

NOTES ON THE BIRDS OF CARROLL, MONROE, AND VIGO COUNTIES, INDIANA.

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It has been my aim to bring together and put on record in this paper such notes as I now have concerning the birds of Carroll, Monroe, and Vigo counties, Indiana. I began recording my observations on the birds as long ago as 1877. The greater part of the records made prior to 1888, however, lost in the fire which destroyed the Indiana State Normal School building on March 8 of that year. Fortunately, some of my note books were saved. The present paper is based chiefly upon the notes contained in them and such as were made subsequent to that date.

CARROLL COUNTY.

Carroll County was my home during boyhood and until August, 1879. I was in the county during part of the summers of 1881 and 1882, and almost continuously from March, 1883, to July, 1885. Since 1885, I have in some years been able to spend from a day to a week or more in the county.

Up to 1877, my interest in birds was merely such as is taken by most country boys with a more or less decided "bent" for natural history. In the spring and summer of 1877, my wife, Meadie Hawkins Evermann, was a student of Dr. David Starr Jordan's at Butler University, and, through Dr. Jordan, Mrs. Susan Bowen Jordan, Dr. and Mrs. Alembert W. Brayton, and Mr. Charles H. Gilbert, all of whom then lived in Irvington and all of whom were then enthusiastic collectors and students of birds, she, too, became interested in natural history, particularly botany and ornithology. From them she learned to skin birds and when we returned to Camden in the fall, I also became interested in natural history studies, and from that day to this we both have retained our interest in birds.

Our field work in Carroll County was chiefly in the vicinity of Camden and Burlington; however, from March, 1883, to July, 1885, my work was such as took me, in buggy or sleigh, all over the county. I was thus afield on practically every day continuously for nearly two and one-half years, and thus had exceptional opportunities to observe the birds in every part of the county, during all seasons and at all times of the day. Mrs. Evermann was constantly and enthusiastically associated with me in all this work, sometimes accompanying me on long trips over the county, more often joining the short trips afield. She always joined in the study and identification of the specimens collected and did practically all the taxidermy work incident to the preparation of the specimens.

Among our students were several that became more or less interested in birds and who assisted us in field observations and the collecting of specimens. Among these I may mention particularly the following: First of all, Ami, Addison, Sidney T., and Otway C., Sterling, four brothers living southwest of Camden on Bachelor Run, all with a natural history "bent". Ami and Addison, fine young boys they were, and promising young naturalists.

made a small collection of nests and eggs, which doubtless would have grown to considerable size and value if the boys had lived, but they both died while yet in their teens. The other two brothers also were good observers and I am indebted to them, particularly to Sidney, for many records of rare or uncommon birds noted. Frank C. Porter, a cousin of the Sterling boys, and living on a farm near them, also was interested in birds and contributed many observations of value. I spent many a day pleasantly with these boys hunting in the Deer Creek bottoms. My nephew, Edwin C. Evermann, of Burlington, another promising young naturalist who died while yet a boy in 1888, made a small collection of bird eggs which is now in the Museum of the California Academy of Sciences. Two other Burlington boys who showed some interest in birds were the brothers, William and Dalton Wright now of Los Angeles, California. Still others who have communicated to me observations or data of value, or specimens, may be named: D. C. Ridgley, now professor of geography in the state normal school at Normal, Illinois; Harry C. Van Der Volgen of west of Pittsburg; James Milton Beck (my brother-in-law), of Burlington; Miss Ava Evermann (my niece), then of Burlington, now of Kokomo; and Frank C. Groninger, one of our students at Camden, now a prominent lawyer of Indianapolis. And recently my young great nephew, Donovan Beck of Burlington, has sent me notes and specimens.

Favorite collecting places about Camden were the following: Along Deer Creek in the woods from the Vandavia railroad to Leonard's mill, a distance of two or three miles; the woods and hillside thicket at the southeast edge of Camden; the Deer Creek bottoms from Camden to below the Porter mill, a distance of perhaps three miles; along the lower course of Bachelor Run; in the heavy forest on the Wise farm southwest of Camden; on and about the Wm. R. Stewart farm southwest of Camden; in the open woods just north of the Frank Thomas farm south of town; in the woods northwest and north of the town; and about the Armstrong pond at the south edge of Camden.

The localities about Burlington most frequented were the following: My father's farm and the farms adjoining it, about a mile south of town; along Wild Cat Creek from a mile below Burlington to the dam about the same distance above town; and the Maple Swamp near Lexington. Many observations were made also along the road between Camden and Delphi and along the Wabash River near Delphi.

#### MONROE COUNTY.

From August, 1881, to March, 1883, and again from July, 1885, to July, 1886, while students in Indiana University, we devoted much of our spare time to the birds of Monroe County, particularly of the region within a radius of 15 or 20 miles of Bloomington. During those years our pleasure and enthusiasm in ornithological studies were increased through association with several other students of kindred tastes. Among these may be mentioned the following: Willis S. Blatchley, afterward teacher of biology in the Terre Haute high school and later the able State Geologist of Indiana for many years; Charles H. Bollman, a very promising young naturalist interested chiefly in myriopods but also deeply interested in birds and fishes,

whose untimely death at Waycross, Georgia, July 13, 1889, while studying the fishes of southern swamps for the United States Fish Commission, just as he was entering upon what promised to be a brilliant scientific career, was a great loss to zoological science; G. G. Williamson of Muncie; W. A. Millis, now the able president of Hanover College; Chase O. DuBois, now prominent as a superintendent of schools in Illinois; W. W. Norman, afterward professor of zoology in DePauw University and the University of Texas, whose untimely death at Woods Hole, Mass., in the summer of 1894, was a severe loss to American science; Robert J. Aley, now the energetic president of the University of Maine; and Joseph Swain now the able president of Swarthmore College. Nor must I fail to mention Miss Annie Turner of Bloomington who aided us materially in our collecting. All of these were then enthusiastic students of birds and all would no doubt have attained distinction in ornithological studies, had not the Fates cast their lines in other fields.

#### VIGO COUNTY.

While residing at Terre Haute from July, 1886, to July, 1891, our interest in ornithology continued and we were able to pay considerable attention to the birds of the region within a radius of some 20 miles of Terre Haute. During the school year it was my custom to spend Saturday of each week somewhere in the country, a practice which was kept up regardless of weather conditions; rain, storm and snow were never permitted to interfere. Usually accompanied by one or more of my students, I would drive afield early every Saturday morning, spend the day in woodland, along some stream, or in and about some pond or swamp, returning home late in the evening, or frequently not until the next day. The late Dr. Josiah T. Scovell, an all-round naturalist, was my companion on hundreds of trips, and a more delightful companion, or one more enthusiastically and intelligently interested in all nature, no one ever had. Dr. Scovell's interests were many. Indian mounds, old river channels, the evidences of glacial action, the geology of the region, the soils, building stone, coal mines, oil, the topographic features of the county,—in short, everything geologic, geographic, topographic, hydrographic, and climatic, interested him; and his knowledge of these subjects was such as enabled him to discuss them all intelligently and interestingly. He was also a good botanist and a fair zoologist, especially interested in ecological relations. In systematic zoology he perhaps knew most about the freshwater mussels (the Unionidæ), but he also knew a good deal about the local birds. The hundreds of trips I took with Dr. Scovell over Vigo County I look back upon as among the most delightful of my life.

Among my students who took special interest in these trips I may be permitted to mention a few: Ulysses O. Cox, for many years head of the department of biology and dean in the Indiana State Normal School whose untimely death at Denver, Colorado, August 20, 1920, took from the faculty of that institution one of its ablest, most useful and best loved members; J. Rollin Slonaker, a boyhood chum of Cox, now assistant professor of physiology in Stanford University; L. J. Rettger, now head of the department of physiology in the Indiana State Normal School; D. C. Ridgley, now

head of the department of geography in the Illinois State Normal School at Normal; Bessie O. Cushing (Mrs. D. C. Ridgley); Flora Hartley, now wife of Dr. Charles W. Greene, professor of physiology in the University of Missouri; Albert J. Woolman, for many years a science teacher in the high schools of South Bend and Duluth, later business man in Urbana, Illinois, who died in 1918; Thos. F. Fitzgibbon, now prominent educator, superintendents of schools, Muncie, Indiana; Cloudsley Rutter, for a number of years one of the most able scientific assistants in the United States Fish Commission, whose death in 1903, deprived ichthyological science of one of its most promising young men; J. C. Cunningham, now prominent farmer and business man in Miami County; and W. D. Hamer, prominent lawyer at Huntington. Many others might be named. I must not forget to mention my life-long, most intimate friend and predecessor in the Indiana State Normal School, Dr. Oliver P. Jenkins who, though at DePauw University, frequently came over to Terre Haute, and many a delightful trip did we take together along the Wabash and its small tributaries in search of things in which we were both interested. Dr. Jenkins was also deeply interested in the birds of Vigo County, and at one time had in mind the publication of a report thereon. Mention must be made also of W. S. Blatchley who during the several years of his connection with the Terre Haute high school, gave much attention to the natural history of Vigo County.

I regard the following annotated list as valuable chiefly because of the records of definite dates and places. To some, these may seem trivial and of little consequence, but to the future student of the migration, geographic distribution, and habits of our birds, it is believed they will serve a useful purpose.

A statement that a certain species was seen on a certain date in a certain place does not mean that it was not seen on many other dates and in other places; it simply means that that particular note was not lost in the fire of 1888. While these records are, in many instances, unrelated, they will, nevertheless, it is believed, prove useful. I have advisedly made the records as definite and detailed as possible as to dates, places, persons and circumstances, in the belief that their value will thereby be enhanced.

It is regretted that the Vigo and Monroe counties records are not more numerous, but it was the note-books of those counties which were most completely lost in the fire of 1888.

I am glad to mention the considerable number of my former students and associates whose observations and assistance in other ways have contributed to our knowledge of the birds of Indiana, and I take this opportunity to express my high appreciation of their interest and helpfulness. Without their comradeship afield, which gave opportunity for discussion and exchange of views, much indeed would have been lost.

#### ANNOTATED LIST OF SPECIES.

In the following annotated list of species the nomenclature and sequence agree with the last (third) edition of the Check-List of North American Birds published by the American Ornithologists' Union in 1910. The species and subspecies are numbered consecutively. The number in parenthesis following the scientific name is the serial number of that species in the Check-List.

1. *COLYMBUS AURITUS* (Linnæus). HORNED GREBE. (3)

A rare spring and fall migrant, probably in all the counties, though I have no definite record for Carroll or Monroe. The only record for Vigo is of one brought to Professor Blatchley in the fall of 1890 by a boy who found it tied as a decoy in the Wabash River near Terre Haute.

2. *PODILYMBUS PODICEPS* (Linnæus). PIED-BILLED GREBE. (6)

Any one who has spent much time in the spring or fall about any of the small lakes with which northern Indiana is so abundantly supplied, or along the larger streams of the state, has doubtless become familiar with the queer little duck-like birds which he probably called "helldivers".

The most common and best known species is the Pied-billed Grebe, otherwise known as helldiver, dabchick, or waterwitch. It is a summer resident in the ponds about Terre Haute and elsewhere along the Wabash River.

*Vigo County:* Usually a few were seen every time a visit was made to the Five-mile Pond or the Goose Pond; occasionally seen along the old canal. When at the Goose Pond, nine miles south of Terre Haute, May 3, 1890, Mr. U. O. Cox and I found a nest of this curious, witch-like little diver. It was a floating mass of dead flags and *Scirpus* stems, more or less matted together with mud. The eggs, of which there were seven, were covered up with nest material when found, and were very dirty. Incubation had slightly advanced. Four of the eggs measured, in inches, 1.66 x 1.12, two 1.70 x 1.12, and one 1.66 x 1.09.

Doubtless other nests could have been found in this pond had we searched thoroughly. It no doubt nests in the Five-mile Pond, in Greenfield Bayou, and in other similar places in the county.

*Carroll County:* A few said to remain through the winter in open places in the Wabash near the Georgetown mill. I do not remember ever to have seen it on Deer Creek or Wild Cat, but it was seen on the Wabash occasionally. On February 21, 1885, my friend, Charles Metsker, saw one in the Wabash near the Pittsburg dam, and Wm. Coble told me that a few usually remain all winter in air-holes in the Wabash near the Georgetown mill.

I never saw this species in Monroe County.

3. *GAVIA IMMER* (Brünnich). LOON. (7)

A rare spring and fall migrant.

*Carroll County:* Seen once on Wild Cat Creek many years ago.

*Vigo County:* One seen on the Wabash November 6, 1886, and another a short distance below Durkee's Ferry, in April, 1889. No record for Monroe County.

4. *LARUS ARGENTATUS* (Pontoppidan). HERRING GULL. (5)

Rare spring and fall migrant.

*Carroll County:* Occasionally seen on the Wabash about Pittsburg and above.

*Vigo County:* There was a specimen in Dr. Scovell's collection obtained on the Wabash near Terre Haute many years ago. No Monroe County record.

5. *LARUS DELAWARENSIS* (Ord). RING-BILLED GULL. (54)

A rather common spring and fall migrant; usually seen in small flocks of two to six or seven, following the course of the river. Noted in Carroll and Vigo but not in Monroe.

6. *LARUS PHILADELPHIA* (Ord). BONAPARTE'S GULL. (60)

An uncommon spring and fall migrant, following the course of the river. This gull may usually be distinguished from the preceding by its black head and bill, the head of the Ring-billed Gull never being black and the bill being yellowish, with a black band near the end.

Noted in Carroll and Vigo but not in Monroe.

7. *STERNA FORSTERI* (Nuttall). FORSTER'S TERN. (69)

Spring and fall migrant; rare.

This beautiful tern is sometimes seen in small flocks flying up or down the river. It may be known by its widely forked tail and black head.

*Carroll County*: Occasionally seen on the Wabash near Delphi.

*Vigo County*: One seen April 28, and another May 19, 1890, on the Wabash, near Terre Haute. No record for Monroe County.

8. *STERNA HIRUNDO* (Linnaeus). COMMON TERN. (70)

Spring and fall migrant.

*Carroll County*: A specimen was taken at Adams' mill on Wild Cat Creek, October 28, 1898, by Charles Hill of Adams' mill. It is now in the possession of Messrs. Meyer and Eaton, Flora, Indiana, where I saw it some years ago, and took the following notes:

Length of bill  $1\frac{1}{4}$  inches; gape  $1\frac{1}{2}$ ; wing 10; tail 4; tarsus  $\frac{3}{4}$ ; middle toe and claw  $\frac{7}{8}$ ; bill nearly straight. Color white, washed with bluish or grayish, nape dark, primaries bluish, feet yellow.

On May 2, 1884, I saw about a dozen flying up the Wabash, near Delphi.

No records for Vigo or Monroe.

9. *STERNA ANTILLARUM* (Lesson). LEAST TERN. (74)

Spring and fall migrant along the Wabash in Carroll and Vigo counties; not noted in Monroe County.

10. *HYDROCHELIDON NIGER SURINAMENSIS* (Gmelin). BLACK TERN. (77)

The most common spring and fall migrant of any of the terns. A flock of six or eight seen May 19, 1888, on the Wabash just above Terre Haute. A similar flock seen on the Wabash, near Delphi, in the spring of 1883. No Monroe County record.

11. *PHALACROCORAX AURITUS FLORIDANUS* (Audubon).

## FLORIDA CORMORANT. (120a)

Spring and fall migrant; not often seen. Noted by Dr. O. P. Jenkins.

near Terre Haute. A fine specimen got by Mr. Kendry at a pond just north of Terre Haute, April 14, 1888. Length, 33.5 inches.

No record for Carroll or Monroe.

12. PELECANUS ERYTHROHYNCIUS Gmelin. WHITE PELICAN. (125)

Very rare spring and fall migrant. I have never, myself, seen this species in Vigo County, but I have been told by various persons that they had seen it years ago. Dr. Scovell examined a specimen shot near Terre Haute, about May 12, 1888. One was secured on Tippecanoe River, Carroll County, by my friend W. W. Black, in the spring of 1881. No records for Monroe.

13. MERGUS AMERICANUS Cassin. MERGANSER. (129)

Rather common spring and fall migrant; frequently seen on the Wabash and on various creeks. The first duck to arrive in the spring and the last to pass through in the fall.

*Carroll County:* March 1, 1878, a female taken on Deer Creek, near Camden. March 1, 1879, several seen on Deer Creek; others seen and a male gotten four days later; and, on March 14 of same year, several seen in the market in Lafayette. A fine male, in splendid plumage, obtained on Deer Creek, above Camden, March 23, 1885. The shot, fired merely winged it slightly. The creek was covered with ice except in a few places. The duck, in attempting to escape, dived and, coming up under the ice, swam along some distance. The ice was clear and it was easy to follow the bird. After swimming perhaps a hundred yards under the ice, it came up against the bank in shallow water, where it was captured by cutting a hole through the ice above it.

Flocks of five to 20 seen on Deer Creek or the Wabash. February 13 and 18, and April 21 and 22, 1883; February 13 and 17, and March 10 to 18, 1884; March 10 to 15, 1885, several seen on Deer Creek daily, and on the 18th, they were abundant.

