

All the specimens had the cheeks, nape and breast naked and the opercles sealed. 20 had the belly naked, 12 partly and 4 completely sealed. Below is the table of counts for their scales along lateral line and the dorsal and anal fins. 36-10-46, for instance, stands for 36 scales with tubes, 10 without and 46 for the total along side:

Current Number of Specimens.	Scales Along Lateral Line.	Anal Fin.	Dorsal Fin.	Current Number of Specimens.	Scales along Lateral Spine.	Anal Fin.	Dorsal Fin.
1	40-4-44	1-8	VIII-13	22	36-10-46	1-8	VIII-12
2	39-9-48	1-9	VIII-11	23	41-2-43	1-9	VIII-12
3	42-6-48	1-8	IX-12	24	45-1-46	1-9	X-11
4	43-6-49	1-8	IX-12	25	39-6-45	1-9	IX-12
5	44-4-48	1-9	IX-13	26	47-5-52	1-10	IX-13
6	40-8-48	1-9	IX-12	27	35-13-48	1-9	IX-13
7	43-7-50	1-8	VIII-12	28	41-4-45	1-9	IX-13
8	44-5-49	1-9	VIII-12	29	36-12-48	1-9	VIII-13
9	43-7-50	1-8	VIII-13	30	42-7-49	1-8	VII-13
10	40-5-45	1-8	IX-12	31	43-5-48	1-9	VIII-13
11	44-1-45	1-9	X-12	32	47-5-52	1-8	X-12
12	45-0-45	1-9	X-14	33	42-7-49	1-8	VIII-12
13	33-9-42	1-9	IX-12	34	43-6-49	1-9	VII-12
14	49-1-50	1-9	IX-13	35	45-0-45	1-10	VIII-13
15	45-1-46	1-9	IX-13	36	45-4-49	1-9	X-13
16	42-8-50	1-9	IX-13	37	37-10-47	1-8	VIII-12
17	40-12-52	1-9	VIII-13	38	39-5-44	1-9	X-12
18	33-9-42	1-8	VIII-12	39	42-6-48	1-9	VIII-12
19	45-5-50	1-8	IX-12	40	43-4-47	1-9	X-12
20	45-10-55	1-8	VIII-12	41	44-6-50	1-9	IX-13
21	44-5-49	1-9	X-12				

29. *Etheostoma camurum* (Cope). (P.) 11 specimens.

#### ADDITIONAL NOTES ON INDIANA BIRDS. BY A. W. BUTLER.

Each year observations on the birds of Indiana bring to notice interesting facts. This year has been no exception. The region covered by the reports of correspondents includes not only this State, but also Michigan and the part of Illinois and Ohio bordering on Indiana; therefore, I am enabled to add some valuable notes from neighboring localities that, while not within our limits, have a bearing upon the study of our birds.

The winter of 1894-5 was mild until after Christmas. From several localities in the State came information regarding the wintering of forms not commonly seen. Meadow Larks, Robins and Bluebirds were reported north of the latitude of Indianapolis. Yellow-rump Warblers and Golden-crowned Kinglets spent the

winter about Brookville. After a warm Christmas the weather changed. December 27 and 28, 1894, it became quite cold in this latitude. It remained warm generally over the Southern States. On January 24, 1895, the temperature as far south as South Carolina was near the zero mark. It turned warmer that night, and the next day, January 25, the weather was bright and clear. The day following was Friday. It rained, then snowed, the wind came down from the northwest with great velocity, the temperature fell rapidly, everthing was ice-bound or snowbound to the Gulf of Mexico, then followed weeks of unusual severity. The cold weather of April was also especially severe over the territory noted. The region affected is the winter home of numbers of our birds. There Robins, Bluebirds, Phobes, Yellow-rump Warblers and House Wrens spend that season.

At the end of the severe weather in April, we are told, but few Robins and Bluebirds were to be found. The destruction of birds must have been enormous. The Bluebirds seem to have been almost exterminated. An observer living at Mt. Pleasant, S. C., says that when the April cold spell came millions of Robins were congregated in that vicinity and they perished by thousands. The severe weather had lasted so long and food was generally so scarce that they easily succumbed to the last effort of winter. The Yellow-rump Warbler and Hermit Thrush are reported also to have suffered severely. Perhaps other kinds of birds were also caught in that death dealing storm. The following notes on this and other subjects are brought to your attention:

1. *Sialia sialis* (Linn.), Bluebird.

