird, Crow, Blue Jay, Prairie Horned Lark, Least Flycatcher, Traill Flycatcher, Phoebe, Crested Flycatcher, Arkansas Kingbird, Kingbird, Chimney Swift, Yellow-shafted Flicker, Red-bellied Woodpecker, Red-headed Woodpecker, Northern Downy Woodpecker, Hairy Woodpecker, Belted Kingfisher, Sparrow Hawk, Pigeon Hawk, Red-tailed Hawk, Cooper Hawk, Sharp-shinned Hawk, Marsh Hawk, Turkey Vulture, Mourn-

ing Dove, Bob-white, Piping Plover, Semipalmated Plover, Killdeer, Spotted Sandpiper, Solitary Sandpiper, Yellow-legs, Greater Yellow-legs, Semipalmated Sandpiper, Least Sandpiper, Baird Sandpiper, White-rumped Sandpiper, Pectoral Sandpiper, Long-billed Dowitcher, Wilson Snipe, Wilson Phalarope, Coot, Sora, Green Heron, Great Blue Heron, Bittern, Shoveller, Blue-winged Teal, Widgeon, Franklin Gull, and Pied-billed Grebe.

The most interesting nest find of the day was that of a pair of Yellow-throated Vireos, just completed. Occupied nests of the Long-tailed Chickadees, Brown Thrasher, Cardinal and Phoebe were also found.

Report of the Treasurer, 1922-23

Receipts

Cash on hand, May 19, 1922	$ 79.04
Annual dues collected	67.50
Sale of publications	246.68
Interest on investment	12.75
	$405.97

Expenditures

Wilson Bulletin (subscriptions)	$ 63.00
Postage and Stationery	54.90
Purchase of $250 Liberty Bonds	247.18
Balance on hand, May 1, 1923	40.89
	$405.97

BIRD BANDING DEPARTMENT

Under the Direction of Wm. I. Lyon, Waukegan, Ill.

AN APPEAL TO BIRD BANDERS

In order to make this section of the Bulletin more interesting it is necessary that the readers send in general reports of the work at their Banding Stations, giving us monthly or quarterly, the totals of each kind of birds banded, repeats, returns, and any special interesting facts. When you discover a successful bait or a new form of trap, be generous enough to send us pictures and descriptions so that we may pass along the good word to the other Banders so they may profit by your success. Do your bit by sending in something to help us make this a real live Bird Banding News Department, send in your general report from January first to August of this year promptly so we may use it in next issue.

We have been writing all over the world trying to find out the best methods and means for catching birds. We have imported some Clap Nets, Half Overs and Bat Nets, which seem to be successfully used in catching birds in Europe. We hope to have them tried out very soon so we may give the readers of this department the benefit of the results.

From all appearances, a small Half Over net with a trip line that can be carried in your pocket and the two stakes that are about the size of a cane, should be a winner for those who have to trap away from home. If we find it successful we will make arrangements with a net firm to have these manufactured so we can distribute them to anyone wishing the same.

Baby chick feed has proved itself the best general bait for Finches and Sparrows. A good addition is a small percentage of hemp, canary and sunflower seed. We like a few cranberries during the season that they are available; if the birds do not eat them they at least add to the color scheme and possibly may be attractive in that way. They look good to us in the trap, so we believe they must tempt the birds. This year we found that cut apples will tempt many kinds of birds that we were unable to trap before, and advise that you try this.

At this time of the year you should consider your fall and winter trapping. We have found that the Finch and Sparrow family stay close to the bushes so that they may dodge through them in case of emergency. If you have no shrubs or bushes, this is the time to plant them, using those that bear fruit to attract birds. We have found a good method to use in the fall of the year was simply to gather brush and stick it into the ground surounding a trap, adding some stalks of sunflower, golden glow, and other seed-producing varieties to tempt the birds. In this way you can build a natural bird cover around your trap station which will last all winter. Do not forget to use up your Christmas tree in this manner. The surroundings are very important to your trapping station and

you should study the locations where you see the most birds feeding, as a matter of future reference for your own trapping station.

We had one winter boarder at the Waukegan station during the past season,—a White-throated Sparrow seemed to feel that the feed in the traps made an easy living and he staid on through December and January and was last trapped about the middle of February. He became so trap-wise it was very hard to adjust the wires on the throat of the trap to catch him, as he knew just exactly the spot to escape.

The Tree Sparrows proved themselves to be good returners, and we again wish to state that we believe there should be a united effort to trap these birds so that we could get a better line on their travels.

A year ago the Bohemian Wax-wings came into our yard and we tried every bait that we could possibly think of. We watched them carefully and everything that we saw them feed upon we used in the trap, but were unsuccessful in catching them.

The past winter season the Cedar Wax-wings came in December, and again we tried everything we could think of to trap them. Finally we discovered that cut apples apparently would tempt them. Then came the successful night, when we found we had six birds in the trap. The next night nineteen were trapped, with twenty-nine for the next evening, and finally fifty-one were banded in one day. At the end of about three weeks we had placed an even two hundred bands on Cedar Wax-wings. We counted the number of wax tips on their wings and found the average to be seven on each side. There were many irregularities to this rule. A few we found had as high as nine on each side. Some of them had one or two extra large ones, with the remainder being quite small. There seemed to be much variation in these wax appendages.

You can imagine our surprise and pleasure at receiving a letter from Mrs. H. C. Miller of Racine, Wis., stating she had trapped the Cedar Wax-wing No. 66322 and inquiring if that could possibly be our bird. We hastened to write that we had placed that band on the bird just twelve days before she trapped it, twenty-five miles further north. Mrs. Miller had also discovered that apples were the attractive bait. We believe if you cut apples you will find this will make a good addition to the bait for most any birds.

In looking up the Wax-wing we found some authorities claim that the red tips sometimes came on the tail, but by careful examination with a glass we were unable to find any trace of red on the tails of any of the two hundred examined.

The Song Sparrow was the first return migrant to be trapped this season and appeared about the middle of February. In fact we had trapped four or five Song Sparrows before we had any other return migrants.

The new tree trap proved successful with Woodpeckers. It was made by tacking a piece of wire netting about six inches wide around the tree, letting it slant gradually upward to where both ends came together at a point, covering this over on the outside, so as to make a trap pocket

similar to the funnel method of Sparrow type trap. With this type of trap we caught

10 Downy Woodpeckers
2 Hairy Woodpeckers
6 Yellow-bellied Sap-suckers
33 Brown Creepers
6 Black and White Creeping Warblers

Our surprise came with the Brown Creepers. We found them quicker than any other bird to spy an opening. The next shock came when we saw them deliberately crawl through our ¾-inch mesh netting. Then the No. 1 band was too large and we had to shorten it in order to make it fit them. The old bands were softer so we took a sharp-pointed scissors and cut out a part but have had to lap the new bands.

We believe this type of trap will be a successful one for anyone to add to their collection. The only objection is that it must be nailed to the tree and cannot be made portable.

Red-headed Woodpeckers came to the traps on the ground for the apple bait. We had a pleasant surprise one morning at finding five male Red-headed Woodpeckers in one trap. One of them, however, had forced his head through the wire and choked himself, so all we could save was his skin. The Catbirds came to us in a quantity on May 14, three being caught in one trap at a time and one of the three was the return bird from 1922. Another Catbird proved to be back for the third time, being first banded in 1920; then appeared last year about two blocks from our place and had a nest within two feet of a kitchen window. These people watched it and became very interested and requested us to come over and band the young birds. Upon arrival we noticed the old bird with a band, and with our glasses could see that it was a band a year or more old so we brought over a trap and instructed them how to use it. In a short time they called us up, stating that they had caught the bird and gave us the band number, which proved to be the bird banded in 1920. Now it appears again in our yard in 1923. One other Catbird banded in 1920, on the same day as our much returned bird, returned this year, but where it was in the intervening three years is still a mystery.

Towhees seem to be more numerous this year. At least we have trapped more than usual. In the past they have been very shy birds, seldom repeating, but one particular pair has acquired the trap habit. The female will call to us before we arrive at the trap and if we keep answering she will call back to us many times after she has been released.

One American Crossbill strayed into our yard and was banded, but that was the only one we saw there. There were many others in the evergreens on the Dead River flats, but no other reports of their coming into the city.

A PERSONAL TRIBUTE

Walter Bradford Barrows, B.S., who had been Professor of Zoölogy and Physiology and Curator of the General Museum of the Michigan Agricultural College since February, 1894, died suddenly at East Lansing, Mich., on February 26, 1923.

Bird banding has suffered a great loss in the passing of Professor Barrows. He had an unusual personality, with his broad knowledge of bird life, he was quiet and unassuming, a man of rare mentality and deep sincerity. An hour spent with him convinced one of how much his sympathy and interest would mean to a work such as our Bird Banding. At the close of the American Ornithologists' Union convention in Chicago last fall, Professor Barrows made a trip to Waukegan, Ill., to study traps and methods of banding birds. He discussed the possible benefits of a Bird Banding Department in the Michigan Agricultural College as a means of interesting the students in the work, so that in turn they might carry on the work after leaving the college, also hoping in this way to stimulate the interests of other colleges and universities. Traps were made for Professor Barrows and he had just finished placing them.

It is to be hoped that the college will recognize the worth of the work and have it continued as a tribute to Professor Barrows.

Wm. I. Lyon.

INLAND BIRD BANDING ASSOCIATION COUNCIL MEET IN CHICAGO

At the call of the President, the Councilors gathered for a meeting in Chicago on May 19 at a dinner in the Chicago City Club. After dinner was over they adjourned to the comfortable parlors of President Baldwin, in the Blackstone Hotel. Those present were: S. Prentiss Baldwin, President; Dr. Leon J. Cole, Vice-President; Wm. I. Lyon, Secretary; Percival Brooks Coffin, Mrs. H. C. Miller, Dr. F. C. Test, Councilors; also Mr. Ruthven Dean, represenaing the Chicago Ornithological Society, and Mr. O. M. Schantz, representing the Illinois Audubon Society, were present.

The Secretary's report was read, showing the activities as follows: Personal letters written covering organization and development of membership 500, newspaper reprints distributed 3000, circular letters and application, magazine reproductions sent out 7000, publicity by the Secretary consisting of articles on Bird Banding in newspapers of Chicago and other nearby cities totaling about 100 articles and covering a circulation of about one million; Bird Banding talks given by the Secretary in 24 nearby cities to audiences totaling about 4000, also two talks from prominent radio broadcasting stations. The Secretary's expense account, covering books, stationery, stamps, circulars and mailing, amounted to $119.71, which was allowed.

Mr. Herbert L. Stoddard, Treasurer, was unable to attend, but sent in a report as follows: Memberships received to date 65; total of receipts, $195.00; expenditures, $3.00, which was accepted and allowed. The 65 members cover nearly all of the states in the Inland territory.

Mr. Dean was asked to act as committee on resolutions; Mr. Samuel E. Perkins of Indianapolis, and Albert F. Ganier of Nashville, Tenn., and Professor J. M. Robinson of Alabama Polytechnic Institute, Auburn, Ala., were elected as Councilors.

A motion sent in by Mr. Stoddard to change the rules to read: that an organization may become a sustaining member was passed.

General discussion on all important subjects followed. It was decided to meet in Chicago again in the fall.

The reports show that the Association was progressing very rapidly and that although the membership was not large, it was made up almost entirely of active workers.

It was voted to have Field Secretaries to aid in the promotion work, and T. E. Musselman of Quincy, Ill., was elected.

Mr. S. Prentiss Baldwin reports that Mr. T. E. Musselman, who had charge of Mr. Baldwin's trapping station in Thomasville, Ga., in February and March, in the forty days of trapping took over 4,000 birds from the traps, banded more than 600 new birds and took 73 birds, returns from previous years. Mr. Musselman, not having previously been engaged in Bird Banding, can now surely qualify as an expert; and he returns to his home in Quincy, Ill., with many an interesting story, and a fine collection of pictures and lantern slides, so that he can now give a series of attractive popular lectures on Bird Banding through the area of the Inland Association.

Mr. Baldwin spent three weeks of March at Thomasville and tells of the mornings with Mr. Musselman in taking birds to the studio of the town photographer, who was kept busy with the new kind of sitters, live wild birds, in many positions and various conditions.

Mr. Musselman's story of his experience will appear in the Auk, July number; this will be followed later by an article on the diseased condition of the feet of Chipping Sparrows. Mr. Baldwin and Mr. Talbot have called attention to the very great proportion of Chipping Sparrows, having diseased feet, at his station, and Mr. Musselmen has given this subject much careful observation this year so we hope for some interesting information on the subject.

Samuel E. Perkins, Indianapolis, Ind., reports:

Twenty bands placed on birds in the first quarter of the year. We have noticed that there has been a number of permits issued to Indianapolis lately, and know that they will have an interesting time in watching the repeats of each other's birds at their own stations.

Other Banders should try to get neighbors that are along the same line of flight, a short distance away, interested in the work so they could compare how far birds will range from feeding stations.

M. J. Magee, Sault Ste. Marie, Mich., reports:

For the information of those interested, I had a small flock of Evening Grosbeaks at my feeding station all winter. Within the last month two larger flocks have joined them and I have now over one hundred Grosbeaks feeding. I have thus far banded thirty-one. Expect to band more. The weather has been very bad. We still have two or three feet of snow on the level and at my house the piles at the sides of the walks are seven to nine feet high today. We have had a great deal of wind, consequently the traps drift full of snow. The Grosbeaks are also very scrappy and you do not dare allow more than two or three in a trap at a time or they will do themselves serious injury. Consequently, I have only been able to have the trap out now and then as I happen to be able to watch it, and that was only three times. I expect the weather will be getting better now and I think I will be able to band more of the flock.

My Purple Finch record now stands:

	1921	1922	1923 to May 8 inc.	
Banded	9	248	235	Total 492

"Returns" reported to May 1..... 3
#30642 Adult Male trapped May 2, 4:15 P. M.
Banded July 17, 1922, 7:15 A. M., as young Male or Female
#30637 Adult Male trapped May 5, 3:30 P. M.
Banded July 14, 1922, 7:00 P. M.
#30650 Adult Male trapped May 5, 3:45 P. M.
Banded July 18, 1922, 7:15 P. M. 3

Total returns..... 6

Last year I commented on the fact that the first Purple Finches to come in moved on and were not the ones that were around all summer and nested. Results this year so far confirm this, of all the Finches banded this year to date I have had but two "Repeats."

A letter from a friend at State Line, Wis., states that he believes that Mr. and Mrs. George Fisher have banded every Crossbill in the country. We hope he is right and that they may continue to be successful.

NOTE.—It gives this department much pleasure to include the following report in its columns, as we believe it is the beginning of this kind of work in colleges and other institutions:

AUBURN BIRD BANDING STATION
ALABAMA POLYTECHNIC INSTITUTE
COLLEGE OF AGRICULTURE
DEPARTMENT OF ZOÖLOGY AND ENTOMOLOGY

January 29th, 1923, saw the begnning of a Course in Economic Ornithology in our institution. Twelve men registered for the course. The members of the department have obtained official bird banding permits from the Bureau of Biological Survey at Washington, D. C., and from

the office of the State Department of Conservation, Mr. I. T. Quinn, Commissioner, Montgomery, Alabama.

The department was also able to obtain a bird banding permit from the State Commissioners' office for Graduate Senior Students in Ornithology, each member of the class receiving a permit from the Bureau of Survey at Washington.

We have spent part of the laboratory periods constructing cages of different types. On the 11th of February a Cowbird was found in an insect cage tray, our first catch, 70205. Since then, at various intervals, we have caught 35 Cowbirds.

Mr. A. L. Hamner discovered on the 26th of February that there were a lot of small birds feeding on some hickory nut kernels. We proceeded with a No. 4 trigger trap to catch the BIRDS. We caught them. They were Pine Siskin. Next day many repeated and more new ones came. This was in a path just in front of the green house header, where the students and help were passing many times every hour. Mr. Hamner took time off and built a larger trap with a funnel on each of three sides. Hickory nut kernels were used and the siskin came into the cage in numbers. A small box was placed on the fourth side of the cage with a lighter funnel and this has served as the collecting box for the catch. This trap has been so successful that we have banded 99 siskin. More have come to the trap but our supply of bands of this size is exhausted at present. Forty-eight have repeated and one has repeated five times.

Summary of banding at Auburn Station, March 7, 1923, 9:30 A. M.:

Pine Siskin	99
Cowbirds	35
Brown Thrasher	3
Song Sparrow	1
Total	138

We have as our goal for each student to band fifty birds. We feel that would make us a good beginning as a new station, which we trust will become permanent and be a factor in stimulating interest throughout the country in observing and banding birds instead of shooting birds.

The class roll in Economic Ornithology at our institution is as follows:

Bridges, J. E.
Cladwell, E. G.
Davis, P. N.
Hamner, A. L.
Jones, J. M.
Pistole, W. M.
Pritchett, W. P.
Ruffin, W. A.
Russell, R. O.
Satterfield, R. M.
Savage, Cole
Tatum, C. D.

J. M. Robinson,
Associate Professor, Zoölogy and Entomology.

Walter G. Gerth, Wolsey, S. Dak., reports:

In the night of January 19th to 20th we had a snow storm which, however, was nothing unusual. The next morning one of my pupils

brought a Lapland Longspur to me. It was somewhat crippled. Soon another one came with one that was half frozen. These I quickly took into my house and administered first aid. Thereupon I instructed the boys to find all they could. That afternoon they came with a considerable number of the birds. Many were already frozen, but still others could be helped. Well, that day my house was turned into a bird hospital.

The live specimens I had numbered 22. However, some of these were in such condition that they did not survive, in spite of the care I tried to give them. Nevertheless, 18 of them recuperated. Having a fair sized screen porch I made hasty arrangements to place them there until favorable weather conditions may permit their departure. Needless to say, these birds brought me much entertainment, for they were a merry sort. Some of the males were rather restless at times and preferred to have their freedom. A few would bite at times when I would handle them, but the majority were well behaved. Soon they forgot their shyness, for they quickly learned that they received their feed quite regularly.

At feeding time they would first flit away, but no sooner would I make a break to go to the door, then would quickly come back to feed. As long as I had access I fed them millet tops. These they seemed to like the best. I also tried bread crumbs with lard poured over them, also an occasional piece of suet. At times I would coax them to take food from my hands. On one occasion I succeeded. I suppose they would have done this oftener had I kept it up, but time did not always permit me to tarry long.

Sometimes I would change the place where I put the feed and it was then interesting to see them look for it. They expected food everytime I came out to them. Now if (a few could) they could not see it at once, a few would go on the search. Having found the treasure in some corner or box they would utter their melodious call and soon they would all be enjoying a hearty feast. If the box would be six or eight inches high I would lean a light board against the side. Soon the little fellows would find the reason for the "gangplank" to the mess hall.

It was during this time that I thought of banding them before setting them free. After much inquiry I finally was directed to the Agricultural Department for a license and bands. During the course of time some of the birds were seeking freedom and flew away through a hole in the screen which I had not detected before. Thus fourteen remained to be banded. One of these died from some unknown cause, so lucky thirteen were still there awaiting the bands. Of these I was able to band ten. They being banded, I opened the door to their freedom. Eight of them left the same day; the other five remained, but I kept the door open every day. However, they seemed to prefer their present location to freedom, for even though I left the door open every day, they would still be there in the evening.

On Tuesday we got two of them to fly out, but they seemed as though they felt they were driven away from home. Three times the two circled the house before they perched on one of the limbs of a nearby tree, where they remained for some time uttering their plaintive call. I thought they would be back the next morning, but they were off.

Now my bird family is reduced to three. They have perfect freedom to go when they choose, but I guess they are well pleased where they are. The large door is open daily, and to induce them to fly away I set their feed just before the open screen door. And what do you think? The other day one of them hopped down on the front stairway to peck at something. Then, hearing a sound, instead of flying away, no, she politely flies back where she came from, just like a child that quickly runs into the house when it fears something outside.

Thus, Mr. Lyon, I have had both profit and pleasure from having these little feathered friends with me. Next winter I will be prepared to take care of more of them in case they should be overcome by a storm. Guess then I'll have to hire a nurse to care for my patients while I tend to my regular duties.

Walter G. Gerth.

Wolsey, S. Dak.

FIELD NOTES

A CHARNAL HOUSE FOR A HONEYMOON

On July 11 and 14 a pair of house wrens nesting in a box in the yard were banded and the family to come was evidenced by the three eggs in the nest.

We went on a trip up North and were gone about ten days. When we returned we knew something was wrong, for while two wrens kept going in and out only one wore a band.

After two or three days the wrens did not go to the nest and my son climbed the tree to investigate.

He lifted the cover and found an attempt had been made to build a new nest on top of the other and quite a quantity of sticks and nesting material had been carried in.

The odor was strong and he, upon close examination, saw a little head under the pile of nesting material.

He removed all this with considerable pulling and was amazed to see the little banded Mother setting on four eggs dead, and decomposing, and with one egg still attached by a membrane.

Her faithless Spouse had already taken a new mate, had attempted to turn the charnal house into a home and raise a new brood, until he was forced to abandon the venture on account of the odor.

Mrs. H. C. Miller.

Racine, Wis.

NEW LOCALITY FOR THE WOOD DUCK

On March 29, 1923, at 10:30 A. M., a pair of wood ducks were seen on Stoner Creek, Bourbon County, Kentucky, about one and one-half miles from Paris, Ky. This is the first record for the wood duck for the Blue Grass region of the state. The male and female were swimming side by side close to the shore and offered an excellent opportunity for observation. Weather clear and cold. Observers: Victor Dodge, Professor A. M. Miller, and Dr. W. D. Funkhouser of Lexington, Ky.

W. D. Funkhouser.

University of Kentucky.

BACHMAN WARBLER AT VERSAILLES, KENTUCKY

On May 12, 1923, I picked up in the edge of Versailles, Ky., the lifeless body of a Bachman's Warbler in rather bad condition, but sufficiently well preserved to make identification accurately. This is the first specimen I have ever found here in my several years' of intensive study. It helps to corroborate the notes on this species from Bowling Green, Ky., by Gordon Wilson, published in the April, 1922, Auk.

Dr. L. O. Pindar,

President of the Kentucky Ornithological Society, Versailles, Ky.

BALD EAGLE IN FRANKLIN COUNTY, KENTUCKY

About May 1, 1923, I was in the office of the Kentucky Fish and Game Commissioner at Frankfort. While there I saw a mounted specimen of a young Bald Eagle in the dark plumage (the "Black Eagle"), killed last fall in Franklin County. When I lived in that county there was a tradition that a pair of Bald Eagles had lived and nested for years in a certain tract of woods near Woodlake, about seven miles from Frankfort. I looked and hunted for them faithfully during my residence there (from March 1, 1897, to November 3, 1904), but never saw one, and did not include the Bald Eagle in my list of birds of Franklin County, though I did note this legend as indicating that formerly these birds had probably nested there. According to the information received from Mr. Meredith, the Superintendent of Game Wardens of Kentucky, this eagle was killed in or near the exact locality indicated by the tradition referred to above and seems to confirm the tradition.

Dr. L. O. Pindar,
President of the Kentucky Ornithological Society, Versailles, Ky.

RANDOM NOTES FROM COLUMBUS, OHIO

The European Starling appears to have established itself permanently in this vicinity. I first observed it on November 20, 1921. In the fall of 1922 several individuals were seen in widely separated localities. This winter, a flock of over 30 has been seen continuously near Greenlawn Cemetery.

At least two Myrtle Warblers spent the winter in Greenlawn Cemetery this year. Although they appear to winter not uncommonly in the East, this is the first winter record for Ohio which has been called to my attention.

On March 18 at Buckeye Lake, a party of which I was a member observed what certainly must have been a male of the Barrow's Goldeneye. The specimen was quite tame and was well observed in a good light. All of the five members of the party were equipped with 8x prism binoculars and in addition I viewed the bird through a 30x telescope. The distinguishing characteristics were carefully noted: purplish gloss to head; long narrow white spot at base of bill, fully one inch in length, and the comparative lack of white on the shoulders and scapulars as contrasted with the other species. I am satisfied that I saw two males of the same species in early March of last year, also, but was unable to verify the identification.

Due, no doubt, to the open winter and the abundance of beech nuts and wild fruits of all sorts, many more birds wintered in this vicinity than usual. Red-headed Woodpeckers were to be found in every beech woods. Robins and Bluebirds were not uncommon. In common with other localities throughout the United States Pine Siskins were seen frequently all winter, as were a few Redpolls. Other rather unusual winter species were: Red-breasted Nuthatch, Rough-legged Hawk, Towhee, Wilson's Snipe, many flocks of Cedar Waxwings, and numbers of Meadowlarks.

On January 28 a flock of about ten Black Vultures were carefully observed below Sugar Grove, 37 miles southeast of Columbus, and for some time we had an opportunity to note their distinctive characteristics.

EDWARD S. THOMAS.

Columbus, Ohio.

NOTES ON THE FLORIDA BURROWING OWL

In looking over some Burrowing Owls (*Speotyto*) from Florida, I noticed those taken at Miami Beach were much darker than those from the interior of the state. This owl is rather rare in the costal area, and does not at the present time occur on the large prairies adjoining Cape Sable. No doubt the large filled-in area around Miami Beach, and the three golf courses, has attracted these birds to this point, though I have noted them further north, along the Ocean Boulevard,* where no clearing other than the right-of-way has been. A comparison of my interior state specimens (Okeechobee), with specimen kindly loaned me by the National Museum (Kissimmee River), compare favorably, though mine were taken in the breeding season, May, while theirs were in February. In comparing the Bahama form of *Speotyto*, kindly loaned by the National Museum, with those of Florida, I find the breeding bird (June 28) worn and in the same plumage as the Okeechobee breeding birds, while the winter plumage, December 20th, Bahama birds correspond equally as well with the February birds from the interior of Florida.

Personally, I find little, if any, difference to have made the Bahaman form from. As a rule, all males in the *Speotyto* run lighter in color than the females, though I have one female from the Beach that corresponds favorably with a male. I have always been opposed to the hair splitting subspecie game, unless the specimen can show some great and easily distinguished difference in color or size (such as *Falco S. paulus*). While the coastal birds are easily distinguishable by their darker coat and heavier white markings in wings and back, and finer markings of white on head, I am refraining at the present time at least from becoming a real hair splitter.

H. H. BAILEY.

Miami, Beach., Fla., March 5, 1923.

* See Oologist. Nov., 1922, Page 164.

A BABY HUMMER

One day last spring, 1922, while I was taking my Nature Study class on a field trip, we saw a full-grown female Hummingbird rise from a tree and fly across an open space. What seemed to be a large Bumblebee followed her. Purely by accident I looked closely at the supposed Bumblebee, only to find that it was a baby Hummingbird, not one-fourth the size of its mother. Since I was within a few feet of the birds I could not possibly be mistaken, especially when three dozen students

saw the same thing, many of them independently of the others. Though the Hummingbird has been known to me all my life, I have never at any other time seen a baby bird so much smaller than the adult. Doubting whether I should write this note for publication, I told the incident to Dr. L. O. Pindar of Versailles, Kentucky, who is the veteran bird student of this state. He records that he had never seen anything like this until last spring also. I should like to know how common this phenomenon is. We have all seen young Bobwhites only a few hours old running around in a meadow, and flying before they were grown, but I have been unable to find any reference to Hummingbirds sharing this precosity.

GORDON WILSON.

Bowling Green, Ky.

A BUFF-BREASTED SANDPIPER

As a rule, sight records of very rare birds must be taken charily. When I published in *Auk* my check-list of birds for this locality I was afraid of casting doubt upon my whole record of ten years' study here if I included the Buff-breasted Sandpiper, two of which I recorded at close range in April, 1918. On September 7, 1922, while I was standing at the edge of Hobson's Marsh near this town a sandpiper flew up within a few feet of me. I followed it to the opposite side of the pond, where I stood within ten feet of the bird for several minutes. At first I thought it was the Pectoral Sandpiper but I soon saw that it lacked the distinctive markings of that species. Fortunately, I had in my hands a bird-book with a very good drawing of the Buff-breasted Sandpiper, accompanied by an accurate description of its markings. The markings of this bird so closely coincided with those of the picture and the description that there is no doubt in my mind that it was really the Buff-breasted. I told the story of my find to Mr. A. F. Ganier, who was convinced that my identification was correct and who advised me to submit my data to the Editor of the Wilson Bulletin for publication.

GORDON WILSON.

Bowling Green, Ky.

SOME NEW WINTER RECORDS

The early part of the winter just past, 1922-23, was very mild here. I suppose it was for this reason that three birds which are usually found only in the summer spent the entire winter: the Red-headed Woodpecker, the Bronzed Grackle, and the Red-winged Blackbird. There is great irregularity about the winter distribution of the Red headed Woodpecker in this state. In some sections farther north it is always found the year round but my latest previous record for this place was October 15 (1921). Though it was not found in the same abundance as in summer, there never was a time this winter when three or four could not be seen on an afternoon walk. The Red-winged Blackbird has always stayed late in the fall, November 12 (1921) being my latest record, but this winter it was common throughout the months of January, February

and March, having also been seen in numbers during Christmas week. The Bronzed Grackle has shortened its stay in the South for several winters, its season here being in 1920, February 22 to November 27; in 1921, February 4 to November 23. In 1922 it arrived January 21 and has been common to abundant ever since that time. In spite of very severe winter weather in February and March, 1923, it, unlike its habit in former years, remained common. Just as the unusually severe winter of 1917-18 caused birds not previously seen here to remain even several weeks, such as the Tree Sparrow, which has been a regular winter resident ever since, so, I believe, the recurrence of mild winters might cause some more of our summer residents to become permanent residents.

GORDON WILSON.

Bowling Green, Ky.

MIGRANT SHRIKE NESTING IN KENTUCKY

In my eleven or twelve years' experience as a bird observer here I have found only two nests of the Migrant Shrike, one in the spring of 1912, the other on April 11, 1923. The first nest contained four young just out of the shell and was a crude affair of honey-locust thorns and coarse sticks. The female bird flew off the nest just as I came near and scolded in her harsh way as long as I was around. The male was building the nest I found recently and had it almost finished. The Migrant Shrike is such a very rare bird here that I usually see no more than three or four in a single season. Consequently, I have felt considerable pride in my recent find.

Bowling Green, Ky. GORDON WILSON.

AN UNUSUAL FIND OF DUCKS

On April 13, 1923, I was motoring with a party of friends through the southern part of Warren County. There had been a number of heavy rains and all the lowlands were flooded. At the farm of Mr. C. U. McElroy, near Rich Pond, Kentucky, some hundred acres were covered with water from an inch to several feet in depth. Over this entire area there were flocks of ducks, estimated by the members of the party as fully ten thousand in number. Flocks were continually leaving or arriving. As a severe thunder-storm was coming, it was impossible for me to study the ducks at close range. Consequently, I could recognize only those small flocks which came near the road. These flocks were made up of Blue-winged Teals and Mallards, but some of the ducks on the pond seemed to be large and dark colored. In 1912 I visited this same pond, finding, besides the common ducks of our ponds and rivers, the White-winged Scoter and other rarer ducks. It is unusual here to see at any time of the year more than twenty or thirty ducks, though along the numerous large rivers of Kentucky greater numbers are often seen.

GORDON WILSON.

Bowling Green, Ky.

NOTES—HERE AND THERE

Conducted by the Secretary

The new Secretary owes the members of the Wilson Ornithological Club an apology for making such a late bow. When he succeeded Mr. A. F. Gainer of Nashville, Tenn., as Secretary, he hoped to continue the column so ably edited by his predecessor. When the March Bulletin went to press, he was dangerously ill with influenza and was unable to supply any news or notes. Now, when he is himself again, he wishes to thank the Club for accepting him on Ganier's recommendation, and to assure the Club that he can think of nothing greater for him to do than to give the cause of ornithology the same tireless service that made the former Secretary well-known and respected all over our country.

* * * * * * * * *

The Gray-Von Allmen Sanitary Milk Company of Louisville, Ky., have issued a very attractive series of blotters which have lithographs in natural colors of some dozen of our common birds. The scenic background illustrating the habitat of the birds is well done, also.

* * * * * * * * *

Mrs. Lewis H. Mounts, one of our members, formerly of Cedar Rapids, Iowa, is now a teacher in the Ballard Normal School in Macon, Georgia. She reports a general disregard of the sacredness of bird life in her section, and especially condemns the wanton destruction of song birds. Birds are rigidly protected on the campus of the school in which she is a teacher, and this start will help, we hope, the cause of bird protection.

* * * * * * * * *

Mr. Ben J. Blincoe of Dayton, Ohio, is preparing for publication his extensive notes on bird life in Nelson County, Kentucky, his former home. There have been many changes since C. W. Beckham published his check-list on that region in 1885, and Mr. Blincoe's careful studies will be welcomed, especially by the few bird students of Kentucky.

* * * * * * * * *

In February, 1923, there was organized in Ames, Iowa, in connection with the State Conservation Meeting, the Iowa Ornithologists' Union, modeled after the Nebraska organization. The chief purposes of the society are to foster interest in bird life, to have "get-together" meetings once or twice a year, and to form a clearing-house for field notes and observations. An organ for the society was discussed, with the conclusion that the Wilson Bulletin was the logical one. Mr. W. M. Rosen, President of the City State Bank of Ogden, Iowa, was chosen President of the new society. Professor T. C. Stephens of the Editorial Board of the Wilson Bulletin, is also prominent in this organization. This general grouping of all the bird students of a state in a state organization is a good movement and promises to add materially to the number of people

who take an active interest in the out of-doors. Why do not all the states form such socities?

* * * * * * * * *

Soon after the Iowa Ornithologists' Union was organized, the bird students of Kentucky began planning a similar society, with the result that on April 19, 1923, several people attending the Kentucky Educational Association in Louisville projected a Kentucky Ornithological Society to be run on lines similar to those of the Wilson Club and the state societies. Officers were elected as follows:

President—Dr. L. O. Pindar, Versailles.

Vice-President—Mr. B. C. Bacon, Madisonville.

Secretary-Treasurer—Gordon Wilson, Bowling Green.

The Wilson Bulletin is to be sent to every member as a part of "value received" for the membership fee. It was decided to attempt no organ at present, but to seek affiliation with the Wilson Club.

* * * * * * * * *

One of our new applicants is Mr. O. W. Smith, the veteran student of fishing and all its allied branches and the author of those two delightful books, "Casting Tackle and Methods" and "The Book of the Pike." Mr. Smith says, in a letter to the Secretary, "Fishing is a business with me, not a recreation; and bird-study the recreation."

* * * * * * * * *

One of the most attractive of the outdoor publications is the new *Nature Magazine*, which formally made its bow to the public with the January issue. Mr. Percival Sheldon Ridsdale is Managing Editor, Mr. Arthur Newton Pack is Associate Editor, and they have associated with them a large group of the foremost naturalists in America. The illustrations of the magazine are one of its most prominent features, giving a great impetus to accurate outdoor photography. Ernest Harold Baynes, the well-known author of nature literature, is one of the regular contributors, as are also the famous nature photographer, L. W. Brownell: William L. Finley, the naturalist, who is conducting an interesting series on American Trees; T. Gilbert Pearson, the President of the National Association of Audubon Societies; and Walter B. Balch, the eminent agriculturist. We welcome this new comer in the hope that it will continue its policy of bringing into our homes the very spirit of the uncontaminated outdoors.

* * * * * * * * *

Mr. Carl D. Herdman, another of our applicants, has made his home in the suburbs of Bowling Green, Kentucky, one of the show places in that section. Several years ago he acquired a house on a five-acre lot which had been little touched by the hand of man. At once he began to preserve the natural wildness of the place and to add trees, flowers, and shrubs in keeping with the natural beauty of the place. He has put up 65 different devices to attract or encourage birds. In one corner of the lot he has made a sanctuary for the birds, where they can bathe, or nest, or rest, without fear of cats or English sparrows.

Owners of suburban homes everywhere could profit by emulating his splendid work for the birds.

* * * * * * * * *

The American Association for the Advancement of Science, with which the Wilson Club is affiliated, will hold its annual session at Cincinnati, Ohio, December 27, 1923, to January 2, 1924. An invitation has been extended to the Wilson Club to meet with them at that time.

* * * * * * * * *

A very careful study of the bird-censuses published in the January-February Bird-Lore showed that a large percentage of these contributors were members of the W. O. C. We are glad that our members are everywhere active in creating and fostering an interest in ornithology.

* * * * * * * * *

No organization can continue to serve the best interests of its members without taking in new, virile members from time to time. We welcome, then, the men and women who became part of the W. O. C. at the last election and just as eagerly open our arms to those who are at present on the waiting-list to become members. In all our territory there are many people who are just waiting, as you and I were, to become one of the vigorous supporters of this society. It is this belief which has made your new Secretary conduct a drive for new members and which prompts him to urge every member or well-wisher of the W. O. C. to send in names of people who might be induced to become one of us. **Let every member secure another one this year.**

G. W.

CORRESPONDENCE

"ROUND ROBIN LETTER" A SUCCESSFUL BIRD STUDY STIMULUS

At the present time bird study in America stands at a high point of efficiency and system. The various methods of studying bird-life have been worked out and developed for years, and new ideas and problems pertaining to the subject are continually coming into significance as the number of disciples of Wilson and Audubon increases.