A favorite place for them in Deer Creek was the long stretch of quiet water just below the old Leonard mill, east of Camden. Here the left, or south bank of the creek, is a high bluff, and, in the creek under this bluff, from a few to several of these large interesting birds might be seen almost any day in spring after the ice had disappeared. Other places that were favorite haunts of this species were the open water, just above the drift or log-jam, above the old Dillen mill site, and at the Adam Porter mill, a mile below Camden.

On February 17, 1885, I saw six or seven at Fry's mill in Adams township, where the creek was open. The day was very cold, the snow deep and more falling. Mr. Wm. Coble, of that neighborhood, said that a few of these ducks usually remain all winter in open spaces in the Wabash, near the Georgetown mill.

*Vigo County:* Seen occasionally in the markets. March 9, 1888, a female gotten on the Wabash, near Terre Haute.

14. MERGUS SERRATOR Linnaeus. RED-BREADED MERGANSER. (130)

A rare migrant; noted only in Carroll and Vigo; no records for Monroe.

15. *LOPHODYTES CUCULLATUS* (Linnæus). HOODED MERGANSER. (131)

A not very common spring and fall migrant; possibly a few breed, but of this I have no positive evidence, although I have often met with single pairs about swamps and ponds in midsummer, and have seen them on Deer Creek in July. A young male obtained and seven or eight others seen on Deer Creek, near Camden, April 8, 1885. Three seen near Terre Haute, March 9, 1888.

16. *ANAS PLATYRHYNCHOS* Linnæus. MALLARD. (132)

Formerly a rather common summer resident; now chiefly a spring and fall migrant.

I have not seen it often in Monroe County; my only record is of several seen on Griffy Creek near Bloomington, March 5, 1886.

In Vigo County, it was, and doubtless is, more common. In early spring and again in the fall, Mallard ducks might be seen on any of the ponds or bayous along the Wabash River, and occasionally, in protected cover, in the river itself. Favorite places were the Five-mile Pond, near old Fort Harrison, the Goose Pond, and Greenfield Bayou, February 26 and 29, 1888. I have no definite record of the Mallard nesting in Vigo County, but it no doubt did so in earlier days.

In Carroll County, the Mallard was a common species during my boyhood days. It was then, of all the ducks, the most familiar species to me. In the spring, in all the quiet reaches of Wild Cat Creek, and in every woodland pond, however small, one or more pairs could be found. In those days a good many pairs were permanent summer residents, making their nests on some relatively dry tussock in the small ponds. In the summer and early fall, the family of old and young could be seen swimming about over the pond, or skurrying to cover in hidden places among the button-bushes. Noted in the Lafayette market March 14, 1879.

17. *ANAS RUBRIPES* Brewster. BLACK DUCK. (133)

I have never seen this duck in Monroe or Vigo County, but in March, 1879, I saw an example in the Delphi market which was said to have been shot on the Wabash, near by.

18. *CHAULELASMUS STREPERUS* (Linnæus). GADWALL. (135)

A very rare spring and fall migrant.

I have no record for Monroe or Carroll County. My only record for Vigo County is of a single specimen seen about 1887, in the possession of a resident of Terre Haute.

19. *MARECA AMERICANA* (Gmelin). BALDPATE. (137)

A rare spring and fall migrant, most often seen on the creeks. I never observed it in Monroe County. As to Vigo, my notes simply mention the species without giving definite places or dates, except for March 24, 1888, and March 26, 1889 and 1890. In Carroll County, it is not uncommon during

the spring migrations. A flock of about a dozen was observed on Deer Creek near the Leonard mill, March 26, 1884, from which a female was shot. Another flock of six was seen at the bend in the same creek opposite the W. R. Stewart farm below Camden, March 24, 1885; and a fine pair was obtained, also on Deer Creek, at the Porter mill-dam, in April, 1885.

20. *NETTION CAROLINENSE* (Gmelin). GREEN-WINGED TEAL. (139)

A not uncommon spring and fall migrant. A few were seen in Monroe County, near Bloomington, March 5, 1886.

In Vigo County, it was quite frequent in spring and fall: March 14, 1879, seen in Lafayette market; February 29, 1888, March 9, 1889, and March 9, 1891, several noted each day.

Although it is doubtless rather common in Carroll County during the migrations, my only definite record is of a female which I took on Deer Creek, April 8, 1885.

21. *QUERQUEDULA DISCORS* (Linnaeus). BLUE-WINGED TEAL. (140)

I have no record of the Blue-winged Teal in Monroe County. In Vigo, it is a fairly common spring and fall migrant. In Carroll, I never took any specimens myself, but I have seen specimens in the Delphi market in the spring of 1883, 1884, and 1885. I have also observed it on the Wabash River, near Pittsburg, and just above Lockport, early in the spring, soon after the ice went off.

22. *SPATULA CLYPEATA* (Linnaeus). SHOVELLER. (142)

Rather common spring and fall migrant; often seen on the river and on the larger creeks, usually in March. In Monroe County, one obtained by W. S. Blatchley on Clear Creek, May 8, 1886. In Vigo, I have often noted it in spring on the Wabash River, and in the Terre Haute market. In Carroll, I obtained a fine male, March 18, 1879, on Deer Creek just below the W. R. Stewart farm, below Camden. Several were seen on Deer Creek, March 26, 1885, one of which was collected. Seen in the Lafayette market, March 14, 1879.

23. *DAFILA ACUTA* (Linnaeus). PINTAIL. (143)

A rare migrant. In Monroe County a specimen obtained, February 26, 1886, on a little creek near the University campus. In Carroll County, it has been noted as a rather rare spring and fall migrant. In Vigo County I have noted it February 29 and March 9, 1888, and March 9, 1891.

24. *AIX SPONSA* (Linnaeus). WOOD DUCK. (144)

Formerly a common summer resident, breeding about ponds and along creeks and rivers; now very rare.

In 1886, the Wood Duck was probably the most common duck in Monroe County. At rather distant points on each creek, a pair could be found during the summer, and I have noted it on White River, near Gosport.

In Vigo County, it was a not uncommon summer resident, breeding in holes in trees in the bayous and swamps along the Wabash. One obtained on Honey Creek, south of Terre Haute, February 29, 1888.

In Carroll County, it was rather common, at least as late as 1880. In my boyhood days (1864-1875), one might safely expect to find a pair at every secluded reach of Wild Cat and other creeks of the county, and at every permanent woodland pond. Noted on Deer Creek in July, 1877. March 1 and 14, 1879, and on March 26, 1885, I saw a pair flying up Deer Creek. On the Kankakee, in northern Indiana, this most beautiful of all our ducks, is still a common species.

25. *MARILA AMERICANA* (Eyton). REDHEAD. (146)

A rare spring and fall migrant. I have few definite records, but I remember distinctly to have seen it in the Terre Haute market in 1886-91. March 9, 1888, two males taken near Terre Haute.

26. *MARILA VALISINERIA* (Wilson). CANVAS-BACK. (147)

A rare spring and fall migrant. Although rarely seen on the river, it is one of the most abundant ducks on the lakes in the north part of the state, especially in the fall. One brought me by Mr. Ed. Tetzl, of Terre Haute, in the spring of 1889.

27. *MARILA MARILA* (Linnaeus). SCAUP DUCK; BIG BLUEBILL. (148)

Spring and fall migrant, at least in Carroll and Vigo counties, much less common than the Little Bluebill. I have no definite records. Never known as Scamp Duck in Indiana.

28. *MARILA AFFINIS* (Eyton). LESSER SCAUP DUCK; LITTLE BLUEBILL. (149)

Common spring and fall migrant; very abundant on Lake Maxinkuckee and other small northern Indiana lakes, especially in the fall; less common in Carroll and Vigo, and still less so in Monroe. A good many killed each fall along the Wabash. I obtained one on Deer Creek, near Camden, April 18, 1885. One seen on White River, near Gosport, May 8, 1886, and several were seen the same day by W. S. Blatchley on Clear Creek, Monroe County. Three seen March 9, 1888, near Terre Haute. Noted also by Dr. Scovell and Dr. Jenkins. The name Lesser Scamp Duck is rarely or never heard in Indiana.

29. *CLANGULA CLANGULA AMERICANA* Bonaparte. GOLDEN-EYE. (151)

I have noted this only in Carroll County, as a very rare migrant in March and April; no definite record.

30. *CLANGULA ISLANDICA* (Gmelin). BARROW'S GOLDEN-EYE. (152)

The only record I have is of a female which I shot on Deer Creek, near Camden, March 19, 1885. It is a very rare duck in this part of Indiana.

31. *CHARITONETTA ALBEOLA* (Linnaeus). BUFFLE-HEAD. (153)

Not common spring and fall migrant in all the counties; a few remaining in open places in the Wabash quite late in the winter. A female collected, February 29, 1888, at Terre Haute.

32. *HARELDA HYEMALIS* (Linnaeus). OLD-SQUAW. (154)

The only record I have of this species in the counties covered by this paper is of two specimens obtained in Adams Township, Carroll County, or possibly just over the line in White County, about February 12 and 19, 1895. My information is that given in a special to the Indianapolis News, as follows:

Delphi, Ind., February 22.—Mr. Joseph Clark, of Pine Village, Warren county, is the possessor of two rare birds of the duck species, that fell into his hands ten days ago while visiting at Burnett's Creek, north of this place. During a snow storm the birds evidently became demoralized, and one of them, striking a telegraph wire, was crippled and captured alive, but died soon after. The other was found frozen in the snow a week later. Both are being prepared by a taxidermist. They weigh about two pounds each, have white heads with jet-black rings around their necks, black backs and white breasts. The male bird has two black feathers in its tail, at least twelve inches in length, while in the female bird these feathers are not so long. Mr. Clark has exhibited the birds, and he states that no one has ever seen anything like them.

These specimens were undoubtedly the duck known as the Old-squaw, or South-southerly, a northern species which comes southward rarely as far as southern Indiana in winter. They are said to be quite common on Lake Michigan, off Michigan City where they are frequently caught in the fishermen's gill-nets.

33. *ERISMATURA JAMAICENSIS* (Gmelin). RUDDY DUCK. (167)

Rather rare spring and fall migrant. I have noted it in Carroll and Vigo counties, but not in Monroe.

34. *CHEN HYPERBOREUS HYPERBOREUS* (Pallas). LESSER SNOW GOOSE. (169)

I have seen white geese flying over in spring and fall in Carroll County. They were probably this species.

35. *CHEN CÆRULESCENS* (Linnaeus). BLUE GOOSE. (169.1)

Rare spring and fall migrant. The only specimen I ever saw was brought to me by Mr. Ed. Tetzl, who killed it near Terre Haute, April 2, 1887.

36. *BRANTA CANADENSIS CANADENSIS* (Linnaeus).

## CANADA GOOSE; HONKER. (172)

A common spring and fall migrant in all the counties, much more abundant formerly than now.

In my boyhood days, wild geese were abundant during the spring and fall migrations, and large V-shaped flocks flying high in air, uttering their *honk, honk*, were a familiar sight. Now their numbers are greatly reduced; only a few small flocks may be seen each fall or spring. I have only one definite record for Vigo County (all others, such as I had, having been lost), and that is of a specimen shot near Terre Haute, March 3, 1888, by Mr. Frank Byers, who brought it to us. March 11, 1885, several heard flying over at night, near Camden. They were probably honkers.

37. *OLOR COLUMBIANUS* (Ord). WHISTLING SWAN. (180)

Spring and fall migrant, but not often seen, except on the Wabash and Tippecanoe, where one was occasionally killed some twenty to 30 years ago. I have no records for Vigo or Monroe County.

38. *OLOR BUCCINATOR* (Richardson). TRUMPETER SWAN. (181)

A rare spring and fall migrant. I have no records for Vigo or Monroe County, and only one for Carroll, which is of a specimen shot on Wild Cat Creek, near Burlington, many years ago.

39. *AJAJA AJAJA* (Linnaeus). ROSEATE SPOONBILL. (183)

One said to have been killed near Terre Haute several years ago.

40. *MYCTERIA AMERICANA* Linnaeus. WOOD IBIS. (188)

The Wood Ibis, one of our most remarkable birds, is a southern species, but withal, a great wanderer. Its breeding grounds are in the swamps and bayous of the lower Mississippi valley and southward. After the breeding season is over and the young are able to fly well, small bands stray northward along the larger river courses. Such small flocks or isolated birds are occasionally seen in southern Indiana and Illinois, especially along the Wabash. On September 11, 1888, I saw a flock of 9 of these strange birds sitting solemnly in an old dead tree on the Illinois side of the Wabash, opposite Mackay's Ferry, 10 miles west of Mount Vernon, Indiana.

Mr. Robert Ridgway reports seeing them "soaring majestically in broad circles over the Wabash River, at Mt. Carmel". I have a record of one killed at Greenfield Bayou below Terre Haute sometime in the early 80's.

I have one other record for the counties covered by this paper, and that is of a specimen shot July 30, 1887, in the old Maple Swamp south of Cutler, Carroll County. It was secured by a man named Harmon by whom it was conveyed to Dr. O. A. J. Morrison of Middlefork, Clinton County, where I saw it December 31, 1888.

41. *BOEAURUS LENTIGINOSUS* (Montagu). BITTERN. (190)

Summer resident, not rare in suitable places.

In Vigo County, most common at the Goose Pond and the Five-mile Pond. Noted near Terre Haute October 26, 1886. A nest with four eggs found at the Goose Pond, May 31, 1890. The nest was supported about ten inches above the water in a bunch of flags. The eggs were nearly ready to hatch; indeed, one was piped.

I have no definite records for Carroll County, but I recall having seen it at the Armstrong Pond near Camden, on the Wabash, near Pittsburg, in the Harness Swamp south of Burlington, and once on the old canal near Lockport.

In Monroe County, a very distressing accident happened to one of my young friends, Antone Boisen, of Bloomington. If my note is correct, it was on May 5, 1886, when young Boisen crippled a Bittern and when attempting to catch it, the bird struck at him with its bill, hitting him in the eye and completely destroying his vision in that eye.

#### 42. IXOBRYCHUS EXILIS (Gmelin). LEAST BITTERN. (191)

A rather common summer resident in favorable situations such as the various ponds and marshes of Vigo County, particularly the Five-mile Pond and the Goose Pond, in each of which I have found it nesting. Two females obtained, May 21, 1888, at the pond just north of Terre Haute, and another, also a female, the next day at the same pond. Two days earlier, May 19, Prof. W. S. Blatchley obtained a pair, male and female, and I saw five at the same pond; and on May 23, one of my students, Mr. Thomas Frazee, secured a male at the same place. A male in fine plumage taken at the Goose Pond, May 17, 1890. On May 31, I again visited the Goose Pond and found the Least Bittern nesting in considerable numbers. It was just the height of the nesting season. Twelve nests were found, three containing five eggs each, five with four eggs each, two with three each, and two with one each. Incubation had begun in three sets, the others were all fresh.

A week later (June 6), I visited this pond again, accompanied by U. O. Cox, and obtained two more sets, one of five, the other of four, with incubation well begun in each set.

The Goose Pond contains (or did then), several hundred acres. The water was less than three feet deep, in most places not over one or two feet. In the middle or deeper part of the pond was a fine growth of pond lilies (*Nymphaea advena* and *Castalia tuberosa*), both species abundant and blooming in profusion. Around the edges in the shallower parts were rank growths of cattails (*Typha latifolia*), rushes (*Equisetum limorum*), various sedges (*Carex*), Arrowhead (*Sagittaria*), and doubtless other forms. And the water was well filled with duckweed (*Lemna*, *Spirodela*, *Wolffia*, etc.), and several species of *Potamogeton*, *Ranunculus*, pickerel-weed, Crucifers, *Scirpus*, etc. The Least Bitterns' nests were usually from a few inches to a foot above the water, and placed upon a few broken-down stems or leaves of cattails, but sometimes they were supported by leaves of *Sagittaria*.

We did not see a single bird on its nest, so sly were they in slipping away before we discovered them. In one case we saw the bird fly up from flags only a few inches from the nest, and in several cases the birds flew up and thus showed us where to expect to find their nests.

#### 43. ARDEA HERODIAS HERODIAS LINNÆUS. GREAT BLUE HERON. (194)

A not very common summer resident. A few individuals arrive early in the spring and remain in and about suitable locations throughout the sum-

mer and till quite late in the fall. Quite solitary in its habits when feeding, rarely ever more than one being seen in one place. In a boat trip from Terre Haute up the river as far as Durkee's Ferry not more than four or five would be seen; and in a similar distance down the river no greater number would be encountered. They doubtless nest somewhere in Vigo County, but I was never able to learn just where. A specimen obtained by Mr. Thomas Frazee near Sullivan in the spring of 1889.