Early in the spring of 1895 accounts of the scarcity of the Bluebirds began to be received. This scarcity was generally observed. Some of the particulars are here given.

At Redkey, Ind., Roy Hathaway says he saw two Bluebirds February 24; next seen April 7. He did not find a single pair breeding and only a few were seen, probably six or seven. He saw four Sunday, August 18; three of them he took to be young. He did not hear of any nests being found near there last spring.

At Greensburg, Ind., Prof. W. P. Shannon reports one seen February 24; next seen March 12. He notes it is becoming less common.

Mr. S. W. Collett, Upland, Ind., says: First seen March 25. Remarkably scarce. Have not seen more than a dozen.

Prof. Glenn Culbertson, Hanover, Ind. First seen February 23, one; next, February 28; next, March 1. Decreasing in numbers.

Angus Gaines, Vincennes, Ind., says they are absent this year.

A. B. Ghere, Frankfort, Ind., reports them extinct.

Jesse Earll, Greencastle, Ind., notes first one seen February 22; next, March 2. Decidedly scarce this summer.

Alexander Black, of the same place, says they have not appeared this year. He has not seen a dozen pairs all told. ☹

Dr. Vernon Gould, Rochester, Ind. One reported March 19. One or two reported later. Have not seen or heard one this summer.

Mrs. Jane L. Hine, Sedan, Ind. First seen were two, March 29; next, April 2. Very rare. The whole country must report a loss of Bluebirds. Once in a great while one is seen. In a ride of twenty miles you may see none, or at best only one or two.

T. S. Palmer, Acting Ornithologist U. S. Department of Agriculture, Washington, D. C., informs me they received many reports of the unusual scarcity of Bluebirds last spring.

L. A. and C. D. Test, Lafayette, Ind., report one, the first, March 9; the next March 10. Strangely uncommon. Seemed very rare after the cold spell during the first half of March.

Clyde L. Hine, Waterloo, Ind. First seen, one, March 3; next, March 29; next, April 14. Very rare this spring.

Prof. A. L. Treadwell, Oxford, Ohio. Two seen January 1; next seen January 3, which was last one noted.

Prof. E. L. Moseley, Sandusky, Ohio. One, the first, seen February 22; next seen March 24. Not common this year.

E. M. Kindle, Franklin, Ind., says: The Bluebird seemed very scarce in Orange, Martin and Dubois counties, Indiana, this summer (1895).

B. T. Gault, Glen Ellyn, Ill., reported seeing but three at that place.

Ruthven Deane, Chicago, Ill., informs me he saw one at English Lake, Ind., but was not near enough to certainly identify it. He says all reports from this section show its extreme scarcity.

E. J. Chansler, Bicknell, Knox County, Ind., in a letter last spring, writes: Has been a resident until this spring, but has disappeared. Have not seen one the entire spring. Saw a dead one during the cold spell last winter. The past autumn he wrote: Have not been seen here since last February until about October 21. I have made numerous inquiries in regard to them, but can not learn of their breeding here this season.

T. L. Hankison, Agricultural College, Michigan: Heard one March 27. I have not seen a Bluebird this year, and know of only one other being seen.

W. De Clarence, Brant, Saginaw County, Mich. : Two seen April 4; next seen April 10. For some reason Bluebirds are very scarce this season.

In the vicinity of Chicago, Ill., their absence was very noticeable.

Eliot Blackwelder, Morgan Park, Ill., informs me: Bluebirds have been extremely scarce this year. Have seen two single birds—March 28 and May 10; two pairs and one family of six. This makes in all twelve birds. Only one is recorded by the Chicago Academy of Science for Lincoln Park, Chicago. September 11 saw a flock of eleven sitting on a telegraph wire near my home. Last seen October 28.

L. A. and C. D. Test: Last seen (at Lafayette, Ind.) October 18. Usually abundant, but this year strangely rare. Have seen Bluebirds but twice, and am at a loss to account for their absence.

At Brookville, Ind., they were as abundant as usual in the fall and almost every nice day through November and December, 1894. After the severe weather last winter none were seen. Only a few were noted in the spring and none through the summer of 1895. I do not know that any bred here. This fall they have been more noticeable, but still are very rare. September 20 saw five in my garden with flock of sparrows. September 22 saw three, one adult, two young. November 2 saw four. November 4, quite a flock. November 23, one, the last.