A somewhat new method of stimulating interest in bird study has been very successfully put into practice in Iowa in the winter just past. This plan, which is essentially different from any other that I know, is a "chain" letter replete with bird notes and experiences. It is familiarly known as the "Round Robin" letter.

Though the plan is simple its potentialities are great. The letter is circulated among five or more bird students. The person who starts the letter chain writes a bird letter, sends it to the second observer who adds to it his letter and forwards it to the third station, and so on until the entire circle has been completed. When the letter returns to the first writer, he removes from it his first contribution, writes a new one, and again sends it on. Thus the bird letter makes the rounds and the matter is always new and up to date.

This plan was introduced in our state by Mr. Charles J. Spiker, a New Hampton bird enthusiast. Our chain contains seven of us Iowa bird students, representing as many regions of the state, and we have all found the letter highly entertaining and instructive, not to mention the stimulus and enthusiasm it has given us during the winter season, when birds are scarce and interest is usually lax. Seven is about the proper number of observers to conduct a circle successfully, because this keeps it circulating in a reasonable length of time. More than seven or eight contributors would necessarily make the letter much slower and lessen the interest. With seven in the chain, the letter has about four days for each station—three days in which the letter may be read and a new one written, and a day's passage in the mails—if it is to be run on a regular monthly schedule.

The contents of the "Round Robin" letter are always intensely interesting and contain a personal element that is never found in bird magazines or similar publications. Since the letters are usually long, the bundle is bulky and contains a great deal of reading matter. Up-to-the-minute bird notes, descriptions of favorite "birding" grounds, bird books, feeding station and bird-banding experiences, are some of the topics brought up for discussion and exchange. In our chain we also have a department of photographs which further adds to the interest. At all times there is a brotherly spirit and a mutual understanding that one seldom finds with people not personally acquainted. The farmer-bird-lover and the city banker are alike interested in some diminutive Warbler; the busy housewife gives the college student or perhaps minister some pointers on identifying a Hawk; bird lovers are members of

a great natural brotherhood, irrespective of occupation in life. These bird letter chains will eventually lead to a meeting, perhaps at some picturesque spot such as a state park, where the writers will become personally acquainted with one another. In this era of autos and good roads, this can be easily accomplished.

I have given only a brief outline of the Round Robin idea. That it has many possibilities is evident. It can no doubt be developed in many ways and prove useful to bird-thinking people in other parts of the country. A letter representing various states instead of localities in one state would no doubt be successful, and there are other angles to work from. Get your circle of bird students together and start your letter rolling. We Iowans have enjoyed ours very much and should like to see the plan put into practice in other states.

Fred J. Pierce.

Winthrop, Iowa, March 5, 1923.

Milwaukee, Wis., March 27th, 1923.

Mr. Lynds Jones,
Editor-in-Chief of The Wilson Bulletin,
Oberlin, Ohio.

Dear Sir:—

The editorial in the current issue of The Bulletin emboldens me to send to you the enclosed copies of an exchange of letters some time ago between Professor F. E. L. Beal and myself. Hitherto I have refrained from acting on Professor Beal's suggestion, but you are free to use the letters if you so desire.

My thought in sending them to you is that their publication either in full or in abstracted form might encourage others to similar experiments to their intense personal satisfaction even if nothing of real scientific value resulted.

Very truly yours,

Gardner P. Stickney.

U. S. Dept. Ag., Washington D. C., Jan. 14th, 1914.

Gardner P. Stickney,
Milwaukee, Wis.

Dear Sir:—

Your very interesting letter of the 10th inst. is at hand. Thank you for the account that it contains. It is an excellent illustration of the changes that occur in the food habits of birds under changed conditions. When the storm cleansed the air of their usual food they at once turned their attention to the berries as the most available substitute. It is a little singular that these birds should be so far north so late in the year. The flycatchers are mostly rather early migrants.

Another point of interest is the ease with which you succeeded in winning their confidence and made friends of them. It is a sad

commentary on the character of man, that, as a rule all other creatures avoid him and retreat at his approach. Thousands of instances show that a large part of the animal world is ready to reciprocate our friendship if we will only make the first advances. Unfortunately the ruling passion of the human race seems to be to exterminate the rest of the animal kingdom.

It seems to me that your account of this little incident is worth preserving and I hope you will send it to some of the numerous Nature publications who no doubt would be glad to print it. Thanking you again, I remain,

Very truly yours,

F. E. L. Beal.

January 10, 1914.

Prof. F. E. L. Beal,
Care Biological Survey,
Department of Agriculture, Washington, D. C.

My dear Sir:—

I have just been reading with great interest the bulletin of the Biological Survey written by yourself on the food of certain flycatchers. I was particularly interested in that section of your paper bearing upon the yellow-bellied flycatcher (*Empidonax flaviventris*), noting that, according to your laboratory investigations, the food of this bird is composed so very largely of animal matter.

It happens that the last two weeks of September, 1913, I spent with two companions at our fishing camp in Northern Wisconsin and had an opportunity to observe a number of these birds at very close range. Our camp, located in Section 15, Township 44 North, Range 4 East, is upon an island of about an acre and a half, and between the log camp and the shore to the South there are four or five small mountain-ash trees. These trees were in very full fruit when we reached camp about the 15th of September. About a week later we had a very heavy twenty-four hours snow-storm of very wet snow, covering the ground to a depth of about four inches. Almost immediately after the cessation of the storm, birds of various sorts appeared in the mountain-ash trees feeding on the berries. There were a good many hermit thrushes, a large flock of cedar-birds and a number of flickers and some smaller birds. Each one of these birds bolted the berries, that is, the bird would pick a berry, hold it for a minute and then swallow it whole. In the afternoon of the day following the storm, two yellow-bellied flycatchers appeared among the other birds in these small trees and seemed to be very fond of the mountain-ash berries. Instead of handling the berries as the other birds did, the flycatcher would pick a berry and crush it between its mandibles, getting out the pulp and dropping the skin, rather perfectly clean, to the ground. There were so many of the birds of various sorts and the berries were going so

rapidly, that I detached four or five bunches of the berries and took them into camp.

It took only two or three days for the birds to otherwise entirely denude the trees of the berries and after the last berry had been picked from the trees, I noted two flycatchers hopping around on the ground and picking up the berries which had been dropped as the various species were feeding in the trees. The flycatchers were very tame and it occurred to me that I might feed them with some of the berries which I had previously picked and had in the camp. Working very carefully in an hour or two I had these two yellow-bellied flycatchers on my knee, picking the mountain-ash berries from between my thumb and fore-finger. It was a very delightful experience and it was interesting to see how thoroughly the flycatchers would clean the berries, eating everything but the skins, which they invariably dropped to the ground. The birds stayed around for two or three days, in fact as long as I had any berries to feed them, and then disappeared. The last day that they were with us was bright and sunny and they spent most of their time fly-catching, but would occasionally come back to me and take a berry.

This experience of mine was so unusual that I think it may be of interest to bird students generally and this is my excuse for burdening you with the above account.

Yours truly,

Gardner P. Stickney.

Publications of the Wilson Ornithological Club

The complete series consists of the following publications:

The Ornithologists and Oologists Semi-Annual, three volumes, 5 numbers.

The Wilson Quarterly, one volume, two numbers.

The Journal, two numbers.

The Wilson Bulletin, three numbers in the first volume, two in the second, six numbers in each of the next four volumes, and four numbers in all succeeding volumes including the current volume–34.

Out of print numbers of this entire series are as follows:

Semi-Annual, Vol. 1, No. 1; Vol. 2, both numbers.

The Wilson Quarterly, both numbers.

The Wilson Bulletin, Vol. 10, No. 5; Vol. 16, No. 1.

The available numbers, to Vol. 32, will be sold at the rate of one dollar a volume.

— ADDRESS —

THE WILSON BULLETIN

SPEAR LABORATORY, OBERLIN, OHIO

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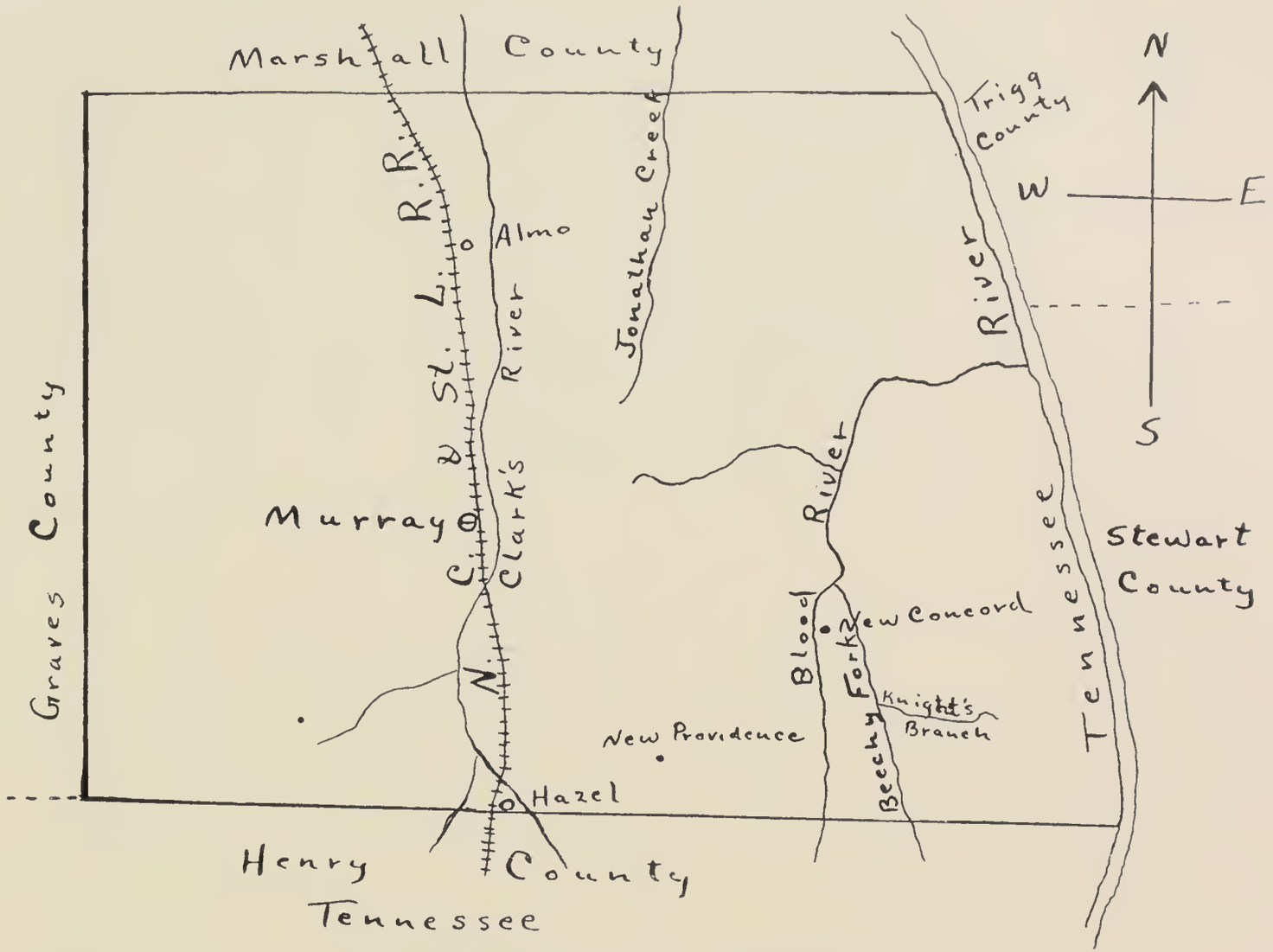

CALLOWAY COUNTY, KENTUCKY

THE WILSON BULLETIN

A QUARTERLY JOURNAL OF ORNITHOLOGY

VOL. XXXV SEPTEMBER, 1923 NO. 3

OLD SERIES VOL. XXXV. NEW SERIES VOL. XXX.

BIRDS OF CALLOWAY COUNTY, KENTUCKY

BY GORDON WILSON

Calloway County, Kentucky, is located just west of the Tennessee River, in what is known as the Jackson Purchase, which includes all the territory between the Tennessee and Mississippi Rivers, in both Kentucky and Tennessee, and was opened for settlement by the Federal Government in 1819, after the land had been purchased from several tribes of Indians. At that time all the uplands were barrens or prairies, the creek and river bottoms being heavily wooded. After the coming of the white men and the stopping of the periodic prairies fires, the uplands became dense forests, chiefly of oak and hickory. Many of these forests were virtually untouched when I was a small boy and I remember that old citizens showed me the stumps of post oaks which were said to have been part of the original forest. A very large area in the southeastern part of Calloway county was cut over for fuel to run what was then an extensive iron furnace, but which was abandoned after the Civil War. This cut-over area soon grew up again in a very dense forest and formed until the past few years a wild haunt for Wild Turkey, Catamounts, Wild Cats, Red Foxes, and even Timber Wolves and Virginia Deer.

Though the smaller valleys opening into the Tennessee River bottom are 400 feet or more above sea level, most of them were marshy until the hillsides were cleared, when the sand from the gulleys filled many of these marshes, making some of them unfit for cultivation. Very few of the sloughs and ponds of thirty years ago are left unfilled. Consequently the hordes of water birds are no longer to be found, partly because of the filling of the marshes, partly because of wanton destruction of bird life. There are left now only a few retired spots where the rarer water birds are to be found.

Although a hundred years have passed since the land was

opened for settlement, thousands of acres in Calloway and the adjoining counties are yet wholly or partially in timber, particularly the rough hillsides and the wetter parts of the creek and river bottoms. There are a number of worn-out farms which were exhausted by tobacco-raising in slave days and still are not in cultivation. These have grown up in blackberries and in bushes and offer harbor to the bush birds. From my experience in this section I am sure that insectivorous and song birds are more numerous now than they were a generation ago. By degrees a better attitude toward wild life has grown up and slowly birds are being sought after as companions on the farms.

The principal streams in this area are Blood River and its numerous small creeks, Jonathan Creek, Clark's River, and a number of very small creeks which flow directly into Tennessee River. All these streams have broad, flat valleys which are easily overflowed. Springs are very numerous, especially at the foot of the hills between Blood and Clark's Rivers. The hill ranges are still quite heavily wooded in many places.

The area covered by this article is approximately fifteen miles east and west by twenty-five miles north and south and includes all the county east of the N. C. and St. L. Railroad. The data have been gathered on some dozen vacations spent there, with the addition of observations made near Almo, Kentucky, by Professor L. Y. Lancaster, and near New Providence by Professor Ivan Wilson, both of these gentlemen being members of the faculty of the Western Kentucky State Teachers' College. All three of us spent our boyhood in this area and have vistied there often in recent years. Most of my more recent visits have been made in late summer; consequently, my Warbler list is small. The area offers exceptional advantages to the bird student and it is hoped that this meager article will influence some one who lives there to more carefully study the rich bird treasures.

1. Pied-billed Grebe—*Podilymbus podiceps.*
   Known locally as Die-dapper. Rare, probably summer resident in the wilder swamps.
2. Loon—*Gavia immer.*
   Formerly seen rarely, but not seen or heard of in the last few years.
3. Water-Turkey—*Anhinga anhinga.*
   Probably a rare summer resident.
4. Mallard—*Anas platyrhyncos.*
   A fairly common migrant, formerly very common.
5. Green-winged Teal—*Nettion carolinense.*
   Rare migrant.

6. Blue-winged Teal—*Querquedula discors.*
Rare migrant.
7. Wood Duck—*Aix sponsa.*
Fairly common migrant, with a few remaining through the summer.
8. White-winged Scoter—*Oidemia deglandi.*
Very rare migrant.
9. Whistling Swan—*Olor columbianus.*
Rare migrant.
10. Canada Goose—*Branla canadensis canadensis.*
Rather common migrant.
11. Bittern—*Botaurus lentiginosus.*
Migrant, and probably a rare summer resident.
12. Least Bittern—*Ixobrychus exilis.*
Rare summer resident. The last one I saw was in August, 1917, on Blood River.
13. Great Blue Heron—*Ardea herodias herodias.*
A rare migrant or visitor now, but it formerly bred along the sloughs near New Concord.
14 Little Blue Heron—*Florida cærula.*
Rare summer resident.
15. Green Heron—*Butorides virescens virescens.*
Fairly common summer resident and apparently becoming more so.
16. Sandhill Crane—*Grus mexicana.*
Fairly common migrant.
17. Purple Gallinule—*Ionornis martinicus.*
Rare summer resident, but seen regularly every summer on Knight's Branch.
18. Woodcock—*Philohela minor.*
Common migrant.
19. Wilson's Snipe—*Gallinago delicata.*
Common migrant.
20. Least Sandpiper—*Pisobia minutilla.*
Rare migrant.
21. Killdeer—*Oxyechus vociferus.*
Common resident.
22. Bob-white—*Colinus virginianus virginianus.*
Common resident; becoming commoner since the farmers have been interested in protecting this valuable bird.
23. Ruffed Grouse—*Bonasa umbellus umbellus.*
Rare resident now, but formerly common. Locally known as Pheasant.
24. Wild Turkey—*Meleagris gallopavo silvestris.*
A very rare resident in the colon section. When I was a small boy it was fairly common, even around my own home.
25. Mourning Dove—*Zenaidura macroura carolinensis.*
Common to abundant resident.
26. Turkey Vulture—*Calhartes aura septentrionalis.*
Common resident.

27. Black Vulture—*Catharista urubu.*
Much less common than the Turkey Vulture. Unscientific observers have always regarded it as the immature young of the last species.
28. Marsh Hawk—*Circus hudsonicus.*
Fairly common winter resident.
29. Sharp-shinned Hawk—*Accipiter velox.*
Fairly common resident.
30. Cooper's Hawk—*Accipiter cooperi.*
Fairly common resident.
31. Red-tailed Hawk—*Buteo borealis borealis.*
Rare resident.
32. Red-shouldered Hawk—*Buteo lineatus lineatus.*
Rare resident.
33. Bald Eagle—*Haliæetus leucocephalus.*
Very rare resident in the rougher parts of this territory.
34. Sparrow Hawk—*Falco sparverius sparverius.*
Common resident.
35. American Long-eared Owl—*Asio wilsonianus.*
Fairly common winter resident; it probably nests here.
36. Short-eared Owl—*Asio flammeus.*
Fairly common resident.
37. Barred Owl—*Strix varia varia.*
Common resident.
38. Screech Owl—*Otus asio asio.*
Common resident.
39. Great Horned Owl—*Bubo virginianus virginianus.*
Common resident.
40. Yellow-billed Cuckoo—*Coccyzus americanus americanus.*
Common summer resident.
41. Belted Kingfisher—*Ceryle alcyon.*
Common resident.
42. Hairy Woodpecker—*Dryobates villosus villosus.*
Rather common resident.
43. Southern Downy Woodpecker—*Dryobates pubescens pubescens.*
Rather common resident.
44. Yellow-bellied Sapsucker—*Sphyrapicus varius varius.*
Rare winter resident.
45. Pileated Woodpecker—*Phlœotomus pileatus pileatus.*
Fairly common to common resident.
46. Red-headed Woodpecker—*Melanerpes erythrocephalus.*
Abundant in summer, common in winter In other parts of the state it is usually found only in summer.
47. Red-bellied Woodpecker—*Centurus carolinus.*
Common resident.
48. Flicker—*Colaptes auratus auratus.*
Common to abundant resident.
49. Chuck-will's-widow—*Antrostomus carolinensis.*

Common to abundant summer resident. Locally known as Dutch Whippoor-will.

50. Whip-poor-will—*Antrostomus vociferus vociferus.*
Common summer resident.

51. Nighthawk—*Chordeiles virginianus virginianus.*
Common summer resident.

52. Chimney Swift—*Chaetura pelagica.*
Abundant summer resident.

53. Ruby-throated Hummingbird—*Archilochus colubris.*
Common summer resident.

54. Kingbird—*Tyrannus tyrannus.*
Common summer resident.

55. Crested Flycatcher—*Myiarchus crinitus.*
Common summer resident.

56. Phoebe—*Sayornis phœbe.*
Common summer resident.

57. Wood Pewee—*Myiochanes virens virens.*
Common summer resident.

58. Acadian Flycatcher—*Empidonax virescens.*
Fairly common summer resident.

59. Least Flycatcher—*Empidonax minimus.*
Rare migrant.

60. Prairie Horned Lark—*Otocoris alpestris praticola.*
Fairly common winter resident.

61. Blue Jay—*Cyanocitta cristata cristata.*
Abundant resident.

62. Crow—*Corvus brachyrhyncos brachyrhyncos.*
Abundant resident, especially so in winter.

63. Bobolink—*Dolichonyx orzivorus.*
Common spring migrant.

64. Cowbird—*Molothrus ater ater.*
Common summer resident.

65. Red-winged Blackbird—*Agelaius phœniceus phœniceus.*
Common in summer; abundant in migrations.

66. Meadowlark—*Sturnella magna magna.*
Common to abundant resident.

67. Orchard Oriole—*Icterus spurius.*
Fairly common summer resident.

68. Baltimore Oriole—*Icterus galbula.*
Common summer resident.

69. Rusty Blackbird—*Euphagus carolinus.*
Fairly common migrant.

70. Bronzed Grackle—*Quiscalus quiscula æneus.*
Common to abundant in summer, a few remaining through the mild winters.

71. Purple Finch—*Carpodacus purpureus purpureus.*
Fairly common winter resident.

72. Goldfinch—*Astragalinus tristis tristis.*
Common resident.

73. Snow Bunting—*Plectrophenax nivalis nivalis.*

I saw a flock of 25 or more in my father's orchard several times during Christmas week, 1909. They were very gentle and could be easily approached. I identified them without doubt, as I studied them with bird book in hand. They were reported there in greater numbers during the winter of 1908.

74. Vesper Sparrow—*Poaecetes gramineus gramineus.*
Fairly common migrant.

75. Grasshopper Sparrow—*Ammodramus savannarum australis.*
Common summer resident.

76. Lark Sparrow—*Chondestes grammacus grammacus.*
Fairly common summer resident. I remember finding a nest in the summer of 1911 or 1912.

77. White-crowned Sparrow—*Zonotrichia leucophrys leucophrys.*
Rather rare winter resident.

78. White-throated Sparrow—*Zonotrichia albicollis.*
Rather rare winter resident, but commoner in migrations.

79. Tree Sparrow—*Spizella monticola monticola.*
Rather rare winter resident; never known before the hard winter of 1917-1918.

80. Chipping Sparrow—*Spizella passerina passerina.*
Common resident; a little more common in summer.

81. Field Sparrow—*Spizella pusilla pusilla.*
Common summer resident.

82. Slate-colored Junco—*Junco hyemalis hyemalis.*
Abundant winter resident.

83. Bachman's Sparrow—*Peucæa æstivalis bachmani.*
Fairly common summer resident.

84. Song Sparrow—*Melospiza melodia melodia.*
Common winter resident.

85. Lincoln's Sparrow—*Melospiza lincolni.*
Fairly common migrant.

86. Fox Sparrow—*Passerella iliaca.*
Rare migrant.

87. Cardinal—*Cardinalis cardinalis cardinalis.*
Common to abundant resident.

88. Towhee—*Pipilo erythrophthalmus erythrophthalmus.*
Common to abundant resident.

89. Rose-breasted Grosbeak—*Zamelodia ludoviciana.*
Rare migrant.

90. Indigo Bunting—*Passerina cyanea.*
Common summer resident.

91. Dickcissel—*Spiza americana.*
Common summer resident.

92. Scarlet Tanager—*Piranga erythromelas.*
Rare migrant.

93. Summer Tanager—*Piranga rubra.*
Common summer resident.

94. Purple Martin—*Progne subis subis.*
Common summer resident.

95. Cliff Swallow—*Petrochelidon lunifrons.*
Common summer resident.
96. Barn Swallow—*Hirundo erythrogastra.*
Fairly common summer resident.
97. Bank Swallow—*Riparia riparia.*
Rare summer resident.
98. Cedar Waxwing—*Bambycilla cedrorum.*
Common winter resident.
99. Migrant Shrike—*Lanius ludovicianus migrans.*
Fairly common summer resident.
100. Red-eyed Vireo—*Vircosylva olivacea.*
Common to abundant summer resident.
101. Warbling Vireo—*Vircosylva gilva gilva.*
Fairly common summer resident.
102. Yellow-throated Vireo—*Lanivireo flavifrons.*
Common summer resident.
103. White-eyed Vireo—*Vireo griseus.*
Common summer resident.
104. Black and White Warbler—*Mniotilta varia.*
Common summer resident.
105. Prothonotary Warbler—*Protonotaria citrea.*
Rare summer resident.
106. Worm-eating Warbler—*Helmitheros vermivorus.*
Rare migrant.
107. Nashville Warbler—*Vermivora ruficapilla ruficapilla.*
Common migrant.
108. Tennessee Warbler—*Vermivora peregrina.*
Common to abundant migrant.
109. Northern Parula Warbler—*Compsothlypis americana usnea.*
Rare migrant.
110. Cape May Warbler—*Dendroica tigrina.*
Rare migrant.
111. Yellow Warbler—*Dendroica æstiva æstiva.*
Common summer resident.
112. Myrtle Warbler—*Dendroica coronata.*
Common winter resident.
113. Magnolia Warbler—*Dendroica magnolia.*
Common migrant.
114. Black-throated Green Warbler—*Dendroica virens.*
Rare migrant.
115. Oven-bird—*Seiurus aurocapillus.*
Rare summer resident.
116. Louisiana Water-Thrush—*Seiurus motacilla.*
Rare summer resident.
117. Mourning Warbler—*Oporornis philadelphia.*
Rare migrant.
118. Maryland Yellow-throat—*Gothlypis trichas trichas.*
Common summer resident.
119. Yellow-breasted Chat—*Icteria virens virens.*

Common summer resident.

120. Canada Warbler—*Wilsonia canadensis.*
Rare migrant.

121. American Redstart—*Setophaga ruticilla.*
Common to abundant in migrations; a few nest each year.

122. Mockingbird—*Mimus polyglottos polyglottos.*
Common to abundant resident.

123. Catbird—*Dumetella carolinensis.*
Common summer resident.

124. Brown Thrasher—*Toxostoma rufum.*
Abundant summer resident.

125. Carolina Wren—*Thryothorus ludovicianus.*
Common to abundant resident.

126. Bewick Wren—*Thryomanes bewicki.*
Common resident.

127. Long-billed Marsh Wren—*Telmatodytes palustris.*
Rare resident. I have found the nests several times in swamps in Blood River bottom.

128. White-breasted Nuthatch—*Sitta carolinensis.*
Common resident.

129. Red-breasted Nuthatch—*Sitta canadensis.*
Rare to common migrant.

130. Tufted Titmouse—*Baeolophus bicolor.*
Common resident.

131. Carolina Chickadee—*Penthestes atricapillus.*
Common resident.

132. Golden-crowned Kinglet—*Regulus satrapa.*
Winter resident, less common than formerly.

133. Ruby-crowned Kinglet—*Regulus calendula.*
Fairly common migrant.

134. Blue-gray Gnatcatcher—*Polioptila caerula.*
Common summer resident.

135. Wood Thrush—*Hylocichla mustelina.*
Common summer migrant.

136. Wilson's Thrush—*Hylocichla fuscescens.*
Common migrant.

137. Olive-backed Thrush—*Hylocichla ustulata swainsoni.*
Rare migrant.

138. Hermit Thrush—*Hylocichla guttata pallasi.*
Rare migrant.

139. Robin—*Planesticus migratorius migratorius.*
Formerly a very rare resident, but becoming much more common.

140. Bluebird—*Sialia sialis sialis.*
Common resident.

141. Kentucky Warbler—*Oporornis formosus.*
One found and heard singing at Sulphur Springs, August 19, 1923.

Bowling Green, Ky., June 12, 1923.

A REVIEW OF RECORDS OF THE TRUMPETER SWAN IN THE STATE OF WASHINGTON

BY WALTER P. TAYLOR

The Trumpeter Swan, while never, apparently, so common in Washington as the Whistling species, doubtless occurred in some numbers in favorable localities in earlier days. While several records from the literature are not with certainty referable to the Trumpeter, they may be listed as pointing to the probable former occurrence of the species in abundance. Lewis and Clark (Allen ed., II, 1814, p. 212) report swans, probably Trumpeters, abundant March 29, 1806, on the Columbia River opposite what is now Clarke County. Newberry (Pac. Railroad Rep., VI, 1857, p. 100) says the Trumpeter Swan is always rare compared with the myriads of other water birds which congregate in the bays and rivers of the west in their annual migrations, but particularizes as follows: "Before we left the Columbia, early in November, the swans had begun to arrive from the north, and frequently, while at Fort Vancouver, their trumpeting call drew our attention to the long converging lines of these magnificent birds, so large and so snowy white, as they came from their northern nesting places, and, screaming their delight at the appearance of the broad expanse of water, perhaps their winter home, descended into the Columbia." Suckley (Pac. Railroad Rep., XII, 1860, pp. 248-249) asserts that the Trumpeter Swan was more abundant on the Columbia River than on Puget Sound, and tells of seeing immense flocks of swans, apparently of this species, along the shores of the river, spread out along the margin of the water for a distance varying from an eighth to a quarter of a mile. Mortimer Kerry (Forest and Stream, 1874, pp. 129-130) records shooting a Trumpeter Swan on Swan Island in the Columbia River, but gives no date. Johnson (Rep. Gov. Wash. Terr., 1885, p. 596) assigns the species to both eastern and western Washington. According to Anthony (Auk, III, 1886, pp. 162-163) the Trumpeter Swan was found in large numbers on the Columbia River in winter. Rhoads (Proc. Acad. Nat. Sci. Phila., 1893, p. 35) thought he saw six of the species at Nisqually between March 29 and April 22, 1892, but no specimens were secured. In fact, none of the records cited to this point is attested, so far as I can learn, by specimens preserved. There are, however, at least four examples which have actually been taken in or very near to Wash-

ington. Salvadori (Cat. Birds Brit. Mus., XXVII, 1895, p. 35) records a specimen in the British Museum, said to have been collected on the Snake River, Washington, in September. Coale (Auk, XXXII, 1915, p. 87) reports a mounted specimen in the collection of the Chicago Academy of Sciences, shot on the Columbia River, three miles west of Portland, Oregon, April 8, 1881. D. E. Brown of Seattle kindly sends me the data on another Trumpeter Swan, which was shot by a hunter during the winter of 1906 at Nisqually, at the south end of Puget Sound, Washington. The specimen was taken to a taxidermy shop to be mounted, but was never called for, and was later given to Brown, in whose collection it now is. The measurements of this example are as follows: eye to back of nostril, 72 mm.; eye to tip of bill, 146; wing, 647. On or about November 9, 1912, a Trumpeter Swan was shot at Moses Lake (Bowles, Condor, XVIII, 1916, p. 171); the specimen was mounted by Fred Edwards of Tacoma, and is now in the collection of George Willett. This example was in immature plumage. In conclusion it may be noted that in spite of the former occurrence of the Trumpeter Swan in Washington, in all probability in some abundance, there has been no recorded instance of its appearance in the State for more than ten years.

NOTES ON THE BIRD LIFE OF ALLEGHENY COUNTY, PENNSYLVANIA

Thomas D. Burleigh

(Continued from the June Issue)

Black-throated Blue Warbler—*Dendroica caerulescens caerulescens.*

A fairly common migrant, feeding in underbrush and seldom seen far from the ground. In the spring migration the birds are a little scarce and seemingly pass through in one or two days, for in 1912 they were seen on the 30th of April and on the 1st of May, in 1913 on the 13th and 14th of May, and in 1914 on the 28th of April only. In the fall they are oftener seen and more regular in their appearance, my dates for their arrival being September 14, 1912, September 20, 1913, September 10, 1914, and September 9, 1916. October 5, 1913, is my latest date for their occurrence during the fall migration.

Myrtle Warbler—*Dendroica coronata.*

A common migrant, occurring in small flocks and not mingling as a general rule with other members of this family. My dates for arrival in the spring are April 22, 1913, and April 18, 1914. May 11, 1914, is my latest record for the spring migration. In the fall the first birds appeared September 28, 1913, and September 8, 1914, and in 1913 were last seen

November 2. My one record for the occurrence of this species during the winter is a single bird seen December 31, 1914.

Magnolia Warbler—*Dendroica magnolia.*

A common migrant, appearing with the bulk of warblers in early May and generally gone within a week or ten days. In the spring migration of 1913 the last bird was seen May 17. In the fall the first bird was seen September 19 and single birds were then more or less in evidence until October 9, when the last bird for the year was recorded. In the spring migration of 1914 the first bird appeared May 9, within a few days they were plentiful and lingered until May 20. In the fall the first bird appeared a little early, being seen September 3.

Cerulean Warbler—*Dendroica cerulea.*

A common summer resident, but seemingly almost entirely restricted to the stretches of woods along the Allegheny River and its few tributaries, such as Deer Creek. My dates for arrival in the spring are April 29, 1912, May 3, 1913, and May 2, 1914. The birds disappear soon after the young have left the nest so I have no actual records for departure in the fall. A nest found May 16, 1914, half built, was forty feet from the ground at the outer end of a limb of a large white oak and this is typical of the situation these birds almost invariably select.

Chestnut-sided Warbler—*Dendroica pensylvanica.*

A fairly common migrant, usually seen singly and feeding in low underbrush. My earliest record for the spring migration is May 4, 1914, my latest May 19, 1912. In the fall the birds appear early and usually linger longer than they do in the spring. August 12, 1912, is my earliest record, September 16, 1916, my latest.

Bay-breasted Warbler—*Dendroica castanea.*

A fairly common spring migrant, and probably equally common in the fall, although because of their obscure plumage it is difficult to identify them. In the spring of 1913 they were unusually plentiful and appeared earlier that year and remained later than they ordinarily do. The first birds appeared May 13 and small flocks were then more or less in evidence until May 24, when the last bird was seen. In 1914 the first flock was recorded May 16.

Black-poll Warbler—*Dendroica striata.*

A fairly common migrant, appearing in the spring in small flocks when practically all other migrants have gone and usually lingering until the first week in June. In 1913 the first birds were seen May 22, and this is the average date when this species arrives. In the fall a gun is more or less essential for reliable identification so my data is rather meager. September 4, 1914, is my earliest record, October 18, 1914, my latest.

Blackburnian Warbler—*Dendroica fusca.*

A common migrant, especially during the spring migration, when they may at times be found literally everywhere. On the 16th and 17th of May, 1914, they were more abundant than I have ever known them to be before or since and during those two days the underbrush and larger trees in places were seemingly alive with them, while their characteristic

song could be heard on all sides. My dates for arrival in the spring are April 29, 1912, May 3, 1913, and April 27, 1914. My latest record for the spring migration is May 23, 1913. My earliest record for the fall migration is September 4, 1912, my latest October 4, 1912.

Black-throated Green Warbler—*Dendroica virens.*

A common migrant. My dates for arrival in the spring are April 29, 1912, May 3, 1913, and April 25, 1914, and for departure May 14, 1913, and May 14, 1914. In the fall fewer birds are seen, probably because they are more easily overlooked, but even so, for possibly a month a few will always be seen during a day in the field. My dates for arrival are September 14, 1912, and September 4, 1913, and for departure October 13, 1912, and October 5, 1913.

Yellow Palm Warbler—*Dendroica palmarum hypochrysea.*

As far as my experience goes this species is a rather scare migrant, and my few records are entirely for the spring migration. In 1913 one bird was seen April 25, and in 1914 single birds were seen April 26 and May 2.

Oven-bird—*Seiurus aurocapillus.*

A common summer resident in all the scattered stretches of woods. My dates for arrival in the spring are April 14, 1912, April 25, 1913, and April 19, 1914, and for departure in the fall October 9, 1912, and October 6, 1913. In nesting the birds seem to like the more open woods, but avoid the hillsides and very often build near a trail or an old unused road. Breeding data: June 22, 1910, four incubated eggs; May 18, 1913, three slightly incubated eggs; May 24, 1914, five fresh eggs; June 7, 1915, five well incubated eggs.