In Carroll County, during my boyhood days, the "Big Blue Cranes", as we then called them, were quite common. The country lying southwest of our house was a dense unbroken forest for a mile or more. Scarcely had it been invaded by the pioneer settlers and little timber had been cut in it except about the edges. Interspersed through this wood were numerous small woodland ponds, some of which became dry in late summer or early fall, others remained with more or less water throughout the year. In and about these ponds was a heavy growth of cottonwoods (*Populus deltoides*), some of them magnificent trees 100 to 150 feet high and three to five feet in diameter. In the tops of these great trees, in one of the largest ponds, was a considerable heron rookery; perhaps there were usually 30 to 50 pairs nesting there. The most frequented feeding ground of these herons was along Wild Cat Creek, about a mile and a half north. During the spring and summer scarcely a day passed that we did not see many of these great birds flying overhead northward in the morning, evidently on their way to their feeding grounds, usually flying in twos or threes, sometimes in greater numbers, but perhaps most often singly; then in the evening, sometimes not until after sunset, they would return. Sometimes they flew quite low; I remember distinctly one morning, a neighbor boy fired at one with his squirrel rifle and brought it down. It proved to be a female with a fully developed egg in the oviduct.

In the early 70's much of this land was ditched and cleared, which caused the herons to abandon that rookery.

Probably the largest heronry that ever existed in Carroll County was in what was known as the Maple Swamp in the southern part of the county between Sedalia and Cutler, near Lexington, about six miles south of Wild Cat Creek, or eighteen miles from the Wabash River to the northwest. This swamp really consisted of a widening of a small creek known as Middle Fork. It covered several hundred acres and the lower portion had a heavy growth of swamp ash (*Fraxinus nigra*) and soft maple (*Acer saccharinum*); and in the tops of these trees a considerable colony of Great Blue Herons had their nests. My first visit to this heronry was on June 12, 1882, when I counted more than one hundred nests, most of them being occupied. As many as thirteen nests were seen in one tree, and several other trees contained from three to ten nests each. Most of the nests contained large young, some nearly able to fly. I again visited this swamp on May 21, of the next year. Climbing to several nests I found young birds in some and eggs in various stages of incubation in others. I was told by farmers living near by that formerly there were many more nests but the birds were so harassed and molested by squirrel hunters and others who annoyed them needlessly that they were being gradually driven away. In the three winters from 1883 to 1885, I had occasion to drive by this swamp several times. The leaves having fallen, the nests showed plainly in the tops of the bare trees and made a striking and very interesting sight.

But the old Maple Swamp, like most of the swamps and woodland ponds which a half century ago afforded a suitable environment for so many species of the native fauna and flora, now alas! all but extinct, and which added so much of real interest to the nature lover, is now a thing of the past. It has been ditched and drained; the attractive forest, underbrush, and aquatic plants have given way to rectangular fields of corn and cabbage. The aesthetic has succumbed to the utilitarian. There will be more corn and hogs but less of beauty and the appreciation thereof.

The same is true of the uplands. The great forests are gone: they have been cut off and there remain only here and there occasional 20, 30 or 40-acre wood-lots, pitifully mutilated and crippled remnants of the once mighty forests, the most magnificent hardwood forests the world has ever seen, which clothed practically the entire state of Indiana 75 years ago.

The only other heronry which I knew in Carroll County was in Adams Township, near the north line of the county, about six miles north of the Wabash River and about the same distance east of the Tippecanoe. I never visited this rookery in the breeding season, but I have, when driving by in the winters of 1883 to 1885, seen the great nests, nearly a hundred of them, in the tops of the maple, cottonwood, and swamp ash trees.

Definite dates for Carroll County are as follows: June 12, 1882, many at the Maple Swamp; May 21, 1883, again at the Maple Swamp where many were seen; April 8, 1884, day snowy, one seen flying north just west of Delphi; February 14, 1885, while driving from Pittsburg to Delphi in the evening I saw one flying up the Wabash, the day being cold, the snow very deep, making excellent sleighing, and the river was covered with ice except in a few places: March first, one seen near David Musselman's trying to reach Deer Creek in the face of a strong northwest wind: and March 18, saw one on Deer Creek east of Camden.

In Vigo County I never knew of any rookeries, but there were doubtless some small breeding colonies along the Wabash. A few solitary individuals might be seen along the river any day between March and November.

In Monroe County, which has no ponds or considerable streams, the Great Blue Heron, like all other waders and water birds, is not at all common. One might be seen now and then along Beanblossom Creek or Salt Creek: noted March 28, 1888.

#### 44. HERODIAS EGRETTA (Gmelin). EGRET. (196)

Rare: probably only a fall visitant. As is well known, this and other species of herons are apt to wander some distance from their regular habitat in the fall, and it may be that all those we have seen in Vigo County in late summer and early fall had wandered up from lower down the Wabash River. Each fall from two or three to a half dozen were seen along the river both above and below Terre Haute. Greenfield Bayou, 10 miles below Terre Haute, was a favorite place. One was shot on Deer Creek near Camden, Carroll County, August first, 1884, by my friend Frank C. Porter, of Camden. Years ago, small flocks of six to ten were occasionally seen flying north in the spring and a few were seen each fall from July to September.

I have seen Egrets occasionally along the creeks in Monroe County, but only in spring. One was killed near Bloomington, April 10, 1887.

45. *BUTORIDES VIRESCENS VIRESCENS* (Linnæus). GREEN HERON (201)

Summer resident; more common than any other species of heron. Found not only along the river and all the smaller streams, but also about ponds and marshes. This interesting little heron, known locally as "shitepoke", is more tolerant of civilization than the other species, and may frequently be seen about the farms; indeed, I have found it nesting in old apple trees not far from farm buildings. It usually, however, places its nests in the tops of small trees or bushes in thickets along the creek or river.

In Carroll County it arrives from the south at least as early as April 30; the first one noted by me in 1884 was seen on that date. Noted May 18, 1878. On May 13, 1884, my friend Frank C. Porter obtained for me a set of five eggs from a nest in the top of a small bush, perhaps 15 feet up, in a dense thicket on the south bank of Deer Creek opposite the Porter mill below Camden. Incubation had begun. April 29, 1885, got a pair near Camden. One seen June 25, 1905, at a small pond on my father's farm near Burlington.

In Vigo County this little heron is not uncommon in summer along the Wabash and about the bayous and ponds.

In Monroe County it is frequently seen. I have seen its nest in Turner's grove of pines west of Bloomington.

46. *NYCTICORAX NYCTICORAX NEVILLI* (Boddaert).

## BLACK-CROWNED NIGHT HERON. (202)

A rare spring and fall visitant, not often seen. A young female shot near Terre Haute, November 16, 1889, by Mr. Ed. Stoop who presented it to me. I have never seen the species in Monroe County. In Carroll County I have seen it only on three occasions; the first being on April 30, 1878, when, late in the evening, Master Charles Guard, one of Mrs. Evermann's students, came to us in great excitement, saying that he had seen a very strange bird at the Armstrong pond at the south edge of Camden. Taking my shotgun, I went with him to the pond and found the strange bird sitting in an old dead snag at the south edge of the pond. It was not easily frightened and a charge of No. 10 shot brought it down. It proved to be an adult female Black-crowned Night Heron in fine plumage, the first I had ever seen. Since that day, I have seen many of this species in many different countries and have collected many of them, together with their nests and eggs, but my delight has never been greater than it was in the dusk of that April evening 43 years ago. My next specimen in Carroll County was a young female killed November 24, 1884, by my friend Matthew Sterling. The bird had alighted in an apple tree on the Sterling farm, southwest of Camden. The weather had been rather mild, for November, until the 23d, when a heavy rain which began the night before changed to snow. During the 24th it was blustery, gradually growing colder until in the evening the temperature was 6 degrees Fahrenheit. The bird acted as if lost. A third specimen was killed near Camden about September 1, 1887.

I have no Monroe County record of this species.

## 47. GRUS MEXICANA (Müller). SANDHILL CRANE. (206)

A rare migrant, at least in Carroll County, particularly in the northwest portion, where one was seen April 7, 1885.

## 48. RALLUS ELEGANS Audubon. KING RAIL. (208)

A rare summer resident in Vigo County where I have seen it at the Goose Pond and at the Five-mile Pond, April 29. and May 19, 1888.

## 49. RALLUS VIRGINIANUS Linnæus. VIRGINIA RAIL. (212)

Rare summer resident in Vigo County. Found nesting at the Goose Pond May 31, 1890, and April 21, 1888. Not noted in Carroll or Monroe.

## 50. PORZANA CAROLINA (Linnæus). SORA OR CAROLINA RAIL. (214)

Summer resident, not common. Found nesting in the Goose Pond in Vigo County; noted April 21, 1889.

*Carroll County:* I shot one on my father's farm in April, 1879. May 4 and 5, 1884, saw several in the Armstrong pond at Camden; May 9, 1885, one seen.

*Monroe County:* May 5, 1886; April 15, 1887.

## 51. COTURNICOPS NOVEBORACENSIS (Gmelin). YELLOW RAIL. (215)

Rare migrant; noted only in Monroe County.

## 52. GALLINULA GALEATA (Lichtenstein). FLORIDA GALLINULE. (219)

Rare summer resident. Noted once at the Goose Pond, where I found a set of five well-incubated eggs, May 31, 1890. A specimen obtained near Burlington, April 28, 1883, by Wallace Gwinn who brought it to us; and I saw another, May 11, 1885, in Stockton's woods northwest of my father's house.

## 53. FULICA AMERICANA Gmelin. COOT. (221)

Common spring and fall migrant, and rare summer resident.

I have in my notes recorded the Coot as occurring in Monroe County, but no details are given.

In Vigo County, where there are several ponds and bayous, the Coot is not only a common spring and fall migrant, but a good many breed in the county. A few could usually be seen at the Five-mile Pond north of Terre Haute and several pairs nested each season at the Goose Pond, nine miles south of Terre Haute, where U. O. Cox found a nest with eight eggs, May 31, 1890. Noted also on April 17, 1888.

My first record of the Coot in Carroll County is of three seen on the Wabash just above the feeder dam at Delphi, April 19, 1884. On November 20, of the same year, one was killed on the Armstrong pond at Camden, and brought to us. On April 8, 1885, I saw two on Deer Creek at Porter's dam, where one was taken May 12. I have no evidence that the species breeds in this county.

## 54. PHALAROPUS FULICARIUS (Linnaeus). RED PHALAROPE. (222)

Rare migrant. A specimen obtained by Dr. Scovell, October 23, 1889, near Terre Haute. No records for Monroe or Carroll.

## 55. STENGANOPUS TRICOLOR Vieillot. WILSON'S PHALAROPE. (224)

One killed near Frankfort about May 1, 1883, according to C. E. Newlin.

## 56. PHILOHELA MINOR (Gmelin). WOODCOCK. (228)

Formerly a common summer resident, but now quite rare. During my five years' resident at Terre Haute, I do not think I saw a total of more than 15 or 20 Woodcock in the county. One of these was seen March 16, 1888. I found only one nest; that was east of Terre Haute about four miles in an open woodland just north of the Terre Haute—Brazil highway.

My friend Foster Hight took one near Bloomington, Monroe County, in the spring of 1885.

In Carroll County, the Woodcock was quite common forty years ago, but it is now very rare. Nests early in April; young able to fly at least as early as June first.

## 57. GALLINAGO DELICATA (Ord). WILSON'S SNIPE. (230)

Formerly very common spring and fall migrant in all the counties; now rather rare. Arrives quite early in the spring; returns from the north in August or September and remains until freezing weather drives it on south.

*Carroll County:* March 18, 1879, one seen; 19th, one secured. May 1, 1884, one seen near road between Delphi and Pittsburg, another seen 14 days later. On April 21, 1885, first of the season seen at the Armstrong pond south of Camden. There were several of them. This was always a favorite place for snipe.

*Monroe County:* April 15 and 18, 1886.

*Vigo County:* Quite frequent in spring and fall in suitable places along the river. March 9, 1888, and May 5, 1891.

## 58. PISOBIA MACULATA (Vieillot). PECTORAL SANDPIPER. (239)

A rather uncommon spring and fall migrant in Vigo County. March 17, 1888, four seen; April 21, 1889. On March 29, 1889, a flock of perhaps 75 seen at the Five-mile Pond north of Terre Haute, from which eight specimens were collected. On April 6, of the same year, about 20 were seen at the same pond, of which one male and one female were secured. Seen again April 21. I found them very good eating. Another obtained May 3, 1890, near the Goose Pond. Locally this species is known as "Jim Snipe".

As to Carroll County, I have it recorded simply as a rare migrant in March and April. For Monroe County I have only two records, March 15 and 26.

## 59. PISOBIA MINUTILLA (Vieillot). LEAST SANDPIPER. (242)

Rare spring and fall migrant in Carroll and Monroe counties, as it doubtless is in Vigo also; no definite records.

60. *EREUNETES PUSILLUS* (Linnæus). SEMIPALMATED SANDPIPER. (246)

Spring and fall migrant, not common.

*Carroll County*: Heard one near the old Oberholser mill, east of Camden, April 24, 1884. On April 21, 1885, saw three or four at Gish's bend in Deer Creek, near Camden.

*Mouroe County*: Recorded as rare migrant.

61. *TOTANUS MELANOLEUCUS* (Gmelin). GREATER YELLOW-LEGS. (254)

Rather common spring and fall migrant, often heard and seen flying over, and now and then seen along the streams. This applies to all the counties.

62. *TOTANUS FLAVIPES* (Gmelin). LESSER YELLOW-LEGS. (255)

Rare spring and fall migrant, probably less common than the preceding. My only definite record is for Vigo County; May 5, 10, and 12, 1888.

63. *HELODROMAS SOLITARIUS* (Wilson).

## SOLITARY SANDPIPER. (256)

Rather common spring and fall migrant in all the counties.

*Carroll County*: June 19, 1882, set of four fresh eggs on sandbar on Wild Cat Creek, a short distance above the Burlington mill.

64. *ACTITIS MACULARIA* (Linnæus). SPOTTED SANDPIPER. (263)

Not rare summer resident; frequent along the river and usually at least one pair about each pond. A female obtained for me near the river above Terre Haute, April 28, 1888, by my student, Mr. J. D. Collins; noted again May 5, 1889.

65. *OXYECHUS VOCIFERUS* (Linnæus). KILLDEER. (273)

A common summer resident in all the counties, arriving quite early in the spring and remaining late in the fall.

*Carroll County*: Noted February 20 and March 6, 1878; March 5, 1879, one seen flying south; March 15, 1884, first seen at the J. Nettle farm southwest of Camden, they having doubtless just arrived; March 14, 1885, first of the season seen by my friend Frank C. Groninger, near Camden; the next day I saw nine near Deer Creek, south of Camden.

On the home farm near Burlington it was the custom to salt the cattle regularly once a week in a certain place in a pasture near the house, and this place was a favorite resort for the killdeers; one or more pairs could be seen there any day during summer and fall. Nests were occasionally seen in the cornfields.

*Vigo County*: Very common everywhere; March 16 and 17.

*Mouroe County*: Perhaps less common; arrives as early as March 7, and remains until in November. One noted February 23, 1883.

66. *ÆGIALITIS MELODA* (Ord). PIPING PLOVER. (277)

A not uncommon spring and fall migrant in Vigo County. There was one specimen in Dr. Scovell's collection, also one in Mr. Blatchley's. Mr. Fred Clearwaters found it common near Greencastle.

No records for the other counties.

67. *COLINUS VIRGINIANUS VIRGINIANUS* (Linnaeus). BOB-WHITE. (289)

During the years of my residence at Bloomington (1881-83 and 1885-86), the Bob-white was rather rare in Monroe County, although it had formerly been quite abundant.

In Vigo County it was never very common from 1886-1891, and it is probably even less so now. A female was collected at Honey Creek, April 20, 1889. A pair (male and female) obtained in the Terre Haute market, November 21, 1889, and another pair, December 1, 1890. In those days market hunting was legal and Quail and other game birds were often seen in the market.

During my boyhood days the Bob-white was a common bird in Carroll County. On practically every farm of 80 to 160 acres several coveys might usually be found during the fall and winter. They would frequent the cornfields in which the fodder was in the shock. There they were usually able to get at some of the ears of corn or to find shelled grains upon which they fed. If not disturbed, the covey would sometimes roost in the base of one of the shocks. Usually, however, their roosting place was on the ground in some clump of briars or thicket in the edge of the woods near the cornfield. At night the birds of a covey huddle or sit very close together on the ground under the protection of a bunch of grass, briars or small bushes, all with their tails toward the center and their heads all pointing outward. Sometimes when the snow is deep the Quail are unable to get the necessary food and, becoming weakened, the whole covey freezes to death. I remember one very cold winter day when I was hunting rabbits and came upon a large covey of Quail, all frozen to death. One taken December 2, 1878; July 4, 1882, nest with 22 stale eggs; June 20, 1883, nest with 11 somewhat incubated eggs.

The winter of 1884-5 in Carroll County was unusually severe and the quail suffered greatly. I found several frozen to death. I recall seeing only one live bird (a male) in January, and that was in Burlington Township, near the Asbury school house. On April 26, I saw a female in a wheat-field near the Camden depot, the only one seen since January. September 14, 1906, six or seven seen by Miss Ava Evermann in her father's orchard in Burlington.