2. *Turdus migratorius* (Linn.), American Robin.

Noticeably scarcer this year than usual. In some localities almost as few as Bluebirds.

Mrs. Jane L. Hine, Sedan, Ind., reports them not more than one-half to two-thirds as numerous as last year.

L. A. and C. D. Test, the past fall, say: Not as common as usual the past fall.

S. W. Collett, Upland, Ind., writes: Very scarce. A remarkable year for scarcity of Robins and Bluebirds. Have not seen more than a dozen of either kind.

Reported very scarce in and about Chicago, Ill. A daily paper there notes that but one Robin's nest was all that vigilant search revealed in Lincoln Park this year, where formerly there were hundreds of them. A single pair was seen in Oakwood Cemetery and three or four in Washington Park.

O. B. Warren, Palmer, Mich., says they were much scarcer than in 1894.

As to the general scarcity of certain birds, the following specific information will give some idea.

Alexander Black, Greencastle, Ind., says we did not have such numbers of warblers as we usually have. We saw a few Black-throated Green Warblers, a few Yellow-rump Warblers, and one or two Canada Warblers.

Mrs. Jane L. Hine, Sedan, Ind., says Bridge Pewees (*Phœbes*) were rare, Hermit Thrushes very rare, but Olive-backed and Wood Thrushes were common as ever.

Charles Clickener says Wrens and Catbirds were rare in Parke County this year.

At Palmer, Mich., O. B. Warren reports that many species were noticeably less common than in 1894. Among them were Golden-crowned Thrush, *Sciurus aurocapillus* (Linn.); Chestnut-sided Warbler, *Dendroica pennsylvanica* (Linn.); Black and Yellow Warbler, *Dendroica maculosa* (Gmel.); Yellow-rump Warbler, *Dendroica coronata* (Linn.); Black and White Creeper, *Mniotilta varia* (Linn.); Indigo Bunting, *Passerina cyanea* (Linn.); Junco, *Junco hyemalis* (Linn.); Pine Finch, *Spinus pinus* (Wils.); Red Crossbill, *Loria curvirostra minor* (Brehm); White-winged Crossbill, *Loria leucoptera* (Gmel.); Spotted Sandpiper, *Actitis macularia* (Linn.); Yellow-bellied Woodpecker, *Sphyrapicus varius* (Linn.); Flicker, *Colaptes auratus* (Linn.); Night Hawk, *Chordeiles virginianus* (Gmel.); Wood Pewee, *Contopus virens* (Linn.); Least Flycatcher, *Empidonax minimus* (Baird); Rusty Blackbird, *Scelopophagus carolinus* (Müll.). Especially rare were White-throated Sparrow, *Zonotrichia albicollis* (Gmel.); Nashville Warbler, *Helminthophaga ruficapilla* (Wils.); Winter Wren, *Troglodytes hyemalis* (Vieill.). Of the Hermit Thrush, *Turdus aonalaschka pallasii* (Cab.), he says there is a marvelous decrease in numbers, more noticeable than the absence of *Sialia sialis*.

E. J. Chansler, Bicknell, Ind., noted Phœbe, *Sayornis phoebe* (Lath.), and Eave Swallow, *Petrochelidon lunifrons* (Say), as scarcer than usual.

3. *Catharista atrata* (Bartr.). Black Vulture.

November 24, 1894, three seen at Monrovia, Morgan County, Ind.—Alden M. Hadley.

Large flocks observed at Bicknell, Ind., last fall (1895) feeding on dead hogs.—E. J. Chansler.

4. *Phalacrocorax dilophus floridanus* (Aud.). Florida cormorant.

Prof. Stanley Coulter informs me that there is a specimen in the collection of Purdue University, Lafayette, Ind., bearing the following legend: "Shot March, 1880, from amid a flock of wild ducks on bayou of Wild Cat Creek, Tippecanoe County, Ind., by Daniel Mueller, who donated the same to Purdue University."

5. *Phalacrocorax dilophus* (Sw. and Rich.). Double-crested Cormorant.

One shot November 28, 1895, on Big Walnut Creek, Putnam County, Ind.—Jesse Earll.

6. *Aquila chrysaetos* (Linn.). Golden Eagle.