Northern Water-Thrush—*Seiurus noveboracensis noveboracensis.*

A fairly common migrant. In appearance it resembles very much the next species, but its habits are so different that there should never be any question as to its identity. In its breeding range it is found in bogs and swamps deep in the woods and its seeming dislike for clear running water is clearly evident during its migrations. The edges of ponds or swampy thickets are where the majority of them can be found, although even the presence of water is not always necessary, for I have seen them feeding on lawns well within the city limits of Pittsburgh, and at times in underbrush in open dry woods. During the spring migration they sing freely, but in the fall they are quiet and more inconspicuous. My earliest record for the spring migration is April 29, 1914, my latest May 24, 1919. In the fall they arrive rather early, but seem in no hurry, and an individual bird will often linger in some favored spot for several weeks. August 12, 1913, is my earliest record, September 14, 1916, my latest.

Louisiana Water-Thrush—*Seiurus motacilla.*

A common summer resident, but found only along the smaller streams in wooded ravines. It appears early in the spring, but unlike the majority of the early migrants it is one of the first of the breeding birds to disappear in the fall. My dates for arrival in the spring are April 14, 1912, April 10, 1913, April 6, 1914, and April 9, 1917 and for departure in the fall August 16, 1914, and August 19, 1913. A nest found May 17,

1914, held two slightly incubated eggs and two of the Cowbird, and was well concealed under the roots of a small tree well up the side of a deep ravine.

Kentucky Warbler—*Oporonis formosus.*

A common summer resident in all the scattered stretches of woods, occurring wherever the Oven-bird is found, but seeming to prefer the denser underbrush and the hillsides. My dates for arrival in the spring are May 5, 1912, May 5, 1913, and May 3, 1914, and for departure in the fall August 13, 1912, August 18, 1913, and an unusually late date, September 8, 1914. A nest found May 28, 1911, at Harmarville, held five fresh eggs and was on the ground in a dense growth of weeds near the edge of a short stretch of woods.

Connecticut Warbler—*Oporornis agilis.*

I have but one record for the occurrence of this species here, an adult male being seen September 22, 1911, feeding in a thicket of tall weeds at the edge of a field.

Mourning Warbler—*Oporornis philadelphia.*

My one record for the occurrence of this species here is an adult male seen August 14, 1913, feeding in underbrush in a short stretch of woods.

Maryland Yellow-throat—*Geothlypis trichas trichas.*

A common summer resident, frequenting thickets and underbrush bordering the side of roads and open fields and at times showing a decided preference for the edges of marshes and cat-tail swamps. My dates for arrival in the spring are April 30, 1912, May 4, 1913, and May 2, 1914, and for departure in the fall October 5, 1912, and October 4, 1913. Two broods are generally reared each year, the first early in June and the second about the middle of July. Brooding data: June 8, 1913, four fresh eggs and one of the Cowbird, an inch or so above the ground among the stalks of a tall weed in underbrush at the side of a road; July 9, 1915, three fresh eggs, on the ground well concealed in some tall grass at the foot of a small bush near the edge of a field overgrown with scrubby underbrush.

Yellow-breasted Chat—*Icteria virens virens.*

A common summer resident, haunting dense tangled thickets, where it was oftener heard than seen. May 4, 1914, is my earliest record for the spring migration. In the fall the birds are quiet and inconspicuous and disappear soon after the young have left the nest so I have no actual records for their departure other than that July 20, 1912, is the latest I have ever seen one of this species here. A nest found May 22, 1912, with four fresh eggs is my earliest breeding record, my latest a nest found June 20, 1917, with four well incubated eggs. Nests are usually within three or four feet of the ground, rarely as high as eight feet, and are generally placed in blackberry bushes in dense thickets. Either three or four eggs constitutes a full set, my one exception being a nest found May 24, 1913, that held five slightly incubated eggs.

Hooded Warbler—*Wilsonia citrina.*

As far as my experience goes this species is a rather scarce migrant,

and I have but two records for its occurrence here. Single birds, an adult male each time, were seen September 19, 1912, and September 17, 1913, feeding in low underbrush.

Wilson's Warbler—*Wilsonia pusilla pusilla.*

A fairly common fall migrant, and probably present to some extent in the spring migration, although I have no records for its occurrence then. It feeds near the ground in low underbrush and being inconspicuous can be easily overlooked. My earliest record for the fall migration is September 8, 1914, my latest October 1, 1913.

Canada Warbler—*Wilsonia canadensis.*

A common migrant, and by far the earliest of this family to return in the fall. My earliest record for the spring migration is May 4, 1914, my latest May 24, 1914. In the fall the first birds appeared July 27, 1912, and July 25, 1913, and were last seen September 28, 1912, and October 3, 1913. They feed in low underbrush and but rarely is more than one bird seen in one spot.

Redstart—*Setophaga ruticilla.*

A common summer resident, being especially numerous in the stretches of woods along the Allegheny River and its larger tributaries. My dates for arrival in the spring are April 29, 1912, April 26, 1913, May 2, 1914, and April 21, 1916, and for departure in the fall September 27, 1912, and September 27, 1913. By the latter part of May the majority of the birds are incubating full sets, my earliest breeding record being a nest found May 22, 1915, with four incubated eggs and one of the Cowbird, and my latest a nest found June 22, 1912, with three well incubated eggs. Nests vary from six to twenty feet from the ground and may be in crotches of saplings or at the outer end of lower limbs of the larger trees, frequently at the side of a road or of a trail through the woods.

Catbird—*Dumetella carolinensis.*

A common summer resident wherever thickets or underbrush afford a suitable nesting site. My dates for arrival in the spring are April 29, 1912, April 26, 1913, and April 25, 1914. October 4, 1913, is my latest record for the fall migration. During the winter of 1912-13 one bird found the shubbery in McKinley Park so much to its liking that it remained there throughout the winter and braved successfully the frequent deep snows and cold weather. It was first noted there on the 23rd of November and was thought to be an unusually late migrant until a subsequent visit on January 4 found it at practically the same spot where it was seen at frequent intervals for the next two months. My earliest breeding record is a nest found May 18, 1910, with four fresh eggs, my latest a nest found June 26, 1915, with four incubated eggs. Nests are almost invariably five or six feet from the ground, and are placed in bushes or small saplings in thickets or dense underbrush. One exception was a nest found June 26, 1915, with almost fully fledged young that was twenty-five feet from the ground in the outer upper branches of a large apple tree at the edge of an orchard.

Brown Thrasher—*Toxostoma rufum.*

A common summer resident, with a preference for brushy hillsides

or fields overgrown with scrubby underbrush. My dates for arrival in the spring are April 27, 1912, April 11, 1913, April 11, 1914, and April 10, 1917. In 1913 the last bird for the year was seen October 6 and this is the average date for the departure of this species. An unusually late record is a bird seen November 26, 1915, feeding at the side of a large brush pile in an open field. Ordinarily birds may be found incubating full sets of four or five eggs by the first week in May, and with one exception the 7th of May is the earliest record I have. That one exception is a nest found April 24, 1919, in McKinley Park that held four fresh eggs. Considering that this species has never been recorded before the 10th of April this one pair must have begun nesting within a day or so after they arrived. My latest breeding record is a nest found June 25, 1917, with four well incubated eggs. Nests vary from one to five feet from the ground and are placed in brush piles, thick bushy haws and quite frequently in the barberry bushes that border the paths and roads in the city parks.

Carolina Wren—*Thryothorus ludovicianus ludovicianus.*

Resident, and fairly common throughout the year in ravines and on wooded hillsides. It is decidedly a bird of the woods here and I have yet to find it breeding about houses or barns. My only breeding record is that of a nest found May 9, 1913, with four half grown young, sunken flush with the ground half way up a slight embankment in some underbrush, well concealed in the dead leaves.

House Wren—*Troglodytes aedon aedon.*

A common summer resident, breeding almost entirely about houses or in old apple orchards. Numerous bird houses have been erected in all the city parks of Pittsburgh and practically every one is occupied each year by a pair of these birds. An attempt was also made to attract the Bluebirds, but the English Sprrows eliminated this possibility, and now there is a continual struggle going on between the sparrows and the wrens for possession of the larger boxes. One box that I examined showed very vividly the frequent battles that must have taken place to decide its ownership. It was over a foot high and was composed of alternate layers of grasses and twigs, showing where one bird had temporarily triumphed only to be finally chased away for a short time. My dates for arrival in the spring are April 28, 1912, April 23, 1913, April 21, 1914, April 20, 1916, and April 24, 1919, and for departure in the fall October 16, 1912, and October 11, 1913,. My earliest breeding record is a nest found June 3, 1912, with five slightly incubated eggs, my latest a nest found August 5, 1915, with but three well incubated eggs. Full sets of five or six eggs may, however, be found at almost any time between these two dates, so at least two broods are reared each year. But once have I found a nest with over six eggs, that one exception being found June 18, 1917, with eight well incubated eggs.

Winter Wren—*Nannus hiemalis hiemalis.*

This bird is a fairly common winter resident here, there being few ravines or wooded hillsides where one or two cannot be found during the winter months. In 1913 they were last seen in the spring, on April

20, and it was September 20 before the first bird again appeared. Within a few weeks they were more or less in evidence and were then a regular part of the winter bird life until the following April, the last bird being seen on the 12th of that month.

Brown Creeper—*Certhia familiaris americana.*

A common winter resident, found in all the scattered short stretches of woods loosely attached to the roving flocks of Chickadees, Tufted Titmice and White-breasted Nuthatches. My dates for arrival in the fall are a little irregular, being September 29, 1911, October 8, 1912, and September 17, 1913, but as it is several weeks before they are of more than casual occurrence it is easy to overlook the first arrivals. In the spring the last birds were seen April 21, 1912, April 29, 1913, and May 2, 1914.

White-breasted Nuthatch—*Sitta carolinensis carolinensis.*

Resident, but common only during the winter months. They seemingly disappear early in the spring from many of the short stretches of woods, but whether it is because they are merely inconspicuous at this time of the year or because they really do go elsewhere to breed is still a qustion in my mind. There are still parts of Allegheny county where the term "deep woods" could still apply and it may be here that these birds nest commonly. My one breeding record is a nest found April 21, 1912, at Harmarville that was half built and was later deserted, thirty feet from the ground in a knot hole in the trunk of a large red oak at the edge of a stretch of open woods.

Red-rbeasted Nuthatch—*Sitta canadensis.*

This species is a regular migrant here, in that it appears at some time or other during each spring and fall migration, but it is decidedly irregular in its movements, appearing at no definite time and being common one year and very scare the next. For 1912 I have but three records, single birds being seen April 14, and September 14 and September 25. In 1913 the first bird for the spring migration appeared April 22 and for several weeks they were then fairly plentiful, the last bird being seen May 16. In the fall but two birds were seen, one October 24 and one October 26. For the spring migration of 1914 I again have but two records, one bird being seen May 4 and one May 11. In the fall of 1916 I had the opportunity to roam through the woods for part of one day, September 16, and indications then were that this species was already present in fairly large numbers, for three birds were seen in a little over an hour.

Tufted Titmouse—*Baeolophus bicolor.*

Resident, and common throughout the year. During the winter months they wander about in small noisy flocks, but early in the spring they pair off and can be then found in the certain part of the woods where they will eventually nest. My one breeding record is a nest found May 22, 1915, with small young, thirty feet from the ground in a knot hole in the trunk of a large white oak on a wooded hillside.

Chickadee—*Penthestes atricapillus atricapillus.*

Resident, and common throughout the year, especially during the winter months, when small noisy flocks can be found in practically all

the short stretches of woods, even well within the city limits of Pittsburgh. As spring aproaches they begin to show a partiality for underbrush bordering the larger streams and it is here in old willow stubs that the majority of them nest. One exception was a nest found May 17, 1911, at Harmarville that held seven slightly incubated eggs and was five feet from the ground in an old fence post at the side of a road.

Golden-crowned Kinglet—*Regulus satrapa satrapa.*

This species is very common during the spirng and fall migrations, but for some reason or other very few winter. Almost invariably they have all disappeared by the middle of November and it is early April before they are seen again. My one winter record is that of two birds seen December 31, 1912, on a hillside covered with second growth white pine near Harmarville. My dates for arrival in the spring are April 7, 1912, and April 4, 1914, and for departure April 18, 1913, and April 28, 1914. In the fall the first birds were seen October 13, 1912, and October 4 1913. My latest record for the fall migration is November 26, 1915, one bird seen on that date.

Ruby-crowned Kinglet—*Regulus calendula calendula.*

A common migrant, frequenting low underbrush, but far from inconspicuous, not only because of the quick nervous manner in which they feed but also because of the harsh wren-like note they so frequently utter. During the spring migration they sing freely and at this time males can be seen displaying their red crest and showing a decided interest in the opposite sex. My dates for arrival in the spring are April 14, 1913, and April 12, 1914, and for departure April 30, 1913, and May 6, 1914. My earliest record for the fall migration is September 12, 1916, and my latest November 2, 1913.

Blue-gray Gnatcatcer—*Polioptila caerulea caerulea.*

A common summer resident, but found largely in the open woods along the Allegheny River and along the streams flowing into it. I have never found this species in the stretches of woods that lie well back from the river or in fact far from the vicinity of water, so it is seemingly more or less exacting in its requirements. My dates for arrival in the spring are April 14, 1912, April 19, 1913, April 18, 1914, April 21, 1916, and April 25, 1919. This last date appears a little late, but if it is taken into consideration that on that day the thermometer registered 28 degrees and that there was a quarter of an inch of snow on the ground, the three birds that were seen can be regarded as early and hardy migrants. In the fall the last birds were seen August 11, 1912, August 15, 1913, and August 14, 1916, My earliest breeding record is a nest found May 10, 1914, with four incubated eggs and one of the Cowbird, my latest a nest found May 22, 1919, that held five fresh eggs. Nests vary from fifteen to thirty feet from the ground and are saddled on lower horizontal limbs of the larger trees in a crotch that protects the nest by the limb above. They are compact and very deeply cupped and are built of plant down and fine grasses, with usually a few feathers and a little horsehair in the lining, and heavily covered on the outside with lichens or, rarely, small bits of old weathered bark. There is seemingly no preference for any

certain tree for I have found nests in white oaks, elms, black locusts, and once in an apple tree at the edge of an orchard.

Wood Thrush—*Hylocichla mustelina.*

A common summer resident in all the scattered stretches of woods. My dates for arrival in the spring are April 13, 1912, April 25, 1913, April 24, 1914, and April 20, 1916, and for departure in the fall October 2, 1912, and October 4, 1913. My earliest breeding record is a nest found May 13, 1912 with four fresh eggs, my latest a nest found July 9, 1915, that held three incubated eggs. Unquestionably two broods are reared each year by some of the birds, but as comparatively few nests are found after the middle of June this is seemingly not a general practice. Nests vary from four to twelve feet from the ground and are usually placed in crotches of small saplings either in thickets or in open woods. Rarely they can be found on lower horizontal limbs of the larger trees. They are compactly built of pieces of paper, weed stems, grasses and mud, lined with black rootlets The female, when flushed from the nest, usually shows more or less indignation, but one bird that was flushed from four fresh eggs on May 22, 1919, proved very pugnacious, darting close to my head repeatedly and snapping her bill angrily.

Veery—*Hylocichla fuscescens fuscescens.*

A fairly common spring migrant, but one that is decidedly inconspicuous and very easily overlooked. This is due not only to the fact that they frequent thick underbrush, but also that they are rather quiet and rarely utter any note whatsoever. April 25, 1914, is my earliest record for the spring migration, May 8, 1914, my latest.

Olive-backed Thrush—*Hylocichla ustulata swainsoni.*

A common migrant, frequenting the thicker underbrush in the scattered stretches of wood. My earliest record for the spring migration is April 24, 1914, my latest May 31, 1913. It is usually the middle of September before these birds reappear in the fall, but in 1914 they were decidedly early for the first was seen September 3, and by the 8th they were already fairly plentiful My latest record for the fall migration is October 10, 1912.

Hermit Thrush—*Hylocichla guttata pallasi.*

A common migrant, and by far the hardiest of this family, appearing early in April when snow storms and low temperatures are by no means a thing of the past. The weather has seemingly little effect on their desire to reach their summer haunts for they arrive at almost the same date each year, and are plentiful within a few days after the first bird is seen, and seldom linger beyond a certain time. My dates for arrival in the spring are April 6, 1913, and April 7, 1914, and for departure April 24, 1913, and April 26, 1914. In the fall the first bird reappeared October 1, 1912, and October 4, 1913, and each time this species was plentiful within two or three days. October 25, 1913, is my latest record for the fall migration.

Robin—*Planesticus migratorius migratorius.*

A very common summer resident, and scarce but of regular occurrence during the winter. Because of the fact that individual birds are

seen at irregular intervals during the winter months it is often difficult to decide just when the first migrants arrive, but as it is the middle of March before this species is finally plentiful it is probably safe to assume that birds seen before the first of March are those that have wintered. In 1912 a flock of twenty-five was seen on February 8, but that year it was not until the 17th of March that these birds were of more than casual occurrence and there were several weeks when none at all were seen, so this one flock may have roved about all winter. In 1913 six birds, widely scattered within the city limits of Pittsburgh, were seen March 8 and these unquestionably were migrants. In 1914 one bird appeared on the 14th of February and there were then no other records until March 15, when three birds were seen. Some of my actual winter records, concerning which there is no uncertainty, are December 25, 1911, one bird, December 25, 1915 one bird, and December 19, 1916, one bird. In the fall the birds gradually begin to decrease in numbers toward the latter part of October and by the middle of November they are few and far between. My earliest breeding record is a nest found April 14, 1912, with four slightly incubated eggs, my latest a nest found July 9, 1915, that held three incubated eggs, although I did see a bird working on a half completed nest July 14, 1914. Full sets of fresh eggs, usually four, but not uncommonly three may, however, be found at practically any time between these two extreme dates, and unquestionably two and possibly three broods are reared each year. The nests are situated in every conceivable position and but rarely is any attempt made at concealment. I have found them on beams in sheds, in brush piles in grape vines, on fence rails within a few feet of the ground, and in crotches of larger trees and saplings varying three to thirty feet from the ground.

Bluebird—*Sialia sialis sialis.*

Like the last this species is a common summer resident and scarce but of regular occurrence each winter. The first migrants arrive the latter part of February or the first of March, but as small flocks are seen at irregular intervals during January and February spring migration dates are difficult to determine. By the middle of March these birds are plentiful and it is early November before their numbers begin to diminish to any perceptible extent. After the middle of the month the few small flocks seen are those that unquestionably winter. My earliest breeding record is a nest found May 2, 1914, with five slightly incubated eggs, my latest a nest found July 3, 1911, that held three fresh eggs. An old apple orchard is a spot much favored and here the nests are built in natural cavities or old woodpeckers' holes, varying in height from five to fifteen feet from the ground.

THE STATUS OF THE FLORIDA CROW

(*Corvus brachyrhynchos pascuus*)

BY HAROLD H. BAILEY

On coming to Florida to live I have formed new opinions on many of its birds, one of which is the Florida Crow. Off hand, when watching them, I could see nothing different from the crows I was familiar with in the north, nor do these south Florida crows have any different call to me than the northern ones. Why the subspecie "pascuus?" I thought, and commenced to get some specimens to see wherein the difference lay. I now have before me five specimens of the so-called "pascuus,"—all taken in south Florida, County of Dade. I also have seven specimens of plain unadulterated Common Crow, four from Pennsylvania, one from Virginia (altitude 4500′) and two from central Georgia (altitude about 1200′). Now I believe these seven common crows from those three states represent that good old unadulterated crow fairly well. So now let us get down to "brass tacks."

Ridgway, B. of N. & M. Am. Bull.—50. Part III—page 269, says of "pascuus"—, "similar to C—a—americanus, but averaging smaller—, except bill and feet."

Bendire, Life Histories; page 413–, says, "distingnishable from its northern relative by its decidedly larger feet and bill, and its usually shorter wings and tail."

There are several others that I might refer to, about similar to above, but the best and most complete description is given by Baird, Brewer and Ridgway, Land Birds—Vol. II, page 247. "This resident crow of Florida differs in some marked features from that of the more northern localities in several characters. Although perhaps rather smaller, the bill and feet, especially the latter, are very considerably larger. The nasal feathers extend over the basal two-fifths of the bill, instead of half. The proportions of the bill are about the same; in the Florida bird it is rather longer. The greatest difference is in the feet. The tarsal joint of the tibia is bare: the feathers scarcely coming below it, even anteriorly, instead of projecting some distance. The tarsus is almost a quarter of an inch longer; covered anteriorly by nine scutellæ, instead of eight. The outer lateral toe is shorter, not reaching the base of the middle claw. The middle toe and claw

are considerably shorter than the tarsus; the middle claw is shorter than in the northern bird. The wing formula differs somewhat, the third, fourth and fifth quills are nearly equal, the third even longer than the fifth, instead of shorter. The tail is short and very nearly even, the difference in length being less than half an inch instead of an inch." In conclusion they state, "It is possible the bird is really as large as the northern crow, although this is hardly probable. It was killed on the mainland of the extreme southern portion of Florida, not far from Fort Dalla." (Miami-Dade County). To begin with, four of the Florida Crows are larger than five of my Common Crows, and one larger than my largest (Va.) Common Crow. There is no set rule regarding the extent of nasal feathers, and in both forms they extend further in males than females. As a whole, both forms average up about the same. The tarsal joint is exposed as much in the northern birds as with Florida birds. An average of length of all the bills is about the same; as well as in thickness. Some of the Florida birds have nine scutellæ all right and some eight, but so have some of the northern crows, and some only seven; so one sees there is no set and fast rule there. In all Florida specimens the outer lateral toe does reach the base of the middle claw. The middle toe measurements average equally well between both forms; the Virginia specimen ranking with the largest Florida specimen. Nor do I find the extra ¼" attributed to the tarsus of the Florida bird, both forms averaging the same. Length of wing; average the same. There is as much variation in the length of the bird, fourth and fifth quills in one form as with the other. The difference in length of tail feathers is greater in the Florida form than in the northern ones and not even, as described. I must admit the tarsus of the Florida bird is larger in diameter than the northern one, but all were taken within two years, while the northern material covers a period of ten years and is well dried and shrunken. The food of the Florida Crow consists mainly of frogs, lizards, and large grasshoppers and beetles, with a few seeds and wild fruit. Perhaps the nature of their food has increased the size of their tarsus.

In summing up, I for one do not think the Florida Crow is worthy of a place in the new check list, and beg leave to suggest to the Committee of A. O. U. that they eliminate same. Let us hear the views of others having material.

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EDITORIAL

Acting upon our efficient secretary's suggestion, the editor is disposed to devote the space allotted to him in this issue to a brief resume of the trip which he took, with a class of students, from Oberlin to the Pacific Coast and back again; also with the indulgence of the readers of the Wilson Bulletin.

The train of six Ford touring cars, carrying seven men and fourteen women, left Oberlin just after 8 o'clock on the morning of June 21st. The itinerary carried the party across northern Ohio and Indiana and Illinois, to central Iowa at Grinnell. This far we had the hottest weather of the whole trip. To the ornithologist the most interesting thing about this part of the journey was the coming in of the Dickcissels in western Ohio, ever increasing in numbers to Grinnell, and the coming in, but in small numbers, of the Lark Sparrow. As the open country was reached, in western Indiana, with its numerous osage orange and other hedges along the roadside, Brown Thrashers, Catbirds, and Red-headed Woodpeckers became much more numerous because other available places for them became less frequent. To the ecologist the points of greatest interest were the gradual fading out of the beech trees as the open country was approached, in the region of Valparaiso, then the thinning out and final disappearance of the hard maples and their attendant shrubs and bushes, and the coming in of prairie grasses and other prairie plants, and the scampering striped spermophiles, or ground squirrels, until, in central Iowa, the natural groves of hickory and burr oak were confined to the immediate vicinity of the streams, or other bodies of water.

From Grinnell the route lay northward through Mason City, with a night's camp on the shore of Clear Lake; on through the outskirts of Minneapolis, to and through Itasca Park—a beautiful little park—and across to Grand Forks, North Dakota. In the lake country of south central Minnesota many ducks and other water fowl were seen, but we passed through the pine forests too rapidly to make much note of the peculiar bird life of that region. Besides, the weather had turned so cold that to avoid actual suffering from the cold we were obliged to cleat the curtains down and keep them so. And it continued cold across the open country of North Dakota. But we did manage to see many Long-billed Curlews, and a few Prairie Chickens and Prairie Sharp-tailed Grouse, not to mention jack rabbits and the ubiquitous "gophers"—brown fellows about the size of an average rat.

Central Montana was flooded. We were told that during the eight days preceding our arrival on the scene as much rain had fallen as they usually have in ten years. At any rate, we found the Missouri river at high flood, and the Milk river, along whose bottom the automobile road runs, out of its banks and over the roads for over 100 miles. We were advised to ship our cars by freight from Williston to Harlow, because "you can't possibly get through in time to see the big fight." Well, we were strangely uninterested in the fight, and as always, were looking for the impossible—for a Ford. A long detour northward over the rolling prairie took us to Wolf Point, where camp had to be made, along with scores of other touring parties, in the mud. The next morning, on the assurance of the officials of the local auto club that a government truck had or would mark out a trail to the northward over the rolling prairie, we chose to strike out. The first obstacle, before we reached the hills that bordered the broad valley, was a pond some ten rods wide and three feet deep. That was but the beginning of two days of grilling work getting around that flood. There were swollen streams in the valleys that had to be forded, and there were wide ponds and muddy stretches on the uplands. We soon lost count of the number of times that it was necessary to push one to all of those six cars across streams or through mud-holes, but it was a-plenty. The memory of that experience would not be unpleasant if we could forget the mosquitoes! They were everywhere at all hours of the day and night, and so many of them and such hungry ones that life became one constant torture. Ordinary mosquito netting was little protection, and we had not brought cheese-cloth with us. Four thicknesses of netting would keep most of them out. But pass it!

Three days in Glacier Park and four in Yellowstone, and on the way between them, the mosquito nuisance was reduced to almost normal. It would require more space than is at our disposal to try to enumerate the birds that we recorded in these two parks. Most of them have learned that it is not necessary to be shy or wary under the protection afforded them here. Of course we saw bear and deer in Yellowstone, as well as many of the lesser four-footed inhabitants of the open glades and the forests. There were a few White Pelicans, but no swans in Yellowstone where we were.

The route led out of the West Entrance of Yellowstone, and over the Old Oregon Trail that follows down the course of the Snake River and over the Blue mountains between Le Grande and Pendleton, Oregon, a region under a high state of cultivation, for the most part, because irrigation of the more arable parts of the valleys is made possible by the enormous springs that spout forth just beneath the covering rim rock of lava, high up on the bluffs. Then the Columbia Highway, from The Dalles to Portland. It will soon be completed between The Dalles and Pendleton. You ought to travel over it.

A week was spent at Manhattan Beach, a few miles north of Tillamook, Oregon, but we were not able to arrange a trip out to the islands where the sea birds breed in profusion, although interesting studies were made along the ocean beach and back in the luxuriant forests. The

humid Coast Forest would require a whole chapter to itself. There is nothing like it anywhere.

After this touch of the ocean beach we drove around through Astoria and up to Mount Ranier National Park, camping for three days at Paradise Valley, while the more venturesome climbed up the peak as far as the Half-way House, and at the snow fields saw the Leucostictes. The top of the mountain was visible for only the first half day, except for fleeting glimpses of it now and again. Birds were not much in evidence, probably because of the cold and damp. This ended the class part of the trip, but all but one of the party chose to drive down to southern California, and from there eleven of us returned by auto in one party and four joined another party, while the remaining four returned by train.

The bird life of California is so diversified, and certain species are so local in distribution, that the chance of making errors in identification of the local races is too great for one who wishes to be accurate, to risk a reconnoissance list. The writer is inclined to believe that the final test of the validity of a subspecies lies not in slight differences in color and proportions, but rather in recognizable differences in habitat and habit. As far as his experience with California forms is concerned, and it is admittedly slight, the indications are that the described subspecies for California are more entitled to recognition than are those, or most of them, in regions of less sharp topographic relief. For instance, in practical field work it is impossible to tell to which subspecies the breeding shrike of north-western Iowa belongs. Young of the same brood may vary beyond the limits of the subspecies. And this is only one of numerous instances. Intensive studies of the shrike may reveal recognizable habit differences, to be sure, but so far that is not the case. In general the habitat of *migrans* and *excubitorides* seems to be different, the one being the deciduous forest region, the other the true prairie region, but it would seem that from the standpoint of the shrike the habitats are essentially identical.

The above discussion will serve to show why the writer has not shared with the readers of the Wilson Bulletin these annual trips made in automobiles across the country. Both the laws of the states that are traversed and the conditions of the party trip make it not feasible to collect birds along the way. Lacking specimens in hand, and as complete a series of them as one could make, it is not possible, in many cases, to know for certain what particular subspecies he may be recording. And a list that is inaccurate is worse than no list at all. Recent discussions in The Auk in regard to the use of the names of species rather than subspecies where the precise subspecies cannot be determined, seems to the writer to indicate that most American ornithologists have come to look upon subspecies as of the same importance as species, or practically so, at least where local lists of birds are concerned. The writer protests vehemently. It is too big a handicap to the field worker.

The party returned from Pasadena over the Old Trails Route, that is the Santa Fee, as far as Trinidad, thence through Colorado Springs and Denver, and over the Denver, Lincoln, Detroit Highway, through southern

Nebraska and central Iowa, through Davenport to Joliet, and from there retraced their wheel marks to Oberlin. To the writer the return eastward toward home, with the familiar birds and landscapes, is rather more exciting than the trip westward. Anyway, it is made at higher speed and longer hours of driving. We just missed the cloud-bursts and consequent floods of Arizona and New Mexico and southern Colorado, but we did cross their tracks. Nor did we find the "desert" of eastern California and western Arizona the broiling oven that it is so often pictured. There were some bad stretches of road, but even over them we were able to average better than 200 miles a day with three Fords. In Colorado, Nebraska, Iowa, Illinois, Indiana and Ohio our average ran up slightly above 300 miles a day, between about 6:15 in the morning and 9 at night, with an hour out at noon for lunch. This is made possible by steady driving at between 25 and 30 miles an hour, rarely over 30. Of course this does not admit of stopping along the way to study each bird that flies up, or even sits on a fence post! On the way home we are not after birds, but home!

On such a trip one may expect to see upwards of 500 species and subspecies of birds, if he be not too careful about obscure subspecies, and accepts at face value the delimitation of ranges as given in the A. O. U. Check-List. A smaller party, more time given to the trip, and opportunity to stop at trategic places would swell this list materially. But these trips are not primarily for the purpose of compiling as large a list of the birds as possible, but are intended to be ecological in plan, and therefore birds become of secondary importance.

FIELD NOTES

NOTES ON THE MIGRANT SHRIKE

During the spring months I was very much interested in the queer flight maneuvers of a migrant Shrike (*Lanius ludovicianus migrans*), which spent a large part of every day about a certain field on which I was usually working.

This Shrike (perhaps I should say Shrikes, for this species is common here) had a very regular habit of flying up into the air about twenty feet and, with rapidly fluttering wings, hanging there in one spot for some time. The bird would beat its wings very rapidly for twenty seconds or longer, but it always remained at exactly the same place, its wings being used only to maintain its position in the air. It made me think of a mechanical bird suspended from the sky by a cord. After this performance, the purpose of which was not clear to me, the Shrike flew away to some post or other alighting place. It always faced the wind, if there were any at all, on the occasion of these peculiar flight antics. Day after day, all through the spring, I saw it thus fluttering aimlessly in the air. It did it dozens or hundreds of times in a day, or perhaps even in an hour, as it felt inclined. It was always a very common practice.

A pair of these birds had a nest of young in a grapevine-covered crab apple tree, at the edge of the field. One day, while plowing corn here, I saw one of the Shrikes capture a mouse behind me in a row I had just plowed. The Shrike was shaking the mouse (I thought it was a young one from its rather small size) very vigorously, and maybe beating it upon the ground. It handled it in much the same way that a domestic chicken kills a mouse. When the mouse was lifeless, or nearly so, the Shrike lost no time in flying toward the nest, the mouse clutched firmly in its bill.

Being a large gray bird, the migrant Shrike is in a class by itself, and since it is a common summer resident here, it is particularly noticeable along the roadsides and in the fields. Though the Shrike may wear the black mark of the bandit, I am disposed to regard him as a peaceful as well as useful neighbor.

The migrant Shrike's efforts in the musical line have always interested me. Sometimes the notes are so rasping and insect-like that it is hard to imagine their coming from a bird. Often the Shrike *mews* somewhat like the Catbird. I have also heard it repeat what sounded to me like "*Free dirt, free dirt*," over and over for a long time, evidently never stopping for breath.

Fred J. Pierce.

Winthrop, Iowa, July 5, 1923.

A WORD FOR THE ENGLISH SPARROW

Instead of driving away sparrows I try to attract them about my yard, as their presence reassures the hordes of smaller migratory birds which stream overhead here twice a year.

From behind the screens of my porches I can make prolonged ob-

servations of practically every passerine bird which passes this way, on its flight to and from Mexico.

When I throw out scraps of grain, a flock of sparrows and red-winged blackbirds is right down after them; and with these birds come the migrants passing through or entering here.

Today, April 18th, there are two Louisiana tanagers flitting about the shrubbery—males, both of them.

Yesterday a pair stopped by here for about three hours.

A male redstart and a pair of yellow-breasted chats, as well as three blackburnian warblers, have been here for four days today; so it is likely they will go on late this afternoon.

The other warblers keep fairly close to the shelter of the bushes, but the redstart has found my sunny back steps his best morning hunting grounds; and the tanagers have lit several times on a fence close to the section of my porch, where they can almost touch our own birds through the screen wire.

Another valuable function of the sparrows is their police work.

When I hear them begin to chatter I know there is something about which does not belong in the yard.

It may be one of the numerous cats of the neighborhood, a rat, one of the sparrow hawks that winter here, the big red rooster that is always flying over my fence, or only just a strange person.

Shrikes or the big grackles cause no more alarm than do my own familiar few chickens, or the flocks of redwings, with an occasional cowbird and Florida or bronzed grackles with which they are used to feeding.

Sunday morning their timely warning came just in time to save a painted warbler, the only one of its kind I have ever seen this far east, from a prowling cat.

Although they protest, until definitely whipped, against having to give way to the returning martins, the sparrows soon resign themselves to other quarters than the boxes of which they take possession as soon as the martins leave.

Zoe Reid.

Gulf Refinery, Port Arthur, Texas.

WATERFOWL NEAR MADISON, WISCONSIN

The area surrounding Madison, because of the wide areas of open water and swamp land, serves as a great feeding-ground and resting-place for migrating waterfowl. In spite of the backward season, these birds were very numerous here this spring, and they were more favorably located for observation than usual, because they were restricted to small areas of open water, and could be, therefore, closely approached. All the birds mentioned in this article, with the possible exception of the Red-breasted Merganser, were seen no farther from Madison than ten miles, while many of them were seen within the city limits. Another interesting fact is that nearly all these birds were seen in April.

American Merganser—*Mergus americanus.*

I first saw these birds on March 30th, in open water on Lake Monona. This was where the Catfish River flows out, and only a small space was free of ice. Swimming in this space were about fifty birds. A few of these were seen after this date, but they were not present in the great numbers seen last year.

Red-breasted Merganser—*Mergus serrator.*

On April 15th there were a pair of birds on Lake Wingra that may have been *M. serrator.* They were so far away that identification was uncertain.

On April 28th my companion and I saw one of these ducks on a pond near Prairie du Sac. The body of water was the small arm of a larger bay and had been artificially cut off from the latter by filling in the open end with gravel. This pond was surrounded on all remaining sides with woods; the body of water itself was not over one hundred square feet in area. As we approached, the bird tried to fly into the bay, and failing, dived. As we ran around the shores of the pond he was more and more disturbed and dived very often. With a final effort he managed to fly out over the bay. He was probably unable to rise over the trees, and so did not try to do so.

Mallard—*Anas platyrhynchos.*

We saw a small flock of these on April 1st, and have seen them occasionally since. The females are often flushed from marshes or the banks of lakes and rivers. On April 22nd there was a pair well in view at Mud Lake.

Black Duck—*Anas rubripes.*

One of these was seen on the ice of Lake Waubesa on April 1st.

Blue-winged Teal—*Querquedula discors.*

These little ducks were very numerous on April 22nd. In the marshes near Lake Waugesa we were able to come very near to several little groups that were swimming on the marsh pools. At Mud Lake one of these birds flew past me at a distance of only a few feet.

Shoveller—*Spatula clypeata.*

I saw these ducks on April 22nd near Lake Waubesa, although my friend had seen them in the same place two weeks previous. Besides those seen at some distance, four of them, three males and a female, lit in a pool not more than fifty feet from us, and remained there for nearly a minute.

Pintail—*Dafila acuta tzitzihoa.*

On April 15th a female was swimming on a pond near Lake Mendota. These birds were also present at Mud Lake in numbers on the 22nd of the month.

Redhead—*Marila americana.*

A few of these were swimming in the Catfish River between Lakes Monona and Waubesa on April 1st.

Canvass-back—*Marila valisineria.*

Two pair of these were seen on University Bay on April 15th.