Fifty years ago it was a common practice to trap the quail. A figure-4 slat trap was used. This was set in some suitable place which a flock of quail had been observed to frequent. The snow was carefully cleaned away from under the trap and from a fan-shaped area in front, then corn or wheat was scattered over the cleared ground especially under the trap. The quail coming upon the grain outside would feed upon it and would gradually be led into the trap which would be thrown and often the whole flock captured. This was, of course, a very unsportsman-like method, but it was in those days regarded as perfectly proper. Of course, this method would not be tolerated now.

68. *BONASA UMBELLUS UMBELLUS* (Linnæus). RUFFED GROUSE. (300)

Quite common in Monroe County in 1881-1886, especially on the heavily wooded hillsides; doubtless still common in all suitable places in that county.

Formerly rather common in all suitable places in Vigo County but now quite rare. I have seen it occasionally in the woods near Coal Creek northwest of Terre Haute, also on one or two occasions along Honey Creek south of town and in the heavy woods near the Goose Pond.

In Carroll County it was common until about 1885, especially in the heavy woods along Wild Cat Creek and other streams. March 7, 1879, shot one in the Deer Creek bottom near Robert Porter's, southwest of Camden; August, 1881, several seen, and several noted in the winter of 1881-2; January 22, 1885, one killed by A. M. Evermann near Burlington. Nest with several eggs seen in Stockton's woods near Burlington about May, 1883.

69. *TYMPANUCHUS AMERICANUS AMERICANUS* (Reichenbach).

## PRAIRIE CHICKEN. (305)

I have no record of the occurrence of the Prairie Chicken in Monroe County.

The only place in Vigo County where I have seen Prairie Chickens is the considerable area of prairie land at Heckland about 10 miles north of Terre Haute. It was my custom frequently to visit this little prairie with my botany and zoology classes, and sometimes alone. The locality was a very interesting one. Many species of prairie flowers could always be found there which were very rare or unknown in other parts of the county; and then I was always apt to find species of birds not found elsewhere. The Prairie Chicken was one of these. Usually from one to a half dozen could be found in that neighborhood if I took the trouble to hunt for them.

A fine specimen, a male, obtained April 1, 1890, from Raub, Indiana, whence it was sent me by Mr. Ward, one of my students. One, a male, obtained in the Terre Haute market, January 19, 1891; cost 60 cents.

In Carroll County, the species has never been common except in the prairie of the northwestern part. When a boy, I remember to have seen two alight on the top board of a gate across the lane on my father's farm, just east of the Michigan road. They remained only a few moments then resumed their flight, going on eastward. In Tippecanoe and Jefferson townships, in the northwestern part, they have been and still are rather common. In the spring of 1883, and again in 1884 and 1885, when driving over that portion of the county, as I had frequent occasion to do, I rarely failed to see several pairs, or to hear them booming in the morning and evening. Several seen and heard in the prairie near the Evans schoolhouse (Tippecanoe Township), April 17 and 18, 1883; May 8, 1884, one seen in an old cornfield near the Evans schoolhouse; February 9, 1885, two seen by Miss Mary Cunningham near the New Beauty schoolhouse (Tippecanoe Township), snow very deep and day very cold.

## 70. MELEAGRIS GALLOPAVO SILVESTRIS Vieillot. WILD TURKEY. (310a)

In the early part of the nineteenth century and up, perhaps to about 1860, this magnificent bird, the greatest of all American game birds, was not uncommon throughout all the heavily wooded portions of Indiana. They were especially abundant in the wonderful hardwood forests of the Wabash basin.

In Monroe County, it was doubtless very common at one time and a few might be found in the wilder parts of the county as late as 1886, if not later.

In Vigo County in 1886 to 1891, it was very rare, if present at all, but each winter one or more specimens might be seen in the Terre Haute market. I saw at least six during those years, and was told that they came from the neighborhood of the old reservoir in the southeastern corner of Vigo County.

In Carroll County they were rather common as late as 1864, and frequent up to 1870. The last ones I remember to have actually seen in Carroll County I saw in the woodland on the Stockton farm only a few rods from my father's house, in the winter of 1871-2. In the winter of 1877-8, a small flock was reported as having been seen several times in or about the heavy woods a mile south of Camden, and in February of that winter I saw their tracks in the snow on the Al Rhodes farm near the large forest on the Wise farm.

During my boyhood days wild turkey hunting was one of the great sports in which local Nimrods engaged. Every one who at all enjoyed the sport was quite sure to go turkey hunting at least once each winter. Every hunter had a "turkey call" which he had made from the wing bone of a turkey which he had killed on some previous hunting trip; and right expert did these men and boys become in imitating the turkey's call-note. The long muzzle-loader rifle was the gun used and the hunting was done in a real sportsman-like way. By means of the "call" the turkey could usually be induced to come within reasonable range. As they were easily frightened, the hunter usually fired as soon as the bird came within range, and only those who were pretty good shots were successful in getting the bird.

Another method by which Wild Turkeys were taken was wholly unsportsman-like, albeit quite effective. This was by means of a trap and was practiced when the ground was covered with snow. A square pen was built of ordinary fence rails, thus making the pen a little less than 10 feet square and about eight rails high. The pen was covered over the top with rails or boards. A trench was dug, extending from inside the pen under one side and some feet outside, deepest under the rail and decreasing in depth outside. Corn was then scattered outside the pen in such a way as to lead the turkeys into the trench and into the pen. When the turkeys found the corn they would continue feeding on it, their heads near the ground, passing along the trench until in the pen, when they would become frightened. Then, with heads up, they would walk around next to the rails, a broad board laid over the trench just inside the pen keeping them from stepping into the trench and finding their way out. It was not an unusual thing to capture an entire flock in this way.

## 71. ECTOPISTES MIGRATORIUS (Linnaeus). WILD PIGEON. (315)

In the early part of the nineteenth century excessively abundant during the spring and fall migrations.

I have no records for Monroe County, but tradition says it was an abundant bird there as late at least as 1860. I do not know when the last ones were seen in that county, nor have I that record for Vigo County. I heard of none in that county during my residence at Terre Haute from 1886 to 1891.

But in Carroll County during my boyhood days, at least up to 1870, it was quite common in spring and fall. I can remember great flocks flying northward in the spring and large numbers in the fall feeding on the beech "mast" and acorns. I have a record of one seen in Tippecanoe Township, May 31, 1883, and of several killed in the western part of the county that same year. On May 9, 1884, I saw two southeast of Yeoman. In the 60's it was a common practice to net Wild Pigeons in Tippecanoe and Jefferson townships in the western part of the county. Long nets were carefully adjusted and by using stool pigeons, a whole flock could sometimes be led into the net. On April 6, 1885, I saw several (was not able to determine the exact number) in Farrar's woods at the south end of Lake Maxinkuckee. These were the last I ever saw.

## 72. ZENAIIDURA MACROURA CAROLINENSIS (Linnaeus).

## MOURNING DOVE; TURTLE DOVE. (316)

A common and well-known summer resident, occasionally a few remaining throughout the year when the winters are not too severe.

*Carroll County:* June 17, 1882, set of two fresh eggs; April 29, 1883, nest with large young in apple tree in Robert Porter's orchard, southwest of Camden; May 21, several nests seen, some with eggs, others with young, in bushes at the edge of the Maple Swamp, south of Cutler; March 16, 1884, common; March 30, 1885, first of season seen; May 9, nest with *three* eggs; December, 1884, and January, 1885, occasionally seen; June 25 to July 1, 1905, three or four pairs noted on the old home farm. April 28, 1919, set of two fresh eggs in nest in a pear tree at Burlington, reported by Donovan Beck.

*Monroe County:* February 10, 1883, one seen; February 23, 1886, common since middle of March; May 31, 1882, a fresh egg found on ground in a wheatfield in Crawford County.

*Vigo County:* April 8, 1888, noted; May 3, 1890, nest with two fresh eggs in osage hedge, seven miles south of Terre Haute, and another nest with one fresh egg in same hedge; one egg had been broken and the nest deserted.

## 73. CATHARTES AURA SEPTENTRIONALIS Wied.

## TURKEY VULTURE OR BUZZARD. (325)

A rather common summer resident in all the counties, sometimes remaining throughout the year, especially in Monroe and Vigo counties.

In Monroe County, noted near Bloomington, February 21, 1883, and February 22, 1886, and a nest with two fresh eggs in a hollow oak snag near Bloomington, April 17, 1882.

In Vigo County, a nest with 2 eggs, one fresh, the other nearly so, about 30 feet up in hollow of a leaning sycamore on the bank of Honey Creek south of Terre Haute, April 21, 1890; noted also March 30, 1888, and March 31, 1889.

In Carroll County, a nest with two fresh eggs in a hollow sycamore on Bachelor Run southwest of Camden, April 29, 1883; another set of two fresh eggs from same nest April 23, 1884. First noted in 1884, on March 16, when one was seen near Burlington. First noted in 1885 on March 12, when one was seen north of Pittsburg; another two days later west of Camden.

74. *ELANOIDES FORFICATUS* (Linnæus). SWALLOW-TAILED KITE. (327)

The Swallow-tailed Kite is a very rare bird in Indiana. My only records are of a male in fine plumage shot on Beanblossom Creek north of Bloomington by a Mr. Weimar, August 18, 1885, and another seen at same time. One obtained in Vigo County in the fall of 1887. No record for Carroll County. So far as I know these are the only specimens taken in or reported from this part of the state.

75. *CIRCUS HUDSONIUS* (Linnæus). MARSH HAWK. (331)

Probably rare summer resident in all the counties. Unfortunately, I have no definite records for Monroe County. In Vigo County, I saw it often, particularly over the marshes about the Five-mile Pond north of Terre Haute. I do not think any remain through the winter.

In Carroll County, I have seen it but rarely and only in the spring. It probably breeds in the county, however, in suitable places.

76. *ACCIPITER VELOX* (Wilson). SHARP-SHINNED HAWK. (332)

Rather rare resident; seen oftenest in the spring. A fine male brought us at Camden, October 27, 1884, by Mr. Walter Clark. One seen near Yelpingville schoolhouse, Washington Township, February 22, 1885; day cold, snow deep. I have no definite records for Vigo, though I doubt not it breeds there in limited numbers. My only record for Monroe County is one seen on the campus at Bloomington, February 10, 1883. It is doubtless not rare in this county.

77. *ACCIPITER COOPERI* (Bonaparte). COOPER'S HAWK. (333)

Resident, perhaps more common than the preceding.

*Carroll County:* March 5, 1879, one noted near Camden, and one caught next day in a steel trap. A nest with three fresh eggs found May 10, 1883, in a beech tree on J. M. Beck's farm near Burlington. Other Carroll County records are: January 12, 1884, one seen near Camden; January 31, another seen near Delphi; September 17, one brought us at Camden by Mrs. Walter Clark; March 13, 1885, one seen in Tippecanoe Township; March 18, one seen on Deer Creek near Camden.

*Vigo County:* March 31, 1888, one noted. A fine set of five fresh eggs near Coal Creek, nine miles northwest of Terre Haute, May, 1890. The nest

was about 50 feet up in a beech tree. These eggs measured in inches: 1.82x1.43; 1.76x1.36; 1.82x1.43; 1.82x1.43; 1.83x1.43.

In Monroe County, this hawk did not appear to be common, but it was doubtless a summer resident.

78. *BUTEO BOREALIS BOREALIS* (Gmelin). RED-TAILED HAWK. (337)

In my boyhood days on the farm just south of Burlington, one of the most interesting sights to be observed in spring, summer, and early fall was that of hawks sailing high in air. On our farm, or those adjacent, were usually several pairs. While most of them were Red-tails, some were doubtless the Red-shouldered Hawk. Their nests were in the tops of the tallest oaks, or occasionally in a beech, elm, tulip, or sycamore. On quiet, warm days, particularly in spring, a harsh piercing scream would be heard overhead, and, on looking up, sometimes one, but usually two, of these great birds would be seen sailing high in the air or chasing each other, the while rising higher and higher in more or less spiral curves and uttering their shrill cry. This cry would usually be uttered as one of the pair passed the other. Sometimes one, having risen some distance above the other, would swoop down upon it with a scream that could be heard a long ways; one of the interesting characteristics of these hawks is the wonderful carrying power of their cry. Sometimes the birds would continue circling higher and higher, first one above, then the other, until they could be seen only with difficulty, but the screaming could be distinctly heard, however high the birds might be. Sometimes, after attaining a considerable height, they would cease screaming and simply soar. After reaching a great height they would suddenly descend with partly-closed wings like an arrow to the top of the forest in which their nest might be found. Sometimes they would again ascend; frequently they would alight in one of the tallest trees. My recollection is that these flights were most frequent on quiet afternoons, but they might occur at any time, especially between eight and nine o'clock in the morning and four and five o'clock in the afternoon. While these flights were most frequent in the spring (probably during the nesting season), they might occur at any time from early in the spring until late in the fall.

Another common and familiar sight was that of one of these hawks sitting quietly on a dead limb of some old tree at the edge of a field or on a fence stake, waiting for some field mouse, rabbit or other small mammal which it might capture. The length of time a hawk would thus remain on watch is remarkable. I have no definite notes on the matter but I believe it within the truth to say that it was often more than an hour.

The Red-tail Hawk is still common in each of the three counties with which this paper is concerned. Records from Carroll County are: December 31, 1878, one found dead near Burlington; March 1, 1879, one seen; March 5, two seen. April 15, 1883, nest with three young about four days old, in top of a large white oak a short distance southwest of my father's house. Quite common in the winter of 1883-4: January 28 and 31, and February 19, 1884; and February 20 and March 12 to 14, 1885. I have seen young in the nest, April 15, 1885.

79. *BUTEO LINEATUS LINEATUS* (Gmelin). RED-SHOULDERED HAWK. (339)

This beautiful hawk was scarcely less common and familiar to me in my boyhood days than was the preceding species: indeed, in some years I am inclined to think it was the more common species. They, too, built their nests in the tops of the tallest oaks, beech, and sycamores. I remember climbing, in the spring of 1884, to a nest well toward the top of a large white oak (*Quercus alba*), in the woods southwest of our house, only to find in the nest three newly-hatched young instead of a set of nice fresh eggs for which I had hoped.

I think the habit of circling high in air and screaming the while is quite as characteristic of this species as it is of the Red-tail.

While the Red-shouldered Hawk is probably a permanent resident of each of the three counties considered in this paper, the majority of the individuals go south in the winter. On their return northward in the spring, they are sometimes gregarious, as evidenced by a scene which I witnessed in Clay County, just east of Terre Haute, April 3, 1879. In a large meadow at the side of the road, I saw a great number of hawks—I estimated the number at 150 to 200—flying about over the meadow. They were flying low, sometimes circling about as if hunting, but the general movement was northward. They were certainly doing some hunting, Hylas and garter-snakes being the principal victims. The majority of these hawks were the Red-shouldered, but some were doubtless Red-tails. This is the only time I have ever seen hawks together in anything like such numbers.

Both of these species were commonly known as chicken-hawks, and were commonly regarded as being very destructive to poultry. They doubtless do invade the barnyard now and then, but their destructiveness to domestic poultry has been greatly exaggerated.

Sometimes a certain individual hawk will acquire the "chicken habit", just as some dogs become "sheep-killing dogs", and then the only way out of it for the farmer is to kill the hawk. On the whole, however, the great majority of each of these species kill so many injurious rodents that they must be classed with the useful birds.

As I have already said, the Red-shouldered Hawk was common in Carroll, Vigo, and Monroe counties, though I have but few actual records. On March 15, 1885, I saw one near the Armstrong Pond at Camden. There was a good specimen in the collection of Dr. Seovell, of Terre Haute, taken by him near that city, and I noted one April 1, 1888.

80. *BUTEO PLATYPTERUS* (Vieillot). BROAD-WINGED HAWK. (343)

Rare summer resident. I have seen it only on a few occasions. One of these was on October 30, 1886, when Prof. O. P. Jenkins, Mr. Louis J. Rettger, and I saw one on Eel River in Clay County, near the Vigo County line. I saw another on Coal Creek in April, 1889. I have seen it rarely in Carroll County, and only in spring or autumn. I have no record of the species for Monroe County.

81. *ARCHIBUTEO LAGOPUS SANCTI-JOHAANNIS* (Gmelin).

## ROUGH-LEGGED HAWK. (347a)

Probably a rare spring and fall migrant: possibly a summer resident. One seen northeast of Terre Haute, in October, 1889. A rare winter visitant in Carroll County. No record for Monroe County.

## 82. AQUILA CHRYSAËTOS (Linnæus). GOLDEN EAGLE. (349)

Rare straggler. One killed in the eastern part of Carroll County in December, 1883. One seen near Terre Haute in the fall of 1887. A young female sent us November 22, 1889, from Bloomington by Moses Kahn of that place. These are the only records I have for the three counties.

## 83. HALIÆTUS LEUCOCEPHALUS LEUCOCEPHALUS (Linnæus).

## BALD EAGLE. (352)

Not infrequent as a winter visitor.