One measuring seven feet, two inches in extent was caught in a steel trap by Charles Fry, near Fairfield, Ind., December, 1895. The trap was set for skunks and was baited with rabbit.

7. *Pelecanus erythrorhynchos* (Gmel.). American White Pelican.

One shot in the Wabash River near Lafayette, Ind., about September 29, 1895.—L. A. and C. D. Test.

8. *Chen hyperborea* (Pall.). Lesser Snow Goose.

March 14, 1895, some sportsmen killed eight from a flock of twenty, near Greensburg, Ind. Those killed were immature, and the others seemed to be also.—Prof. W. P. Shannon.

9. *Anas penelope* (Linn.). Widgeon.

Since our last meeting records have been received of two more European Widgeons from Indiana. One, the second noted from the State, a young male, was killed in the Kankakee marshes, near English Lake, Ind. It was shot from a flock of Baldpates by Mr. J. F. Barrell, April 7, 1895. The specimen is now in the collection of Ruthven Deane, Chicago, Ill. Mr. Deane has also reported a specimen in the collection of Dr. Nicholas Rowe, of "The American Field," Chicago, Ill. It was killed at English Lake, Ind., in 1881 or 1882. This is the third record for Indiana, and the fifth for the interior of the United States. (The Auk, Vol. XII, No. 3, p. 292. See also Proc. Ind. Academy of Science, 1894, p. 78.)

10. *Calcarius lapponicus*. (Linn.) Lapland Longspur.

A hundred were seen at Morgan Park, Ill., October, 17, 1895, when it became abundant. Next seen October 26. Most abundant winter resident.—Eliot Blackwelder.

11. *Ammodramus caudacutus nelsoni*. (Allen.) Nelson's Sparrow.

Eliot Blackwelder, Morgan Park, Ill., reports it from that locality September 28, 1895. He says it is not common and breeds there.

12. *Ammodramus leconteii*. (Aud.). LeConte's Sparrow.

Mr. Blackwelder saw six at Morgan Park, Ill., April 21, 1895. He next noted them April 22. One day—the week of April 25—he shot three, and F. M. Woodruff, who was with him, shot another.

13. *Loria curvirostra minor*. (Brehm.) American Crossbill.

There seemed to be a flock of seven on and near Purdue University campus (Lafayette, Ind.) which were observed on the following dates, 1895: March 30; April 3, 5, 6, 7, 10, 12, 13, 14, 15, 17, 18, 21, 23, 24, 25, 26, 29; May 1, 3, 4, 7, 11, 17, 18, 20, 21, 22. They may have remained later, but the observers were absent

after the last date. This fall these birds were seen November 5 (three), and heard November 26. (L. A. and C. D. Test.)

14. *Dendroica kirtlandi*. (Baird.) Kirtland's Warbler.

The second specimen of this rare warbler from Indiana was taken by the same person in the same vicinity as the first. W. O. Wallace obtained it near Wabash, Ind., May 7, 1895. Mr. Wallace writes: "Early in the morning I heard a strange song in the thicket near the house, but I was very busy and did not go to see the singer for some time. It kindly remained until I completed my work, when I located it. Had it not been for its loud and peculiar song I should have pronounced it a Canada Flycatcher. Its song sealed its fate. After watching it catch insects and listening to its song for some time, I backed off and shot it. Imagine my surprise when I held in my hand my second Kirtland's Warbler. The song bears considerable resemblance to that of the Great Carolina Wren and also suggests that of the Maryland Yellow-throat. It is loud and rather musical. I noticed in both specimens movements more like the Flycatchers than the Warblers."

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NOTES ON PARASITES COLLECTED IN THE STATE IN 1895. BY A. W. BITING.

I have only a few parasites to report as additions to the list presented last year. Some of these are very common and it now seems strange that they were not collected before.

*Gastrophilus hemorrhoidalis* was taken in the mature state during the summer.

*Trichodetes parumpilosus* Piaget taken last spring. It is the common biting louse of the horse.

*Pulex* was taken on *Scalops aquaticus*, Cuv. Only a few specimens of this parasite have ever been collected.

A species of *Ixode* was taken from *Spermophilustridecum lineatus*.

A species of *Pulex* was taken from the same host.

*Strongylus paradoxus* was recently obtained from hogs thought to be affected with cholera.

*Amoeba meleagridis* was found in the liver of a turkey on December 25.

*Trichoecephalus affinis* was obtained from the intestines of the sheep.