Lesser Scaup Duck—*Marila affinis.*

The commonest of all the ducks in this region. They appeared about April 1st and have been here to date. On the 22nd of April we estimated

that there were at least seven hundred of them on Catfish River and Lake Waubesa.

Buffle-head—*Charitonetta albeola.*

A small flock of these was feeding off the south shore of Lake Wingra on April 25th. Their peculiar bobbing and diving movements were quite characteristic.

Golden-eye—*Glaucionetta clangula clangula.*

About one-half dozen were seen near the Mergansers on April 1st. One of them flew past me at a distance of a few feet. A few were seen after this, but none appeared after the 15th.

Ruddy Duck—*Erismatura jamaicensis.*

One of these was swimming with the Scaups on April 14th in University Bay. He was very well placed for observation; all his coloration and his markings were visible.

Loon—*Gavia immer.*

First seen in University Bay on April 14th. These birds are common here and seem to stay all summer.

Red-throated Loon—*Gavia stellata.*

There was a pair of Red-throated Loons on University Bay on May 11th. These birds were less shy than the common species. They were so close that their markings were distinct without even a glass.

American Coot—*Fulica americana.*

These birds are one of the commonest of waterfowl, and are plentiful throughout the spring season. They appeared this year about April 1st. On April 22nd there was a flock of about one hundred crowded into one spot on Lake Waubesa. This group, or another like it, appeared in the same place last year.

Pied-billed Grebe—*Podilymbus podiceps.*

We saw one on Lake Waubesa on April 22nd, and a few pairs can be seen almost any time on University Bay.

Besides the birds discussed above, mention should be made of about fifteen Double-crested Cormorants (*Phalacrocorax auritus*) that were seen by a companion and myself on Mud Lake, April 22d. The Cormorants have been increasing in numbers in the last few years and have been seen on Lake Monona.

C. E. Abbott.

Madison, Wis., May 14, 1923.

APRIL NOTES FROM WINTHROP, IOWA

After a bird student has studied the bird life of a certain locality more or less intensively for five or six years he has naturally become acquainted with all the birds commonly found in the region. He is then looking for the rarities and expects to identify them only after much patience in stalking and after making detailed observations to make sure he has named them correctly. His surprise is therefore great when he finds a rare species suddenly appearing in numbers in his neighborhood and so tame as to allow him to approach within spitting distance, while the bird feeds serenely on the ground.

Such was my experience with the Red Crossbill (*Loxia curvirostra*

minor) in Buchanan County, Iowa. In a period of seven years of bird work in my locality I had never seen the Red Crossbill. On April 4 I saw a lone bird of this species in a tamarack grove near my home, and April 6 I found a flock of twenty to twenty-five of them there. This grove, which is just back of our farm buildings, contains two acres or more of tamarack and second-growth willows. There is about an equal amount of the two varieties, which were planted a half century ago. The tamaracks are of great height, most of them stretching upward for seventy-five feet or more. Their limbs are well covered with cones and there is a dense and decaying carpet of fallen needles on the ground.

The flock of Crossbills remained in this grove for a considerable length of time. I would find them there at nearly any hour of the day and I was able to make close studies of them. The greater part of the time the birds fed on the ground, hopping about and picking here and there among the needles for bits of food and occasionally grasping a fallen cone to tear at it with their strong bills. Often a group would gather in the lower branches of the trees and either rest quietly or arrange their plumage. As a rule, though, these were active and not found at rest. I was greatly surprised at their tameness. So intent were they in their work on the ground that I could approach within a yard's distance; in fact, they seemed to regard me as a necessary part of the landscape. The late Professor Walter Bradford Barrows* spoke of catching this species with butterfly nets.

This could have easily been done in my case. To me, they appeared to be rather stupid birds. It was exceedingly difficult to catch a bird with its beak closed long enough to note that the points crossed. They were feeding nearly all of the time and the motion of their bills was very rapid. A wide crack between the mandibles was usually apparent, however.

On the ground, at close range, the Crossbill looks about the size of the English Sparrow, though it is more plump and heavy looking. Its stocky build is especially noticeable in flight, and it beats its wings very rapidly. While the Crossbills seemed to keep up a rather low twittering when feeding on the ground, their most conspicuous notes were those given when they were in flight. These were sharp, fast, full of tone and, to me, strongly suggestive of the rapid twittering of the flying Chimney Swift. The number of males and females was evidently about equal. There was considerable variation in the color of both sexes, perhaps a little more noticeable in the males. The latter were in various shades of red, rusty red, and brown; some individuals were bright, others were dull, but all birds looked brighter when flying. One or two males had a faint series of greenish blotches on the back, suggesting immature plumage. The Crossbills were seen at the grove at late as April 22, and perhaps remained even longer. They became more shy as time went on and their number became smaller.

The Crossbill was also reported at Independence, Iowa. The county paper of April 12, published in that city, contained a rather lengthy ac-

*Michigan Bird Life (1912), p. 470.

count of the occurrence there of the bird. The item states that the birds were seen on various lawns and in parks about the city and manifested very little fear. At one home the birds hopped about near some men who were working on the lawn.

The abnormal weather conditions which prevailed through the month of March in this part of the country undoubtedly affected bird migration to a great extent. There were a large number of snows, some reaching the proportions of blizzards, as well as much bitterly cold weather (on the morning of March 19 the mercury stood at fifteen degrees below zero!). In addition to the Crossbills, the Redpoll (*Acanthis linaria linaria*) was seen here, its appearance being doubtless due to the upset weather program. I first saw it March 17, in the above described grove, where it fed on the cones. This species was represented by a flock which numbered about ten, at the time of its largest number. The Redpoll was seen in the grove on numerous occasions until April 10, which was my last record for it.

Our migration of Ducks and Geese at Winthrop was to all appearances much larger than usual. In several years past the numbers of both groups have been small, far too small, and it is indeed gratifying to note an increase, which is doubtless a direct result of Federal protection. The Ducks passed through in good numbers. Many of them stayed for a day or two on Buffalo Creek at a time when it was in the annual spring freshet. Their quacking and splashing was a common sound whenever one went near certain portions of the water-covered pastures along the creek. My own records for the 1923 spring Geese, though meager and scattered, are nevertheless encouraging, in view of the very small numbers of Geese that have been seen in spring migration in the last few years. I have records for about ten flocks, seen on eight dates (Jan. 4 to Apr. 20), and which represent some 425 birds in all.

On April 20 I saw my first Carolina Wren (*Thryothorus ludovicianus ludovicianus*), which, according to Anderson's *Birds of Iowa* (1907, p. 368), is very rare and local in Iowa. The bird I saw was scurrying about in a brush heap near my home. Its extra large size and rusty brown plumage at once distinguished it as a species other than our common House Wren. The white eye line was conspicuous, while the absence of white tail feather tips eliminated the possibility of its being a Bewick's Wren. Its notes were much different from the House Wren's. I saw the bird plainly and in good light.

Fred J. Pierce.

Winthrôp, Iowa, April, 1923.

SOME MISCELLANEOUS NOTES ON BIRDS

BY L. OTLEY PINDAR

A friend of mine who owns a country place in Franklin County, Kentucky, three or four miles from Frankfort and not far from the Woodford County line, and who for some time has been raising a good many pigeons, tells me that his flock has been completely broken up by the depredations of Screech Owls, which kill and eat or carry off the squabs about as fast as they are hatched. They have so terrorized the adult

birds that they have left the cote. A neighbor of my friend has had the same experience with his pigeons. Strange to say, the owls do not seem to have attacked the young chickens and turkeys, possibly because the fowls are better protected in the poultry house, which is nearer the dwelling of my friend than is the pigeon house and is not so easily entered. My friend is not a trained ornithologist but is a close observer; and, besides, it does not take a trained ornithologist to identify a bird so well known as the Screech Owl.

On May 10, 1923, at 6:00 p. m., I saw a solitary Nighthawk, the first one I had ever seen in this part of the state during the spring migration. It is common enough during the fall. This covers observations for nearly thirty years in Franklin, Anderson and Woodford Counties, except for the time I was in the army during the World War, and up to November, 1920. I listed it as common transient in Fulton County in 1889. Later, in an unpublished note on Fulton County, 1892-1893, I listed it as a rather rare summer resident. With the exception of the record mentioned above I have failed to see it in this section in spring or summer, and the "Bull-bat" is such a noticeable bird that it would hardly be overlooked if present. From my notes I find it listed as a common transient in Harrison County in 1890 and in the spring of 1891. Later I saw another Nighthawk on July 16; two on July 31; one on August 13, 1923.

While on the subject of birds which I have not seen here I think it very unusual that I have not recorded a Slate-colored Junco here the past three winters, 1920-21, 1921-22, 1922-23. They used to be plentiful enough, but I have not seen one since leaving Fort Ethan Allen, Vermont, in November, 1920. And during these same winters I have been in Franklin, Woodford, Anderson, Fayette, Jefferson, Fulton, Hickman, McCracken, Lee, Knox, Harlan, Bell, Bourbon, Mason and Jessamine Counties, although I was in some of these only a short time. I do not say that the Junco was not to be found in any of these places, but I did not find them, and not having seen them at my own home for the preceding winters, I looked for them particularly wherever I went.

Quite recently I spent a day with Mr. Hugh Cromwell, the man whose pigeons were killed out by Screech Owls last year. While I was there he gave me some further data on the destructiveness of the Screech Owl. As Mr. Cromwell has a good many fruit trees on his place he welcomes the birds, and so protects them that his place might appropriately be called a bird sanctuary. Across the pike, and almost in front of his house, is a partially decayed tree, in which the Screech Owls made their home this year. One night the owls raided the nests of a Dove, a Robin and a Catbird and killed or carried away all the young birds in each nest. A few nights later the same tragedy happened to the nest of a Wood Thrush. A few of the Pigeons had meanwhile returned to the cote and were rearing some young. One night, when Mr. Cromwell heard a commotion at the cote he hurried out and was able to rescue a pair of squabs and also to capture the offending Owl, which he promptly killed. A night or two later a Robin's nest within twenty feet of the house was attacked and Mr. Cromwell was again able

to protect the young birds, but not to captnre the marauder. If we assume that there were two young Doves and four each in the three other nests, there is a total of fourteen young birds killed in one week by a single pair of Screech Owls. If this should prove to be a common habit of the Screech Owl, the toll levied upon our common and useful insectivorous birds must be unthinkable. I want to request that observers everywhere collect data on the depredations of the Screech Owl.

In the summer of 1920, when I was on duty as a medical officer at Fort Ethan Allen, Vermont, my attention was directed to the apparent abundance of the Whip-poor-will in that region. There were almost constant calls in every direction from the earliest twilight through the night, and even until bright daylight. I thought how rarely the birds were visible, I knew, of course, the bird's shy attitude, but I thought that I ought to see it once in a while without so much care and effort to find it. At last, one evening, as I was sitting on the edge of a small, well-wooded ravine, watching some other birds, a Whip-poor-will appeared in its customary silent way not twenty feet from me. After a moment of owl-like stillness, he utter his usual note or cry. In another moment he seemingly repeated it, but I heard no sound. Instantly I concentrated my attention on this particular bird and almost immediately the same thing was repeated, but this time I heard the Whip-poor-will call far down in the ravine. The next time it was closer, the next from the bird's immediate vicinity, then down in the ravine again several times, and once back of me, between the ravine and the troop stables. The bird's mouth would open, its throat would swell, and simultaneously the "Whip-poor-will" would be heard from the different directions mentioned above. I continued to watch this strange performance until it was too dark to see the actor any longer. During this time I heard several Whip-poor-will calls from other directions and distances, but not emanating from this bird. I had known before that other birds had slight ventriloquial powers, the Mockingbird and, to a lesser degree, the Wood Thrush, but such an exhibition of ventriloquism as this I would not have thought possible. I had never suspected the Whip-poor-will of having this power at all, although it is a weird, uncanny night-rover and is and has been the basis of not a few superstitions. I visited this ravine again repeatedly at the same evening hour and also went to other localities which seemed favorable, but while on several of these occasions I saw a Whip-poor-will, I never again had the opportunity to keep one under observation more than a minute or two.

Last year, my friend, H. T. Hiatt, now of Stanford, Kentucky, a keen sportsman and a keen observer, told me of a similar incident, his observation having been made in Lincoln or Garrard County, Kentucky. He was very much surprised at the same thing's occurrence in Vermont and seemed to want to give the monopoly of this ventriloquial talent to the Kentucky Whip-poor-will.

While on the subject of the Whip-poor-will I wish to record another unique experience. In June, 1921, as I was going from Winchester to Lexington, Kentucky, in an automobile, a Whip-poor-will flew up from the side of the road a short distance ahead of us and alighted on the

same side of the road some fifty or sixty yards farther on. As we neared it, it flew again and continued to keep ahead of us by fifty to seventy-five yards for a distance equal to 450-550 yards. This action was unusual for this species, as was also the time of its appearance, ten o'clock in the morning. It was suggested by my companion that it was playing the trick so often used by other birds, to lead the trespasser from the nest. I cannot agree with this, however, as it was not the right place for a Whip-poor-will to nest; and, besides, on such a constantly traveled road a nesting bird would have become accustomed to the passage of all kinds of vehicles, especially automobiles. Fairly good-sized trees were quite close together along the pike and, in my opinion, the Whip-poor-will would have preferred their shelter to the open roadside. The puzzling question is, why did it fly at all?

The section of Versailles, Kentucky, in which I live, is fairly well wooded, fruit trees predominating, and there is also a good deal of shrubbery in some of the yards. Down the avenue a few hundred yards is an old osage hedge, which has not been trimmed for years and which is now eighteen to twenty feet high. The number of birds nesting in this section this spring and summer, 1923, is high,—I think,—much above the average for a space of this extent in this section of the state. We have the Yellow-billed Cuckoo, the Downy Woodpecker, the Flicker, the Kingbird, the Wood Pewee, the Blue Jay, the Bronzed Grackle, the Field Sparrow, the Cardinal, the Summer Tanager, the Purple Martin (about 20 pairs), the Red-eyed Vireo, the Yellow Warbler, the Mockingbird, the Catbird (several pairs), the Red-headed Woodpecker (two pairs), the Crested Flycatcher, the Brown Thrasher, the Carolina Chickadee, the Wood Thrush, and the Robin; also, perhaps half a dozen pairs of English Sparrows—not so many as one would expect. With the exception of two or three prowling cats, which I know very well I ought to shoot, there is nothing to molest these birds, and I am sure that nearly all were able to rear their broods in safety. Just about the time that all the fledglings were out of the nests and all were able to keep up with the parent birds, the entire bird population, except the English Sparrows and the Martins, disappeared for several weeks. For the past several days—this is being written August 11—they have been coming back, a Downy and a Cardinal being the first comers. I have wondered what could have been the reason for this exodus and have decided on the following: During the time that the young were being fed, the parent birds were necessarily more or less restricted to the immediate vicinity and, consequently, consumed nearly all of the food supply. When the young were able to travel they sought other places for food. When the food supply again became normal in their nesting area, they returned.

I should like to give in detail my experience with a precocious Hummingbird, which Professor Gordon Wilson referred to in his note in the June, 1923, Bulletin. He made this observation in the same season, 1922, as the one I refer to. In front of the Kentucky Institution for the Feeble-minded, at Frankfort, where I was for some time Physician in Charge and Assistant Superintendent, are long, narrow beds of flowering plants, principally at least in 1922, scarlet sage and nasturtiums. Birds are

rigidly protected on the grounds, which are quite extensive, and among the number nesting there was a pair of Hummingbirds, which several of us had noted from time to time hovering over the flowers near the front porch. On two, perhaps three, occasions, I had seen what I supposed to be Bumblebees, near, if not actually with, the Hummers. I should never have noticed the difference if one of the nurses had not commented on the friendliness of the Hummingbirds and the Bumblebees. This set me to watching, with the result that the Bumblebees proved to be young Hummers, only about a fourth as large as the adult birds. I had these birds under observation for three weeks, during which time the young Hummers steadily increased in size until they were as large as their parents.

Now this suggests some queries: Is the Hummingbird precocial? Or relatively so? Was it arrested or, rather, delayed, growth? If so, what caused it? Was there a scarcity of food essential to the development of this species?

I should like also to add some records which strengthen those of Professor Wilson in the June Bulletin:

Buff-breasted Sandpiper (*Tryngites subruficollis*)—Listed on my Fulton County, Kentucky, list (Auk, 1889) as a casual visitor during both spring and fall migrations.

"Swainson's Warbler (*Helinaia swainsonii*)—I am certain that I saw one August 29, 1887, but my only shell was loaded with No. 1 buckshot and I failed to secure it. However, I have no doubt as to its identity."—Quotation from my 1889 list in Auk.

1890—One male shot, April 28.

1892—Not noted.

1893—Very rare summer resident in the part of the county (Fulton) known as the "Scatters," an extension of Reelfoot Lake.

I have been much interested ever since the arrival of the advance guard of the Purple Martins in their efforts to establish themselves in two bird-boxes on a neighbor's place. The Martins took them first, a few pairs, then the English Sparrows moved in. In a few days the Sparrows had undisputed possession of one of the boxes and a small part of the other. Then, as more Martins arrived, they disputed the possession of the first box. For a week or ten days the contest continued, neither side gaining any decided advantage, or, even if gaining, not holding it more than forty-eight hours. Then, to my great surprise and pleasure, the Martins began to win, and now for some time have had undisputed possession of both houses.

But the championship belt, if I may use pugilistic terms, goes to a pair of Bronzed Grackles, which have nested and are rearing a brood in an orchard just across the avenue. They have completely subjugated several pairs of Robins and Catbirds in or near the same orchard, have routed the Blue Jays, and do not hesitate to attack cats and dogs, even when not in the vicinity of their nest. There is one large cur in the neighborhood that they will not allow to pass quietly up and down the avenue. I do not know why they should display such enmity toward this particular dog, as I am almost sure that he has never been nearer the

nest than the sidewalk and know that he has made no effort to disturb it.

Do you know that the Robin is fond of the young Colorado Potato Beetle? I never learned this fact until this spring, when Robins materially aided me in protecting my potatoes.

President of the Kentucky Ornithological Society,
Versailles, Kentucky.

TWO UNIQUE BIRD RECORDS

I camped out on Barren River at Ewing's Ford, some eight miles from Bowling Green, Kentucky, near the end of Aggust, 1923. One of my camping companions, Mr. N. T. Hooks, a Senior in the Kentucky Teachers' College, suggested that Screech Owls could be called up just as can Bobwhites, Wild Turkeys and Ducks. He and I developed a call very much like that of the Screech Owl by blowing on our hands. To my surprise, the Screech Owls began to respond and came up very close to us. The lady members of the party were none too well delighted at our performance, which we repeated with the same success each night we were in camp. Sometimes there were a half dozen of the little fellows at a time vying with each other in moaning. Several times they came up close to our camp, on the very bank of the river.

One day in camp Mr. Hooks left a red-lined quilt lying on the top of his tent. Though we were in a clump of trees and bushes and were, consequently, not easily seen from any angle, the Hummingbirds discovered their favorite color in the quilt and made frequent trips to see what it was. At almost any time in the day we could hear the humming of their wings and could catch sight of one or more lingering around the quilt.

Bowling Green, Ky.

Gordon Wilson.

NOTES—HERE AND THERE

Conducted by the Secretary

The Wilson Ornithological Club will hold its annual meeting in Cinnati, Ohio, with the American Association for the Advancement of Science. The A. A. A. S. will hold its meetings from December 27, 1923, to January 2, 1924. The present plan is for the W. O. C. to hold its all-day meeting on Monday, December 31. The Secretary has communicated with all the related societies so as to be sure we are not conflicting with any of the programs our members would like to attend. Make your plans now to attend and, more important still, to take part in the program. If you have a paper to read or other matter which would be of interest to the society, please communicate with the Secretary before November 15, at which time the last "copy" for this department in the December Bulletin must be in the hands of the printer. A little later in the season a circular letter will be mailed to all members, outlining the coming meeting. Let's make all the time we are in Cincannati be of interest and profit to our society.

The August, 1923, National Geographic Magazine has a long and profusely illustrated article on "Hunting Birds with a Camera," by Dr. William L. Finley of the National Audubon Societies. The illustrations, which are very unique, are only another proof of the fascinating sport to be found in the wild, even without a gun. Dr. Finley is contributing editor of Nature Magazine, also, and is writing some excellent illustrated articles monthly for that new and delightful magazine.

Another feature of Nature Magazine is a series of articles by Howard Taylor Middleton entitled "Jimmie and the Professor." The August article deals with birds and is abundantly illustrated, with splendid reproductions of photographs of birds in characteristic attitudes.

One of the most delightful of the recent articles on Birds is by Alexander Dawes Du Bois in the July Auk. It is entitled "The Short-eared Owl as a Foster-mother" and tells how he removed the Owl's eggs and substituted hen's eggs instead. The photographs accompanying the article are clear and show very effectively the habitat of the Owl.

One of the members, Professor E. D. Crabb, formerly connected with the University of Oklahoma, is now Associate Lecturer of the Public Museum of Milwaukee, Wisconsin. We welcome him to his new position and hope that he can join us in all our programs hereafter at our annual meetings.

Our good friend, Franklin P. Metcalf, formerly with the United States Biological Survey at Washington, D.C., will reside hereafter at Foochow, China, where he is a member of the faculty of Fukien Christian University. Though we hate for him to go so far away, he must write us of the birds he sees in China. It is needless to say, the Wilson Bulletin will go with him.

On September 9, 1923, will occur the centenary of the birth of Joseph Leidy, M.D., LL.D., the great American naturalist. The various scientific

institutions with which Dr. Leidy was connected are to hold a commemorative meeting in his honor in the hall of the Academy of Natural Sciences of Philadlephia at the Parkway and Nineteenth Street on the afternoon and evening of Thursday, December 6, 1923. Mr. Joseph P. Norris, Jr., will represent the Wilson Ornithological Club on this occasion.

William G. Fargo, Jackson, Michigan, one of our new members, is now in the wildreness country near James Bay, Canada. Dr. Fargo has spent his summer vacations in this region for several years and has found it one of the "wonderlands" of America. He is a skilled woodsman, an agile canoeist, and is, like so many others of us, an enthusiast about birds. His specialty on this trip is to see the water birds on the west shore of James Bay.

Two of our members, George M. Sutton and W. E. Clyde Todd, both of them connected with the Carnegie Museum at Pittsburgh, left that city on August 17 for James Bay, by way of Abitibi River, to secure material for the new Blue Goose group which is to be erected in the Museum under the direction of Mr. Sutton. While they are in the great North woods, we hope they may meet with Mr. Fargo and his companion, mentioned elsewhere in this column.

Our President, Professor T. L. Hankinson, is doing field work for the state of Michigan this summer and is located at Traverse City. His special problem this summer is the relation between birds and fish.

Our Editor, Dr. Lynds Jones, has spent the entire summer in charge of an Ecology trip through Illinois, Iowa, North Dakota, Montana, Idaho, to the Pacific coast. The party went in automobiles and at the last accounts were finding their plans working out as they had anticipated. I suggest that our Editor tell us in an early issue of the Bulletin something of the purpose and the results of his journey.

Our former Secretary, A. F. Ganier, spent ten days at Reelfoot Lake, Tennessee, May 17-27, and made another short trip there in early June. In many ways this is the most unique freshwater lake in the interior of America. It was caused by the tremendnous earthquake in 1811, at which time the great untouched forests of the Mississippi bottom sank. There are yet many remains of the old submerged trees. The lake is surrounded by marshes which are grown up in water plants and which are almost as wild as the tropical jungles. Mr. Ganier has studied this interesting place for many years and is recognized as an authority on the birds of the Mississippi River section. We are looking forward to a lengthy article on his investigations there.

Owing to the serious illness of our Secretary last spring, he has been spending his vacation recuperating, not trying to take any extended trips of observation. He has consoled himself by camping on his own little river and reviving his long field trips around his home.

BIRD BANDING DEPARTMENT

Under the Direction of Wm. I. Lyon, Waukegan, Ill.

EASTERN BIRD BANDING ASSOCIATION

(Organized and in Operation as of August 1, 1923)

The Bird Banding Associations and persons interested in bird banding throughout the country will be interested to know that a new Bird Banding Association has been formed to be called the Eastern Bird Banding Association. The officers are:

President—Dr. Arthur A. Allen, Cornell University, Ithaca, N. Y.

Vice-President—Frank L. Burns, Berwyn, Pa.

Executive Secretary—Rudyerd Boulton, New York City.

Secretary—Mrs. J. E. B. Webster, 16 Davis Place, East Orange, N. J.

Treasurer—Maunsell S. Crosby, Rhinebeck, N. Y.

Council—Beecher S. Bowdish, Secretary, New Jersey Audubon Society, Demarest, N. J.; Rudyerd Boulton, American Museum of Natural History, Central Park West, New York City; H. H. Cleaves, Secretary Wild Life League of West Virginia, Clarksburg, W. Va.; John A. Gillespie, 313 Sharp Ave., Glenolden, Pa.; Richard E. Horsey, Higland Park Reservoir, Rochester, N. Y.; R. J. Middleton, Jefferson, Pa.; John T. Nichols, American Museum of Natural History, Central Park West, New York City; Dr. Lewis Rumford, Dupont Bldg., Wilmington, Del.; Dr. Witmer Stone, Academy of Natural Science, Philadelphia, Pa.

This new Association is to include a region composed of New York State, Pennsylvania, New Jersey, Delaware, Maryland and Virginia, and will probably include a portion of Canada to the north, and West Virginia and probably other states to the south.

The new Association will operate under Rules and Regulations similar to those now used by the Inland Association and the New England Association, and will undertake to arouse interest in bird banding through these states in coöperation, and of course under the direction of the United States Biological Survey, as in case of the other Bird Banding Associations.

The forming of this new Association is a direct result of a meeting which was called on April 24th by the Linnean Society of New York at the American Museum of Natural History. At this meeting, besides the hundred or more persons from New York and vicinity, there were present as guests, Mr. Frederick C. Lincoln of the U. S. Biological Survey, Mr. S. Prentiss Baldwin, President of the Inland Bird Banding Association, and four representatives of the New England Bird Banding Association: Dr. C. W. Townsend, President; Mr. Laurence B. Fletcher, Secretary; Mr. A. C. Bent and Mr. Charles L. Whittle.

Mr. Lincoln and Mr. Baldwin, at this meeting, gave talks on the subject of Bird Banding, illustrated by lantern slides. After this part of the program the meeting was adjourned as a meeting of the Linnean Society, but was immediately reorganized as a meeting of those present who were interested in bird banding, and the meeting then having expressed the desire to form a regional bird banding association, proceeded to form a

local committee for temporary purposes to represent New York in the forming of such a regional association.

After the adjournment of this meeting much correspondence was carried on for some three months with the persons most interested in bird banding in the states which were intended to be included, resulting in the final organization by common consent of all those interested of this new Association. The new Association has come into being and started operations with the first of August, 1923.

THE BIRDS BANDED IN INLAND DISTRICT

The following is an attempt to complete the totals of the work accomplished in our district. Letters were written to all of the permit holders in our district. From the 200 letters sent there were 51 who forwarded their lists, and 13 who replied, stating that they were unable to place any bands, making 64 answers received. We hope in the future that more of the workers will coöperate with us, so we may have a more complete report, thereby more interesting.

If the banders would kindly follow the order of the A. O. U. List in sending in reports, it would be a great convenience in making up our general reports, as when they come in all mixed up it is necessary to put them in rotation before we can start to compile the list.

The number of new species that are appearing on the list for the the first time, shows that bird banding is spreading and we wish to take this opportunity to request all of the workers of the Inland District to make every effort they can to band the birds that travel the longest distances in migration, especially covering the Chimney Swift and Swallows, and other birds that go to South America.

We found it a larger task than we expected to get the report put in order, then listed to make a total district report, and it had to be done rather hurriedly as our time was short, so you will pardon any discrepancies that may appear.

A. L. Hamner, Auburn, Ala., reports—Total banded, 59, as follows: Two White-throated Sparrows, 53 Chipping Sparrows, 1 Field Sparrow, 1 Song Sparrow, 2 Brown Thrashers.

Mrs. Lotta A. Cleveland, Downer's Grove, Ill., reports—Total banded, 4, as follows: One Red-headed Woodpecker, 3 Blue Jays.

W. S. McCrea, Chicago, Ill., has a summer home on Beaver Island, in the northern part of Lake Michigan. He was joined by F. C. Lincoln and together they banded 454 Herring Gulls and 200 Caspian Terns. On a subsequent trip with his brother, S. H. McCrea, a Darien, Conn., Bird Bander, they banded 99 Common Terns and 1 Least Sandpiper, making a total of 753 birds banded.

George Roberts, Lake Forest, Ill., reports—Total banded 88, as follows: Three Red-headed Woodpeckers, 15 Blue Jays, 3 Cowbirds, 8 Grackles, 1 White-throated Sparrow, 14 Juncos, 7 Song Sparrows, 1 Cardinal, 23 Rose-breasted Grosbeaks: 5 Catbirds, 2 House Wrens, 1 Gray-cheeked Thrush, 3 Robins.

Mary B. Schumacher of Chicago, Ill., reports—Total banded 2, as follows: One Fox Sparrow, 1 Robin.

W. B. Taber, Jr., Kansas, Ill., began banding July 1st, 1923, and has banded a total of 29, as follows: Three Mourning Doves, 3 Red-headed Woodpeckers, 3 Red-bellied Woodpeckers, 1 Blue Jay, 3 Baltimore Orioles, 3 Brown Thrashers, 10 House Wrens, 3 Robins.

Ruth Martin, Canton, Ill., reports—Total banded, 31, as follows: One Mourning Dove, 1 Baltimore Oriole, 1 White-throated Sparrow, 4 Tree Sparrows, 10 Juncos, 3 Song Sparrows, 1 Fox Sparrow, 1 Rose-breasted Grosbeak, 3 Catbirds, 1 B. Thrasher, 5 House Wrens.

Dr. Henry B. Ward, Urbana, Ill., reports that his work this summer has been confined to fish. We hope he banded a few fish!

Robert L. Jackson, Ohio, Ill., reports—Total banded 83, as follows: One Black-crowned Night Heron, 3 Mourning Doves, 2 Screech Owls, 2 Red-headed Woodpeckers, 3 Northern Flickers, 1 Chimney Swift, 7 American Crows, 33 Purple Grackles, 1 Boat-tailed Grackle, 1 Vesper Sparrow, 13 Purple Martins, 7 House Wrens, 4 Robins, 5 Bluebirds.

William I. Lyon, Waukegan, Ill., reports—Total banded, 970, as follows: Five Sandpipers, 2 Killdeer, 4 Mourning Doves, 1 Black-billed Cuckoo, 5 Downy Woodpeckers, 4 Yellow-bellied Sapsuckers, 4 Red-headed Woodpeckers, 12 Blue Jays, 1 Crow, 39 Cowbirds, 5 Red-winged Blackbirds, 24 Bronzed Grackles, 56 Purple Finches, 1 Crossbill, 12 White-crowned Sparrows, 84 White-throated Sparrows, 138 Tree Sparrows, 4 Field Sparrows, 141 Juncos, 71 Song Sparrows, 16 Lincoln's Sparrows, 3 Swamp Sparrows, 8 Fox Sparrows, 13 Towhees, 1 Cardinal, 6 Indigo Buntings, 200 Waxwings, 1 Northern Shrike, 9 Oven-birds, 1 Mourning Warbler, 22 Catbirds, 12 Brown Thrashers, 2 House Wrens, 11 Brown Creepers, 2 Gray-cheeked Thrushes, 9 Hermit Thrushes, 32 Robins, 7 Bluebirds.

S. E. Perkins III, Indianapolis, Ind., reports—Total banded, 156, as follows: Three Green Herons, 4 Killdeer, 26 Mourning Doves, 1 Red-headed Woodpecker, 14 Phœbes, 4 Red-winged Blackbirds, 1 Orchard Oriole, 13 Grackles, 4 White-throated Sparrows, 1 Chipping Sparrow, 4 Field Sparrows, 11 Juncos, 5 Song Sparrows, 2 Fox Sparrows, 4 Towhees, 6 Cardinals, 2 Rose-breasted Grosbeaks, 3 Bank Swallows, 12 Rough-winged Swallows, 1 Ovenbird, 1 Maryland Yellow-throat, 9 Catbirds, 16 Brown Thrashers, 1 Water-Thrush, 1 Wood Thrush, 6 Olive-backed Thrushes, 1 Hermit Thrush.

Dr. Earl Brooks, Noblesville, Ind., reports—Total banded, 113, as follows: Two Mourning Doves, 2 Phœbes, 2 Blue Jays, 16 Bronzed Grackles, 5 Baltimore Orioles, 2 Chipping Sparrows, 6 White-crowned Sparrows, 19 White-throated Sparrows, 3 Song Sparrows, 19 Cardinals, 5 Purple Martins, 3 Maryland Yellow-throats, 13 Catbirds, 6 House Wrens, 10 Robins.

Margaret R. Knox, Indianapolis, Ind., reports—Total banded, 38, as follows: One Mourning Dove, 2 Flickers, 1 Red-winged Blackbird, 1 Grackle, 6 Cardinals, 3 Wood Thrushes, 20 Robins.

Mr. Elliot R. Tibbets of Indianapolis, Ind., used his vacation to promote Bird-Banding at Burt Lake, Mich., just south of the Straits of Mackinac, by giving a talk on Bird Banding in a local church. He banded a total of 37 from January 1 to August 1. The list follows: Five Kingbirds, 9 Phœbes, 1 Chipping Sparrow, 3 House Wrens, 5 Hermit Thrushes, 5 Robins. While in Indiana he banded 2 Phœbes, 4 Chipping Sparrows, 2 Rose-breasted Grosbeaks, 1 Bank Swallow.

W. B. Van Gorder, Albion, Ind., reports—Total banded, 48, as follows: One Downy Woodpecker, 3 Blue Jays, 9 Grackles, 2 Baltimore Orioles, 26 House Wrens, 2 White-breasted Nuthatches, 1 Gray-cheeked Thrush, 4 Robins.

Kathleen M. Hempel, Elkader, Iowa, reports—Total banded, 52, as follows: Two Nighthawks, 3 Hairy Woodpeckers, 2 Downy Woodpeckers, 3 Flickers, 1 Red-headed Woodpecker, 21 Blue Jays, 4 Bronzed Grackles, 2 Purple Martins, 2 Brown Thrashers, 4 White-breasted Nuthatches, 1 Chickadee, 7 Robins. She secured 15 repeats and 4 returns.

W. W. Hollister, Clear Lake, Iowa, reports—Total banded, 27, as follows: Two Mourning Doves, 1 Flicker, 8 Grackles, 2 Rose-breasted Grosbeaks, 2 Catbirds, 1 Wren, 11 Robins.

Dr. K. Christofferson, Saulte Ste. Marie, Mich., reports—Total banded, 14, as follows: Three Common Terns, 2 Herring Gulls, 1 Spotted Sandpiper, 1 Killdeer, 3 Red-winged Blackbirds, 1 Song Sparrow, 1 Brown Creeper, 2 Robins.

Mrs. R. C. Flannigan, Norway, Mich., reports—Total banded, 33, as follows: Eight Bronzed Grackles, 2 Chimney Swifts, 8 Phœbe, 3 Bohemian Waxwings, 1 House Wren, 11 Robins.

Bert S. Greeg, Belding, Mich., reports—Total banded, 10, as follows: One young Oriole, 4 Martins, 3 House Wrens, 1 Bluebird. A Brown Thrasher was also banded.

Frederick Hermann, Laurium, Mich., reports—Total banded, 17, as follows: Five Chipping Sparrows, 11 Song Sparrows, 1 Fox Sparrow.

Geo. W. Luther, De Tour, Mich., reports—Total banded, 24, as follows: Six Herring Gulls, 15 Common Terns.

M. J. Magee, Saulte Ste. Marie, Mich., reports—Total banded, 758, as follows: One Black Tern, 2 Black Ducks, 58 Evening Grosbeaks, 608 Purple Finches, 2 Goldfinches, 2 Savannah Sparrows, 7 White-crowned Sparrows, 12 White-throated Sparrows, 6 Chipping Sparrows, 4 Slate-colored Juncos, 25 Song Sparrows, 12 Lincoln's Sparrows, 1 Yellow Warbler, 3 Catbirds, 4 House Wrens, 20 Robins.

Arthur D. Moore, South Haven, Mich., reports—Total banded, 166, as follows: Four Mourning Doves, 2 Hairy Woodpeckers, 3 Downy Woodpeckers, 4 Flickers, 5 Blue Jays, 54 Bronzed Grackles, 23 White-throated Sparrows, 14 Slate-colored Juncos, 5 Song Sparrows, 2 Cardinals, 28 Cedar Waxwings, 1 Carolina Wren, 2 White-breasted Nuthatches, 13 Hermit Thrushes, 6 Robins.