*Carroll County:* One seen near Camden in March, 1879; a young one seen just west of Pittsburg, November 21, 1883, and another young bird shot in Washington Township in January, 1884, by David J. Hardy; about the same time another was caught alive in White County and brought to Delphi; an adult seen near Bald Hill Church in Democrat Township about February 15, 1885, by James H. Shaffer; another adult was shot near Rossville the preceding month; a fine adult male was caught in a steel trap near Pymont February 20, 1885, and brought to us by our friend James H. Lyons on March 28, it having died; still another adult was killed about this time near Pittsburg by a Mr. McCord.

*Vigo County:* Seen occasionally along the Wabash in fall and winter. One at Durkee's Ferry in September, 1889. No definite records for Monroe County, though it doubtless occurs there.

It is said a pair of Bald Eagles nested on the Kankakee in northwest Indiana recently, but this report has not been verified. Of frequent occurrence at Lake Maxinkuckee.

## 84. FALCO SPARVERIUS SPARVERIUS Linnæus. SPARROWHAWK. (360)

Of all the hawks found in the counties covered by this paper, the Sparrowhawk is the most abundant, best known, and most useful. It is a permanent resident in all the counties, usually rare in winter but very common in summer.

On every farm one or more pairs of sparrowhawks could be found. A favorite resting place for them is on the top of some fence stake at the edge of a meadow or other field; another is on a limb near the top of some old dead tree at the edge of the woods. From such vantage points as these they watch the fields and open places for any luckless frog, snake, or field mouse that ventures into the open. At other times they may be seen flying about over the fields searching for their prey, now and then "hovering", that is, remaining stationary in the air over some particular spot which they wish to examine more carefully. If any suitable prey is seen, the Sparrowhawk drops upon it with incredible swiftness, seizes it in its talons, and flies away with it to some convenient perch and proceeds to make a meal of it. Gartersnakes are among the most frequent victims of the Sparrowhawk, and field mice come next among vertebrates. But grasshoppers and other insects constitute a large part of the food of this hawk. I have never seen a Sparrowhawk catch a bird of any kind; if they ever do it must be very rarely indeed.

The name "Sparrowhawk" is a misnomer; it would be far more appropriate to call it the "Grasshopper Hawk". Because of its usefulness in destroying noxious rodents and insects, the Sparrowhawk should be carefully protected.

The nesting habits of this hawk are quite different from those of most hawks, in that it nests in holes in trees like yellowhammers and woodpeckers. The nest may be in a natural hollow or in a deserted Woodpecker or Yellowhammer hole. In California, the Sparrowhawk sometimes lays its eggs in a deserted Magpie nest.

*Carroll County:* Noted May 11, 1878; March 1, 1879; January 10, 1884, one noted in Madison Township; March 25, common; December 18, one seen flying overhead in Brinlhurst, which alighted on the side of a barn near the Vandalia station where it clung to the side of the weather boarding for some seconds; the day was very cold and the snow deep.

*Vigo County:* March 31, 1888, and April 1, 1889, several seen.

*Monroe County:* Quite common.

#### 85. *PANDION HALIAËTUS CAROLINENSIS* (Gmelin). FISH HAWK. (364)

Occasionally seen in spring or fall along the rivers. Seen on White River near Gosport, and frequently on the Wabash, near Terre Haute. Noted in Carroll Comty as follows: In the summer of 1883, seen on two or three occasions on Wild Cat Creek near Burlington; September 21, one seen flying up Deer Creek near Camden; April 22, 1884, one seen on Deer Creek west of Camden; September 22, one noted on Wabash River near Pittsburg; April 14, 1885, one seen near Pymont.

#### 86. *ALUCO PRATINCOLA* (Bonaparte). BARN OWL. (365)

The Barn Owl does not appear to be very common anywhere in Indiana. I have record of only a few individuals that came under my personal observation.

In Carroll County, it is very rare. One taken near Frankfort in December, 1889. About the middle of December, 1898, Mr. George Van Der Volgen captured one near his home in Adams Township, Carroll County, and recorded the fact in the Delphi Journal of December 31, 1898. In June, 1919, Dale Haun of Burlington captured one near the Logan Johnson farm, west of Burlington. On June 20, 1890, I found a pair nesting in a hollow in a large white oak near the Five-mile Pond north of Terre Haute. One was killed in November, 1889, near the Curry schoolhouse in Vigo County, and another was shot in the county about the same time. In July, 1890, a nest with three young just able to fly was found near the Big Four railroad bridge at Terre Haute. On November 19, 1889, we received a specimen from our friend Mr. J. R. Stahl of Dana, Vermilion County, north of Terre Haute.

#### 87. *ASIO WILSONIANUS* (Lesser). LONG-EARED OWL. (366)

Rather common resident, but not often seen. In January, 1883, one was shot in the pine grove at Mr. Turner's at the west edge of Bloomington, and another was seen in the same grove a few days later.

The records for Carroll County are as follows: On January 29, 1884, one was received from John W. Hamilton of Bringham near which place it had been shot January 25. Another was seen at the same time and place.

On February 5, 1886, one was received from S. W. Barnard of Deer Creek. On January 14, 1888, I saw one in a spruce tree in my father's yard near Burlington.

On December 30, 1890, Mr. E. E. Slick of Kewanna, Fulton County, sent us a specimen which he collected near that place.

88. *ASIO FLAMMEUS* (Pontoppidan). SHORT-EARED OWL. (367)

Resident in all the counties but not often seen.

We obtained two specimens in Monroe County in the fall of 1885, and one October 18, 1886. February 1, 1890, Mr. Fletcher M. Noe of Indianapolis, sent us a female taken January 31, 2½ miles north of that city. December 1, two females obtained near Terre Haute by Dr. T. C. Stunkard, and two others obtained by Mrs. Geo. Brosius at Paris, Illinois, one of which was brought to us. In the fall of 1888 (probably in October), I saw one at the Five-mile Pond north of Terre Haute. February 13, 1891, we received a pair (male and female), in the flesh from Frankport, Clinton County, where they were collected by Mr. Al. Keys. On December 27, 1902, one was seen near a tamarack swamp two miles southwest of Lake Maxinkuckee.

89. *STRIX VARIA VARIA* Barton. BARRED OWL. (368)

One of our most common owls, and a permanent resident in all the counties considered. Although I noted it frequently in Monroe, I collected no specimens. In Carroll, I noted it very often. Several were obtained in the winters of 1877 to 1879; one near Camden, February 18, 1878, and a female January 27, 1879. Whenever I made a trip to any of the heavily timbered regions about Camden or Burlington, especially in the Deer Creek bottoms, I was quite sure to see one or more of these interesting owls. In the heavy woods southwest of my father's farm near Burlington, they were very common and in the spring of the year, their crazy notes could be heard, quite terrifying to the small boy who at times was sent into the edge of those woods to bring the cows home in the evening. A pair had their nest for several years in the hollow of a large elm not far from the house, and I have often seen the whole family, old and young, in the old elm or other trees near by. February 14, 1885, a female brought us by Mr. John Cline from near Camden. On the previous evening I saw one in the woods 2½ miles south of Camden. February 21, a female was sent us by S. W. Barnard of Flora. March 9, I found a male dead in the woods southwest of my father's farm. On December 7, 1889, I secured a female at the Goose Pond, 9 miles south of Terre Haute. On January 4, 1890, another female was brought us by Mr. J. E. McGilvrey from near Clinton, Parke County. This owl was being pursued by crows when Mr. McGilvrey shot it. An examination of the ovaries showed eggs not larger than peas.

The Barred Owl never kills chickens. Its food consists almost entirely of noxious rodents, insects, and the like. It is therefore a very useful bird and should be rigidly protected.

90. *CRYPTOGLAUX ACADICA ACADICA* (Gmelin). SAW-WHET OWL. (372)

This little owl is apparently very rare in Indiana. We have two specimens, both adult males, obtained at Terre Haute, March 25, 1890. One of them was seen sitting on the edge of a cradle in the children's room of the house of my neighbor, Judge Stimpson, on South Seventh Street. When the children awoke in the morning, they saw the little owl as it sat on the cradle and as it flew from the room through an open window and alighted on a tree in the yard. One of the boys struck it with a stone from a "nigger-killer".

On May 8, 1883, I found a nest of this species in a dead elm snag in Stockton's thicket near Burlington. The snag was about 20 feet tall but had fallen over and lodged in the fork of a small soft maple. About half-way up the snag was a hole in which a flicker had her nest with three fresh eggs, while a little higher up in another hole I found six young Saw-whet Owls just about ready to leave the nest. I took four of the young owls, hoping to make pets of them. Later that evening, I returned to the nest, hoping to find the parent birds but neither they, nor the two young which I had left, could be found.

About this same time Mr. Fletcher M. Noe of Indianapolis reported receiving one from near Pymont, Carroll County.

On Thaukssgiving day, 1887, one was found dead in the engineer's room at the University, at Bloomington, and brought to us.

91. *OTUS ASIO ASIO* (Linnaeus). SCREECH OWL. (373)

The Screech Owl is the most common and best known owl in the state. It is a permanent resident and quite common in all the counties in which I have had opportunity to make ornithological observations. I have the following definite records: May 8, 1886, a female in gray plumage obtained in the White River bottom near Gosport. While walking through the weedy woods near the river, I flushed the owl from the ground. It flew into a small tree, where I shot it. A short distance away another, also in gray plumage, was seen to fly into a hollow limb. One in gray plumage at Terre Haute November 2, 1886. December 30, 1887, a female in gray plumage, received from Seelyville, Vigo County. March 2, 1889, one brought to us alive by Mr. W. J. Whitaker of Terre Haute. January 11, 1890, a female in red plumage found in the hollow of an oak tree on the Baur farm three miles north of Terre Haute. Two others also in the red plumage were captured by James McTaggart at Terre Haute about December 12. January 13, 1891, a female, very light gray, brought by Miss Irene Christian, from near Terre Haute. December 4, 1884, a female brought us by Schnyler Ray of Camden. A week later (December 12), another specimen in gray plumage was shot by Philip Ray from a tree in Chas. E. Rice's yard in Camden. February 17, 1885, a female in gray plumage was caught in D. T. Sander-son's barn at Camden. January 14, 1888, a male in red plumage caught by me in my father's barn near Burlington.

In the winter of 1878 and '79 screech owls were unusually common in Carroll County: a great many specimens were collected or brought to us from the vicinity of Camden, Flora, and Burlington. October 19, and December 1, 9, 14, 19, 24, 26, 29, and 31, 1878, one secured on each date; Jan-

uary 8, 1879, two taken, one red, one gray; 14th, one gray; 16th, one gray; and February 25, one gray.

The red and the gray color phases appear to be about equally common.

The food of the Screech Owl is chiefly small rodents and insects; it never takes chickens. A pair of screech owls about a farm are worth much more than a cat in destroying mice. This species should be thoroughly protected.

92. *BUBO VIRGINIANUS VIRGINIANUS* (Gmelin). GREAT HORNED OWL. (375)

Resident, but not now very common, as a result of indiscriminate and senseless persecution to which it has been subjected.

*Carroll County:* October 5, 1878, one taken near Camden; on February 21, 1884, I saw one in a large sycamore tree on Deer Creek east of Camden. On March 6, 1885, a very large female was sent to us from Flora by Mr. S. W. Barnard. November 4, 1889, a female taken near Burlington by J. M. Beck who sent it to us. A male gotten east of Terre Haute, April 27, 1888, by Mr. A. H. Kelso, one of my students. Another brought us in the fall of 1888 by Mr. Ed. Tetzl of Terre Haute, and another about the same time by Mr. Frank Byers. A fine female caught in a steel trap near Sullivan, Indiana, and brought to us December 4, by Hon. Murray Briggs.

During my boyhood days at Burlington, the Great Horned Owl, Cat Owl, or Hoot Owl, was quite common. They frequented the dense woods and their *whoo, whoo, whoo-hoo*, was a familiar sound, most frequent in the spring and fall, but often heard in summer and winter. Their presence in the deep woods was frequently made known by crows, or jays. These species seemed to have no love whatever for the Great Horned Owl. When a jay or a crow discovered one of these owls quietly dozing in the thick foliage or protection of some tree, it would at once set up a cry which soon brought to its assistance all the other jays or crows within a radius of a mile or more. They would all, or in turn, fly at the owl, perhaps sometimes striking it, and all the time keeping up such a din with their cawing and "rough language" as only crows and jays are capable of. When the owl could stand it no longer and attempted to escape by flying away, its tormentors, especially the crows, would follow it closely, and renew the attacks when it stopped again. These attacks are sometimes kept up for an hour or more.

That the Great Horned Owl is guilty of occasional forays on the poultry yard must be admitted. An owl which has once met with success in its visit to the chicken roost is quite apt to repeat the visits at intervals of a few days and usually with disastrous results to the poultry. Perhaps the most successful method employed by the farmer in meeting these raids was by trapping the owl. A tall stout pole was set in the ground in the chicken lot. A board was nailed on top of the pole and a set steel trap placed on the board. An owl coming to the chicken lot would be quite apt to alight on the top of the pole and be caught in the trap.

While the Great Horned Owl does do some damage to the farmer's poultry, this can be excused when we consider the great good they do in the destruction of noxious rodents.

93. *NYCTEA NYCTEA* (Linnæus). SNOWY OWL. (376)

The only certain record I have of the occurrence of this magnificent owl in Vigo County is that of an adult male captured November 20, 1889, by Mr. Elijah Liston, 2½ miles southeast of Pimento, or about 14 miles south of Terre Haute. Liston saw it alight upon a strawstack. Firing at it with a small Flobert gun, the tip of one wing was broken, which enabled Mr. Liston to capture it. The owl died December 9, and was brought to us. It is very white and is, withal, a very fine specimen.

While this is the only example of this species known to me from Vigo County, in the winter of 1887-8 as many as eight were taken in Indiana, all before Holidays. About the same time this specimen was taken in Vigo County, we received in the flesh, two other fine examples,—one from Prof. F. M. McFarland, Olivet, Michigan, December 2, and one from Vermilion, South Dakota, whence it was sent us by Dr. S. G. Agersborg, January 5, 1890. I have a report of the capture of one near Camden in the winter of 1865.

94. *COCYZUS AMERICANUS AMERICANUS* (Linnæus).

## YELLOW-BILLED CUCKOO. (387)

A common summer resident: usually more numerous than the Black-billed species.

The cuckoos are among the most strange and interesting of our birds. They are very quiet, noiseless and ghost-like in their movements. One may remain for an hour or more in an apple-tree over your head without attracting your attention, although it may be moving about all the time from limb to limb, gleaning caterpillars of which they are very fond. You learn of its presence only when it flies to another tree, and you see it only then if you happen to be looking in the direction of its flight, for it is as noiseless in its flight as it is while feeding.

With us, its favorite nesting sites are on horizontal limbs of old apple trees. The nest is a poorly constructed affair, suggesting that the time *may* come, in the evolution of the species, when our cuckoos will abandon the building of any nest whatever and degenerate to the level of their European cousins, which drop their eggs in the nests of other birds.

Both of our species of cuckoos are generally and usually called Rain Crow in Indiana. This has some justification in the fact that their doleful song, if it may be called a song, is most often heard on quiet days in summer and early fall when clouds are forming and rain is imminent. Besides this note which presages rain, they have another note or call which plainly suggests the noise made by water pouring from a jug.

*Carroll County:* May 11, 1878, one taken at Camden: June 30, 1885, full set of fresh eggs: seen at many other times.

*Monroe County:* May 5, 1886, noted. *Vigo County:* May 18, 1888, noted.

95. *COCYZUS ERYTHROPTALMUS* (Wilson). BLACK-BILLED CUCKOO. (388)

A common summer resident. Up to about 1884, this species appeared to be less common than the Yellow-billed Cuckoo, but since then it seems to have become relatively as common.

*Vigo County:* May 3 and 15, 1888.

*Carroll County:* May 11, 1878, one taken; May 13, 1882, May 16, 1883, May 30, 1884, and May 20, 1885, noted.

96. CERYLE ALCYON (Linnæus). BELTED KINGFISHER. (390)

Common summer resident, arriving quite early in the spring soon after the ice goes off, and remaining until late in the fall; a few sometimes remain in favorable situations all winter.

*Carroll County:* Common along the Wabash and all the creeks, nesting in all suitable banks. March 4, 1878, one taken on Deer Creek near Camden; March 5, 1879, one noted; May 17, 1883, one noted on Deer Creek; April 3, 1885, first of season seen near Camden; May 18, nest with six well incubated eggs; May 21, noted.

*Vigo County:* Several pairs could always be seen each summer along the river near Terre Haute, and one pair at the gravel-pit east of town; March 31, 1888, noted.

*Monroe County:* Not common, doubtless because of the few streams.

97. DRYOBATES VILLOsus VILLOsus (Linnæus).

HAIry WOODPECKER. (393)

A fairly common resident, seen in the edge of woodlands where there are old dead trees and snags; also about the barn-lots and orchards; less abundant than the Downy and not so confiding or well known. Perhaps about equally common in all three counties.