F. W. Rapp, Vicksburg, Mich., reports—Total banded, 67, as follows: One Downy Woodpecker, 1 White-breasted Nuthatch, 1 Screech Owl, 1 Chipping Sparrow, 8 American Robins, 1 American Bittern, 54 Purple Martins.

J. Van Tyne, Ann Arbor, Mich., reports—Total banded, 24, as follows: One Downy Woodpecker, 4 Phœbe, 8 Red-winged Blackbirds, 5 Bronzed Grackles, 2 House Wrens, 1 White-breasted Nuthatch, 3 Robins.

A. S. Warthin, Jr., Boyne Falls, Mich., reports—Total banded, 66, as follows: Six Killdeer, 11 Blue Jays, 3 Red-winged Blackbirds, 1 Grackle, 7 Tree Swallows, 10 Oven-birds, 5 House Wrens, 9 Meadowlarks, 4 White-throated Sparrows, 8 Chickadees, 2 Robins.

Lester R. Badger, Minneapolis, Minn., reports—Total banded, 25,

since June 10. The list follows: Two Mourning Doves, 1 Red-headed Woodpecker, 1 Baltimore Oriole, 2 Chipping Sparrows, 3 Cardinals, 1 Bank Swallow, 2 Yellow Warblers, 13 Catbirds.

Frank W. Commons, Minneapolis, Minn., reports—Total banded, 266, as follows: One Mourning Dove, 1 Yellow-billed Cuckoo, 2 Phœbes, 1 Blue Jay, 6 Cowbirds, 17 Red-winged Blackbirds, 1 Baltimore Oriole, 12 Evening Grosbeaks, 1 Harris's Sparrow, 19 White-throated Sparrows, 27 Song Sparrows, 11 Lincoln's Sparrows, 5 Chipping Sparrows, 9 Rose-breasted Grosbeaks, 5 Bank Swallows, 15 Yellow Warblers, 1 Oven-bird, 69 Catbirds, 46 House Wrens, 22 Robins.

Herman Fels, Jr., Monticello, Minn., reports—Total banded, 3, as follows: Two Mourning Doves and 1 Mallard since his permit was received a month ago.

Rev. N. A. Giere, Lanesboro, Minn., reports banding only a short time. Placed total of 35 bands: One Baltimore Oriole, 5 Blue Jays, 14 Grackles, 1 Catbird, 14 Robins.

Carolyn Jensen, Northome, Minn., reports—Total banded, 136, as follows: One Red-headed Woodpecker, 1 Mourning Dove, 1 Phœbe, 2 Least Flycatchers, 56 Red-winged Blackbirds, 1 Grackle, 1 Baltimore Oriole, 2 White-throated Sparrows, 1 Chipping Sparrow, 17 Song Sparrows, 5 Barn Swallows, 2 Yellow Warblers, 17 Catbirds, 3 House Wrens, 19 Robins, 7 Bluebirds.

May Rice, Canton, Minn., reports—Total banded, 10, as follows: One Red-headed Woodpecker, 1 Cowbird, 3 Catbirds, 5 Robins.

Lawrence Zeleny, Minneapolis, Minn., reports—Total banded, 8, as follows: One Junco, 1 Song Sparrow, 2 Catbirds, 2 Brown Thrashers.

Mary B. Salmon, Tarkio, Mo., reports banding 4 Robins.

Harry H. Hipple, Delaware, Ohio, reports banding 1 Blue Jay.

S. Chas. Kendeigh, Oberlin, Ohio, reports—Total banded, 42, as follows: One Blue Jay, 7 Crows, 1 Barred Owl, 17 Bronzed Grackles, 3 Chipping Sparrows, 2 Juncos, 6 Song Sparrows, 5 Robins.

Roy H. Smith, Kent, Ohio, reports—Total banded, 70, as follows: Two Red-headed Woodpeckers, 2 Blue Jays, 25 Grackles, 8 Chipping Sparrows, 3 Song Sparrows, 1 Purple Martin, 2 Rose-breasted Grosbeaks, 2 Catbirds, 1 House Wren, 2 White-breasted Nuthatches, 22 Robins.

Adrian H. Tebbs, Harrison, Ohio, received his banding permit in July and has already banded 2 Robins, 2 Grackles and 4 Purple Martins. He has had a second glimse of one of his Martins, which he saw sitting on a wire one day.

Walter G. Gerth, Wolsey, S. Dak., reports—Total banded, 13, as follows: One Sora, 1 Northern Flicker, 1 House Wren, 10 Lapland Longspurs.

J. F. McGee of Mercer, Tenn., reports—Total banded, 19, as follows: Two Herring Gulls, 1 Royal Tern, 1 Cabot Tern, 2 Laughing Gulls, 1 White Pelican, 1 Quail, 2 Mourning Doves, 3 Flickers, 2 Blue Jays, 1 Cardinal, 2 Wood Thrushes, 1 Robin.

Mrs. E. J. Carley, Stevens Point, Wis., reports—Total banded, 23, as follows: Two Blue Jays, 2 Baltimore Orioles, 14 Grackles, 5 Robins. One of the Robins was a partial albino.

Mr. and Mrs. George F. Fisher, State Line, Wis., report—Total

banded, 742, as follows: One Hairy Woodpecker, 1 Downy Woodpecker, 1 Phœbe, 1 Canada Jay, 24 Blue Jays, 3 Red-winged Blackbirds, 8 Bronzed Grackles, 575 Red Crossbills, 14 White-winged Crossbills, 4 Goldfinches, 105 Pine Siskins, 1 Song Sparrow, 4 Chickadees.

Mrs. Fred L. Hook, South Milwaukee, Wis., reports the following: Five Blue Jays and 5 Grackles.

S. Paul Jones, Waukesha, Wis., reports—Total banded, 17, as follows: One Killdeer, 1 Red-headed Woodpecker, 6 Phœbes, 4 Cowbirds, 5 Long-billed Marsh Wrens.

Clarence S. Jung, Milwaukee, Wis., reports—Total banded 103, as follows: Four Spotted Sandpipers, 1 Prairie Chicken, 9 Mourning Doves, 3 Kingbirds, 2 Crows, 4 Cowbirds, 6 Red-winged Blackbirds, 6 Grackles, 1 White-throated Sparrow, 48 Bank Swallows, 7 Catbirds, 8 Brown Thrashers, 4 Long-billed Marsh Wrens. These birds were banded during the months of June and July.

Mrs. Harry McLeol Lewis, 330 Hawthorne Ave., South Milwaukee, Wis., reports—Total banded, 2, as follows: One Bronzed Grackle and 1 Hermit Thrush.

Mrs. H. C. Miller and her son, Clark C. Miller, Racine, Wis., report—Total banded, 124, as follows: One Florida Gallinule, 1 Chimney Swift, 1 Baltimore Oriole, 9 Grackles, 8 Juncos, 5 Lincoln's Sparrows, 2 Swamp Sparrows, 12 White-throated Sparrows, 1 Purple Finch, 34 Cedar Waxwings, 1 Red-eyed Vireo, 2 Orange-crowned Warblers, 3 Oven-birds, 1 Mourning Warbler, 10 House Wrens, 1 Gray-cheeked Thrush, 1 Olive-backed Thrush, 4 Hermit Thrushes, 1 Brown Thrasher, 4 Catbirds, 22 Robins.

Irving J. Perkins, Oconomowoc, Wis., reports—Total banded, 64, as follows: Three Least Bittern, 4 Little Blue Herons, 2 Mourning Doves, 1 Cowbird, 2 Red-winged Blackbrids, 4 Song Sparrows, 4 Barn Swallows, 40 Bank Swallows, 2 Catbirds, 1 Robin, 2 Bluebirds.

Rev. O. Warren Smith, Congregational Manse, Evansville, Wis., has banded 4 Flickers, 2 Juncos, 3 Song Sparrows, 2 Yellow Warblers, 6 Brown Thrashers. Total banded, 17.

Herbert L. Stoddard, Milwaukee, Wis., reports—Total banded, 267, as follows: One Black Tern, 21 Sandpipers, 1 Killdeer, 12 Kingfishers, 4 Marsh Hawks, 10 Flickers, 1 Kingbird, 7 Cowbirds, 3 Yellow-headed Blackbirds, 19 Red-winged Blackbirds, 8 Barn Swallows, 4 Tree Swallows, 88 Bank Swallows, 2 Chipping Sparrows, 2 Song Sparrows, 1 Catbird, 11 Long-billed Marsh Wrens, 69 Robins, 3 Bluebirds.

Mrs. Hiram E. Towns, Pewaukee, Wis., reports—Total banded, 100, as follows: Two Red-headed Woodpeckers, 1 Flicker, 6 Phœbes, 3 Grackles, 1 Savannah Sparrow, 18 White-throated Sparrows, 3 Slate-colored Juncos, 1 Lincoln's Sparrow, 15 Rose-breasted Grosbeaks, 15 Barn Swallows, 1 Oven-bird, 5 Catbirds, 13 House Wrens, 1 Brown Thrasher, 15 Robins.

Harold C. Wilson, Ephraim, Wis., reports—Total banded, 20, as follows: One Killdeer, 3 Chimney Swifts, 2 Chipping Sparrows, 2 Song Sparrows, 1 Cliff Swallow, 2 House Wrens, 9 Robins.

Totals for the District

Herring Gull	464	Purple Finch	665
Laughing Gull	2	Crossbill	576
Royal Tern	1	White-winged Crossbill	14
Cabot's Tern	1	Goldfinch	6
Caspian Tern	200	Pine Siskin	158
Common Tern	117	Smith's Longspur	10
Black Tern	2	Vesper Sparrow	1
White Pelican	1	Savannah Sparrow	3
Mallard	1	Nelson's Sparrow	1
Black Duck	2	Harris's Sparrow	1
Bittern	4	White-crowned Sparrow	25
Least Bittern	4	White-throated Sparrow	202
Little Blue Heron	4	Tree Sparrow	142
Green Heron	3	Chipping Sparrow	95
Black-crowned Night Heron	1	Field Sparrow	5
Sora	1	Slate-colored Junco	199
Florida Gallinule	1	Song Sparrow	192
Spotted Sandpiper	36	Lincoln's Sparrow	35
Golden Plover	6	Swamp Sparrow	6
Killdeer	11	Fox Sparrow	13
Quail	1	Towhee	17
Mourning Dove	65	Cardinal	42
Marsh Hawk	8	Rose-breasted Grosbeak	56
Barred Owl	1	Indigo Bunting	6
Screech Owl	3	Purple Martin	85
Yellow-billed Cuckoo	1	Cliff Swallow	1
Black-billed Cuckoo	1	Barn Swallow	32
Belted Kingfisher	12	Tree Swallow	11
Hairy Woodpecker	6	Bank Swallow	186
Downy Woodpecker	14	Rough-winged Swallow	12
Yellow-bellied Sapsucker	4	Bohemian Waxwing	3
Red-headed Woodpecker	22	Cedar Waxwing	262
Northern Flicker	37	Red-eyed Vireo	1
Chimney Swift	8	Northern Shrike	1
Kingbird	9	Orange-crowned Warbler	2
Phœbe	55	Yellow Warbler	22
Least Flycatcher	2	Oven-bird	26
Blue Jay	114	Water-Thrush	1
Canada Jay	1	Mourning Warbler	2
Crow	17	Maryland Yellow-throat	4
Cowbird	65	Catbird	183
Yellow-headed Blackbird	3	Brown Thrasher	47
Red-winged Blackbird	127	Carolina Wren	1
Meadowlark	9	House Wren	163
Orchard Oriole	1	Long-billed Marsh Wren	25
Baltimore Oriole	16	Brown Creeper	12
Boat-tailed Grackle	1	White-breasted Nuthatch	12
Bronzed Grackle	251	Chickadee	13
Evening Grosbeak	84	Wood Thrush	6

Gray-cheeked Thrush	5	Bluebird	25
Olive-backed Thrush	7		
Hermit Thrush	33		
Robin	367	Grand Total	5818

NOTES

In reading the different reports sent in, it is noticeable that our workers do not keep track of the number of English Sparrows exterminated. An interesting item would be a monthly account of all English Sparrows exterminated in our district. We hope operators will aid us in keeping this record as we are sure the Biological Survey is quite interested in having these records. The list received is as follows:

Illinois—Wm. I Lyon	86
Iowa—Kathleen M. Hempel	87
Michigan—Mr. Magee	452
Total	625

WARNING

The next few months, in most all of our states, will be the rainy fall season and we wish to issue warning, especially to the new workers, that they need to take care of the ground underneath their traps; it must be clean continually. Nearly any bait will soon sour or ferment. In the case of whole seeds they will sprout and then the sprouts will mold, so the ground under your trap must be continually kept clean if you wish to be successful in trapping birds. In fact, trapping birds is no different from trapping animals or anything else. One must keep the bait fresh or tempting at all times to get results.

If you have no bushes or other cover around your trap, a very good method is to cut brush of any kind and sharpen the ends and simply force into the ground so it will stand up, forming bushes for the birds to light in. We can illustrate this fact from having a trap in an open garden, which did not seem to get very good results, and noting that many birds lit on the dead limbs of the adjoining trees, we cut a sapling about 25 feet high and sharpened the end and forced it into the ground so that it would stand upright near the trap and then placed some brush and some sunflowers that we could stick in the ground around the trap; immediately our results changed. Another good method is to cut the fruit of wild berries and attach the fruits to the bushes around your trap; in other words, build your own natural cover around your trap.

NOTES BY M. J. MAGEE, SAULT STE. MARIE, MICH.

I found the Evening Grosbeak rather difficult to handle in one way. They are very scrappy and if more than one or two were in a trap at the same time they were liable to seriously injure each other. Two females attempted to go into the small gathering cage at the same time and locked bills. It was almost impossible to get them apart. When separated one was so badly cut in the roof of the mouth that it had to be killed. After that I never had the traps out unless I was around to watch them and as soon as a Grosbeak was trapped it was immediately removed. I had no further trouble but, as I could only watch the traps for

an hour each morning, I only succeeded in banding 58 out of the flock of over 100. The last of the Grosbeaks left my feeding and trapping station May 23.

Since putting food out in 1915 I have had Grosbeaks at my house every winter, but I do not think any of the birds stay in this immediate vicinity all summer. However, Dr. Christofferson and myself have found Evening Grosbeaks in summer for the past four years at various points from 40 to 125 miles west of the Soo and we are very sure they nest regularly in considerable numbers in parts of the Upper Peninsula of Michigan. July 29 a male and female arrived at the house and immediately flew into my window box.

Mr. Ligon found five nests and photographed a young bird a year ago near Whitefish Point, this county (see April, 1923, Auk). Whitefish Point is just about 25 miles north of one of the points where the Doctor and I have found the Grosbeaks in summer regularly.

Sparrows and Juncos are not difficult to handle, but many Purple Finch give considerable trouble. They fly around the top of the traps and do not seem to be able to find their way through the opening into the back compartment, and frequently when they do it is just about as difficult to get them to go through the door into the gathering cage. Frequently when I arrive home in the afternoon I find from one to three Finch in the middle compartment of my bander's trap, although the circular hole into the back compartment is large enough to put your fist through and the back door is wide open.

If the ordinary Sparrow trap is used to trap Finch, where you are liable to get them in any numbers, the hole should be very much enlarged, otherwise some of the birds will injure themselves more or less seriously.

From early spring until late in the fall every year since 1916 the Finch have been at the house feeding every day. This year I noticed the first signs of moulting July 1 and through the month trapped many moulting birds, many of the younger males showing the change to red in from a single feather to feathers on the wings, rump, breast and head. Most, if not all of the young males in the olive-brown plumage show the rump decidedly yellowish. In banding this spring I checked all the birds showing a decidedly yellowish rump as young males and almost all of these on which I have had returns since July 1 show some red. I also noticed since moulting started that the skin at the sides and frequently the inside of the mouth of adult males and changing young males is quite a bright orange-red. In fact the first one I noticed, an adult male, I thought had struck the wires of the trap and was bleeding at the mouth. The skin at the sides of mouth of moulting females is quite a bright yellow.

I did not notice this bright yellow or orange-red on any of the Finch trapped earlier in the year. Many Finch, hatched this year, are now around and looking after themselves. They are mostly a lighter olive-brown than the older birds.

I now have out three traps regularly, when I am at home and able to look after them—a Bander's trap; a drop trap over my bird bath, most of the Robins, the Chipping Sparrows, two of the Catbirds, the two War-

blers, and Goldfinch, were caught in this trap, and a self-acting trap made by a tinsmith here. This latter trap is 18x12x12, the front opens entirely and there is an 8-inch circular disk in center about 1½ inches above the bottom of trap. Food is put on this circular disk. When a bird hops onto this disk it tips, releasing door, which falls of its own weight. No springs are used. It is built very much after the idea of the old figure four trap and is giving satisfaction. It is large enough for several birds to be in at one time and as soon as one hops on the disk I get the lot, frequently three and often four.

My regular Sparrow trap I only use when I notice English Sparrows around, using bread for bait. Last winter and early spring it was a regular war, I shot and trapped over 300. After that, and until the end of June, I was practically free from them. I then noticed a number of young Sparrows and got after them. In three weeks I trapped 152; all this year birds but 6. Now I am free from them again, but there is liable to be a new crop in any time.

A DAY'S BANDING HERE AND THERE

A phone conversation at 7:00 o'clock in the evening fixed the arrangements for starting by auto at 3:00 o'clock the next morning on a bird banding excursion.

Elliott R. Tibbets, another holder of banding permit, and myself, left for Indianapolis at 3:00 A. M. June 10th, going north on the State Highway No. 1, with no signs of daylight. We were almost to Kokomo when the dawn showed us that the day would start with light clouds in the sky. Even later the sun did not break through the clouds, but only showed in a great halo of illumination. The next city was Peru, with little sign of life that Sunday morning. We opened our boxes of lunch at the Eel River, still on Highway No. 1, near Mexico, Indiana, eighty-five miles out on our journey. Here, as we ate, we explored. We heard robins sound a fear call and located a lone robin fledgling in its nest. We gave it tag 47250. Here we heard the song sparrow and the red-winged blackbird over on an island, but found no other birds within our reach.

Some five miles further we tried to find the nest of a pair of bluebirds, which perched upon a fence, but the only luck we had was a hole in a fence post with a few straws therein as if a nest had just been begun. A little farther on, at the farm of Charles Hammond, we saw a barn swallow enter the big barn. We made ourselves welcome and found under the ceiling of the first floor two nests of barn swallows, one empty and the other with four eggs. When the farmer's son came in he told us there were some peculiar mud nests on the outside of his barn under the eaves. When he showed them to us we were gratified to find that seven pairs of cliff swallows were nesting there. They are rare in central Indiana. These nests were three on one side and four on the other and two pairs of birds had built their gourd shaped nests, using a common wall between. The pretty birds looked comical as they looked down out of their holes. They remained on the nests till we were quite close. We obtained ladders and by climbing found the nests contained eggs. We tried for an hour to catch the old ones but failed. Going across the road

to another part of the farm we found a killdeer's nest with four eggs, and an orchard oriole nest with one egg. We were assured by Mr. Hammond that he allowed no harm to come to birds about his place. A little further up the road we came to a large sand bank in which were seventeen holes of bank swallows. This same colony had the year before nested across the road. We were able, before the swallows all took flight, to band two, now known as 64854 and 74909. This was at 9:10 in the morning. About a mile farther we passed through Rochester. After arriving at Lake Maxinkuckee and locating the nest of a rose-breasted grosbeak, first with the male sitting and then the female, we rigged up a scaffold to reach it in its light sapling some twelve feet up. It was 11:00 before we managed to band the four young 62620, 62621, 64849, 64831. In the next tree to this one was a wood thrush sitting on three eggs, and in a dead stump in another direction was the nest of a house wren, and on the other side of the road was the upset nest of a yellow warbler with eggs on the ground broken. After taking several photographs of the grosbeaks, both old and young, we drove on to the prosperous orchard of Walter Vonnegut, northeast of Lake Maxinkuckee, but within sight of its waters. Here in a small bush at the fence line was the nest of a field sparrow with two birds and an egg. We gave the young bands 74911 and 74912 and ten minutes later banded two mourning dove fledglings 68016 and 68017 found in the nest with a dove egg. This made the third nest of doves found by me this season containing three eggs. We next turned our attention to four young chipping sparrows in a fir tree. They were given bands 64834, 64836, 64848, 64850.

We lunched on the running board of the car while a lady's hair net arranged at the field sparrow nest with a thread as a trap caught the bird therein and it was numbered 74915, and almost at the same time another pair of dove fledglings was discovered and banded 112832 and 112833. As we roamed the orchard a catbird's nest with four birds too young to band, the nest of a cardinal with two eggs, the nest of a robin with one lone cowbird egg, and another robin's nest with three eggs, were found before we motored over to the small orchard at Hollyhocks house, also owned by the Vonneguts. In a cedar tree, very near the house, at 2:15 p. m., we banded another pair of dove fledglings, 112834, 112835. Then two flocks of young, 64833, 64843. In the meantime Tibbets had walked across from one orchard to the other and, as he came, located a kingbird nest and that of a yellow-billed cuckoo torn open so that two eggs were broken by the fall and the third, still whole, lying in the grass. Then he flushed a killdeer from her nest containing three birds and one egg. They got rings numbered 112475-76-77. Then we spent about an hour trying to catch, with our hair net trap, a parent bird, without success.

While Tibbets prospected the adjoining territory I drove to the town to meet a train and found in a little park at the station the nest of the chipping sparrow, with four babies, which got bands numbered 74910, 74913, 74914, 74916.

At 5:10 we started home, stopping at the grosbeak's nest and making an effort to capture the old birds, but were not able to do so. Within five miles of the lake a mockingbird swung to the telephone line beside us. This was a worthwhile find. We turned about and returned to find

a pair of birds on the ground in a field, where we studied them for five minutes. After we left them rain began to fall and our hundred miles back through darkness and rain netted us nothing more of bird study. We had banded twenty-eight birds, had driven two hundred forty-six miles, and had a glorious day.

Sam'l. E. Perkins III.

Indianapolis, Ind.

"The Survey," Washington, D. C., states that the Bird-Banding experiments in the Arctic are to be conducted in connection with a United States Geological Survey expedition, which sailed on June 6 from Seattle, Wash., for Nome, Alaska, planning to spend the summer between that place and Point Barrow. Included in the party is Capt. Joseph F. Bernard of Montreal, Quebec, who has spent many seasons on the Arctic coast of America as captain of a whaling vessel. Captain Bernard has been supplied by the Survey with aluminum bands and it is hoped that he will be able to band a number of ducks and geese whose northermost breeding grounds are found in the area that will be visited by the party. During his northern trips Captain Bernard has specialized in the study of the nesting of waterfowl and shorebirds, a training which speaks well for the success of the volunteer work which he has undertaken.

COMMUNICATIONS

OTTAWA FIELD NATURALISTS' CLUB

Moved by P. A. Tavener. Seconded by W. T. Macoun. Carried—Hoyes Lloyd, President.

Whereas, many of our finest and most interesting birds that formerly bred in what are now settled localities are so seriously reduced in number as to be in danger of extermination and,

Whereas, we are occasionally discovering stations still occupied by these birds in territories that are easily accessible to those who have not the welfare of these birds at heart. Therefore

Be it Resolved, that the Ottawa Field Naturalists' Club places itself on record as believing,—

That whilst it is important that all such information should be brought to the attention of science, it is inexpedient to publish the same where it may become common property. They therefore

Recommend that such information be filed only in the records of duly accredited and continuing institutions that have a serious interest in the study and preservation of wild life and where it may be available for qualified research students of approved discretion, for future generations or until the wider dissemination of the information can do no harm to the species concerned.

Further, that all who discover such information are urged to transmit it to such institutions as are particularly interested and equipped for recording such confidential information and to no one else on whose discretion they cannot rely.

Further, that such institutions record the information so received in such a manner that its confidential nature will not be violated, that it may be available at any time to those who have a legitimate interest in it, and that it may not be lost or forgotten through lack of present publication.

However, be it understood that nothing in these resolutions be deemed to prevent the information being given privately and under the seal of confidence to such students who have a legitimate interest in it and will not use it improperly or cause or permit others to do so.

BIRD GOLF

(Portland Evening Express, May 4, 1923)

Not so long ago there appeared in this column a description of a new and novel game called Bird Golf, the invention of a former Maine man, John Warren Achorn, who lives in Pinebluff, North Carolina. I have just received a letter from him in which he is good enough to give further details anent this game, including the rules. The letter follows:

The Sand Hills Bird Club of Pinebluff, and the Savannah Audubon Society are the only two bird clubs in this part of the South, and strange to say, both clubs are under the management of Maine men.

H. B. Skeele of Oxford County, Maine, is president of the Savannah Audubon Society, while I hold a similar position with the Sand Hills Bird Club. By vote of the commissioners of this town within its corporate limits was made a bird reservation November 6, 1922. The town is a mile and a half east and west, and a mile on its north and south line. It is well watered by constant streams, and there are two artificial lakes within the town limits, the larger lake being nearly a mile long. There is plenty of cover for the birds in winter along these streams or branches, evergreen cover. We have built 150 bird houses and bird boxes this year and have set them up for purple martins, bluebirds, wrens, tree swallows and the like. We plan for 500 bird houses and boxes. The town itself has only 120 houses and camp cottages in it, but it boasts electricity and running water, so we can and do live like other folks.

Here, under the auspices of the Sand Hills Bird Club, we train our bird scouts to know by sight 50, 75, or 100 birds. One student coming here from Pennsylvania, between February 24 and April 23, has learned to recognize in the field 100 birds. She has been decorated a master scout. There are at least six other students who will pass the 100 mark this season. Students have come from as far away as Ohio.

When a Bird Club starts here in the South our plan is to send to that club one of our bird scouts—who shall teach half a dozen "grown ups" to recognize and know at least 50 birds in the field. In this way the foundation for field work is laid, and once started right it will grow steadily. In no other way can everyday bird clubs of limited resources in the South be advanced, according to our view. Mrs. E. C. Ritchie of Camden, S. C., started a Junior Civic League last fall, listing 60 members at the initial meeting. There were beautiful presents for the best imitation bird costume, for the best imitation bird call, for the best bird poem or story, etc., with introductory talks and stories by older people and refreshments beyond compare, but no out-of-door work of any kind. Last week she wrote us that the very boys who took prizes at the opening session were out on the streets with slingshots firing away at every bird they saw, with intent to kill. The parents of these children buy their slingshots for them.

The way to save situations like this is to teach the children to hunt birds for identification with a bird glass instead of with a slingshot, and this is what, with the bird scouts we develop, we shall hope to start new bird clubs doing. In the North there are always older members and beginners in any club who are equal to teaching the younger members and beginners of uncertain age, to know and recognize birds in the field. In the South we have no such background upon which to found a club, and so we are trying to devise a plan that will work.

We must have the National Associations of Audubon Societies behind us, and a pocket bird guide that will picture the land birds in winter around us as they actually appear, with characteristic descriptions that will help in the identifiaction. Then we will succeed and the bird clubs in the South will multiply. It was to help this idea along that Bird Golf was developed. It's a sporty game when played with fair skill, but,

like any other game, drags when there are unskilled players in any set.

The Rules of the Game and a score card were enclosed in the letter from Mr. Achorn. The rules are as follows:

Revised Rules

Time of short game, 1 hour and 30 minutes. Time of each link, 10 minutes. Time limit for return 2 hours. Time of long game, 2 hours and 15 minutes. Time of each link, 15 minutes. Time limit for return, 2 hours and 45 minutes. Preferably, two players, with Bird Scout, constitute a "Set." Each set decides for itself when and where to start to play. Play begins with the first seen, if counted. Overtime play on any link must be deducted from the next link. Only birds recognized by two or more in any set count. Birds must be recognized by their conspicuous field markings, colors, flight, size, actions, mate, etc. Birds known only by their song or call notes, do not count. Birds of a species or either bird of a pair recognized, but sex not determined, count as a male bird. Birds of a kind identified count but once in a game. Male birds count 1, and female birds count 3.

Number of birds seen long enough for identification, but not made out, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

It would seem to me that with all the data furnished by our good friend that those interested will be able to try out this game. Indeed, why cannot Portland, Me., have a club similar to the one way down South?

NEEDED: POCKET BIRD GUIDE OF LAND BIRDS IN WINTER IN THE SOUTH

There are hundreds of northern tourists, south in winter, who would keep up their amateur bird studies and their everyday interest in birds, if they were as completely provided with colored identification plates, of birds that winter in the south, as they have been provided with plates covering the spring migrations, and the appearance of birds at that season, in our northern tier of states. This question of interest in birds in the south in winter is largely one of identification. These northern bird tourists with tuneful ears—ear and eye students we will call them—have been "raised" on the colorful appearance of our birds during the spring migrations, and on listening in at their mating songs; and upon these two factors, and "call notes" their skill in identification rests to a considerable degree.

In the south, from November until March, birds are not in song. Many of them are in their traveling suits instead of their wedding clothes, their characteristic markings in many cases are wanting or different, the classic pictures of males in our popular bird books, based on northern coloring, are of little help for purposes of identification, while the descriptions of females that end with the discourteous phrase, "paler and duller," are often well matched by the poor illustrations that go with them. Bird students, native to the south, see birds wintering in the vicinity of their homes, whose dress and colors do not tally with any pictures in the bird books in their possession. Ear and eye students from the north become of necessity sight students in the

south. For many bird students, the perceptive faculties are the best faculties they possess. Natives and tourists alike when on a "hunt" exclaim in dismay, "Oh, that's a sparrow" if they flush one or more in the fields they are crossing and they often do. To them all sparrows look alike. They turn to their pocket guides for help, but the illustrations in them are too poor to be of much use, to students of limited experience. Mighty few amateurs can identify difficult birds in the field from written descriptions in our standard bird books. The thing is too difficult, too *fuscous* (fuss-cuss). Practically all amateur bird students south in the winter are up against it. With the aid of accurate plates where identification is difficult and with the help of descriptions that are as characteristic as possible, this feature of bird study in the field, now so discouraging to many, would be met and overcome. The identification once made by never so limited an observer, is seldom lost, because *all sparrows are so different.* Breaks in the final identification of birds seen almost daily, are disconcerting. Some students, because of this, lose zest for certain groups of birds, while others lose confidence in their powers of observation. May this not be a fundamental reason why bird study in the south has progressed so slowly. The exact opposite shou'd be the case. The trees are not in leaf, our winter birds are not so numerous, as to discourage beginners, out of door conditions are favorable and the going is good. With our winter birds known, as a background, amateurs are equal to the spring migration. They are not as likely to lose their heads, as they otherwise would be, when thirty varieties of warblers and half as many birds of other kinds come trooping along with their ladies at their heels.

Bird study that began in New England years ago has gradually spread over the country. But northern pictures and descriptions do not always square with southern needs and conditions in many vital particulars. We shou'd have those particulars because we need them. We need a Pocket Bird Guide, done in colors of a certain percentage of the birds that winter inland in the south; a book that young and old will enjoy to look at and study, and one that everybody can afford to buy. Then we will see bird clubs multiply. Then eye and ear students from the north will become dilligent sight students in the south, and our native students will not "give it up" but "get busy" and finally challenge all comers for honors in this field of endeavor.

John Warren Achorn,
President Sand Hills Bird Club.

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NOTES ON THE NESTING OF THE WILSON'S SNIPE IN CRAWFORD COUNTY, PENNSYLVANIA

BY GEORGE MIKSCH SUTTON

It is thought by the writer that there is no published account of the nesting of Wilson's Snipe (*Gallinago delicata*) in western Pennsylvania; and even if there be such an account, the notes offered in this paper may prove interesting, particularly to the students of our own region,—many of whom, it is certain, are not aware that the bird nests with us.

The writer well knows that in disclosing the nesting grounds of this species, he exposes the whole region to the mercies of collectors who may have a set of eggs of this species as a particular local desideratum; but he also feels that sincere ornithologists will delight in knowing of such a region, and will do all in their power not only to protect the Snipe and other birds, but possibly to set aside the area as a State Preserve.

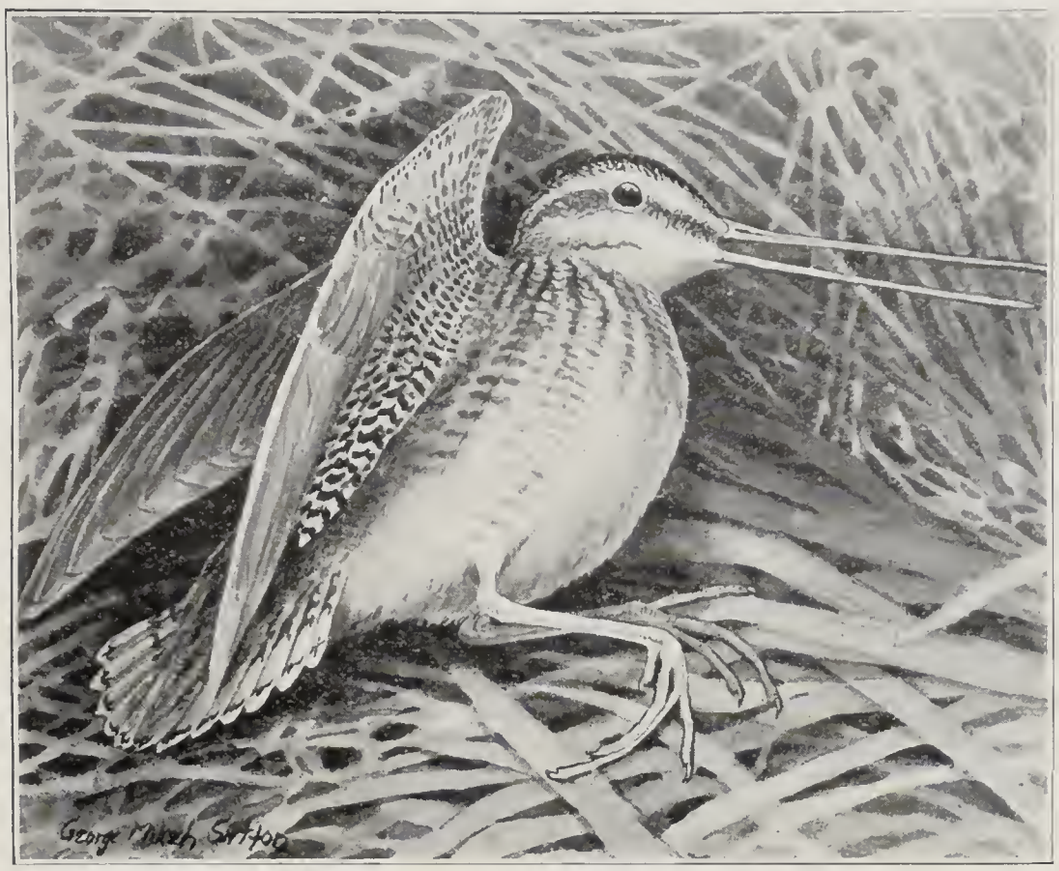
From April 27 to June 3, 1922, Pymatuning Swamp was the scene of the Carnegie Museum's field-labors for the spring season. This swamp is located in the Linesville Quadrant of Crawford County, but my base of operation was Hartstown, a small village about a mile north of the southern extremity of the swamp. From my quarters in this town it was possible to plunge almost immediately into the swamp proper, and many interesting birds nested not at all far from the railway station.

Although the tamarack and hemlock wooded regions are most interesting, and well worth a prolonged discussion from the ornithologist's standpoint, in this particular paper only the more open stretches of the swamp, or marsh-lands, will be considered, since here, and here only, occurred the Wilson's Snipe. During the early part of our sojourn, from April 27 to May 2, the weather was pronouncedly chilly; and Tree Sparrows were still more or less abundant. Nevertheless, on the first evening of our visit, numbers of Snipes were present, and many, if not all of them "bleating."

This wierdly beautiful sound is difficult to describe. Nor have I yet found a word which very aptly suggests the quality of the noise. "Bleating" it has often been called; also "whistling," "winnowing," and even "whinneying," all of which are in a way suggestive, but only incompletely so. While on the very scene, I spent some time trying to speak my impressions in a word, and I was a trifle disturbed by my total inability to find any means of doing so. There is a certain attendant sense of despair in finding oneself so helpless. Although this sound has some qualities of a bleat, I should say that the beginning of the wind song is too gradual, and the dying out too much prolonged to be given by this term. A bleat, as a usual thing, at least begins rather suddenly. The immature Black-backed Gull, for example, often gives forth a sound very appropriately to be called a bleat, which the natives of Labrador are pleased to term "bawling."

I must confess that there is for me in the Wilson's Snipe's courting song, a sobbing sound; and when thus described it brings to my mind the most satisfying tonal image of all. But perhaps the difficult matter of interpretation of sound had better be dismissed by saying that to be conceived properly it must first be heard. For a time I could not correlate the time of the song accurately with the wing beats of the bird. Always the rapid wing movements seemed to precede all the sound, and as nearly as I could tell, the bodily performance of the bird was over more or less, before the sound reached me. This was due, I believe, largely to the distance between me and the birds. For, after becoming somewhat desperate, I waded out to the middle of the marsh where, waist-deep in water, and with tall, dead cat-tails about my body, I could watch the birds to better advantage. A few yards above my new observation point would occasionally fly a performing Snipe. And thrilling it was to feel so intimately associated with things, particularly at that intimate time of the evening, when the whole marsh seemed to be in action. While a performing Snipe was flying over me I was conscious of a gentle, but distinct, vibration, such as I have heard at pipe-organ recitals. I did not realize this at first, because it was a delicate sensation. But I always felt it; and once or twice I actually seemed to feel some sort of vibration before any sound reached my ears. At least twice the bills of birds which performed above me were apparently opened some-

what; why, I cannot say, because I firmly believe that these courting songs have no vocal connections. During the producing of the sound, full powers of flight were not maintained for the bird practically always sank to a lower plane during the process.



Female Wilson's Snipe feigning crippledness. (No. 1).
(Drawing made from life sketches, by George Miksch Sutton.)

Rarely I heard suggestions of slight vocal twitterings similar to those of the Woodcock, but ordinarily their voices were not heard.

During the first part of May these aerial flights were observed daily, and, off and on, at any time. But the only really concerted movements were in the evening. Often while I was skinning birds, as late as midnight, the Snipes would still be sobbing out on the marshes. In the early morning they were not often heard, this period seeming to be devoted to searching for food. But during the day at least two or three birds, if not more, were heard constantly, and, if, the sky became overcast, one by one, up from the cat-tails went all the Snipes to join the usual twilight concert. The birds flew about in wide circles. By following one

individual it was ascertained that circles almost a half mile in diameter were sometimes described, although this was not usually the case. Later in the season, presumably when certain pairs of birds had left for regions further north, the air routes of the flying birds were much more confined, indicating, it seems to me, that attention was plainly focused on an objective point below. I wonder if it is certainly known that the female Snipes never indulge in these antics. The question naturally arises, because when first the Snipes were heard, in full evening concert, it was practically impossible to find a single Snipe anywhere on the ground. Never was one flushed at such times, that did not, after emitting a nervous "schkape" or two, circle higher, and join the performers. It is highly probable, in this connection, that the incubating females of the region actually were not flushed, simply because their nests were not closely enough approached; but concerning the female Snipes which were en route to more northern nesting grounds, I cannot say. These may have joined the males occasionally, if not regularly, in the flight antics.

This last statement, implying as it does, a wide difference in the nesting dates of individual pairs of Snipes, leads me to a discussion of the status of the species. Normally it has been considered of course only a migrant. Now, it must be regarded also as a summer resident, and furthermore, numerous records tend to show that it is not especially rare as a winter resident, depending of course on the weather conditions. The inhabitants of Hartstown spoke of seeing Snipes occasionally in winter as though it were no unusual thing; even so recently as in December of 1922, Wilson's Snipe was included in the Christmas Census from Mercer County; and two accurate observers have informed me that this species sometimes remains in small flocks. Thus, it is to be expected that the wintering individuals have progressed far in their nesting activities by the time the migrants from further south are passing through. This explains why the courtship flight movements were still very evident and constant when a week later, well incubated eggs were found. Some queer antics which were observed are still not satisfactorily explained to my mind however. On April 29 two birds were repeatedly flushed together; not always the same two individuals necessarily, I presume, and not certainly of opposite sex. But these birds often sailed gracefully over the cat-tails, in wide sweeping undulations, with wings set in a manner suggesting Chimney

Swifts, a type of flight totally different from any previously observed. The same stunt was many times observed in the male bird of the pair whose nest was located. In fact this type of display, if it were display, was so common that the usual twitching, erratic flight was only rarely seen. I have wondered if this may not have been a pair of birds, possibly recently mated, though not actually nesting there.

On May 3, in a portion of the swamp near town, a new antic was observed. A Snipe, subsequently determined as a male, sprang up close at hand, and after a few energetic, direct wing-beats, put his wings high above his body, and describing a graceful arc, dropped toward the ground, his legs trailing, only to rise again to repeat the performance. Never during this exhibition did he actually touch the ground with his feet, so far as I could see, but it gave that impression. He was clearly excited, and I now know that such antics are a certain indication of nesting activity. At such times the male gave forth several short notes which may accurately be termed "bleats." Occasionally the bird, after performing this novel antic would drop to the grass some distance away, and then fly up after a time, considerably nearer me, making it evident that he was attempting to lure me away. Then again, after trying these antics for a time, he would suddenly mount to the sky, and there would follow a season of the wierd wind music — always delightful.

Much time was spent in searching for a nest, and on account of failure to find even any certain indication of breeding, I was at the point of deciding that all these birds were simply passing through, and courting as they progressed. Again and again Snipes flushed almost under foot, and often their flushing was so hesitant, and so varied with antics that the area whence they sprang was literally combed before search was abandoned. The birds seemed particularly abundant in a treacherous waste stretch which had been burned over, the previous fall, and here, it seemed, a great percentage of the courtship was taking place. It was found later that one pair actually did nest here, at the edge of the burned area, but the first nest located was in the middle of the principal cat-tail marsh where the dried blades stuck up in confusion everywhere.

On May 4, while watching nest-building operations of a seclusive Swamp Sparrow there was occasion to tramp about a great deal in the cat-tails. Walking, or perhaps a better word,

progress, was difficult, because the depth of the water varied greatly, and it was impossible to tell from the surface just how far down the next step would take one. It was no unusual thing for the water to go over my hip-boot tops. As is usually the case, at least in my experience, the female bird flushed at a time when all thoughts of a Snipe's nest were for the time being abandoned. She left not in a great hurry, and in doing so,

Nest of Wilson's Snipe. (No.2).
(Photograph by Norman McClintock.)

leaped straight into the air about three feet above her nest, whence, with legs dangling, tail wide-spread, and wings nervously jerking, she gradually let herself down to the ground about twenty feet away. For an instant, as she quivered above her eggs it seemed that she was considering returning to them, instead of leaving. I was within a few feet of the nest and as she left I could see plainly that she was looking at me. After she settled in the cat-tails I could scarcely see her, but I know that she was moving but little, and there was practically no demonstration. The male bird, however, came near, and almost

outdid himself in the matter of protests. Not only did he rise repeatedly into the air, to descend on set wings stiffly arched above his back, but he called constantly in a most agitated tone. These notes I had never heard before. After I had taken some measurements regarding the nest, and collected some surrounding material, the male bird flew to the sky, where in wide circles above me he indulged in the strange wailing-laugh.

The nest was beautifully situated in the center of a clump of dried fern stalks—a clump similar to hundreds of just such little islands near at hand, but certainly admirably suited to such a nesting site, for the eggs were almost completely surrounded at the short distance of four inches by a paling of dead fern stalks. The eggs were about nine inches above water at this time although the water's depth changed constantly with every rainfall, and five days later the outer rim of the nest was only two inches above water level. I wondered at the time of finding the nest what the young Snipe did when hatched, surrounded as they were by water several inches deep. But I have learned since then that young Snipe are not averse to deep water, and seem to negotiate it without difficulty. The eggs in this nest were far advanced in incubation. They would probably have hatched within a week. Thus I realized that if other nests were not found very soon, our chances of seeing more Wilson's Snipe eggs were very few.

From May 6 on Snipes were seen daily. Sometimes several of them were flushed from a likely nesting area, but never did their actions suggest flushing from a nest, or even anxiety concerning it. I judged, therefore, that these were mainly migrating birds pausing on their northern journey for a few days. This supposition proved correct, for after the tenth of May, Snipes were not often seen, and when they were observed their actions always indicated a nest nearby.

At least twice during the period after finding this first nest, I saw a male bird standing on the ground near me,—a rather unusual thing, since they were not as a rule seen until flushed. In both instances, the bird was very much squatted, and, judging from the apparent tension of his body, ready to spring into air at any instant.

On May 17 further proof was found that the Wilson's Snipe is a nester in Pymatuning Swamp. In a very small marshy area—scarcely a rod square,—lying in an open field near the cat-tail

swamp, I flushed a female Snipe, which threw herself about so frantically that I knew at once there were eggs or young. A brief search revealed two of the young birds, fairly well developed, but still in the down. The mother's antics so claimed my attention that I did not keep close enough watch of the young, and eventually was unable to find them. I hesitated to tramp about much at the time for fear of stepping upon them. The mother bird grunted and clucked incessantly and fell upon her side uttering wierd cries, and beating her wings pitiably. At times she would dart into the air and circle about in great haste, very close to me, and alight in the tall grass, whence she would run gracefully away until she was again plainly in view. As she ran about her head was held rather stiffly, and it seemed that moving it from side to side much caused her inconvenience. In fact, once or twice, a definite impression was given that she was carrying something in her mouth, her head was held at such a strained angle. I have always regretted that it was necessary to leave this little domestic scene, without further observance of the little ones, but I was called away, and never saw any of those birds again. I marvelled at the time that so small a patch of tall grass should have been selected as a nesting site. Experience since then has taught me that this area was not, indeed, the nesting site, but a feeding or refuge ground to which the mother had led the young as soon as they were strong enough to follow her. The actual nesting grounds were restricted to the larger marshes.

On May 15, 1923, I resumed field operations at the swamp, and within a few hours after arrival had located a Wilson's Snipe nest (No. 2), in exactly the same section of the swamp as that where the 1922 nest with eggs was found. The female bird left rather quietly and made no protest. She was heard calling softly among the distant cat-tails, however, and by the increase in the volume of the sound, I could tell she was coming nearer. This nest was built upon a bit of decayed, sunken log and was composed entirely of grass stems rather carefully laid together. The eggs were but a few inches above the surface of the water, and although grass stems connected the nesting site with other vegetation the nest was virtually on an island surrounded by water eighteen inches deep. The water-level, by the way, was at this time, unusually low, being fully fifteen inches lower than it had been the year before on the same date,

so that it was now possible to walk about a large area of the swamp without boots at all. The Snipes, however, built their nests only in the submerged areas, probably for protection. The eggs in this nest were not placed, as I had expected to find them, with all smaller ends toward the middle, but, as is shown in the photograph of Nest No. 3, with three small ends pointed in the same direction, and the remaining egg with its small end so inserted as to allow the set to occupy the smallest possible space. These eggs were not as much incubated as the set found on May 4, 1922, indicating either that this season was very much retarded, generally speaking, or that the present pair were migrants whose nesting operations necessarily started later than those of the permanent resident birds. On May 16, another nest (No. 3), with four eggs was found but a short distance from the first nest referred to. The eggs in this nest were even closer to the water level, and certain it is, that if there had been a day's steady rain, this and several other nests would have been submerged. The female bird at this nest was quite solicitous, and fell upon a clump of ferns beating her wings wildly. The eggs had been incubated not more than a week; the set was a particularly beautiful one, with heavy, handsome markings. Judging from the arrangement of the grass stems I should say that this nest either had been built up directly out of the water, or that the water level had recently been raised — which latter supposition is scarcely plausible since there had been no rain of any consequence for weeks. On May 17, Mr. Norman McClintock, who was with me, found yet another nest (No. 4) about a quarter of a mile from the two already located, which was situated in an unusual position. This nest was the only Snipe nest I have seen which had any real protection from above. The nest was so placed under a dead willow branch and some leaning cat-tail stalks, that it was really difficult to see it. The grasses composing the nest had been placed with care, and were somewhat woven about the cat-tail stalks and other grasses standing near. Mr. McClintock stated, when he reported the nest to me, that there were but three eggs in the nest. I was rather surprised at this. But when I observed the nest personally, I found an egg floating in the water a few inches from it; the female had kicked the egg out when she flushed. These eggs were already hatching, and although the young birds were inside the eggs, their fine, penetrating notes could be heard when

I was standing some distance away. While we watched this nest, which, by the way, was closer to the willow growth than any so far located, the female (?) bird flew rapidly by several times, but did not make a vocal noise or give further protest. I had the privilege of watching this bird on her nest for some time. The water near at hand was very shallow.

During these few days of observation, when Snipe nests were being located so constantly, I marvelled at the scarcity of the birds themselves. There was occasional evidence of courtship flights, and at night the wierd calling was often heard, but the Snipes were not often seen — not nearly so commonly at least as they were in 1922. This has led me to believe that during the previous year there may have been an abundant nesting Snipe population in some section of the swamp which we did not thoroughly enough investigate. And certain it was, that in a wide burnt-over area, during the previous year, numbers of courting Snipes were observed, where it was later impossible to spend much time searching for nests.

On May 29, with Messrs. Semple and Christy of Sewickley, I again visited the swamp, and had the good fortune to locate yet another nest a few hours after arrival at the nesting grounds. It was fast becoming dark and as I was wading hurriedly through tall cat-tails in an unfamiliar section of the marsh, I heard a significant flutter of wings near my feet. A brief investigation revealed the nest, again surrounded by water, and built into the debris that had collected about last year's cat-tail stalks. As I looked I felt certain that there were but two eggs, and I was wondering at the reason for an incomplete set so late in the season, when I realized that a dark portion of the nest was not a shadow, but a downy young bird, and in the water near-by floated another, so young and weak that he scarcely knew what was wrong, and less about how to improve conditions; he had been kicked out of the nest by the mother bird as she left. I picked the little creature out of the water: he floated very bonyantly, and was not at all wet. As he stood in my hand, with head drawn in, and bill not yet at all out of proportion as in the adult bird, I noticed the richness of his deep brown coloration, and the beauty and delicacy of the darker clouding and fine buffy spotting. When put back in the nest, I was relieved to find that he settled down peaceably. I had almost expected him to bolt off among the cat-tails. When I

family are mannerisms as distinct as among the woodpecker. was but a short distance away the female returned. I could hear her running through the water as she approached the nest.

On this evening the flight song of the male was again carefully observed, and it was determined that the whole performance ran rather imperfectly through at least six notes of the scale.

Nest of Wilson's Snipe (No. 3) showing surrounding water.
(Photograph by Norman McClintock.)

By imperfectly, I mean that the true notes were not given, there being always a tendency to a flat or sharp. I also rather satisfactorily compared the quality of the notes to the sound produced by blowing into a bottle or lead pipe. In some ways I think this is the best comparison yet made. The tones were primarily windy.

On the following day, which was the last on which Snipes were observed, an interesting thing happened. As we stood alongside the tracks, near the station at Hartstown, I noticed a Snipe circling low through the thickest of the smoke from the engine, and directly afterward hardly without any reason at

all, my eye fell upon a bit of dark brown near the rail on the nearby track,—a baby Wilson's Snipe. I picked it up in haste, and no sooner had done so than another little one appeared miraculously from under the huge, roaring train, and made straight for me. These little Snipes were well developed, and it was difficult to hold them delicately in my hands because they kicked so. I put them down by a little pool nearby, and I saw the mother join them shortly. By crawling carefully to the edge of the embankment I watched her run to the young ones and cover them. Upon seeing me she walked over them, and eventually led them into the higher grasses and weeds at the end of the pool.

Altogether it would seem from the above notes, that the Wilson's Snipe is a regular, fairly common breeder in the swampy areas of the northwestern part of Pennsylvania, and it should reasonably be expected to occur in the marshes similar to the cat-tail areas at Pymatuning throughout Erie, Warren, Crawford, Mercer, and northern Lawrence counties.

SOME BIRDS OF THE OZARK REGION

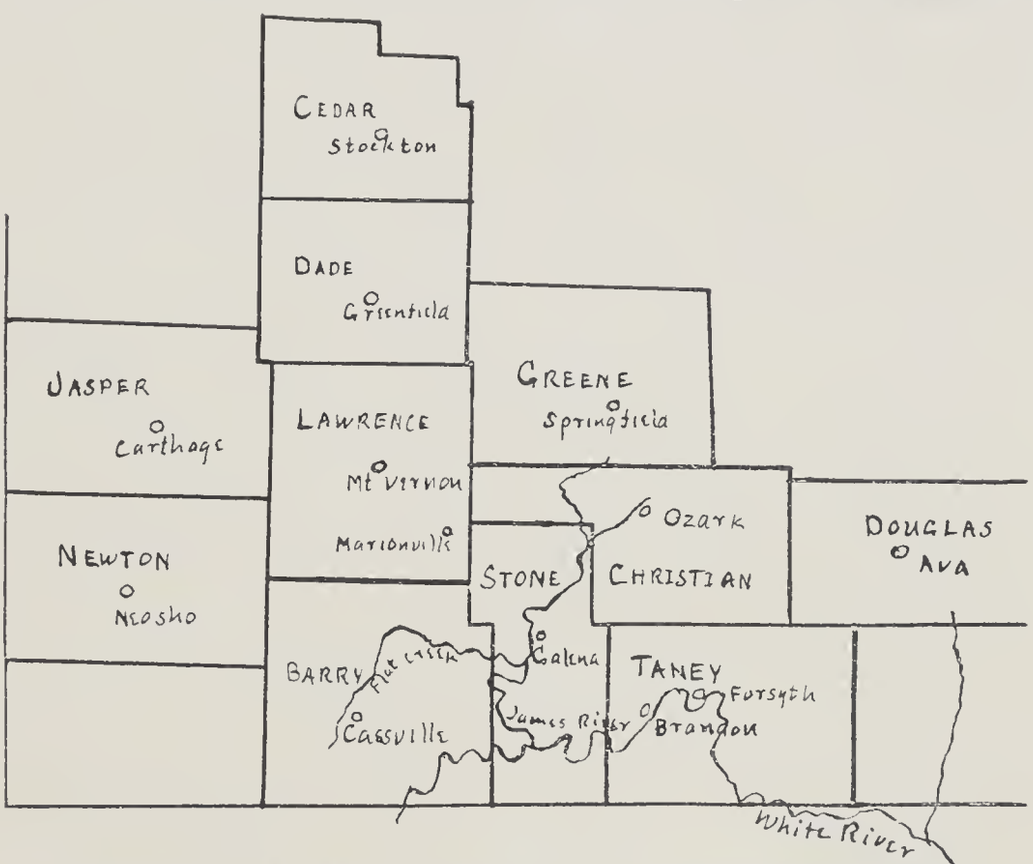
BY JOHNSON A. NEFF

When you read or hear anything derogatory to the Ozark region of Missouri and Arkansas do not let yourself be fooled into thinking that this region, famous in the comic columns of the daily papers, does not have its share of nature and especially of birds. Having lived all of my as yet rather short life in the Missouri Ozarks I admit a highly developed prejudice. I would not retract whatever I might say about the Ozarks for any cause whatever.

Since I made my advent onto the farm at the age of five I have always studied birds. As usual with most youngsters, much of my most interesting data was lost because I failed to keep dates and other interesting data. And now in the later years I must admit a lack of care and a lack of completeness and thoroughness in bird study, which has come from the necessity of making my study of birds a spare time pleasure, when spare time always seems to come at times when the birds are a minus quantity. For some time past, and for a year to come, I have been a student in the Missouri Agricultural College which has kept me out of the Ozark region for nine to ten months per year.

And during the time away from school each summer I have had to take my place along with my father in the attempt to make three men do the work of about four in the care of a large acreage of fruit, for we are commercial fruit growers. I do not complain of the work, but it is not the sort of work that will allow one to leave at the sound of a bird, nor even when birds are most common. I hope in the near future to do many of the things that I have failed to do in the past.

Volumes might be written about the Ozark region, and yet all would not be told. The Ozarks have their highest elevation in a



Sketch of the Ozarks covered in the accompanying article.

broad plateau which runs southwestward until it enters the above sketched counties in which it is found at an elevation of about 1,550 feet in Taney, Stone, and Barry counties. The area is interspersed with small streams and drains off mainly thru the James and White Rivers with tributaries. The region drained by these rivers is that portion with which the author is most familiar, having tramped and camped over it many times. This region comprises the heart of the Ozarks, the country of the Bald Knobbers, and of the "Shepherd of the Hills."

The plateau is broken by numerous water-courses which have

worn deep valleys on their way to their destinations in the Arkansas or the Missouri; here is the wild, rugged scenic portion of the Ozarks, in which birds abound. The Ozark border region is a less rugged belt that encloses the Ozarks; it is broken country sloping off toward a more or less high prairie region toward the north and east. The Ozarks are as yet still wooded, but the woods are going fast, and little effort is made to conserve natural resources other than to make use of them. In spots one can see many miles of timber, with little farms spotting it, if desirous of visiting the higher altitudes of the cliffs, and if one is lucky enough to find a high point that is not tree covered. The tree growth of the region, however, is not of great commercial value; it is comprised of oaks of several types, mainly blackjack and postoak. We still find a few groves of pines scattered thruout the region, and the greatest pine forests are in Stone and Taney counties; other trees that grow in the river valley sections are: Red Gum, White Oak, Red Oak, Black Oak, Burr Oak, Chestnut Oak, Willow Oak, Maple, Ash, Elm, Sycamore, Hickories, Walnut, Pecans, Hackberry, Sassafras, Mulberry, Box Elder. Of smaller growth we have abundance of Dogwood, Redbud, Papaw, Hazel, Spicebush, and others unknown to the author, intertwined with masses of wild grapes and other vines, and carpeted with a great multitude of smaller plants and flowers which would take a talented botanist to catalog correctly.

Climate has a great deal to do with our bird study here in the Ozarks. In the first place, if there happens to be a low precipitation during the late summer then all water courses dry up except the rivers, and as a rule waterfowl give us a fairly wide berth, not being attracted by our scanty water-sites. It has been a great many winters since we had a really severe winter season. Snow has been a matter of hours rather than days; winter birds have not been forced to us in the past few years. We find that bird study in this region is subject to a great variation in the seasonal climate and weather conditions. There are numerous streams, and the flora and fauna is unlimited.

For a space of fifteen years the writer has been a student of the birds of this region and is rather closely familiar with most of the region concerned, having spent a great many days roaming over the Ozarks both as a business and as a recreation. The following list of about 170 species of birds does not include several species of which the author is himself satisfied, but for

which there is not evidence sufficient to list the species. There is much room for additions. Many of the species that have been reported for our district, the observer has not been lucky enough to find during his travels over the mountains. But as time goes on, scarcely a season goes by without at least one or more additions to the list as given below.

No attempt has been made to go into the extinct species. It was my father's good fortune years ago to see an Ivory-billed Woodpecker close to the location of our orchards, and Passenger Pigeons were of course very abundant in the region. No attempt has been made to list any birds except those observed by the writer or by close friends of his who are followers of ornithology. Here is given a short list of some species which have been reported from the counties of which I speak and which are not regular or commonly found in the state. For these species I am indebted to Widmann's "Catalog of the Birds of Missouri." The species, county, and observer, follow:—

Parasitic Jaeger,	Christian County,	Kastendieck.
Ruddy Duck,	Southwest Missouri,	Nehrling.
Snowy Heron,	Christian County,	Kastendieck.
Northern Phalarope,	Christian County,	Kastendieck.
Pectoral Sandpiper (1887),	Lawrence County,	Nehrling.
White-rumped Sandpiper,	Lawrence County,	Nehrling.
Long-billed Curlew,	Jasper County,	Smith.
Eskimo Curlew,	Jasper County,	Savage.
Ruffed Grouse (1883),	Lawrence County,	Nehrling.
Lesser Prairie Hen (1887),	Lawrence County,	Lawrence.
Swallow-tailed Kite (1880),	Lawrence County,	Nehrling.
Swallow-tailed Kite,	Christian County,	Kastendieck.
Mississippi Kite,	Christian County,	Kastendieck.
Mississippi Kite,	Lawrence County,	Nehrling.
Krider's Hawk,	Christian County,	Kastendieck.
Western Red-tail (1888),	Christian County,	Kastendieck.
Harlan's Hawk (1905),	Christian County,	Kastendieck.
Richardson's Merlin,	Stone County,	Kastendieck.
Barn Owl (1882-1887),	Lawrence County,	Nehrling.
Long-eared Owl,	Greene County,	Kizer.
Long-eared Owl,	Christian County,	Kastendieck.
Snowy Owl,	Jasper County,	Smith.
Poor-will (1885),	Lawrence County,	Nehrling.
Poor-will,	Barry County,	Bush.
Arkansas Kingbird,	Lawrence County,	Nehrling.
Brewer's Blackbird (1885),	Lawrence County,	Nehrling.
Lapland Longspur,	Christian County,	Kastendieck.
Vesper Srarrow (1902),	Jasper County,	?

Vesper Sparrow (1902)	Lawrence County,	Nehrling.
Bachman's Sparrow (1884),	Lawrence County,	Nehrling.
Blue-headed Vireo (1902),	Jasper County,	Savage.
Bell's Vireo (1901),)	Jasper County,	Savage.
Golden-winged Warbler (1884),	Lawrence County,	Nehrling.
Cape May Warbler (1884),	Lawrence County,	Nehrling.
Black-throated Blue Warbler,	Lawrence County,	Nehrling.
Blackburnian Warbler (1884),	Lawrence County,	Nehrling.
Black-throated Green Warbler,	Lawrence County,	Nehrling.
Palm Warbler (1902),	Jasper County,	Savage.
Long-tailed Chickadee (1884),	Lawrence County,	Nehrling.
Carolina Chickadee,	Lawrence County,	Nehrling.
Willow Thrush,	Jasper County,	Savage.

The above list of thirty-seven species, many of which are not common, and some of which have not been reported since the days Nehrling spent in Pierce City, Lawrence County, in 1882-1887, leave to the observer of the present time a challenge and an objective to which to work. Many days pleasure and recreation may be spent upon them.

Pied-billed Grebe—*Podilymbus podiceps.*

A regular migrant. None have been known to breed here.

Red-throated Loon—*Gavia lumme.*

One bird was seen on a small lake in Stone County, May 2nd, 1920. It was observed by several people, and is authentic.

Herring Gull—*Larus argentatus.*

A common spring and autumn migrant—mostly spring.

Franklin's Gull—*Larus franklini.*

A fairly common migrant across this section.

Common Tern—*Sterna hirundo.*

A somewhat rare migrant in my observations.

Least Tern—*Sterna antillarum.*

A somewhat rare migrant.

Black Tern—*Clidonias nigra surinamensis.*

Much the commonest of the family here. Seen every season.

Double-crested Cormorant—*Phalacrocorax auritus auritus.*

One bird was seen on Lake Taneycomo, Taney County, May 6th, 1922. It was perched on a limb of the "sunken forest." Was also observed by Prof. L. T. Reser of Ozark Wesleyan College, who is an experienced ornithologist.

White Pelican—*Pelecanus erythrorhynchos.*

It has never been the writer's privilege to see this bird here, but a flock was seen several times in the spring of 1921 while I was out of town, and two birds were killed this last spring some miles from Marionville, Lawrence County, and identified by townspeople who had seen the bird elsewhere.

Mallard—*Anas platyrhynchos.*

All ducks are irregular visitants in the Ozarks. One never knows

where to find them, for some seasons they fail to appear in great numbers. The Mallard is by far the commonest species. I have seen it on Taneycomo in May, and in August.

Baldpate—*Marecca americana.*

One lone bird is the entire list for this species. It was killed at Marionville, Missouri (Lawrence County), in 1919.

Green-winged Teal—*Nettion carolinense.*

A common transient visitant.

Blue-winged Teal—*Querquedula discors.*

A fairly common migrant visitor.

Shoveller—*Spatula clypeata.*

A pair was wing-tipped on a pond here on our farm in 1910, but I have since lost my records from 1909 to 1912.

Pintail—*Dafila acuta tzitzihoa.*

A very common transient visitant here.

Wood Duck—*Aix sponsa.*

A rather uncommon migrant. I saw many flocks in the fall of 1909, and saw two killed in 1916 which bore Biological Survey bands Nos. 1950 and 1953.

Snow Goose—*Chen hyperboreus nivalis.*

A fairly common migrant. I saw a large flock in the fall of 1922 with a huge Canada as flock leader.

Canada Goose—*Branta canadensis canadensis.*

A fairly common transient. There is hardly enough water in most seasons to attract great numbers of water fowl.

Hutchin's Goose—*Branta canadensis hutchinsi.*

A common migrant in fairly large numbers.

Whistling Swan—*Cygnus columbianus.*

This species is recorded on the identification of John C. Melton of Cape Fair, Stone County, who saw a new bird on the James River in the fall of 1917. John is an old-time river man and is experienced as a hunter. He should know whereof he speaks, for he says that never before had he seen the bird.

Bittern—*Botaurus lentiginosus.*

A common migrant, and a possible summer resident.

Least Bittern—*Ixobrychus exilis.*

A common migrant, and an occasional summer resident. In past often seen during nesting season along the rivers.

Great Blue Heron—*Ardea herodias herodias.*

A common migrant, and an occasional summer resident. In past years several rookeries were known along James River, but at present none nest there to my knowledge.

Egret—*Casmerodius egretta.*

During the past six years this species has been increasingly common during migrations, and also seen along the James and White Rivers during the summer, although I have no knowledge as to any nearby nesting site.

Little Blue Heron—*Florida caerulea.*

A common summer resident somewhere in southwest Missouri, as the young birds in white plumage are a common sight in July and Au-

gust. I examined two in the summer of 1921 which had been killed and left on a gravel bar.

Green Heron—*Butorides virescens virescens.*

A common summer resident—the commonest of the family.

Black-crowned Night Heron—*Nycticorax nycticorax nævius.*

One bird was seen in 1921 on the White River, Taney County.

Sandhill Crane—*Grus mexicana.*

The writer saw one of these birds soaring far above the river hills in Stone County in 1917, and one was killed in Lawrence County in 1920.

King Rail—*Rallus elegans.*

One bird of this species was killed here some years ago, and mounted by a local amateur taxidermist. I identified the bird, but have lost the date of collecting. It is a rather uncommon visitor.

Virginia Rail—*Rallus virginianus.*

I found a wing-tipped specimen of this species in about 1910, but that has been its only occurrence to my personal knowledge. I am sure that it is a common transient, however.

Sora—*Porzana carolina.*

The Sora is a common migrant. I have seen numerous specimens lately. I caught one by hand in May, 1923, and banded it before I allowed it to go free.

Coot—*Fulica americana.*

The Coot is a very common migrant.

Wilson's Phalarope—*Steganopus tricolor.*

I found three of these birds feeding at a pond on May 2nd, 1920. Two were females in full plumage, so were easily identified. I hope to find it a fairly common migrant.

Woodcock—*Rubicola minor.*

The Woodcock is becoming more abundant. Never saw one in the state until October, 1922, and have seen two this spring within a few rods of my residence.

Wilson's Snipe—*Gallinago delicata.*

A common migrant, and an occasional winter resident, as it has been included in Christmas Census' several times.

Least Sandpiper—*Pisobia minutilla.*

A fairly common migrant.

Yellow-legs—*Totanus flavipes.*

A fairly common migrant; occasionally abundant.

Western Willet—*Catoptrophorus semipalmatus inornatus.*

I have seen one bird of this species for which I will vouch. It was seen in Stone County in 1920 (May 2nd).

Spotted Sandpiper—*Actitis macularia.*

A fairly common summer resident along the streams.

Killdeer—*Oxyechus vociferus.*

The Killdeer is a rather common migrant in this section.

Semipalmated Plover—*Charadrius semipalmatus.*

A rather common migrant. Many flocks were seen during the spring flights of 1923.

Bob-white—*Colinus virginianus virginianus.*

A very common, and increasingly abundant (in the past few years)

resident of the section. Farmers are more and more giving protection to the quail.

Wild Turkey—*Meleagris gallopavo silvestris.*

Ten years ago there were many wild turkeys in the tier of counties which are named in the second paragraph, but at the present date there are only a few remote districts where signs of wild turkeys may still be seen. Illegal killing by hunters and persecution by natural enemies have almost killed them out, to say nothing of the great amount of the Ozarks that is being cleared of timber and underbrush.

Mourning Dove—*Zenaidura macroura carolinensis.*

The Mourning Dove is a very common summer resident, and in mild seasons seems to stay about all winter.

Turkey Vulture—*Cathartes aura septentrionalis.*

A very common summer resident, and an occasional visitor during very mild spells in the winter season.

Black Vulture—*Coragyps urubu urubu.*

A rather common summer resident, being almost if not totally as common as the Turkey Vulture.

Marsh Hawk—*Circus hudsonius.*

A common migrant, and seemingly an occasional summer resident in some sections of the Ozarks, for it is often seen.

Sharp-shinned Hawk—*Accipiter velox.*

A not uncommon migrant, and a rather rare summer resident.

Cooper's Hawk—*Accipiter cooperi.*

A common summer resident, and not uncommon winter resident.

Red-tailed Hawk—*Buteo borealis borealis.*

A common resident all over the Ozarks.

Red-shouldered Hawk—*Buteo lineatus lineatus.*

Rather an uncommon resident, the majority of them having been seen here during mild winters.

Rough-legged Hawk—*Archibuteo lagopus sancti-johannis.*

This species is a not rare winter resident and transient.

Bald Eagle—*Haliæetus leucocephalus leucocephalus.*

The last Bald Eagle seen here was in 1919, when it soared about over the town of Marionville for about half an hour. There are still a very few of the birds in the most remote parts of the district.

Sparrow Hawk—*Cerchneis sparverius sparverius.*

A very abundant resident, and many nests are found every season in woodpecker holes in deadened timber far out of reach of man.

Osprey—*Pandion haliaëtus carolinensis.*

Seen rather often along the streams of the Ozarks. Is possibly a summer resident and breeder in the timber of the bottoms.

Short-eared Owl—*Asio flammeus.*

This species is a fairly common resident. It is often seen during the breeding season, and was collected several times in various winter seasons. It is hard to mistake when in action.

Barred Owl—*Strix varia varia.*

A common resident of the more heavily wooded sections.

Screech Owl—*Otus asio asio.*

A very common resident over all the sections of the Ozarks.

Great Horned Owl—*Bubo virginianus virginianus.*

A fairly common resident in the wooded sections.

Yellow-billed Cuckoo—*Coccyzus americanus americanus.*

A common summer resident.

Kingfisher—*Ceryle alcyon alcyon.*

Common summer resident, and not uncommon winter resident.

Hairy Woodpecker—*Dryobates villosus villosus.*

A fairly common resident; found throughout the year in the deeper woods.

Downy Woodpecker—*Dryobates pubescens medianus.*

An abundant resident, worth many dollars to the fruit man of the region for his untiring work against larva-stage Codlin-moth during the winter seasons.

Yellow-bellied Sapsucker—*Sphyrapicus varius varius.*

A not uncommon migrant, and a fairly common winter visitor.

Northern Pileated Woodpecker—*Phlœotomus pileatus albieticola.*

We are fortunate enough to have this magnificant bird as a regular and fairly common breeder. I will long remember floating down James River, late one fall afternoon, and watching, at the level of the hills far above me in the evening sunlight, two old Pileated's lead their brood of five grown young across the wide valley.

Red-headed Woodpecker—*Melanerpes erythrocephalus.*

An abundant summer resident and occasional winter visitor.

Red-bellied Woodpecker—*Centurus carolinus.*

A fairly common resident.

Northern Flicker—*Colaptes auratus luteus.*

Common summer resident; also abundant in mild winters.

Chuck-will's-widow—*Antrostomus carolinensis.*

More common in the wooded sections than the next species.

Whip-poor-will—*Antrosomus vociferus vociferus.*

A fairly common summer resident, but not abundant at any time.

Nighthawk—*Chordeiles virginianus virginianus.*

An abundant summer resident.

Chimney Swift—*Chætura pelagica.*

An abundant summer resident.

Ruby-throated Hummingbird—*Archilochus colubris.*

Common summer resident in all sections.

Kingbird—*Tyrannus tyrannus.*

A familiar bird to everyone, and very common.

Crested Flycatcher—*Myiarchus crinitus.*

Very common summer resident.

Phœbe—*Sayornis phœbe.*

Common summer resident, and one was seen Christmas day, 1922.

Wood Pewee—*Myiochanes virens.*

A fairly common summer resident. It builds its nest in wild-plum thickets in the hollows and wooded thickets.

Traill's Flycatcher—*Empidonax trailli trailli.*

A fairly common migrant. I believe it nests, but not sure.

Least Flycatcher—*Empidonax minimus.*

A fairly common visitant; not seen regularly.

Prairie Horned Lark—*Otocoris alpestris praticola.*

A common resident throughout the open part of the region.

Blue Jay—*Cyanocitta cristata cristata.*

A common and mischievous resident.

Crow—*Corvus brachyrhynchos brachyrhynchos.*

A very abundant resident. It spends the winters in huge flocks, which sometimes become so large and destructive that they must be thinned out. These flocks are immense. I once drove fourteen miles, during which time I was never out of sight of great numbers of the crows returning to the roost, and at the time I left the roost to start on the fourteen-mile drive home there were already many crows at the nest. For the sake of temperance I have estimated the flock at 10,000 at that time. I believe there were more.