*Carroll County:* February 15, 1879, noted near Camden; March 18, 1885, observed to be very common in Deer Creek bottoms above Camden. In the winter of 1884-5, one or more individuals might be seen in Carroll County almost any day.

*Monroe County:* Quite common, especially in the spring.

*Vigo County:* Noted practically every time I went to the woods.

98. DRYOBATES PUBESCENS MEDIANUS (Swainson).

DOWNY WOODPECKER. (394c)

A common and familiar permanent resident, perhaps, next to the Red-head, the best known of all our woodpeckers. The Downy is a cheery little bird, quite tolerant and unsuspecting of man, coming about our orchards and yards and making itself very much at home. I would say it is about equally common in all three counties. Nesting in late April to early June.

*Carroll County:* February 15, 1879, noted at Camden; May 28, 1883, a nest in a hole in an old apple tree near Camden with five young nearly able to fly; March 18, 1885, observed to be very common in the Deer Creek bottoms near Camden. Noted November 11, 1906, on an elm near her home in Burlington, by Miss Ava Evermann who saw another Downy December 31, in a maple on the street.

*Monroe and Vigo Counties:* Equally common and well known.

99. SPHYRAPICUS VARIUS VARIUS (Linnæus).

YELLOW-BELLIED SAPSUCKER. (402)

A rather infrequent fall and spring visitant, sometimes a winter visitor. In Monroe County frequently seen in late fall and early spring; one noted March 26, 1886. In Vigo County apparently less frequent. Perhaps more

common in Carroll County. An adult female shot, December 15, 1884, from an apple tree in my garden at Camden. It was feeding on a frozen apple. A very heavy snow had fallen the previous night, but the day was not cold. A month later, January 11, an adult male was shot from a wild cherry tree in the hen lot on the home farm near Burlington. On April 4, I saw a male at Camden; and on April 16, I saw a male near my house in Camden.

100. *PILEOTOMUS PILEATUS PILEATUS* (Linnaeus).

PILEATED WOODPECKER. (405)

Formerly a not uncommon permanent resident, but now very rare. Until destroyed in the Normal School fire of March 8, 1888, Mrs. Evermann and I had in our collection three specimens of this fine species,—one taken in the fall of 1885, on Beanblossom Creek near Bloomington, Indiana, (where another was taken at the same time), one (an adult male) taken near Metamora, Greene County, by our friend Edwin Corr who brought it to us in the flesh Christmas day, 1885; and a third (a male) taken November 5, 1886, in the heavy woods near Coal Creek north of Terre Haute.

When I was a small boy I often saw these big Black Log-cocks, as we called them, on my father's farm near Burlington. They could be heard oftener than seen, their loud sonorous tattoo coming from out the dense forest, which, to us small boys, seemed very somber and full of many sorts of strange and dangerous animals. One might sometimes surprise one of these big birds beating his tattoo on the dead top of some old elm, maple or oak, and then see it fly away with a wild, frightened call.

Sometimes these birds would come about the fields and pastures if there were any old dead trees, snags or stumps in them. I remember quite distinctly seeing one on a large and tall rotten stump within a few rods of our house, many years ago, perhaps in the early sixties. It was industriously hunting for grubs in the rotten wood. I had learned that yellowhammers and other woodpeckers could sometimes be killed or captured by slipping up upon them from the opposite side of the stump and striking around the stump with a flexible brush. I tried the experiment with this Log-cock. Securing a much-branched beech limb about four feet long, I stealthily approached the stump. The Log-cock was so intent upon its quest for grubs that it was oblivious to my approach. When at the stump a smart blow on the side of the stump caused the flexible ends of the brush to strike the bird and stun it so severely that I had no difficulty in capturing it.

101. *MELANERPES ERYTHROCEPHALUS* (Linnaeus).

RED-HEADED WOODPECKER. (406)

From my earliest recollection the Red-headed Woodpecker has been to me perhaps the most familiar and best known of our native birds. In my boyhood days in Carroll County, it was excessively abundant and much detested by every farmer who had fields of corn or apples and cherries upon which it might feed. And that it was very destructive to the ears of corn while in the milk or roasting ear stage, can not be denied. To convince one of this fact, it was only necessary to take a look at the outer rows in any corn field, particularly on the side next to a woodland. In these rows not an ear escaped; every one showed the husk torn away at the distal end and from three to 10 square inches of the grains eaten more or less com-

pletely. The young woodpeckers, those hatched the previous spring, seemed to have reached their most voracious age just when the young ears were in the condition to suffer most. The damage done the whole country over was very great indeed. A little earlier in the fall or summer the Red-heads paid their respects to the ripening cherries and the early harvest apples. It is probably a very conservative estimate to put their destruction of early apples at 10 per cent.

But we had a very unique way of somewhat lessening their destruction of apples. The method may be described as follows: A long, slender pole (gray ash was the best), was set firmly in the ground under the apple or cherry tree which it was desired to protect, the pole being long enough to project two or three feet above the top of the tree. Woodpeckers coming to the tree would almost invariably alight first upon the side of the pole. The boy who was "out for woodpeckers" would station himself under the tree at the base of the pole where, with a heavy axe or maul in hand, he would await the coming of the bird. The foliage of the tree was thick enough to prevent the woodpeckers from seeing him, yet not so dense as to prevent the boy seeing the upper part of the pole upon which the birds would alight. When one arrived and alighted on one side of the pole a smart blow on the same side of the pole would knock the breath out of the bird and it would fall to the ground where it would be promptly killed, if not already dead. In this way it was an easy matter for one person to kill a dozen or more woodpeckers in a forenoon.

Another interesting method by which an occasional woodpecker or flicker could be killed was by means of the horsehair snare. These birds were in the habit of alighting on the upper end of the stakes of the stake-and-rider fences with which most of the fields in those days were surrounded. With a 2-inch auger, a hole was bored an inch or two inches deep on the upper side near the upper end of a stake which woodpeckers had been observed to frequent. Two or three grains of corn were placed in the bottom of the hole and then a strong horsehair snare was placed around the hole so that it was a trifle smaller in one diameter than the hole, yet rested upon the wood either at the top and bottom or on the sides of the hole. This hair snare or slip-noose was tied to a short stout cord or small wire which was firmly fastened to the stake. The woodpecker, alighting on the stake, spies the corn and at once puts his head in the hole to get it, but on withdrawing his head the horsehair catches under the feathers of his neck, draws tight and soon chokes him to death. While this method was hardly as sure a thing as the pole and axe, it was nevertheless quite effective, albeit not at all humane.

In those days, the multitude of dead trees in the "deadening" on the farms, to say nothing of the hundreds of acres of primeval forest and open woodland, afforded exceptionally favorable nesting sites for the Red-heads and the other woodpeckers. These have now almost entirely disappeared and with their passing the woodpeckers also have gone, so that now none of the woodpeckers is nearly so abundant as they were 30 to 50 years ago.

Another thing which has had much to do with the decrease in the abundance of the Red-headed Woodpecker was the destruction of the oak and beech forests which produced such a great part of the winter food of these birds. One of the pretty sights of the fall months was that of the wood-

peckers busily engaged in storing away nuts of various kinds, particularly beechnuts and the smaller acorns, such as the Chinquapin Oak (*Quercus michauxi*). On quiet autumn days the woodpeckers would work incessantly gathering and storing nuts, placing them in natural cavities in certain trees or driving them into holes which they themselves had made. The constant flying back and forth, interrupted only by occasional chasing of one another, and the accompaniment of their loud, not unmusical, chatter, was a scene quite familiar to every farmer's boy and one which never failed to interest him.

The Red-headed Woodpecker is still common in each of the three counties, and in each of them a few usually remain throughout the year. The majority, however, go further south in the fall. In Carroll County, they remain through only those winters following seasons of abundant mast and such as are not especially severe. Noted by Miss Ava Evermann at Burlington as follows: January 5, 1907, several in woods; October 27, three or four seen in woods; October 28, a young one seen on a hickory tree in woods, its back mottled and its head only slightly red. A great many adults seen on this date, in the woods. January 1, 1908, two or three seen in the woods, and on January 25, one seen in same woods.

Their nesting season is in May. A nest with three fresh eggs, May 15, 1888, in an oak snag at the forks of the road near Mr. Smith's near Honey Creek south of Terre Haute. One taken east of the fairgrounds at Terre Haute, April 25, 1888. Another with five fresh eggs, May 10, 1883, in a hole in a hickory snag on my father's farm near Burlington.

During the winter of 1881-82, they were very numerous in Carroll County, but since then, as well as before, they have been very rare in winter. December 13, 1884, one seen. A few evidently remained all that winter, though not many were noted. One observed March 18, 1885. Several noted near Bloomington, January 12, 1883.

#### 102. CENTURUS CAROLINUS (LINNEUS). RED-BELLIED WOODPECKER. (409)

A moderately common resident in all the counties, perhaps most numerous in Monroe. This species, locally sometimes known as "Sapsucker" and "Guinea Woodpecker", was, like the Red-head, quite destructive to the ripening corn and to the early apples and cherries, and, like the Red-head, it could be killed by striking with an axe or maul, the pole on which it had alighted.

*Carroll County:* February 15, 1879, noted near Camden.

*Monroe County:* January 12, 1883, three or four noted.

*Vigo County:* Noted at Terre Haute March 24, 1888, and April 1, 1889.

#### 103. COLAPTES AURATUS AURATUS (LINNEUS). FLICKER. (412)

An abundant and well-known bird, resident throughout the year, locally known as "Yellowhammer". This is one of the most useful of birds. It lives chiefly on grubs and other insect larvae, and upon noxious insects. The little harm it does to the corn in roasting-ear time is trivial in comparison with the great good it does in destroying insect enemies of cultivated crops.

A sight with which every country boy or girl is familiar is that of yellowhammers on the ground in the meadows, pastures and lawns, hunting for large white grubs and other insect larvæ which are so destructive to the lawns. I remember one fall when the large white grubs were so abundant in a certain yard that the sod could be pulled up and rolled back like a carpet, leaving hundreds of grubs exposed; and these attracted several yellowhammers which feasted upon them.

The flickers nest in holes which they dig in dead trees or limbs. The nesting season in Vigo County begins late in April. The eggs, five to eight in number, are a crystalline white. Sometimes the flicker can be induced to lay a large number of eggs. On May 4, 1885, I found a nest in a hole in a large buckeye tree in the Dr. Armstrong pasture in Camden. The nest contained two eggs, one of which I took, leaving the other as a nest egg. This was repeated daily until June 22, when some one destroyed the nest. In all 37 eggs were laid by the bird from May 3 to June 22. On 14 of the 51 days no egg was laid. How many more I would have gotten if the nest had not been destroyed will never be known. The most remarkable record of the laying capacity of the Flicker has been furnished by Charles L. Phillips of Taunton, Massachusetts. In a period of 73 days, he obtained 71 eggs.

*Carroll County:* May 8, 1883, two fresh eggs in hole in dead elm snag in Stockton's thicket in which I found a nest with six young saw-whet owls.

Miss Evermann contributes the following notes: October 7, 1906, one seen in maple tree near house; 28th, several seen and heard in woods; November 30, one heard near house and its note was "wiechen" which Dr. Chapman says he does not remember hearing a Flicker utter when alone. January 25, 1908, three or four seen in the woods; 19th, one seen in tree near house, only one seen away from the woods this winter.

*Monroe County:* January 12, 1883, two noted near Bloomington.

104. *ANTROSTOMUS VOCIFERUS VOCIFERUS* (Wilson). WHIP-POOR-WILL. (417)

Not uncommon summer resident, arriving in the last half of April and remaining until in September.

During quiet evenings in spring and early summer the interesting call of this strange bird may be heard, most commonly in or at the edge of heavy woods, especially hillside. It repeats the syllables *whip-poor-will*, in rapid succession and so many times without a break, that it would become monotonous were it not so strange, so weird.

*Carroll County:* September, 1877, specimen collected; May 8, 1884, first heard this evening near the Evans schoolhouse in Tippecanoe Township, but others had heard it May 4; April 22, 1885, first of season heard in evening near Yeoman; heard again next evening near Joseph Trent's east of Camden. Charles Metsker heard one near Yeoman, April 21. I never found a nest of the Whip-poor-will.

*Vigo County:* Noted April 11, 1888, and May 1, 1889.

105. *CHORDEILIS VIRGINIANUS VIRGINIANUS* (Gmelin). NIGHTHAWK. (420)

The Nighthawk or Bullbat is a common spring and fall migrant, and possibly a rare summer resident. Of this last I am not sure, as I have

never found its nest nor have I any record of seeing it in July. It may frequently be seen in May and early June circling about over the fields and pastures in the dusk of evening or even on dull cloudy days, but it is most abundant in August and early September, when considerable numbers may sometimes be seen flying about over the meadows and other open places.

*Carroll County:* August 31, 1883; May, 1884; May 10, 1885.

*Monroe County:* May, 1886.

*Vigo County:* May 8, 1888.

106. *CILETURA PELAGICA* (LINNÆUS). CHIMNEY SWIFT. (423)

An abundant summer resident. Formerly nesting in hollow trees and similar situations, but now almost invariably in chimneys. The only nest I ever found in a tree I discovered in the hollow of a hickory stub on my father's farm near Burlington in the spring of 1883. The chimney of our house on the home farm always had its colony of four to six or more pairs of chimney swifts every summer, and it was astonishing the noise they would make, not only throughout the day but also at night, seriously interfering with one's sleep.

*Carroll County:* July 14, 1882, set of four fresh eggs. In 1884, first noted April 27; common next day.

In 1884, a pair of chimney swifts fastened their nest to the inside of the door of an outhouse at the Vandalia depot in Camden. The birds entered the building through a small hole in the gables. The building was in daily use, but those who visited it were cautioned by the railroad agent to open the door carefully so as not to jar the eggs. Usually the bird sitting on the eggs would leave the house when any one entered, but sometimes she would remain on the nest. Four eggs were laid, one of which was jostled from the nest, the other three hatched and the birds grew to maturity. This nest was repaired and used again in 1885, and in 1886, and a brood raised in each of those years. April 17, 1885, noted.

In the fall of the year the chimney swifts resort in great numbers to some one chimney in the neighborhood. At Bloomington, they frequented the chimney of the University engine house; in Terre Haute, vast numbers used the chimney of the Baptist church on North Sixth street; while in Carroll County, they have for many years resorted to the chimney of the Methodist church in Flora.

*Monroe County:* April 11, 1886. ..

*Vigo County:* April, 1888, ten or 15 noted; April 7, 1888, and April 6, 1890.

107. *ARCHILOCHIUS COLUBRIS* (LINNÆUS).

RUBY-THROATED HUMMINGBIRD. (428)

This beautiful little bird is a rather common summer resident in all the counties considered in this paper. Noted at Bloomington, May 13, 1882; at Camden, May 8, 1883, where it was common by May 23; May 4, 1885, two or three seen. At Terre Haute noted May 3 and 5, 1888.

## 108. TYRANNUS TYRANNUS (Linnaeus). KINGBIRD. (444)

A common summer resident in all the counties.

*Carroll County:* June 19, 1882, set of three fresh eggs, nest in an apple tree in home orchard; June 18, 1883, set of four fresh eggs; first observed in 1883 on April 29; in 1885, on April 22.

*Monroe County:* Common in the orchards about Bloomington in the summers of 1882, 1886 and 1888.

*Vigo County:* April 22, 1888, ten or 15 noted; April 7, 1889, and April 6, 1890.

## 109. MYIARCHIUS CRINITUS (Linnaeus). CRESTED FLYCATCHER. (452)

Fairly common summer resident, most often seen in woodlands at the edge of open fields. Nests in holes in trees and has the curious habit of almost invariably using at least a part of a cast-off snake-skin in its nest. In 1882, a pair nested in a section of an old pump-stock which I placed some 20 feet from the ground in a beech tree in my father's barn-lot.

In Carroll County arrives about the last of April; noted May 18, 1878; May 3, 1883; June 18, 1883, set of three fresh eggs; April 28, 1884, and again on April 28, 1885, in Adams Township. Noted at Bloomington, April 26, 1886. Noted at Terre Haute April 21, 1888, and April 25, 1889.

## 110. SAYORNIS PICEBE (Latham). PICEBE; PEWEE. (456)

A common and familiar summer resident. Appears in spring as early as the middle of March and remains quite late in the fall. Builds its nest of mud and moss, placing it under some bridge or culvert, under the eaves of a house, shed or barn, on the side of a cliff, or sometimes in a hollow tree. On May 9, 1890, I found a nest on the side of a sandstone cliff in a gorge at Fern, near Greencastle. It contained three fresh Pewee eggs and two fresh eggs of the cowbird.

*Carroll County:* March 8, 1879, six or eight seen; April 21, 1883, set of four fresh eggs; first one seen March 17, 1884, near Pleasant Valley, and March 31, 1885, near Camden depot. Noted building, March 26, 1884. For many years a pair placed their nest on a projecting board over the door of our granary near Burlington.

*Monroe County:* Arrives about the first of March; found nesting April 21, 1882, a set of four well incubated eggs.

*Vigo County:* Noted March 17, 1888, March 21, 1889, and March 30, 1890. June 2, 1882, a set of four in nest in a deserted house near Wyandotte Cave, that were very unusual in color, they being indigo-blue over about one-third of the surface.

## 111. MYIOCHANES VIRENS (Linnaeus). WOOD PEWEE. (461)

A rather common summer resident, most frequent in the open woods. Arrives in Carroll County about the last week in April. One seen near Joseph Trent's east of Camden, April 24, 1885; common in the woods on May 22, 1883. Nest with full complement of eggs in beech tree on home farm, June 18, 1883. Noted at Bloomington, April 28, 1886.

Noted at Terre Haute April 30 and May 2 and 5, 1888.

## 112. EMPIDONAX VIRESCENS (Vieillot). ACADIAN FLYCATCHER. (465)

A fairly common summer resident. Arrives in Carroll County about the middle of May. Full sets of eggs by June 15. June 17, 1882, set of three well incubated eggs; June 14, 1883, nest with two eggs and one of the cowbird, incubation begun; May 4, 1885, noted. This bird is one of the most frequent victims of the cowbird.

In Monroe County arrives about the middle of April and is very common during the summer. June 2, 1882, nest with one fresh egg at Wyandotte Cave. A partial albino taken at Sand Hill east of Terre Haute in June, 1890.

## 113. EMPIDONAX TRAILLI ALNORUM (Brewster). ALDER FLYCATCHER. (466a)

Rather rare summer resident. Nest found June 10, 1885, near Camden. Five noted at Terre Haute May 3, and others May 5, 1888.

## 114. EMPIDONAX MINIMUS (W. M. &amp; S. F. Baird).

## LEAST FLYCATCHER. (467)

Not very common summer resident in all the counties.

Noted May 6, 1885, near Camden.

## 115. OTOCORIS ALPESTRIS PRATICOLA Hedshaw.

## PRAIRIE HORNED LARK. (474b)

*Carroll County:* I remember distinctly the first time I ever recognized this species. It was in December, 1877, when Mrs. Evermann, one of our young lady students, and I were spending a morning observing the birds along Deer Creek just below Camden. On the south side of the creek just below the Porter dam we saw several horned larks in a small enclosure where some hogs were being fed. Snow covered the ground nearly everywhere and the shore larks had come to this place in search of food.

Since that day I have noted this bird frequently in nearly all parts of Carroll County, most rarely in the southeastern part, most abundantly in Tippecanoe and Jefferson townships which are largely prairie. May 4, 1878, collected specimens at Camden; March 17, 1879, noted. I noted them frequently in March, April, and May, 1883. On January 5, 1884, (a very cold day, 30 degrees below zero), I saw a flock. During April and May they were common. On December 19, I saw several in Lenon's hog-lot east of Camden. During the winter of 1884-5, they were moderately common. During March, 1885, they were pretty common. On December 12, 1916, while on an automobile trip with my nephew Claude Hawkins, from Russiaville, through parts of Howard and Carroll counties, a great many shore larks were seen. They were in small companies from two or three to 20 or more. They were feeding in the road and would fly up and out of the way only reluctantly as we came upon them. The ground was covered with snow and most of the trip was made in the teeth of a fine blizzard. Miss Evermann saw one in the road south of Burlington December 16, 1909, the only one she had seen up to that time.

It is certain this species is much more common in these counties now than it was 30 to 40 years ago. In all probability it nests in Carroll County, but I have never found its nest there.

*Monroe County:* I have never seen them in any considerable numbers in this county except in winter. On February 10, 1883, and again two days later, I found flocks of several hundred in a large meadow northwest of Bloomington. The days were cold and stormy and snow covered the ground everywhere except in situations such as in this meadow where the wind tended to keep the ground more or less bare. The birds were moving about in great flocks, alighting on and spreading over the bare spots where they searched for food, or, at times, stopping at patches of short weeds upon the seeds of which they fed.

*Vigo County:* These birds were usually common in winter or late fall and a few might be seen even in the summer particularly north of Terre Haute on the road to the Five-mile Pond, also south of the city, and in all other prairie parts of the county.

These birds doubtless find the public highways good feeding grounds, and the habit is so well marked that in some places they have received the very appropriate name of "roadsters". I heard this name applied to them in Merced County, California, in 1918.

116. *CYANOCITTA CRISTATA CRISTATA* (LINNAEUS). BLUE JAY. (477)

Of all our native birds the Blue Jay is perhaps the best known permanent resident. Every one knows the Blue Jay. We all enjoy seeing him about, albeit, his pert, not to say unmannerly, ways, sometimes seriously tax our patience. And then we often have a suspicion that his presence about the house or in the orchard means harm to the eggs or young of other birds that enjoy a greater measure of our confidence and respect.

But at times I have found the blue jays quite useful. When out collecting, if I heard one or more jays, about a hole in some old tree, using a lot of Blue Jay profanity and raising a general hullabaloo, I could be sure that there was a screech owl in that same hole. I have secured many a fine specimen with the aid of the blue jays in this way.

I think the Blue Jay is about equally common in all the counties covered by this paper. In Carroll County, it is quite common throughout the year. It is quite disposed to nest in the fruit trees and other trees about dwellings. April 21, 1883, nest with three eggs. On April 4, 1884, a pair observed building in a shade-tree in Dolph McKinney's yard in Camden. Others seen nesting on April 10. On my old home farm one or more pairs usually nested in one of the cedar or spruce trees in the front yard, and for some years at least one nest might be found in an apple tree in the orchard. On this farm the jay birds appear to be much less common now than formerly. While spending the week of June 25 to July 1, 1905, there I saw only one Blue Jay. Noted by Miss Ava Evermann of Burlington October 28, 1907, when several were seen in the woods, and again on New Year's day, 1908, when one was seen in the woods. They were common in town all winter.

Favorite nesting sites for the Blue Jay were in the large hawthorns which were common in the edges of the woods and in the more open places along the creeks.

In the South there is an interesting superstition, especially among the negroes, who say that you never see any blue jays on Friday because they are all away carrying sticks to the devil!

*In Monroe County*, the jays are common and begin to nest as early as the first of April. April 13, 1882, a set of three fresh eggs near Bloomington; February 16, 1883, common.

*In Vigo County*, also, they are a common bird. Their nests may be found in the hawthorns, locusts, and similar trees.

117. *CORVUS CORAX SINUATUS* Wagler. RAVEN. (486)

Formerly common, but now rare, if it has not entirely disappeared. In my boyhood days I have seen ravens in Carroll County. I am not sure I ever saw one in Monroe or Vigo County.

118. *CORVUS BRACHYRHYNCHOS BRACHYRHYNCHOS* Brehm. CROW. (488)

A common and familiar permanent resident. In the winter the crows gather up in great numbers and have permanent roosting places. One of these rookeries was located near Ridge Farm on the west side of the Wabash River, a few miles north of Terre Haute. When visiting this region in February, 1889, I saw what I estimated at 2,000 crows flying to this rookery in the evening. During the day they scatter over the surrounding country, covering a radius of several miles, feeding in the fields and other open places, and return in the evening to the roosting place. The winter of 1884-5, in central Indiana, was one of unusual and continued cold and deep, drifted snows. The crows, however, like the poor, were ever with us and, seemingly, in unusually great numbers. At Camden they were noted flying east in the morning and west in the evening; rarely or never north or south. I did not succeed in locating their roosting place or places. They were usually more or less scattered in their flight, but often they flew in rather compact bodies of 10 to 50 birds. Sometimes, usually about 4 P. M., the flocks were much larger. On March 4, 1885, Mr. Will Hough of Delphi, saw what he estimated at 400 to 500 flying west over South Delphi. They flew in a pretty compact body. The evening was very cold, the temperature being 12 to 15 below zero. Two evenings later (March 6), at 4 o'clock, I saw about 60 in one flock flying west near Delphi.

The Crow nests early in the spring. Full sets of eggs taken near Bloomington, March 20, and near Burlington, April 16.

Crows have a bad reputation, doubtless far worse than they deserve. They are charged with pulling up newly planted corn which they probably do to some extent; also with destroying the eggs of various species of wild birds, and domestic fowls, which also is doubtless true. I, myself, have often seen crows visit a strawstack in which several hens had their nests, search for eggs and, when found, impale the egg on their bill and fly away to some distant tree or other safe place where the egg would be devoured.

A nest with three fresh eggs near Burlington, April 16, 1883; another nest with four fresh eggs found in an apple tree near Burlington, April 28, 1919, by my young grandnephew, Donovan Beck.

A nest with two added eggs and one large young near Bloomington, April 29, 1882. Common January 12, 1883.

January 8, 1920, four seen north of Cutler and two more just north of Camden. While traveling on this day by train from Terre Haute to Logansport, the Crow was the bird most frequently seen from the car window. A good many were seen, usually in the cornfields or meadows, hunting for food. There was some snow on the ground, especially between Terre Haute and Frankfort.

119. *DOLICHONYX ORYZIVORUS* (Linnaeus). BOBOLINK. (494)

A spring and fall migrant, usually rare, but sometimes seen in large migrating flocks.

*Monroe County:* Thirty or more seen, May 6, 1882, in a meadow at north edge of Dumm's woods (the present Indiana University campus), and again on May 8, 1886, in meadows north of Bloomington, where several in full song.

*Vigo County:* Considerable flocks seen in the spring by Professor Blatchley and by me, usually in the meadows south of town or along the old canal north of the city.

*Carroll County:* On May 10, 1883, I saw five or six on the old Michigan road near Henry Appenzeller's, north of Burlington. These were the first I ever saw in the county and I am confident the species was then a new arrival. On May 6, 1884, several were seen near Deer Creek, and others near Burlington about the same time, once in a meadow on the Full-wider farm south of Burlington, and two or three times on my father's farm. James Milton Beck tells me he has seen bobolinks in summer in the meadow on this farm, which would indicate that the species breeds there now.

120. *MOLOTHRUS ATER ATER* (Boddaert). COWBIRD. (495)

A fairly common summer resident in all the counties.

The Cowbird is the only species of our birds which builds no nest of its own but habitually lays its eggs in the nests of other birds. Among the species in whose nests I have found cowbird eggs I may mention the following:

*Common Peewee*, Fern, Putnam County, May 9, 1890, three peewee and two cowbird eggs; *Kentucky Warbler*, Eel River Falls, Owen County, June 1, 1888, three warbler and one cowbird eggs; *Wood Thrush*, near the dam on Wild Cat Creek above Burlington, Carroll County, May 24, 1883, two thrush and three cowbird eggs; *Oven-bird*, near Burlington, May 28, 1883, three oven-bird and two cowbird eggs, found by Vern Beck; another by me on Turkey Run, Parke County, May 23, 1890, two cowbird eggs, incubation begun, no oven-bird eggs; and *Maryland Yellowthroat*, near Bryant's Ford, Parke County, one cowbird and three Maryland yellowthroat eggs, May 23, 1890.

Other species in whose nests I have found cowbird eggs are: Cardinal grosbeak, towhee, red-eyed vireo, warbling vireo, scarlet tanager, Acadian flycatcher, indigo bunting, worm-eating warbler, yellow warbler, American goldfinch, catbird, song sparrow, vesper sparrow, kingbird, Baltimore oriole, red-winged blackbird, and wood peewee. Definite dates besides the above are:

*Carroll County:* March 17, 1879, seen; June 17, 1882, one fresh egg; May 24, 1883, three eggs in nest of brown thrasher with four of the latter; incubation begun. March 31, 1884, first noted; April 5, 1885, both males and females, first of season, noted near railroad bridge on Deer Creek, east of Camden; June 29, 1905, four seen in barnyard on old homestead near Burlington.

121. AGELAIUS PHENICEUS PHENICEUS (Linnæus).

RED-WINGED BLACKBIRD. (498)

Summer resident, abundant in all suitable situations. About the marshy places along the rivers, at woodland ponds and in marshy meadows, will usually be found from a few pairs to a hundred or more of these beautiful birds. They are among the first to arrive in the spring, often coming as early as the first of February, and their cheery call is one of the most delightful and musical sounds of early spring.

They begin nesting by the last of April, full sets of eggs often being completed by the first of May. The nests are placed near the ground among, and fastened to, the cattails and grasses about the swamps.

*Monroe County:* Not very common in this county, doubtless because of the absence of swamp land and other suitable environment.

*Vigo County:* Abundant summer resident, breeding in all suitable places, such as Greenfield Bayou, the Goose Pond, Five-mile Pond, and along the river wherever there are cattails and tules. On May 3, 1890, at the Goose Pond south of Terre Haute, several nests were found, one with four fresh eggs, one with two, and another with only one. Two weeks later this pond was again visited. The nesting season was at its height as attested by many nests seen. Of seven nests examined four contained four eggs each, two had three eggs each, and one had only one egg, all fresh.

*Carroll County:* February 23, 1878, noted; March 5, 1879, four or five seen; 6th, many seen flying north. May 21, 1883, common nesting at the Maple Swamp; May 26, nest with eggs found near Burlington by Edwin C. Evermann; May 28, nest with four eggs found on my father's farm. February 12, 1884, saw a flock of 30 or more south of Delphi; February 19, Professor John W. Hamilton and I saw a hundred or more on the Ayres farm between Bringham and Cutler. They were feeding on the ground in a hog corral. The morning was very cold. The day before had been pleasant but in the evening grew very stormy and cold. May 5, found many nests in the Armstrong pond at Camden, in all stages from nests not yet completed to young birds a day or two old. March 5, 1885, saw first flock of 10 south of Camden. By the 12th they had become abundant. June 25 to July 1, 1905, only one pair seen on the old homestead near Burlington where they formerly were very abundant.

Other favorite breeding grounds in Carroll County were the tule patches along the old canal, in the Harness swamp south of Burlington, in the Leonard Smith swamp and the Maple swamp, west of Burlington, in the feather-bed prairie south of Logansport, the Runyan marsh east of Burlington, and in and about all the small inland ponds.

## 122. STURNELLA MAGNA MAGNA (Linnæus). MEADOWLARK. (501)

A common and much loved summer resident, a few remaining throughout the winter in favorable situations. Returns from the south by the middle of February and is common by the middle of March. Nests on the ground in the meadows and grassy fields. One of the most useful birds to the farmer.

*Carroll County:* February 20, 1878, noted; March 1, 1879, seen; June 27, 1882, set of four nearly fresh eggs; May 27, 1883, Vern Beck found a nest with two young and a fresh egg lying at the side of the nest; December 23, several seen. February 18, 1884, saw one at the Hiram Gregg farm north of Camden. They were apparently present all winter. March 15, common; March 6, 1885, first of season seen at the John Snoeberger farm west of Camden. By March 13, they had become common. June 25 to July 1, 1905, only six or eight were seen or heard on the old homestead. Noted by Miss Evermann at Kokemo March 3, 1920, the first seen since the preceding Thanksgiving.

*Monroe County:* An abundant summer resident, rare in winter; returns from the south about February 24. February 16, 1883, four or five seen.

*Vigo County:* Common in summer, rare in winter; returns from the south about the last of February. February 20, 1888, six seen.

## 123. ICTERUS SPURIUS (Linnæus). ORCHARD ORIOLE. (506)

A not very common summer resident, arriving about the last of April. Most frequent about orchards, nesting in apple trees, using green grass in the construction of its nest.

*Carroll County:* May 3, 1878, specimens taken; June 17, 1882, nest with one fresh egg; May 2, 1883, saw a male, first of the season, in an orchard on the Delphi-Burlington road. April 30, 1884, saw several; pretty common. May 4, 1885, considerable flock of both males and females seen. I have frequently seen nests in various apple trees in the orchard on the old homestead and in other orchards in various parts of the county. A pair of adults seen in my father's yard June 25-July 1, 1905. I am inclined to believe the Orchard Oriole is fully as common here now as it has ever been. I do not remember seeing it in my boyhood days, although it was doubtless present then. The first I recall were seen in the orchard about 1878; from then on two or three pairs have nested there or in the trees on the lawn each year, always constructing the nest of grass picked green, which, when dry, gives the nest the appearance of having been made of hay which had been rained on while curing.

*Monroe County:* Becoming more common every year. May 13, 1882, five or six seen.

*Vigo County:* Returns from the south in early May or late in April. April 28, 1888; May 3, 1889; and May 5, 1891.

## 124. ICTERUS GALBULA (Linnæus). BALTIMORE ORIOLE. (507)

Common summer resident, arriving about the middle or 20th of April, and remaining until in September; most frequent about farm houses and in open woodlands; one of our most beautiful and attractive song birds.

*Carroll County:* April 28, 1883, first noted today, in the Delphi school yard; May 12, first females noted. April 24, 1884, heard one in morning near my house in Camden. April 21, 1885, saw four or five, all males, in an orchard, near my house, the first of the season. June 25-July 1, 1905, one pair nesting in a maple tree in yard at old home.