Bobolink—*Dolichonyx oryzivorus.*

A rather uncommon migrant, but seen almost every season.

Cowbird—*Molothrus ater ater.*

A summer resident, many times too numerous to suit the author.

Yellow-headed Blackbird—*Xanthocephalus xanthocephalus.*

Not a common migrant, but occasionally seen. More were seen during the spring of 1920 than at all other times combined.

Red-winged Blackbird—*Agelaius phœniceus.*

An abundant migrant, a common summer resident in the marshes, and a very uncommon winter resident. No studies have been made at this point to determine the subspecies present.

Meadowlark—*Sturnella magna magna.*

A rare winter resident, but an abundant summer resident.

Orchard Oriole—*Icterus spurius.*

An abundant summer resident.

Baltimore Oriole—*Icterus galbula.*

A rather uncommon migrant; not seen during every migration.

Rusty Blackbird—*Euphagus carolinus.*

Rather uncommon, only a few specimens having been seen.

Bronzed Grackle—*Quiscalus quiscula æneus.*

A common summer resident.

Purple Finch—*Carpodacus purpureus purpureus.*

Not very common either as a migrant or winter resident.

Goldfinch—*Astragalinus tristis tristis.*

A common summer resident, and occasional winter resident.

English Sparrow—*Passer domesticus.*

While the zenith of its abundance is said to have been reached in the cities already, it has not come in the country, as it is still on the increase. It nests in the wildest parts of the Ozarks in trees and posts, and seems to know no limits.

Grasshopper Sparrow—*Ammodramus savannarum australis.*

A common migrant here. It has not been possible for the writer to make a detailed study of the smaller sparrows here, and the present list is sadly lacking in that regard.

Leconte's Sparrow—*Passerherbulus lecontei.*

A common migrant.

Lark Sparrow—*Chondestes grammacus grammacus.*

A common summer resident, and well known.

Harris's Sparrow—*Zonotrichia querula.*

Formerly a very common migrant and winter resident, but in the last few years not nearly so common as before.

White-crowned Sparrow—*Zonotrichia leucophrys.*

A common migrant and winter resident.

White-throated Sparrow—*Zonotrichia albicollis.*

A very common migrant and winter resident.

Tree Sparrow—*Spizella monticola monticola.*

A fairly common winter resident in mild winters; more common in severe winters.

Chipping Sparrow—*Spizella passerina passerina.*

A very abundant summer resident.

Field Sparrow—*Spizella pusilla pusilla.*

A common summer resident, and occasional winter resident.

Slate-colored Junco—*Junco hyemalis hyemalis.*

An abundant winter resident. As with other species I have not had opportunity to make a study for subspecies.

Song Sparrow—*Melospiza melodia melodia.*

A common migrant and fairly common winter resident.

Lincoln's Sparrow—*Melospiza lincolni lincolni.*

A common migrant, and occasional winter resident.

Swamp Sparrow—*Melospiza georgiana.*

A fairly common winter resident and migrant.

Fox Sparrow—*Passerella iliaca iliaca.*

A not uncommon winter resident, but not so common in late years as formerly.

Towhee—*Pipilo erythrophthalmus erythrophthalmus.*

Common summer resident, and occasional winter visitor.

Cardinal—*Cardinalis cardinalis cardinalis.*

Abundant resident in all sections.

Rose-breasted Grosbeak—*Hedymeles ludovicianus.*

A fairly common migrant.

Blue Grosbeak—*Guiraca cærulea cærulea.*

A common, fairly abundant summer resident in brush-covered pastures and hillsides.

Indigo Bunting—*Passerina cyanea.*

A very common summer resident.

Dickcissel—*Spiza americana.*

Abundant summer resident.

Scarlet Tanager—*Piranga erythromelas.*

A common summer resident.

Summer Tanager—*Piranga rubra rubra.*

Very common summer resident.

Purple Martin—*Progne subis subis.*

No farmhouse is found without a few pairs of martins in some sort of bird box.

Barn Swallow—*Hirundo erythrogastra.*

A common summer resident. A few breed in every community.

Tree Swallow—*Iridoprocne bicolor.*

A common migrant. Have seen it during the breeding season, but not commonly, and do not know where it nests.

Bank Swallow—*Riparia riparia.*

A fairly common summer resident. The river banks are too small to attract them in great numbers, as they do the next species.

Rough-winged Swallow—*Stelgidopteryx serripennis.*

A very common summer resident along the streams.

Cedar Waxwing—*Bombycilla cedorum.*

An irregular but not uncommon migrant at all seasons of year.

Migrant Shrike—*Lanius ludovicianus migrans.*

A common resident, nesting commonly in the region.

Red-eyed Vireo—*Vireosylva olivacea.*

A common summer resident in all wooded sections.

Yellow-throated Vireo—*Lanivireo flavifrons.*

A fairly common summer resident along the smaller streams in the wooded districts.

Black and White Warbler—*Mniotilta varia.*

A common migrant, and rather uncommon summer resident in the wilder sections.

Prothonotary Warbler—*Protonotaria citrea.*

A fairly common summer resident in the heavier bottom woods.

Swainson's Warbler—*Limniothlypis swainsonii.*

I found Swainson's Warbler present in Lawrence County, Missouri, in May, 1917, and again in July of the same year in Stone County.

Worm-eating Warbler—*Helmitheros vermivorus.*

A not uncommon summer resident along the creek bottoms.

Blue-winged Warbler—*Vermivora pinus.*

Not uncommon, but was found breeding along the James River in 1917 by the author.

Orange-crowned Warbler—*Vermivora celata celata.*

A fairly common migrant along the wooded creeks.

Northern Parula Warbler—*Compsothlypis americana pusilla.*

An abundant migrant, and found breeding along the heavily wooded creek bottoms.

Yellow Warbler—*Dendroica æstiva æstiva.*

A common summer resident throughout the Ozark region.

Myrtle Warbler—*Dendroica coronata.*

A common migrant.

Magnolia Warbler—*Dendroica magnolia.*

A fairly common migrant visitor.

Sycamore Warbler—*Dendroica dominica albilora.*

A rather uncommon summer resident, and a more common migrant.

Prairie Warbler—*Dendroica discolor.*

A common summer resident of the Ozark and Ozark border region.

Oven-bird—*Seiurus aurocapillus.*

A fairly common migrant, and an occasional breeder in the less civilized sections.

Grinnel's Water-Thrush—*Seiurus noveboracensis notabilis.*

A fairly common migrant in the spring.

Louisiana Water-Thrush—*Sciurus motacilla.*

A common summer resident along the streams of the Ozarks.

Kentucky Warbler—*Oporornis formosus.*

A common summer resident of the river districts.

Mourning Warbler—*Oporornis philadelphia.*

A casual migratory visitor, not at all common.

Maryland Yellow-throat—*Geothlypis trichas trichas.*

An abundant summer resident.

Yellow-breasted Chat—*Icteria virens virens.*

A common summer resident, and well known to even the uninitiated who call them "Yellow Mockingbirds" in some sections.

Hooded Warbler—*Wilsonia citrina.*

A not uncommon summer resident, and common migrant.

Canada Warbler—*Wilsonia canadensis.*

One specimen was seen here in the spring of 1920.

Redstart—*Setophaga ruticilla.*

A common summer resident in the river valleys.

Pipit—*Anthus rubescens.*

A fairly common migrant, but not regularly seen.

Mockingbird—*Mimus polyglottos polyglottos.*

An occasional winter resident, and a very common summer resident throughout the Ozark region.

Catbird—*Dumetella carolinensis.*

An abundant summer resident.

Brown Thrasher—*Toxostoma rufum.*

An extra-abundant summer resident.

Carolina Wren—*Thryothorus ludovicianus ludovicianus.*

Commonly found resident throughout the region.

Bewick Wren—*Thryomanes bewicki bewicki.*

This representative of the wren family entirely replaces the House Wren in this part of the state. It is a very abundant summer resident, and occasionally stays over the milder winters.

House Wren—*Troglodytes aëdon aëdon.*

The House Wren is a common migrant through this section, but is rarely found resident here.

Winter Wren—*Nannus hiemalis hiemalis.*

Is a very friendly and unmistakable visitor during our winters, and especially so if the winter be severe.

Prairie Marsh Wren—*Telmatodytes plaustris iliacus.*

A not uncommon summer resident in the lowland section along creek bottoms.

Brown Creeper—*Certhia familiaris americana.*

A very common winter visitant and migrant, frequenting all wooded sections.

White-breasted Nuthatch—*Sitta carolinensis.*

A fairly common resident, breeding along the larger rivers in the deeper woodlands, where observation is difficult.

Tufted Titmouse—*Baeolophus bicolor.*

A very abundant resident all over the Ozarks.

Chickadee—*Penthestes atricapillus atricapillus.*

Like its relative, the Tit, it is very common and well distributed.

Golden-crowned Kinglet—*Regulus satrapa satrapa.*

A fairly common transient visitor.

Ruby-crowned Kinglet—*Regulus calendula calendula.*

A common migrant, and occasional winter resident in mild seasons.

Blue-gray Gnatcatcher—*Polioptilla caerulea caerulea.*

A common, fairly abundant, summer resident all throughout the Ozark section. I never take a trip to the rivers without seeing a few pairs of them. The nests have been observed in Newton County.

Wood Thrush—*Hylocichla mustelina.*

An increasingly common summer resident. I have seen more of them during this 1923 season than ever before.

Olive-backed Thrush—*Hylocichla ustulata swainsoni.*

A very common and regular migrant through our territory.

Robin—*Planesticus migratorius migratorius.*

A very abundant migrant, an abundant summer resident, and a regular winter resident in small numbers.

Bluebird—*Sialia sialis sialis.*

An exceedingly common summer resident, and a winter resident in numbers varying with the severity of the winters.

ADDENDA

Swainson's Hawk—*Buteo swainsoni.*

A rare migrant, and a very rare breeder. A very occasional one is seen during the nesting season.

Acadian Flycatcher—*Empidonax virescens.*

A fairly common summer resident in thickly wooded regions.

White-eyed Vireo—*Vireo griseus griseus.*

A common summer resident, nesting in brushy ravines and pastures.

Tennessee Warbler—*Vermivora peregrina.*

An abundant migrant, flooding the woods every migration.

IDENTIFYING BIRDS AFIELD

By A. F. Ganier

On going afield with an experienced observer of birds the beginner is usually surprised as well as puzzled at the readiness with which the various species are discerned, identified and pointed out for his further study. Frequently it is little more than a fleeting glimpse near at hand, or a bird in the distance, whose song, call note or color cannot be had, yet an almost intangible bit or chain of evidence proclaimed to the keen and experienced observer the identity of the species in question. Broadly speaking this method of identifying birds afield may be termed a "process of elimination" and fitness to accurately apply such a process can only be attained after careful study and long and close observation. More time given to studiously watching birds when found and less toward building up big daily lists is the means by which this knowledge may be had. There are many enthusiastic students of bird life who, after years of work in the open, are still dependent upon note or song or upon a reasonably close view of the coloration of plumage before they are at all sure of their bird. In fact so much has been said and written of color keys and field glasses that the tyro might readily believe that little else may avail in his efforts to identify. It is therefore the purpose of this paper to maintain that no less a factor is knowledge of the fact that each species of birds have pronounced characteristics, mannerisms, habits and habitats which may be learned as certainly as color and song and used as a convenient method of identification on trips afield. I have a good friend whose ear is so keen, and so well attuned by practice, that he has only to hear the faintest note or muttering of some bird to be able to name it.

I have other friends who have their color keys so clearly charted in their minds that with a bit of study as to color and size they feel safe in naming their bird. But what of the occasions when glasses are not at hand or when the light is poor, and what of the birds that are silent or out of earshot. My own plan is to rely much less on color and song than upon mannerisms, feeding habits and habitat, and thus while my friend with glasses is trying for a view as to color, I have passed on and perhaps recorded a dozen more that would else have flown away and thus escaped my record.

So varied are these characteristics that a few will be cited here, such as position of body and tail in flight, method of wing stroke, manner of alighting, position of body after alighting, location chosen in tree or shrub for alighting, conduct of the bird after it has alit, method of hopping, walking or scratching, uneasiness or the reverse, position of birds while feeding on branches or fly-catching in mid-air, method of flocking or appearing singly or scattered, shape assumed by flocks, special mannerisms during period of courtship, etc., etc.

As illustrations for some of the points enumerated, let us take some of the birds of prey. Those familiar with both the Black and Turkey Vultures can readily identify them at a distance of a mile by watching for a few moments the time and method of wing beat. Aside from this the Turkey Vulture is usually found close to the ground seeking its food, while the Black species more often soars at a great height where he can keep a dozen Turkey Vultures under surveilance and thus rob the first one of them that locates food. Passing to the hawks, we know of the characteristic soaring habits of the Redtail and the Broad-wing and contrast with them the rapid, low, direct flight of the Coopers and the Sharp-shinned. Those who have watched the Sparrow Hawk hover in mid air over a hay field need only to remember this characteristic to separate it from the Sharp-shinned and the Pigeon Hawk and if another long range characteristic is required it will be found that the Sparrow Hawk chooses for its perch a site that would rarely or never be chosen by the other two small species. And again, with reference to the latter, there are field characteristics just as pronounced between the Sharp-shinned and Pigeon Hawk.

Taking up next an ever puzzling family for the amateur, the sparrows, the study of their habits and habitat will be found to be the most accurate as well as the most rapid method of listing these dull colored little birds. Let us take for instance the White-crowned and White-throated Sparrows. The former when startled will work its way upward to the top of some shrub in the thicket and there eye the intruder with body poised upright and crest erected, the very personification of the wild Canadian country in which he is reared. His cousin, the Whitethroat, is sociable and good natured, showing no great fear and only a desire to slouch along with his fellows and to move on, feeding unconcernedly as he does so. Tho greatly as these two

sparrows differ in their dispositions, specimens examined together in the hand show that in size and markings they differ but slightly. Taking two more species of about the same size, we will consider the Field and Chipping Sparrows. Aside from the longer tail and lighter color of the former, one must, at a distance rely upon their movements for their identity. It will be found that the Chipping Sparrow feeds in the trees, shrubs and upon the bare ground or close-cropped grass, while the Field Sparrow chooses the weeds, briars and ground covered with long grass. He is a bird of the brush while the Chipping is a bird of the open; aside from habitat the two may be distinguished from each other by their manner of flight and other characteristics. And so in turn might I take up each member of the sparrow family and recite how each has one or more characteristics not shared by its cousins and which are quite as infallible, or more so, than field observation of color or song. In no closely allied family are mannerisms as distinct as among the woodpecktrs. Mere coloration, size and call notes facilitate identification but close observations will reveal that each species has its own distinct manner of going about its climbing, pecking, prying, hammering, flying and feeding. Take for instance the Sapsucker, which clings close to an upright limb and keeps the better part of a stout one between himself and the observer, as tho he expected to be shot at for his sapsucking proclivities. Then take the Downy or the Red-bellied woodpeckers, which, apparently knowing the good they do, have none of sneak about them and trustingly show themselves in full, making a clatter about it all the while. That splendid member of the woodpecker family, the Pileated, has an individuality and nobility about him that commands wonder and respect. When one has won the confidence of one of these birds its gentleness is surprising and the dignity of its bearing begets for it both respect and interest.

The great warbler family is no exception to the law of varied field characteristics and aside from colors and markings, all of the items which I have mentioned may be brought to bear to bring about a process of elimination, and so come quickly to proper identification. I confess, that with this family, I have not fully mastered the process which I have outlined but knowing that my friend with keen ear has mentioned 57 varieties of thin, weak warbler chips, I have little doubt that their mannerisms will be found to differ in a pronounced way.

Passing on to a few scattering examples which are probably well known to most observers, I will recall to your mind how the shrike flies its low level flight and then at the end rises abruptly to a point of vantage, how the Palm Warbler identifies itself by nervously twitching its tail, how the Water-Thrushes make their identity easy by bobbing up and down, how certain ducks dive while others only feed in shallow water, how the Chat, and also the Yellow-throat, may be identified at a distance when he mounts high in air and then falls pell mell to earth again; how the Nighthawk is at home on the wing while his near cousin, the Whip-poor-will, prefers to rest on a woodland bough; how the Grey-cheeked Thrush will allow close approach while his very near cousin, the Olive-backed, is as wild and as wary as a Great Horned Owl, and so on. I might cite many more well known examples with which you are familiar.

Summing it all up, one will find that the most interesting of all methods of identifying birds is that which involves not chiefly the color and song but the actions, habits, habitat, and other characteristics of the various species, and in arriving at a working knowledge of this method the observer opens to himself a new angle and wide field of bird study which will afford him interest unending.

Nashville, Tenn., November 2, 1923.

THE WILSON BULLETIN

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EDITORIAL

Our Annual Meeting is our only means of forming personal acquaintances that are so essential for the success of our organization. It affords the best means of getting in touch with the work that others are doing in the same field. It is a stimulus to both personal effort and coöperation in all lines of study. Your editor has enjoyed a continuous personal relationship with the organization during the thirty-five years of its history, and in that time most of his most valued friendships have been formed at the meetings. He therefore urges you, as a member, or as a reader, to make your plans to attend the Cincinnati meeting this year. You will find it very well worth while experience.

Bird Banding has come to occupy the forefront in aggressive work in bird study, partly because it is a new thing as it has developed under the leadership of Mr. Baldwin and those associated with him in trapping and banding. It is a field of endeavor that holds out enticements in the line of discoveries concerning bird movements of all sorts, individual traits, nesting habits, to mention but a few things. It may well point the way to intensive studies of individual birds in their perfect freedom of life. The writer is a firm believer in the value of intensive study of individual birds, such as that pursued with so much of great value by Miss Althea R. Sherman. There was so much of value in the intimate studies of the feeding of nestlings that it is a great pity that no more seems to be in progress. Much of the detail of such study might be omitted if the task seem too great, but as a method of study it is too valuable to be abandoned. We hope that the keen interest that is being manifested in banding operations may spill over into the general field of bird watching.

FIELD NOTES

LOGGERHEAD SHRIKE EATS ENGLISH SPARROW

At Zephyr Hills, Florida, on June 11, 1923, I discovered a Loggerhead Shrike carrying in its claws, not its beak, what appeared to be a song bird. This Shrike flew to a tree in which were an adult bird, and three young ones clamoring for food. All gathered around the booty and feasted for some time. After a few minutes the dead bird fell to the ground, allowing opportunity for examination. It proved to be an English Sparrow, either female or immature, the head entirely gone and the body more or less torn. It was evidently freshly killed. As soon as we left the spot one of the adult birds came to the ground and carried the remains of the sparrow away.

This is the first evidence I have received of the Loggerhead Shrike eating other birds. It is fairly common around Macon, Ga., but I have never had the slightest evidence myself, nor have a number of other observers, with whom I have talked of its killing song birds. In this part of Florida the Loggerhead is abundant, but my brother-in-law, who has studied birds here for four years, has never before known of its eating other birds. This would therefore seem to be a rare occurence.

Macon, Ga. BERYL T. MOUNTS.

PECULIAR NESTING HABITS OF SOME BIRDS

Having made a few observations that may be of general interest, upon the nesting peculiarities of some species of birds, I will here relate them:

As I was at work on one of my Bird Census lists I noticed a pair of Phœbes about a private bridge over a small creek in the field. Of course that was perfectly natural and just what one would expect. But it soon became apparent that there were more than two adult birds around there; in fact, I soon noticed four of them at once. Close investigation showed only one nest situated under the bridge. I was puzzled. However, there was an old deserted well close by the bridge and this well had a fence about ten feet square around it. I noticed one of the birds alighted frequently on one of the posts of this fence. One of the planks was off the top platform of the well, leaving an open space about twelve inches wide across the center of the well. I went up to the well to investigate, and one of the birds flew out of the well. A careful examination showed that the well was "curbed" up with boards, not round, but four feet square on the inside. It was sixteen feet from the platform down to the water, and a frame of 2x4 inch lumber was inside the boards and five feet below the platform. There was no other frame or projection of any kind inside the curbing, nothing but smooth boards down to the water. In the northwest corner upon the edge of the 2x4 frame above referred to was the bird's nest with five snow white eggs in it. A twelve-inch opening five feet above and cold water ten feet below! Now this was certainly an interesting situation for a bird's nest! I resolved then and there that this affair would bear watching. I went back in three days and the young birds (4 of them) were hatched out. They

grew as young birds do, unmindful of their precarious situation. About two weeks passed. I saw them several times during this time. The last time I saw them they were about fully feathered out, three were on the nest and one was on the 2x4 beside the nest. A few days later, when I went there, the birds, neither young nor old, were to be seen anywhere. I examined the surface of the water very carefully but could see no sign of a drowned bird. They must have made their initial flight up and out through that twelve-inch opening. It seems marvelous that a bird with no opportunities for practice should be able to do this, but the facts seem to indicate that they did, for if they had failed and dropped into the water below, their bodies would have been floating on its surface. There certainly is a vast difference between the various species in this respect. Imagine a young House Wren, Robin, or Rose-breasted Grosbeak leaving the nest under these circumstances.

Other and similar cases, with the danger of drowning eliminated, however, are the Chimney Swifts. I have at least one instance on record where a pair of these birds had their nest in a chimney 8x8 inches inside measurement and situated twenty-two feet below the top of chimney. How the young birds can make a flight of twenty-two feet straight up to get into daylight is also a wonder to me. But perhaps they crawl up the wall with the assistance of their feet and wings as do the young Wrens.

E. D. Nauman.

Sigourney, Iowa.

NOTES—HERE AND THERE

Conducted by the Secretary

The Annual Meeting

All the attention of the Secretary is now bent on the annual meeting of the Wilson Ornithological Club, which will be held in Cincinnati, Ohio, in conjunction with the American Association for the Advancement of Science, with which it is affiliated, on Monday, December 31, and Tuesday, January 1. The forenoon program on Monday will be held with The Ecological Society of America, several of whose important members are also members of the Wilson Club. The papers and discussions given at this program will bear on the relations of Ornithology and Ecology. The afternoon session will be taken up with papers on various phases of ornithology, titles of which are coming in rapidly now. Tuesday morning will be devoted to Bird Banding, with our Treasurer, Mr. William I. Lyon, in charge. He has promised some interesting and valuable contributions. Since he is Secretary of the Inland Bird-Banding Association, he can secure the help of many of the prominent members of that excellent organization. Tuesday afternoon will be devoted to additional papers and discussions on matters of interest to members of our club.

The sessions and the places of meeting have been arranged as follows:

Monday, December 31, 9:00 A. M.—Hanna Annex No. 18.
Monday, December 31, 1:00 P. M.—MacMicken Hall No. 3.
Tuesday, January 1, 8:30 A. M.—McMicken Hall No. 3.
Tuesday, January 1, 1:00 P. M.—McMicken Hall No. 3.

Hotel Gibson has been designated as the headquarters of the W. O. C. Reservations should be made in advance, either at the headquarters hotel or in some other good hotel. The many people attracted by the A. A. A. S. meetings will necessitate this, if one desires to be saved unnecessary trouble. Mr. Edgar Dow Gilman of the University of Cincinnati, has been chosen as the local representative of the A. A. A. S., to whom inquiries should be sent relative to phases of the general program. He does not, however, make reservations for rooms.

Begin now to plan for a trip to Cincinnati as a part of the holiday season this year.

A folder called Bird Leaflet No. 1 has just been issued by the Carnegie Museum of Pittsburgh, the material having been prepared by our good friend and member, George M. Sutton. The front page has an excellent photograph of the Family Group of the Red-shouldered Hawk in the Carnegie Museum. The folder is a plea for bird students to learn and protect the birds.

The New England Bird Banding Association is planning a very unusual course in the study of birds. Dr. Glover M. Allen, President of the Nuttall Ornithological Club, will give a series of ten lectures on the Elements of Ornithology. Though these lectures will be given in Boston, provision has been made to have the lectures in printed form sent

out to any one desiring them, a small fee being charged for the course. An additional lecture on Bird Banding will be given by Professor Alfred O. Gross of Bowdoin College. This is a worthy movement and deserves the hearty coöperation of all well-wishers of ornithology and its allied sciences.

The Yearbook of the Public Museum of the City of Milwaukee for the year 1922 is a credit to any group of scientists. There are found in its pages records of all sorts of investigations by members of the staff, ranging from totem poles to fossils. Articles which are especially interesting to ornithologists are the following: A Collecting Expedition to Bonaventure Island, by George Shosbree; Notes on a Side Trip to the Gaspe Cormorant Colonies, by H. L. Stoddard; Collecting for the New School Loan Groups, by Owen J. Gromme; "Stuffed Birds," by H. L. Stoddard; and the European Starling in Milwaukee, by H. L. Stoddard. Messrs. Stoddard and Shosbree are members of the W. O. C., active, vigorous ones, too. R. S. Corwin, another one of our members on the Museum staff, contributes an article to the Yearbook entitled The "Use" in Museum.

Mr. Edward von Siebold Dingle, Assistant Ornithologist in the Charleston, South Carolina, Museum, and one of our members, has attained a wide reputation as a painter of bird life, especially Southern birds. In April, 1923, an exhibition of his pictures was given at the Convention of American Museums.

The Inland Bird-Banding Association, so closely related to the W. O. C. because of the numerous members who belong to both organizations, is doing a new and original piece of work. I am sure all of our members who attend the meeting at Cincinnati will want to hear the part of the program—Tuesday morning—devoted to bird-banding.

The Century Company has recently published a delightful book called The Importance of Bird Life, by George Inness Hartley, Research Associate of British Guiana Zoölogical Expedition. Mr. Hartley, it will be remembered, is the author of Boy Hunters in Demerara.

One of the "catchiest" appeals to the ornithologist which have come to the Secretary's desk recently is a reprint from the April Bulletin of the Massachusetts Audubon Society, The Gentle Sport of Bird-Banding, by Helen Granger Whittle.

The writer of items in this department is always glad to find something of interest about our members. It is a real joy, then, for him to acknowledge the receipt of an excellent bound volume from one of our newest members, Mr. I. H. Johnston, state ornithologist of West Virginia, the volume being entitled "Birds of West Virginia." It contains thirty or forty colored plates from the drawings of Louis Agassiz Fuertes, with an elaborate description of the bird, its habits, its economic value, and its aesthetic qualities. There are articles on ways to attract birds, on bird-gardening, bird-banding, and other interesting phases of practical ornithology. The bulletin combines the scientific and the popular in a very unique way, and forms a book which should be used ex-

tensively in the schools and homes of that state, in addition to furnishing a model for other states planning a similar state publication.

Professor Edward Drane Crabb, formerly Curator of the museum of the University of Oklahoma, and now Associate Lecturer of the Milwaukee Public Museum, issued, just before leaving the University of Oklahoma, a bulletin entitled A Handbook on Preserving Museum Specimens in the Field. It contains some very practical suggestions for campers, with additional chapters on the preservation of game heads, large mammals, small mammals, skeletons, birds, collecting bird eggs and nests, preparing fish and reptiles, preparing insects, shells of various kinds, fossils, alcoholics, and tanning. It is a comprehensive handbook for all types of collectors, as the headings above will show, and will prove of great value to amateur and professional alike.

The University of Iowa devoted its Service Bulletin of September 8, 1923, to The Migration of Birds, with a brief discussion of Bird-Banding. Though the bulletin is unsigned, it bears the ear-marks of our Vice-President, Professor Dayton Stoner, the head of the Department of Zoölogy of that university. The bulletin is a wise suggestion to other schools and colleges in advertising their practical interest in problems of an economic or aesthetic nature.

The American Ornithologists' Union held its Forty-sixth Stated Meeting in the halls of the Museum of Comparative Zoölogy in Cambridge, Massachusetts, October 9-11, 1923. It will be remembered that the W. O. C. held its 1922 session jointly with the A. O. U. at Chicago. Further notes on the meetings at Cambridge will appear elsewhere in this issue.

Mr. Eugene Swope, Mount Healthy, Cincinnati, Ohio, until recently field agent for Ohio for the National Association of Audubon Societies, will go to Oyster Bay, Long Island, about the first of 1924 to develop the Roosevelt Bird Sanctuary. We wish him joy in his new work, but we hate to lose his presence and aid here in the Middle West.

The Tennessee Ornithological Society, of which Albert F. Ganier, our former Secretary, is President, took their annual field-list on Sunday, October 23, along South Harpeth River, in Cheatham County, Tennessee. This has become an annual event of great importance to the Tennessee bird lovers.

Professor T. C. Stephens of Morningside College, Sioux City, Iowa, and a member of the Editorial Staff of the Wilson Bulletin, spent two weeks the past summer at McGregor, Iowa, as a member of the lecture staff of the Wild Life Conference. Earlier in the summer, in company with Mr. W. W. Bennett, he made an auto trip to northern Minnesota for the purpose of studying bird life in that region. His especial work was to make photographs of the scenery and habitats of the birds. Mr. Bennettt worked in color photography, using the Paget process. He secured some excellent color pictures of different warblers on their nests. The two naturalists camped on the shore of Little Mantrap Lake, just outside the boundaries of Itasca State Park. During their trip of 1000 miles they made 300 photographic exposures.

In late August Professor Stephens made another trip into Minnesota and North Dakota: to Grand Forks, Devil's Lake, Bemidji, the bird refuge at Stump Lake, and Itasca State Park, covering 1800 miles in an automobile and adding 200 more photographs to his collection.

In making up the membership-list for the September Bulletin some unavoidable mistakes were made. The Secretary has appreciated the fact that his attention has been called to some of these mistakes. Errors were made in the case of the following, which have been reported:

Sustaining Member—Weir R. Mills, Pierson, Iowa (name omitted).

H. B. Bailey, Box 112, Newport News, Virginia (name omitted).

Miss Althea Sherman, National, via McGregor, Iowa (address wrong).

Sustaining Member—F. M. Woodruff, Lincoln Park, Chicago (name omitted).

Active Member—Amos W. Butler, 52 Downey Avenue, Indianapolis, Indiana (name omitted).

Active Member—R. M. Strong, 706 S. Lincoln Street, Chicago (name omitted).

Miss Adah M. Hood, 1002 Ninth Street, Sioux City, Iowa (name omitted).

If any other errors are found in the list, the Secretary would deeply appreciate having his attention called to them.

BIRD BANDING DEPARTMENT

Under the Direction of Wm. I. Lyon, Waukegan, Ill.

BIRD BANDING ACTIVITIES AT THE FORTY-FIRST STATED MEETING OF THE AMERICAN ORNITHOLOGISTS' UNION AT CAMBRIDGE, MASS.

On Tuesday afternoon, October 9th, T. E. Musselman gave his experience at Mr. S. Prentiss Baldwin's trapping station at Thomasville, Ga., showing many slides of the interesting phases that develop in handling large quantities of birds in a short time. The large number of returns of the Chipping Sparrows seems to prove Thomasville, Ga., to be their main winter quarters. Observations showed that they were subjected to a peculiar foot disease and a special investigation was started to discover the cause and possible way of elimination.

The constant returns, from year to year, of a little group of White-throated Sparrows, that occupy the same patch of shrubbery each year, and are seldom trapped elsewhere, seems to prove how close they remain in their winter quarters. Many slides showed that, by quiet methods, birds would remain in the hands to have their photos taken. One, that brought applause from the audience, was a Mourning Dove sitting on a little girl's shoulder. Cardinals showed their ability to fight, in a number of slides.

There was a conference in Mr. Baldwin's parlors at the Hotel Lenox, in Boston, on Tuesday evening. Those present were W. C. Henderson, Assistant Chief, Dr. H. C. Oberholser and F. C. Lincoln of the Biological Survey, Hoyes Lloyd, Supervisor, and P. A. Taverner of the Wild Life Protection Department of Canada, and L. B. Fletcher, Secretary, Charles L. Whittle, Councilor, and Charles B. Floyd, Treasurer of the New England Bird Banding Association, Rudyerd Boulton, Secretary of the Eastern Bird Banding Association, S. Prentiss Baldwin, President, and Wm. I. Lyon, Secretary of the Inland Bird Banding Association.

The main purpose of the conference was the discussion of the territory which should be included in each regional association; maps of Canada and the United States were gone over, and carefully marked, and an agreement reached as to the territory to be included; and an outline map will soon be published by the survey showing these lines. After this subject was determined the methods of obtaining members and general promotion of Bird Banding furnished much interesting and pleasant discussion during the evening.

Wednesday morning, October 10th, was the Bird Banding session. "Notes on a Scranton Starling Roost" by R. N. Davis, Scranton, Pa., illustrated, came first and ran overtime.

"Trapping Devices for Bird Banding," illustrated by lantern slides, by Henry E. Childs, East Providence. R. I. Mr. Childs had a paper Tuesday afternoon on the "Effect of Cultivation upon Changing Bird Population," which covered the same grounds where he carried on his trapping and banding and was assisted by Boy Scouts and High School Biology classes. The first trap shown was a clever tree trap, using a

mouse trap for trigger spring, and it produced good results. A large drop trap also produced good results; a nest trap was used and, in some cases, a nestling bird was used as a call bird or decoy.

"Some Bird Banding Experiences" by B. S. Bowdish, Demarest, N. J. The paper showed that he was a veteran Bird Bander, with a total of bands placed at 1700. A number of returns were secured with Song Sparrows; also Tree Sparrows. Two Purple Finches banded at the Bowdish Station were taken by another bander at Fairfield, Conn. A clever scheme explained how to use a live bird in a glass jar to decoy a troublesome Sparrow Hawk. One hundred forty-four Purple Finches were handled and the first color in young birds was observed in head and neck. Also stated that Mrs. Whittle has observed first color in rump. Mr. Bowdish moved about one mile away and one Purple Finch repeated at his new station.

"Midsummer Song Sparrows, A Statistical Study of Banding Data" by John T. Nichols and Rudyerd Boulton, New York, gave results of trapping and banding in charts of percentage and comparison.

"The Migration of the Mallard (as shown by banding data)," illustrated by lantern slides, by Frederick C. Lincoln, Washington, D. C. Mr. Lincoln's work in banding ducks in the marshes, along the Illinois River, showed that, with the proper equipment and location, ducks are as easily banded as small birds, having banded 190 ducks in one day, and having taken 100 ducks in one trap as a record for one catch. He showed a large net trap which, if properly worked during a season, would give one chances for half a million ducks. He stated that there had been about 4,000 Mallards banded up to the present time.

"Experiences in Bird Banding," illustrated by lantern slides, by Wm. I. Lyon, Waukegan, Ill. A tree trap was shown that had trapped Yellow-bellied Sapsuckers, Downy and Hairy Woodpeckers, Black and White Warblers, and a recent success in trapping over 100 Brown Creepers. A partial albino Grackle, with grayish white on tail feathers, was captured and experimented with.

Sparrow records were as follows: Two immature Harris Sparrows were trapped, a few White-crowned Sparrows were trapped each spring and fall. Total taken, 80. Over 1,000 White-throated Sparrows have been banded and not a single return. No returns known on migration routes. White-throated Sparrows often injure their beaks; a whitish spot appears on the upper mandible near the tip of the beak. In about a week the injured spot seems to contract and leave a dent in the beak; in a few days the tip raises up, and in another day or two it falls off. This year some that have lost their beak tips are being confined to see if the beak will regenerate again to its natural size.

Tree Sparrows show that they return to winter home; out of 46 trapped first year, 8 returned last year and 150 more were banded. Song Sparrows are good returners and have been taken in some proportions. Three have returned the second time; 67 Lincoln Sparrows have been trapped, but no returns to date.

Fox Sparrows are not plentiful, but 45 have been banded. One stayed at the station all winter and was trapped 165 times. Cut apples

proved to be the alluring bait for Cedar Waxwings; 200 were banded and one was taken ten days later by Mrs. H. C. Miller at Racine, Wis.

Time and discussion was cut.

"Scientific Results from Bird Banding," illustrated by lantern slides, by S. Prentiss Baldwin. It was announced at the start that Mr. Baldwin would have to cut his time in half so he could only hurry through a few of his many wonderful experiences. Mr. Baldwin offered an opportunity to some one to go to Thomasville, Ga., the coming season to operate his station; and stated that there would be an extensive trapping and study of the Mourning Dove situation in that district. There is also to be a very extensive study of the Quail, to be carried on in the nearby district, that will be continuously conducted by an experienced ornithologist, with helpers, that will extend over a three-year period. Mr. Baldwin's House Wren study has been more than doubled and will take four or five years more to complete. It was very disappointing to have such a fine paper cut in half and no time allowed for discussion.

The Annual Dinner of The American Ornithologists' Union was held at the Colonial Club, Cambridge, Mass., at 8 P. M. Wednesday evening, where the usual good fellowship prevailed. Dr. C. W. Townsend, President of the New England Bird Banding Association, was the main speaker of the evening. With lantern slides he showed a famous old book that had just been discovered and the slides, of the illustrations in the book, showed many gentlemen in ancient costume, but the faces seemed to be very familiar, and explanation of their occupations were very interesting to all present. One conspicuous among them appeared to be the Father of Bird Banding, who was apparently in the act of coaxing a Lady Wren to give her correct age.

At each plate was an Auk shaped menu card and a copy of that rare journal, "The Auklet," a semi-occasional Journal of Ornithological Disputanda. The growing popularity of Bird Banding was demonstrated by their receiving two pages of attention in the Journal as follows:

BIRD BANDING DEPARTMENT

Conducted by W. I. Tyger

We regret to announce that we have been unable to accept the generous offer of Messrs. Fetcha and Whistle to purchase the entire issue of the Auklet for bird-banding notes. The following, however, are gratuituously inserted:

Willay Markeighty writes: "A successful trap for Hummingbirds can be made from a ladies' hair-net applied to the far end of a forked twig. It works best with the use of a good bait, particularly mint julep and sugar." Since the banding of Hummingbirds is likely to increase through this important discovery, members intending to trap Hummingbirds should make early application to the U. S. Biol. Survey, as a federal permit is required for the possession of bait.

Simultaneously with announcement of the great increase of divorce in Chicago, comes word from our valued correspondent, S. Pendthrift Borldwejn, that the House Wrens of Ohio are substituting aluminum bands for hus-bands, with the resulting decrease in infant morality. The correlation of the two phenomena is believed to be due either to sun-spots or to fly-specks, though additional data are needed this coming year.

It is expected that Rabbi Flescher will inaugurate a movement to unite the N. E. B. B. A. and the Y. M. C. A. in a cheer-up campaign.

At the recent city election in Philadelphia, Dr. Whitston tried the experiment of banding all voters, with the result that 50% repeats were discovered.

Work of the Junior Branch of the New England Bird-Banding Association

The work of this branch has now begun in earnest and we are able to report that within the month little Harry Overholt has banded an Old Crow and plucked Four Roses from the banks of the Sunny Brook at the Old Taylor place on the outskirts of Melville.

Tom Gin has been similarly employed on the Bull Bats of Green River, once a noble stream, but now nearly dried up, though we suspect the great attraction for Tom in that vicinity is one of the Vermouth girls.

The meeting of the A. O. U. will be given over so largely to the work of the Bird-Banders that it will be unnecessary here to go into details. We add, however, a list of the latest recruits to the Junior Branch:

Della K. Tessin	F. Roth	Aline Kidd	Ella Gant
Ida Know	Etta Lott	A. Mary Flapper	Mag Nesia
Gladys Gone	Meta Ford	Addie Noyd	Polly Wog
Perry Winkle	Millie Tant	Odette Offutt	Carry C. Noyle
Freda Gain	Millie Terry	F. Irma Ment	Tom Gin
Ethel Alca Hall	Amelia Rate	Andy Lucia	

At the end of the Chapter there is a picture of a little bare-legged birdie in a frame. His title seems to have been omitted; we think it should be, "Yes, He Wears no Band."

Friday, October 12, was given over to the field trips. The Bird Banding trips started from the South Station at 8 A. M., where we found Mr. Whittle and Mr. Floyd waiting for us. We took the train to Cohasset and hiked to the club house to watch the migration of the Scoters and other water birds. Unfortunately there was a fog and we could see very few of the ducks. There was a continual shooting by the gunners in the boats, but we did not see any ducks fall. We spent the morning about this place and observed a number of smaller birds in the brush just back of the point. Each one had his own lunch, and hot coffee was served for us at noon, then we started for the Bird Banding stations, with a hike down through the very attractive piece of woods, but on account of the great number in our party there were not many birds seen. All of the country seemed to be wonderfully covered for attracting birds.

We met the busses at the end of our hike, which took us to Mr. Richard B. Harding's place, where they had quite a number of traps in operation; the grounds were wonderful and offered many opportunities for trapping birds; plenty of trees and underbrush for cover and food, the land extending out to the ocean waters, where there are chances for the shore birds.

From there we went to Mr. Conover Fitch's place, who was just starting in with the Bird Banding work, but the grounds offered many inducements to the birds, so it was just natural that he should have a Bird Banding station in such a place.

Mr. Whittle's was the third stop and he showed us some new forms of drop traps; also one window trap where they had trapped over 500

Purple Finches. He used plenty of water dishes to attract birds with and it was a very ideal place.

Our last stop was at Mr. Lawrence B. Fletcher's place. We were greeted at the entrance by a large covered winter feeding station, with a number of evergreens temporarily set in the ground for the birds to use as lighting perches and for attraction. On the other side of the house, which faces down towards the small lake, they had a number of drop traps which operated with strings from the porch. With the water and the brush and the open land Mr. Fletcher has chances to trap all kinds of birds in his very ideal place.

A number of people took advantage of the trip and had a very enjoyable time. We caught our train back to the South Station and just crossed the street to the Hotel Essex for the dinner under the auspices of the New England Bird Banding Association. There was a very good attendance and Alfred O. Gross of Brunswick, Maine, acted as toastmaster. There was a message of welcome from the President, Dr. Charles W. Townsend, and Dr. Witmer Stone told us how he joined the American Bird Banding Association in 1909, and encouraged those who were just getting into the work today to greater activities. Mr. F. C. Lincoln of the Biological Survey told some of the life history study of birds that has been started by the investigations, and brought to the meeting the message of inspiration for more work. W. I. Lyon, Secretary of the Inland Bird Banding Association, told of the developments through the central part of the country. There followed some slides by Mr. Fletcher, showing methods of protection of birds, also one interesting set of slides of a three story window shelf where they had been successful in trapping over 200 birds during the summer season. With many good-byes after the adjournment of the meeting, we all started for home.

A CONVENTION WHOLLY DEVOTED TO BIRD BANDING

The Inland Bird Banding Association completes a two-day program of meetings and scientific papers at Indianapolis.

The Inland Bird Banding Association accepted the invitation of the Indiana Audubon Society, and the Nature Study Club of Indiana, to hold its annual meeting in Indianapolis on November Second and Third. The first activities—the formal business session—was held at the Hotel Lincoln beginning at 3 o'clock, November second. Soon after the members were assembled they were invited to adjourn to the roof of the building so there might be a group photograph taken of those present. On returning they were called to order, in the assembly room, by the President, Mr. S. Prentiss Baldwin, who welcomed all those present and then stated the purpose of the meeting and called for the reading of the minutes by W. I. Lyon, Secretary. They were read and approved. Mr. Herbert L. Stoddard, Treasurer, gave the account of the year's finances, which was accepted. The next order of business was the election, and on motion President Baldwin appointed a nominating committee consisting of Mr. O. M. Schantz, Mr. F. C. Lincoln and Mr. Percival Brooks Coffin. The committee retired and in a short time announced that they were ready to report. They recommended that

all present officers be elected for the ensuing year. As there was no opposition there was a motion made and carried that the Secretary be authorized to cast the vote of the Association. Plans for the coming year were discussed and many activities suggested before the meeting adjourned.

The first public meeting was held in Cropsey Hall, Central Library building, on November second at 8 p. m. The room was well filled when Mr. Alden H. Hadley, President of the Indiana Audubon Society, welcomed all present and stated the reason for the meeting, also giving us many interesting facts about the Indiana Audubon Society.

Mr. Richard Lieber, Director of Conservation of Bird Life in the State Parks in the State of Indiana, gave a very interesting talk, telling of the original forests that were situated in Indiana, and gave many incidents of the lives of the birds that have totally disappeared from the country. He also told of the future plans for Bird Conservation in the State Parks.

Next came Mr. S. Prentiss Baldwin, President of the Inland Bird Banding Association, with a talk illustrated by lantern slides. "The Methods of Trapping and Banding Wild Birds, and Interesting Stories Derived from these Methods." Mr. Baldwin's paper was even more interesting, than it has been in the past, for he had many new adventures to tell, and the whole evening before him, so he did not have to be hurried. Mr. Baldwin's talk was intended to interest the general public in the idea of Bird-Banding so they would attend the meeting on the next day. From his many intense years of study with the House Wrens he gave us many inside lights on their family relations, of their marriages, divorces, and infidelity; also showing a number of new developments that have come to light in the past year. His House Wren stories are always well received by the public because they are so new in the history of bird life. In telling about the White-throated Sparrows that come to a patch of shrubbery near the house, Mr. Baldwin stated that they had been there regularly since 1915. and he told of the Chimney Swift, that calls regularly at Gates Mill, and was banded there in 1916, reporting on thime this year.

Saturday, November third, at 9:30 a. m., the meeting opened at the Herron Art Institute. Mr. S. Prentiss Baldwin, President, gave a few words of welcome to the good sized audience and stated that all the meetings would be open to the public and invited every one interested in Bird Banding.

"A Naturalist in South America," by W. S. Blatchley was the opening subject. Mr. Blatchley gave a very interesting talk on his voyage and travels, stopping at Barbados Island, Rio De Janeiro, Montevideo, Buenos Aires, then across country over the mountains down into Chile, and up the coast to Bolivia and Peru, and home through the Panama Canal. During the entire trip he stopped at all the museums and bird collections that were available.

Mr. Herbert L. Stoddard, Treasurer of the Inland Bird Banding Association, read a paper entitled "The Shore Birds of Lake Michigan." Mr. Stoddard's paper was a scientific list with observations made during

the past twelve years in the territory from Michigan City, Indiana, to Sheboygan, Wisconsin; he has walked over this entire territory except where cities obstruct both man and birds, and he has collected many rare specimens for the different museums. At present he is forming some very interesting "Shore Bird Groups" for the Milwaukee Museum. He gave many interesting observations of birds that through the persistent shooting have become very rare, and of those that on account of their protective color are hard to observe. Mr. Stoddard and Mr. Jung of Milwaukee have succeeded in making traps that have taken Plovers and Sandpipers, and during the past season they have succeeded in placing over one hundred bands on these birds.

"Bird Banding Under the United States Bilogical Survey" by Mr. Frederick C. Lincoln, U. S. Biological Survey. Mr. Lincoln gave a very good account of the increase in Bird Banding and requested all present to lend their influence in getting more members for the Inland Bird Banding Association and operators to place bands in their districts. He explained the many chances that our vast district has for new and original work, and spoke of the appreciation by the Survey of the members who have contributed to the work in the past. Then, with the lantern slides to illustrate his own work in duck banding, Mr. Lincoln showed a number of pictures of duck traps, explaining the difficulties and the successes in trapping wild ducks and from his explanations it seems that ducks are trapped just as easily as the small birds, and if anything, in larger quantities. His record for one day's banding was one hundred ninety ducks and over one hundred having been taken from one trap in a single catch. He stated that over 4,000 Mallards have been banded at the present time, and showed many maps giving the location of the returns from these birds, which gave a very good idea of the routes they were following.

Adjourned for lunch.

Saturday, November Third — The Afternoon Session
Mr. Samuel E. Perkins, Presiding

"Methods and Results in Banding Wild Birds" by Wm. I. Lyon, Secretary of the Inland Bird Banding Association, illustrated by slides. The selection of a position for a bird trap is very important and it was pointed out that it was necessary, in many cases, to have the traps close to shrubbery that is adjacent to tall trees. A corner of a hedge or fence that is protected to the north and west is a desirable location, or at the foot of a hill where the hillside faces mainly to the east, so that the morning sun will make it a warm and comfortable feeding place. Constant cleaning of the trap and changing of the bait, and everlasting vigilence against pests brings success. Study of the location of the trees were shown to which most of the climbing birds will be attracted. The slides that produced the most interest were those of the new tree trap which has just proved its efficiency, in the past few months, in trapping Downy and Hairy Woodpeckers, Yellow-bellied Sapsuckers, White-breasted Nuthatches, Black and White Warblers, and over one hundred Brown Creepers. The interest of the audience was shown by their stopping the speaker a number of times and requesting slides

to be shown again, measurements to be given and more time allowed for some of those interested to make a sketch. The development of new traps is very important, especially for taking birds that have not been trapped in the past, and the audience was interested in the many new schemes that were shown.

Mr. Albert F. Gainer, of Nashville, Tennessee, gave a very interesting paper on "Identification of Birds without the Use of Glasses, Their Color, or Their Notes." Mr. Gainer has made a study of identifying birds by their actions, and through it is able to identify them at a long distance as accurately as many of the others who use glasses and the other general means. His paper was very interesting to those present.

Mr. T. E. Musselman of Quincy, Ill., was on the program to show lantern slides and tell some stories on Bird Banding at Thomasville, Georgia, while he was in charge of Mr. Baldwin's trapping station last winter. As Mr. Musselman was, at the last minute, unable to attend the meeting, he asked Mr. Baldwin to show the slides and tell something of his experience as Mr. Baldwin was there last winter with him. Of course Mr. Baldwin could not give many of the very interesting stories which came into Mr. Musselman's personal experience but the slides were very interesting.

Mr. Baldwin then gave some talk on "Bird Banding as used in the Intensive Study of One Species." His talk was very similar to what had been intended for the A. O. U. Convention with the addition of many interesting stories and details which he was unable to give at Cambridge on account of the lack of time. As Mr. Baldwin has lived with his wrens, so his records will live with us forever. His explanation of the detail in the careful study that he is giving these birds at present shows that his work must be continued four or five years more to get complete results which he hopes to have published at the completion of his efforts.

Some very interesting features of the work undertaken by the Inland Bird Banding Association during the past year were brought out at this session.

The Inland Bird Banding Association has been co-operating with the Cleveland Museum of Natural History and the Biological Survey for the placing of bands on the sea birds of the South Atlantic and Indian Ocean. It seems that an expedition has been organized by The Cleveland Museum of Natural History, with George Finley Simmons as Commander, for a two-year collecting trip in the South Atlantic on the Schooner "Blossom." The Inland Association took the matter up with Commander Simmons and their conference resulted in the Expedition taking 8,000 bands to use in the Bird Rookeries of the South Atlantic. While it may be that very few of these bands will ever be returned, it is evident that any return from these bands will be of very great interest.

The Inland Bird Banding Association has been active in coöperation with the U. S. Biological Survey in organizing the Quail Sportsmen in the vicinity of Thomasville to make a complete study of the life history of the quail. Funds have now been provided by the Quail Sports-

men and, under arrangements with the Biological Survey, an ornithologist and assistant will be employed, and stationed between Thomasville and Tallahassee, to make such a study for a period of three years or longer, if necessary. Bird Banding will be the basis of a considerable part of this work as the quail will be banded in coveys and then, as they are shot through succeeding years, record will be kept of where each bird is found in order to show whether quail migrate or scatter to any great extent.

In addition to the quail study, it is expected that Mr. Baldwin and probably one or two other ornithologists will be at the trapping station in Thomasville at least during February and March to carry on the work as it has been done during the past ten years and, in addition, it is hoped to organize upon an adjacent plantation an extensive experiment in the trapping and banding of mourning doves. Anyone who may be interested to know more about the Quail Study or who may wish to take part in or visit the work carried on at Thomasville, should write to S. Prentiss Baldwin, 817 Williamson Building, Cleveland, Ohio.

The Annual Dinner in the evening at the Hotel Lincoln was attended by the three organizations. Dr. Stanley Coulter was unable to attend so Mr. Percival Brooks Coffin, Councillor of the Inland Bird Banding Association, acted as presiding officer. The address of the evening was by Dr. Amos W. Butler, and informal talks by Mr. O. M. Schantz, Professor C. H. Eigenmann, Mrs. H. C. Miller, and others. There was a full attendance and everyone enjoyed the evening very much.

The members of the Inland Bird Banding Association were enthusiastic in their praise of the courtesy shown them and the able handling of the convention by their hosts, the Indiana Audubon Society, and the Nature Study Club of Indiana. They both seem very live organizations and under able management.

The following letter will be of interest at this time as Mr. Baldwin is now inviting applications from any who may wish to volunteer for the work and experience at Thomasville this winter.

Members of the Inland Bird Banding Association.

Annual Meeting, Indianapolis, November second, 1923.

Gentlemen:—

I am sorry that I cannot appear before you to give an account of the wonderful experiences which I encountered at Thomasville, Ga., during February and March of last year. However, Mr. Baldwin will tell many of the experiences and give a careful resume of the work accomplished there by us. I have asked him to show slides which will no doubt be interesting.

I wish to place before the Association a few of the possibilities of Thomasville as I saw them. The situation is admirable and the six or eight weeks which any man will spend there will be more of the nature of a vacation than a period of work. Birds are very numerous and the best of traps are all ready for the experimentor when he arrives. However, I think it would be wise for the association to supply Mr. Baldwin with two workers this year as they could better plan the

activities about the plantation. One can take charge of the bird banding proper, while the other can give his particular attention to the diseased condition of the feet of the chipping sparrows which are captured. In order to make the experiment more effective, I suggest that the man who has charge of the last feature have a notebook with numbered pages and that before starting the experiment that he have a stencil made showing the foot of a bird. Such a stencil can easily be made by pasting carbon paper under a picture of such a bird's foot, but I think that better would be a rubber stamp made from a good drawing. Whenever a bird is captured with a diseased condition of the feet or tarsus, the picture can be made at once and the development of the trouble from day to day can be traced on the drawing. I used this method in my work this past year and expect to place in Mr. Baldwin's hands a paper containing the results of my work along this line. Another feature which I should advise is the matter of transplanting chipping sparrows from the Wade plantation to Inwood. With one of the fall traps, it would be a very simple thing to capture from twenty-five to fifty of these birds at the Mill pond. It would be interesting to band these birds, then transport them to Inwood plantation, two miles away and turn them loose among the chipping sparrows in that neighborhood, keeping track of the number that would be subsequently caught, watching to see whether they would all gradually disappear, returning to the Wade plantation several miles away. In our experiments in former years, we have found that many of the birds return to Inwood from year to year. Not only do they return to this plantation but they are caught in subsequent years at the same or a neighboring trap to the one at which they were caught in former years. If these birds have that very fine sense of orientation, I am wondering whether it would be effective should such an experiment be tried and how long would it take for them to return to the Mill pond and what percent. would go and what percent. would remain.

There were some mourning doves at Inwood while at Mill pond there were from three to five hundred. I constructed a trap last year with the intention of catching these doves, but I feel that the trap can be improved upon. As it stands, it is only effective when someone is there to drop the two doors. The mourning doves will wander around such an inclosure or trap, eagerly hunting an entrance, and if several entrances such as are found in the government sparrow traps, should be made, I believe that mourning doves would be caught all day long. I see no reason why several hundred doves should not be captured and banded during the 1924 season. However, the trap should be placed early, in fact before the experimentors go to Thomasville so that the doves will by then begin to become acquainted with its appearance. I feel that this is particularly important, as no doubt the doves scatter over the entire eastern section of the United States and many interesting records would be the result. These are suggestions which open themselves to the experiment should several men spend their time at Thomasville.

When the men for this work have been selected, I hope they will

feel free to write me for any personal suggestions that I have, yet you will find that the material which Mr. Baldwin has gathered together for your instructions will be sufficient to cover your every desire. I am sorry that my work prevents my being with you, however, I wish you a very successful meeting and I hope that next year I may have the pleasure of meeting you all in person.

Quincy, Ill., November 1, 1923. T. E. Musselman.

BIBLIOGRAPHY OF BIRD BANDING IN AMERICA

BY S. PRENTISS BALDWIN

This list is intended to include the more important papers on bird banding, without attempt to include every paper on the subject. During the last three years the newspapers and magazines have contained many articles, which have been chiefly compiled from the following papers. For the benefit of those who wish to complete their files there is stated as to each paper, whether the paper can be obtained and to whom to apply for it:

1903. Cole, Leon J., Suggestions for a method of studying the migration of birds: Bull. Michigan Orn. Club, vol. 4, No. 1, p. 19, March. Out of print.

1904. Bartsch, Paul, Notes on the herons of the District of Columbia: Smiths. Misc. Coll., vol. 45, Quart. Issue, vol. 1, pp. 104-111. Out of print.

1904. Taverner, P. A., The tagging of birds: Bull. Michigan Orn. Club, vol. 5, No. 2, p. 50, June. Out of print.

1909. Cole, Leon J., The tagging of wild birds as a means of studying their movements: Auk, vol. 26, no. 2, pp. 137-143, April. Out of print.

1910. Cole, Leon J., The tagging of wild birds; report of progress in 1909; Auk, vol. 27, no. 2, pp. 153-168, April. Out of print.

1913. Cleaves, Howard H., What the American Bird Banding Association has accomplished during 1912: Auk, vol. 30, no. 2, pp. 248-261, April. (Reprinted in Ann. Rept. Smiths. Inst. for 1913, pp. 469-479, 1914.) Out of print.

1919. Baldwin, S. Prentiss, Bird-banding by means of systematic trapping: Abstr. Proc. Linnæan Soc., New York, no. 31, pp. 23-56.
First systematic description of the methods of trapping and banding, and instructions as to traps, handling birds, and procedure. Out of print.

1921. Baldwin, S. Prentiss, Recent returns from trapping and banding birds: Auk, vol. 38, no. 2, April.
Report of "Returns" taken at Cleveland, Ohio, and Thomasville Ga., in 1919 and 1920.

1921. Baldwin, S. Prentiss, The marriage relations of the house wren: Auk, vol. 38, no. 2, April.
A brief study of the mating of House Wrens.

1921. Lincoln, Frederick C., The history and purposes of bird banding: Auk, vol. 38, no. 2, April.
The above three papers may be obtained, bound together in one cover, upon application to U. S. Biological Survey, Washington, D. C.

1921. Lincoln, Frederick C., Instructions for "Bird Banding," Department Circular 170, U. S. Biological Survey.

1922. Baldwin, S. Prentiss, Adventures in Bird Banding in 1921: Auk, Wilson Bulletin, March, 1922, may be obtainable by purchase from Wilson Bulletin, Oberlin, Ohio.

1922. Baldwin, S. Prentiss, Adventures in Bird Banding in 1921: Auk, vol. 39, no. 2, April, 1922.

Report of Cleveland and Thomasville Stations and illustrations of two forms of traps.

1922. Talbot, L. R., Bird Banding at Thomasville, Ga., in 1922: Auk, vol. 39, no. 3, July, 1922.

1922. Lincoln, Frederick C., Trapping Ducks for Banding Purposes: Auk, vol. 39, no. 3, July, 1922.

1922. Cole, Leon J., Early History of Bird Banding in America. From Wilson Bulletin, June, 1922, p. 108-115.

1922. Bird Banding Department, under the direction of Wm. I. Lyon, Wilson Bulletin, Sept. 1922. May be obtainable by purchase from Wilson Bulletin, Oberlin, Ohio.

1922. Bird Banding Department, under direction of Wm. I. Lyon, Wilson Bulletin, December, 1922, containing an account of the organizing of the Inland Bird Banding Association.

1922. "The First Year of the New England Bird Banding Association," Bulletin of Essex County Ornithological Club, 1922, apply to New England Bird Banding Association, Room 940, 50 Congress St., Boston, Mass.

1923. Bird Banding Department, under the direction of Wm. I. Lyon, Wilson Bulletin, March, 1923. An account of the New England Bird Banding Association and other banding notes.

1923. Oberholser, Harry C., Bird Banding an Aid to Migration Study, Auk, vol. 40, no. 3,, July, 1923.

1923. Musselman, T. E., Bird Banding at Thomasville, Ga., 1923: Auk, vol. 40, no. 3, July, 1923.

1923. Bird Banding Department, under the direction of Wm. I. Lyon, Wilson Bulletin, June, 1923. Miscellaneous Bird Banding items.

1923. Bird Banding Department, under the direction of Wm. I. Lyon, Wilson Bulletin, September, 1923. Miscellaneous Bird Banding items and account of the Eastern Bird Banding Association.

1923. Nichols, John T., Inland Bird Banding Association: A review of Bird Banding. Forest & Stream, March, 1923.

Most of the papers listed as of the years 1921 and 1922 and all the papers listed as of the year 1923 have been furnished as reprints by S. Prentiss Baldwin to the U. S. Biological Survey in quantity sufficient to supply all who have Bird Banding permits.

Those who wish to complete their files of the last three years should apply therefor to the U. S. Biological Survey, Washington, D. C., and will obtain copies free, so long as they last.

It is possible that some of the papers marked "out of print" may be obtained by purchase from the original source of publication.

Lecture

Bird Banding; Illustrated by Lantern Slides

The Inland Bird Banding Association is preparing a very interesting lecture, to be amply illustrated by colored slides; and which will be for rental or loan to Audubon Societies, Nature Study Clubs and other organizations. Ready by January 1, 1924.

Apply to Wm. I. Lyon, Secretary of Inland Bird Banding Association, 124 Washington Street, Waukegan, Ill.

Bird Banding Notes

Edited by Frederick C. Lincoln

issued at irregular periods to persons holding Bird Banding Permits; issued by the U. S. Biological Survey; apply to the Biological Survey for these.

No. 1, April 15, 1922.
No. 2, June 15, 1922.
No. 3, September 8, 1922.
No. 4, January 20, 1923.
No. 5, January 29, 1923.
No. 6, March 21, 1923.
No. 7, June 1, 1923.
No. 8, September 24, 1923.

The following papers have been published in Illinois:

1921. Smith, Frank, Illinois Birds as Travellers: Illinois Arbor and Bird Days, Circular 151, Superintendent of Public Instruction, Springfield, Ill.

1921. Lyon, Wm. I., Bird Banding at Waukegan; The Audubon Bulletin, spring 1921.

1921. Lyon, Wm. I., Securing Life Stories by Banding Birds. The Audubon Bulletin, fall 1921.

1922. Lyon, Wm. I., Bird Banding as an Opportunity to Study Characters and Dispositions." The Audubon Bulletin, spring 1922.

1922. Lyon, Wm. I., "Characters and Dispositions II." The Audubon Bulletin, fall, 1922.

1923. Musselman, T. E., Bird Banding at Thomasville, Ga. The Audubon Bulletin, spring 1923.

For these papers write to Illinois Audubon Society, 10 South LaSalle Street, Chicago.

Miscellaneous Notes on Bird Banding are published at frequent intervals in the Notes for Observers, issued under the direction of Edward Howe Forbush, State Ornithologist, State House, Boston, Mass. Apply to Mr. Forbush.

Information, or papers and notes on Bird Banding will appear from time to time in the following Magazines, which are recommended to those who are interested in Banding:

The Auk, Quarterly Journal of Ornithology, published at 8 West King Street, Lancaster, Pa.
Editor, Dr. Witmer Stone, Academy of Natural Science, Logan Square, Philadelphia, Pa.

The Wilson Bulletin, Oberlin, Ohio, edited by Dr. Lynds Jones, carries in each issue Bird Banding Department under the direction of Wm. I. Lyon, Secretary of the Inland Bird Banding Association.

The Condor, Museum of Vertebrate Zoölogy, Berkeley, California, Editor, Dr. Joseph Grinnell.
Carries in each issue a Bird Banding Department under the direction of J. Eugene Law.

Bird Banding Associations

New England Bird Banding Association.
Territory: The New England States, the Maritime Provinces of Canada, Newfoundland and Quebec to Labrador.
Laurence B. Fletcher, Secretary,
50 Congress Street, Boston, Mass.

Eastern Bird Banding Association.
Territory: Ontario, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, West Virginia and South Atlantic States.
Mrs. J. E. B. Webster, Secretary.
16 Davis Place, East Orange, N. J.

Inland Bird Banding Association.
Territory: The Mississippi Valley from the Appalachian Mountains to the Rocky Mountains, including the Canadian Provinces of Manitoba, Saskatchewan and Alberta.
Wm. I. Lyon, Secretary,
124 Washington Street, Waukegan, Ill.

The Cooper Ornithological Club.
Territory: Pacific Coast and Rocky Mountain States, British Columbia and Alaska.
Chairman of Committee, J. Eugene Law, Altadena, Calif.

The Bird Banding Associations attempt, so far as may be possible, to supply information to those who may be interested to engage in this interesting game, and to furnish lectures to Audubon Societies, Nature Clubs or other organizations wishing to learn of this subject; and to furnish matter and illustrations for publication in magazines and newspapers. For this service apply to the Secretary of the Association which covers your region.

The Bird Banding Associations are doing a vast work in awakening interest in the study and protection of birds, and should have the active moral and financial support of every person who is interested in birds, whether such person intends to do banding or not. Persons who cannot do banding, will find it interesting to become Active or Sustaining Members of an Association in order to keep in touch with this interesting sport, the sport which is also a Science.

BIRD COLONIES OF THE GREAT LAKES

Every reader of the Wilson Bulletin can find some way to help the Inland Bird Banding Association in its efforts to have the bird colonies of the Great Lakes systematically worked for banding during the coming year. If you know of sites that have been used in the past as breeding places that you think are likely to be used during the coming year, we will appreciate it very much if you would send us such information. We hope in this way to have an authentic list ready by the nesting season of next year. In the meantime we wish to solicit volunteers who are willing to use their vacations in going to some of these colonies to place bands. We hope to have the Great Lakes covered more thoroughly through coöperation than if worked by individuals. If you know of anybody who is willing to volunteer information or services, please notify W. I. Lyon, 124 Washington Street, Waukegan, Illinois.

COMMUNICATIONS

WORLD BIRD PROTECTION—A LEAGUE BEING FORMED TO PROTECT BIRDS OF ALL COUNTRIES

New York City, Sept. 6, 1923.

Although it has proven a difficult matter to create a political League of Nations, T. Gilbert Pearson, President of the National Association of Audubon Societies, has demonstrated the possibility of creating a league for the very useful purpose of protecting the wild birds of the world. Leading scientific and conservation societies in ten countries have now organized and pledged to active endeavors for the protection of the birds in their countries, and in aiding similar movements in more benighted regions.

This movement was launched at a conference held in London in June last year. On invitation of Mr. Pearson delegates from several countries met in the home of Hon. Reginald McKenna and determined that such action was necessary if much of the valuable bird life is to be saved from despoliation. Among the very active members of this conference were Lord Edward Grey and Lord Buxton of England; P. G. Van Tienhoven of Holland, and the eminent naturalist, M. Jean Delacour of France.

Mr. Pearson, President of this International Committee who has just returned on the U. S. Steamship *Leviathan* from a lecturing and organizing tour through seven of the countries in Europe, said today: "Europe is looking to America for leadership in some of the lines of endeavor in which we as a nation have specialized. There is no country in the world that is so thoroughly organized and has such advanced laws for bird protection as the United States, and many of our methods can be and doubtless will be adopted to meet European conditions.

"Through southern Europe especially very little attention is paid to bird protcetion. This may be illustrated by the fact that in all of France in the year 1921 there were only sixty convictions for violation of the bird laws. During the same period in New York State alone there were more than one thousand. In Hungary I was told that during the past year with all of the thousands of bird killers in the country not one had been prosecuted. In Italy I saw nets, traps, and various cages used to catch small songbirds for food. There is a vast traffic in the bodies of these little songsters in that country. In Rome I saw in cages small birds whose eyes had been blinded by red hot irons on the theory that in their darkness they would sing better and thus prove more effective decoys in alluring other feathered friends to destruction.

"Our international organization is now in effective operation in the United States, Canada, Australia, Norway, England, Holland, Luxenburg, Switzerland, France, and Italy. Other countries have recently been invited to unite with the movement and action by them may be expected soon. Members of the Committee in the different countries are formed into National Sections, which deal especially with bird protective problems distinctly national in their scope.

"Everywhere I went in Europe our plan was received most cordially.'

—From National Association of Audubon Societies, 1974 Broadway, New York City.

KILLING BULLBATS

New York, Sept. 15, 1923.

In many communities the shooting of Bullbats has been going on in this year of Grace, 1923, although in every state where the bird is found, it is protected by state laws. In addition to this there is a federal law imposing a fine of $50 for every one of these birds that is killed. The reason that the law-makers of our land have enacted statutes of this nature is because that of all the birds that wing their way over our fields and forests there is not one more valuable as an insect-destroyer than the Bullbat. About various villages these birds gather in the late summer evenings to hawk for insects. Many men, either through ignorance or in defiance of the law, amuse themselves by testing their marksmanship. Sometimes the birds are eaten, often they are simply left lying where they fall.

Mr. T. Gilbert Pearson, President of the National Association of Audubon Societies in this city, said today that among the letters of complaint regarding the killing of these birds, which have recently come to him, was one from Biltmore, North Carolina, in which the writer said: "For two afternoons I sat on the front porch and heard the firing of a gun. A Bullbat fell dead on the opposite side of the highway. I crossed the road and made inquiry. The man readily gave his name and said he killed the birds to feed his coon, which he had in captivity, for the purpose of helping teach his dogs to hunt coons. He seemed to be a good natured man and apparently did not know it was against the law to kill insect-eating birds. How I wish the papers would publish more articles regarding the bird laws."

Mr. Pearson added, "I have personally seen wounded Bullbats on the ground the next day after such a hunting party had been amusing itself. The correct name of this bird is the Nighthawk. It belongs to the Family of "Goat-suckers" and is closely related to, but a distinct species from, the Whip-poor-will with which it is often confused in the minds of the country people. In many parts of the South there is found the Chuck-will's Widow, another closely related form. Examination of the stomach of a Nighthawk often reveals a large number of mosquitoes, insects which annoy and constantly carry malaria and other diseases. In shooting a nighthawk a man is killing one of his best feathered friends."—From National Association of Audubon Societies. 1974 Broadway, New York City.

PUBLICATIONS REVIEWED

Birds of the New York City Region. By Ludlow Griscom, Assistant Curator of Ornithology, American Museum of Natural History, with the coöperation of the Linnæan Society of New York. Published by the Museum. 1923.

There are six colored plates (Rose-breasted Grosbeak, Goldfinch, Scarlet Tanager, Tufted Titmouse, Wood Thrush) from the National Association of Audubon Societies, thirty text figures in black and white, and an excellent map of the region. The Introduction of 51 pages treats of Area Included, Life-Zones, Seasonal Variation in Bird-Life, Migrations and Movements of Local Birds, Local Regions, The Local Collection, Changes in Bird-Life, and Bibliography of Useful Literature. Then follows the Anntoated List of Local Birds, covering 326 pages, in which 299 species are treated, and this is followed by an Appendix that discusses Extinct and Extirpated Species, Introduced Species, Hypothetical List, a short Errata, and a complete Index. On the technical side the book is marked by the absence of trinomials except where they are essential for clearness, and by lack of consistency in the use of the hyphen in the vernacular names. Thus it is Yellowlegs in the text, but Yellow-legs in the index; Whippoorwill in the text and Whip-poor-will in the Index. But this is a minor matter, especially when one recalls that the average printer's compositor is possessed of an enormous inertia when scientific matter is put into type.

The material which the book contains has been selected with great care for accuracy of records—it is a model in this respect. The author states that "The object of this Handbook is to render the existing information about local birds readily accessible. Its subtitle might well be: 'Our Local Birds, when and where to find them,' as these are the first questions anyone interested wants to have answered." And while he goes on to say that how to recognize the birds is outside the province of this book he does give in the text most helpful suggestions about the things to look for in species that are hard to recognize in the field. In some cases it would have added much to the certainty of identification if the author had mentioned the particular places that certain species could be found. Thus, in Ohio there is never any danger of confusing the Alder Flycatcher with the Acadian, because the one is always found in swampy regions, while the other is always found in the beech and maple woods. But this book is a valuable contribution to the ornithological literature outside of the region that it is particularly concerned with. L. J.

The Baltimore Oriole and a Biographical Sketch of Audubon. By Raphael Semmes Payne. Baltimore. The Norman, Remington Company. 54 pages. Price one dollar.

The colored frontispiece is a duplicate of the colored picture of the Baltimore Oriole, both on the protecting cover and the outside front cover of the book. In all of the pictures the color is chrome yellow instead of orange. Facing page 12 there is a half-tone picture of a nest,

and facing page 20 a black and white picture of the Baltimore Oriole, "Designed from Audubon's beautiful pictorial." The reviewer does not have access to Audubon's own description of this bird, but he wonders if the statement attributed to Audubon at the bottom of page 16 of this little book may not be wrongly quoted. "They lay from four to six eggs, and in the far South near two brooks"! While the book does not seem to the reviewer to present any new matter relating to either the bird in question or to the known biography of the illustrious ornithologist and naturalist, it is written in a pleasing manner, in large clear type and excellent workmanship.

We also wonder if the "local historian, well versed in the lore of the neighborhood," knew that the male oriole wears the brighter colors. Most writers seem to agree that the larger share of the construction of the nest is done by the female. L. J.

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The complete series consists of the following publications:

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The Wilson Quarterly, one volume, two numbers.

The Journal, two numbers.

The Wilson Bulletin, three numbers in the first volume, two in the second, six numbers in each of the next four volumes, and four numbers in all succeeding volumes including the current volume–34.

Out of print numbers of this entire series are as follows:

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The Wilson Quarterly, both numbers.

The Wilson Bulletin, Vol. 10, No. 5; Vol. 16, No. 1.

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THE WILSON BULLETIN

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