This is one of the beautiful birds with which I have been familiar since my earliest recollection. Its brilliant colors and its confiding domesticity, coming as it does about the house and fields, make it a bird quite sure to attract the attention of any one. About the middle of April the males arrive from the south. A few days later the females arrive, and soon nest-building begins. The favorite trees selected in which to hang their beautiful pensile nests are maples, elms, poplars (*Liriodendron tulipifera*), and cottonwoods (*Populus*). A small poplar tree stood in the barn lot close to the house on the old home farm. In it a pair of orioles were quite sure to nest each year. It was a very safe place. The first limbs were 30 feet from the ground. The nest was usually hung well out toward the end of a slender limb, and always on the north side of the tree, where no cat could get at it and so near the house that no hawk or other marauder would dare molest it. In all the years I do not recall a single failure to raise a brood each year. I do not think a second brood is raised unless the first meets with accident. A new nest was built each year, and sometimes one or even two, old nests might be seen alongside the new; but usually the nest was not able to stand the winds and storms of winter so that, by the new home-building time, the tree would be free of old nests. In 1901, this old poplar tree blew down in a severe storm. Another tree in which the Baltimore were quite sure to build was a hard maple that stood in the lawn near the house,—a beautiful shade-tree, full-branched and symmetrical, in which the nests were usually placed well toward the top on the north side where, on account of the dense foliage, they were not easily seen. I think the Baltimore Orioles are now less abundant in this county than they were 20 or 30 years ago.

*Monroe County:* Probably more common here than in Carroll County. In 1882 to 1886, the first arrivals from the south were noted April 20, 21, 20, 21, 23. On April 23, 1886, several were seen in the University campus.

A few years ago a lady sat under a tree in her yard in Bloomington one afternoon unravelling an old stocking. She was called away for some reason, leaving the yarn lying in the yard. Next morning when she came to get the yarn it could not be found. The next fall, after the leaves had fallen and the trees were bare, an oriole's nest was seen in one of the trees. It was gotten down and was found to have been made largely of yarn which the lady readily recognized as the long-lost stocking ravellings.

*Vigo County:* Very common summer resident, even nesting in the shade trees on the city streets. April 24, 1888, a male seen; April 24, 1889, and April 28, 1891, noted at Terre Haute.

125. *EUPHAGUS CAROLINUS* (Müller). RUSTY BLACKBIRD. (509)

Usually a rather rare spring and fall migrant. I have not seen it very often. Although I am sure I have seen it in Carroll County, especially when I was a boy, I have no actual definite record. In Monroe County, it

occurs as a migrant, but I have no definite data. In Vigo County, I saw several large flocks October 26, 1886, and still others in the spring of 1889 along the old canal, north of Terre Haute.

126. *QUISCALUS QUISCULA ÆNEUS* Ridgway. BRONZED GRACKLE. (511b)

An abundant summer resident, but much less common than it was 30 to 50 years ago.

In Monroe County, very abundant about Bloomington, nesting in the pine trees in the yards; a few doubtless remain all winter some years.

Very common in Vigo County along the river, also nesting in the pine trees in Terre Haute. March 10 and 11, 1888, more than 100 seen.

In Carroll County, very abundant. May 21, 1883, nests with large young in the Maple swamp. March 15, 1884, first of season seen at the Jacob Nettle farm southwest of Camden; very common a few days later. March 25, 1885, saw several, the first of the season, soon became common.

Thirty to 40 years ago this region was heavily wooded. A more magnificent hardwood forest than that which covered the Wabash valley, the world has never seen; great oaks of several species, splendid maples, ashes and elms, each of several species, stately black walnuts, yellow poplars and sycamores, beautiful beeches and buckeyes, and a score or more of other hardwood trees, with a dense underbrush of smaller trees, shrubs and vines, and yet under these, tangled thickets of spice-brush, button-bush, wild roses, briars, and other smaller growth of many kinds. And lavishly distributed through these umbrageous forests were hundreds of small ponds, many of them only a few yards or rods, and none more than half a mile in length or width. Many of them, indeed, were mere wet-weather ponds which dried up late in summer or early fall, while others were more permanent and held more or less water throughout the year. Besides these there were many swamps, large or small, which furnished excellent breeding and roosting grounds for vast numbers of crow blackbirds and red-shouldered blackbirds. The crow blackbirds made their nests in the trees and snags, placing them in the forks of the larger limbs, on the tops of snags, in decayed places in the trunks, and sometimes even in hollows in the trunks or larger limbs. The height of the nests above the ground varied from a few to many feet. I have seen a nest on the top of a stump not two feet above the water, and another fully 50 feet from the ground in the crotch of a swamp maple.

In those days millions of crow blackbirds were hatched and grew to maturity in and about these swamps and ponds. Hundreds of thousands came up from the south every spring, built their nests and reared millions of young. It is not believed these figures are at all extravagant. The enormous numbers were never more noticeable than during roasting-ear time, when the green corn was in the milk, sweet and toothsome. Then the vast hosts, old and young, would make daily invasions of the cornfields, settling down on the ears as did the locusts on ancient Egypt, or as do their relatives, our grasshoppers, on the fields of Kansas.

So great was the damage done to the corn that the farmers made every effort to drive the birds away. One of the duties of the farmers' boys was to keep the blackbirds out of the cornfields, which the boys attempted to do by making all sorts of noises, such as shouting, calling, throwing

clouds and clubs, firing guns, beating tin pans, and by grinding out music (God save the mark!), on that invention of the devil, known as the horse-fiddle. A more diabolical instrument was never invented; nor one that could make noise more discordant or more terrifying.

In its essential construction this machine consisted of a cylinder about eight to ten inches in diameter and a foot to 18 inches long, made of hard-wood, perhaps beech or oak. Teeth two to three inches long of hard but flexible hickory were set in holes arranged spirally around the cylinder as are the teeth in the cylinder of a threshing machine. The cylinder was then placed in a box from at least one side of which teeth projected inward. The ends of the box and the side in which the teeth were set were made heavy and strong, the three other sides being of thin resonant boards. The cylinder was provided with an axle which fitted in a hole in each end of the box, the axle at one end being long enough to have a handle or crank fitted to it by which the cylinder could be turned. Turning the crank caused the teeth of the cylinder to strike the strong teeth fixed to the box, and the noise made by the release was about the most discordant, ear-splitting, and terrifying that can be imagined. A more effective means of stampeding blackbirds has probably never been devised. It was also effective in frightening horses, cattle, and other live stock on the farm, and causing a runaway now and then if used near a public highway. This instrument of terror also did excellent service in the callithumpian concerts (or "bellings" or "shivarees" we called them), with which newly married couples in that land were usually honored.

*Carroll County:* February 27, 1879, two seen, one collected; March 1, a large flock seen near Camden. In the early days, favorite nesting regions were the Harness swamp south of Burlington, the Maple swamp west of Burlington, and in and about all the small woodland ponds. After the swamps and ponds had been drained, these birds resorted to the pine, spruce, cedar and other trees about the farm houses and even in the towns.

*Mouroc County:* May 13, 1882, nest with two eggs incubated perhaps four days; February 27, 1883, several seen. A number of pairs nested each year in pine trees in Bloomington and in Turner's grove.

127. *HESPERIPHONA VESPERTINA VESPERTINA* (W. Cooper).

EVENING GROSEBEAK. (514)

An erratic, usually rare, winter visitant.

On January 22, 1887, Charles H. Bolman shot one (a male) of this rare species on the University campus at Bloomington. On the same day Cal. Meridith and a companion saw a flock of 12 from which they collected five near Frankfort (near the south line of Carroll County). A few days later two examples were seen near Frankfort. On April 27, 29 and 30, examples were noted at Bloomington by G. G. Williamson. On February 1, 1890, H. N. McCoy captured one from a flock of 20 to 30, near Lafayette.

128. *CARPODACUS PURPUREUS PURPUREUS* (Gmelin). PURPLE FINCH. (517)

In Carroll County frequently seen late in the autumn and again

early in the spring. Taken March 5 and noted October 12 and 19, 1878; January 25, 1879, a male taken, only one seen; April 22, 1884, saw a flock on Deer Creek east of Delphi and another on the John Wise farm west of Camden. On February 13, 1885, shot a female from a flock near the Frank Thomas pond south of Camden. While these are the only definite dates I have in my note-books, I have seen the species on many other occasions, perhaps most often in the spring when they would be feeding on the green buds of elms and other trees.

In Monroe and Vigo counties, this bird was often seen in early spring; it is probably a common winter visitor; it was quite common about Bloomington in the winter of 1882-83. January 12, 1883, several dozen seen near Bloomington. One of the sweetest notes that one may hear in early spring is the song of the Purple Finch as, perched in the top of some tall elm, he divides his time between feeding on the fresh tender flower buds and warbling forth his joy of living.

129. *LOXIA CURVIROSTRA MINOR* (Brehm). RED CROSSBILL. (521)

In *Monroe County*, this interesting bird has been noted frequently, usually as a winter visitant. February 10, 1883, shot a pair in the grove of pines at Turner's at west edge of Bloomington, and on 23d secured another at same place. The next winter they were unusually abundant. In the winter of 1884-5, they were again abundant about Bloomington, especially in the Turner grove where 25 specimens were collected, March 7-10, by Miss Anna Turner. I, myself, have never seen this species in Monroe County in the summer, but the late Charles H. Bollman reported seeing a few July 10, 13, and 14, 1886.

In *Vigo County*, I observed it frequently in the winter of 1887-8 (February 2 and 6, April 25, and May 3 and 5), and in 1888-9, among the pine trees at St. Anthony's hospital in Terre Haute.

In *Carroll County*, I have noted it a few times. On December 26, 1884, I saw perhaps half a dozen feeding among the pines in the Court House yard at Delphi. Beginning with December 11, the weather was cold and heavy snow falling, reaching a depth of 18 to 20 inches, the deepest for several years. On the 27th, it began raining and by January first, most of the snow had gone. On March 27, 1885, saw four or five in Camden, of which I shot a male and crippled a female which I kept as a pet for a week. It became quite tame and would eat apple-seeds, cooked rice, hickory nuts, hemp-seeds, etc., from my hand. April 3, saw one flying over; April 23, heard a large flock flying north.

130. *LOXIA LEUCOPTERA* Gmelin. WHITE-WINGED CROSSBILL. (522)

This species is of rather rare occurrence in Indiana.

*Monroe County*: February 6, 1883, I saw 15 or more in Bloomington, of which I secured several; noted again February 10. From that date until late in March it was common.

*Carroll County*: It has been noted several times. Late in March, 1883, I saw one at the old nursery in South Delphi. On March 3, 1885, a female seen at Camden, in a pine tree near my house; March 8, watched a female feeding on the cones of a tamarack tree in A. M. Evermann's yard in Bur-

lington. It was very tame, and, desiring a specimen, I secured it by tapping it with a stick. March 16, I saw what I believed to be a female of this species in Camden. It was snowing hard and the bird was flying from tree to tree in a small grove of pines.

I have no record of its occurrence in *Vigo County*.

131. *ACANTHIS LINARIA LINARIA* (Linnæus). REDPOLL. (528)

A rare winter visitor.

*Carroll County*: November 5, 1878, shot a male in fine plumage as it was flying overhead at the thicket on the hillside at southeast edge of Camden; another seen at Camden April 21, 1885. These are the only specimens I ever noted in this county.

*Monroe County*: January 30, 1883, one seen flying overhead.

*Vigo County*: I have no record for this county, but it has been noted there by others.

132. *ASTRAGALINUS TRISTIS TRISTIS* (Linnæus). GOLDFINCH. (529)

Common summer resident; a few may remain through the winter in favorable seasons.

Sometimes these beautiful and familiar little birds gather up in great flocks.

*Carroll County*: Common; October 24, 1878, noted. On December 25, 1884, I saw a flock of about 20 in the Deer Creek bottoms just above Camden. On April 22, 1885, first noted in summer dress. Noted by Miss Ava Evermann at Burlington September 4 and 10, and October 5 and 14, 1906, and October 28, 1907. Those noted in September were feeding on beet tops and sunflower seeds. That of 4th was still in summer plumage; that of 10th was a young bird. Those of October 28 were high up in the tree tops. In April, 1879, I saw a flock of several thousand in the White River bottoms in Bartholomew County, near Columbus. They were all in summer plumage and as they actually filled the tops of the trees and were in full song, a prettier sight could scarcely be imagined.

*Monroe County*: Common from February until late in the fall. May 13, 1882, several noted.

*Vigo County*: Very common. February 22, 1888, several seen.

133. *SPINUS PINUS* (Wilson). PINE SISKIN. (533)

A rare winter visitant. Common at Bloomington in February and March, 1883. February 6, 1883, thirty or more seen in Howe's yard; several collected; seen again February 10. On February 12, 1885, I saw two at Camden, the only time I ever noted it in Carroll County. I have no records for Vigo County.

134. *PLECTROPHENAX NIVALIS NIVALIS* (Linnæus). SNOW BUNTING. (534)

One of our most erratic and most beautiful winter visitors, coming down from the north usually only in the severest winters. I have seen it only in Carroll County. My first were a male and a female which I shot in the

road near Wm. Fisher's west of Pittsburg, January 15, 1884. In January, 1885, I saw two more near the Allen schoolhouse in Carrollton Township, feeding about a strawstack. The day before, my friend J. C. Trent, while on his way to church, saw over a hundred in a cornfield near Wheeling. The weather was very cold and had been so for several days. On February 13, 1885, I saw three about two miles south of Camden, two of which I collected. The snow was very deep and it had been very cold for a month. Ten days later (February 23-24), I saw two (possibly three), others near the Cullom schoolhouse in Jefferson Township. Of these I secured a male and a female.

135. *CALCARIUS LAPONICUS LAPONICUS* (Linnaeus).

LAPLAND LONGSPUR. (536)

The only records I have for this species in Indiana are of a fine male taken by my friend, Frank Hunter, at Bloomington, February 10, 1883, and another taken by me two days later, also near Bloomington. The day was cold and stormy. There were several inches of snow covered with a slight crust. In the afternoon I went collecting northwest of Bloomington, and came upon a flock of two or three hundred shore larks feeding in a small meadow about a mile from town. Watching the flock a few minutes I could see that besides the shore larks a number of some other species were mixed with them. Among the several specimens secured was one Lapland Longspur.

136. *POCECETES GRAMINEUS GRAMINEUS* (Gmelin). VESPER SPARROW. (540)

Fairly common summer resident in all the counties where I have made observations. From my early boyhood days I was quite familiar with this bird on the old home farm. In the spring, summer and early fall, as one passed along the road, or through pastures, or in the fields, one or more of these plain-colored, albeit very attractive little sparrows, would be flushed, the white outer tail feathers showing plainly as they flew, and serving as a mark for ready identification. Their nests were often found in the meadows, open pastures, and in other grassy places. The species was equally common about Camden and Delphi and all parts of Carroll County; also in Monroe and Vigo counties.

*Carroll County:* May 21, 1883, nest with one egg seen near Burlington. March 30, 1884, and March 31 and April 1, 1885, several noted.

*Vigo County:* Several seen near the Five-mile Pond, April 18, 1888.

*Monroe County:* May 13, 1882, nest with three eggs near Bloomington, incubation begun.

137. *PASSERCULUS SANDWICHENSIS SAVANNA* (Wilson).

SAVANNAH SPARROW. (542a)

A not very common spring and fall migrant in each county. April 12, 1888, noted in Vigo County. April 30, 1884, noted between Camden and Delphi. Not often seen in Monroe County, but doubtless a common migrant.

138. *AMMODRAMUS SAVANNARUM AUSTRALIS* Maynard.

GRASSHOPPER SPARROW. (546)

A rather rare summer resident in each county. April 17, 1888, two or three seen near Terre Haute.

139. *CHONDESTES GRAMMACUS GRAMMACUS* (Say). LARK SPARROW. (552)

Summer resident, not common; most often seen in old pastures or along roads. Have seen it in Carroll, Vigo, and Monroe counties.

May 13, 1883, saw one in edge of field on road east of Delphi. May 8, 1884, saw several on prairie in Tippecance Township, Carroll County. May 13, saw two or three between Camden and Delphi; April 28, 1885, noted.

In Vigo County it usually arrives from the south early in April; in 1888, two males collected, April 18, at the Five-mile Pond.

This finch is evidently becoming more numerous than formerly.

140. *ZONOTRICHIA LEUCOPHYRUS LEUCOPHYRUS* (J. R. Forster).

WHITE-CROWNED SPARROW. (554)

A common spring and fall migrant, in the spring about the first of April and passing on north by the middle of May. Most common about thickets of undergrowth and along old unkempt fence-rows.

*Carroll County:* May 3, 1878, two taken; May 8, 1883, very common; March 30, 1884, a good many in a deadening near Chas. Bowman's, southwest of Camden; April 13, several in my yard in Camden; April 9, 1885, saw and heard three or four near Deer Creek; April 22, saw one. Equally common in the other counties.

*Vigo County:* April 29 and May 3, 1888, noted.

*Monroe County:* Often noted in spring and fall.

141. *ZONOTRICHIA ALBICOLLIS* (Gmelin). WHITE-THROATED SPARROW. (558)

Spring and fall migrant, less common than the White-crowned, and found in similar situations. About equally abundant in all the counties.

*Carroll County:* October 12 and 19, 1878, abundant; May 8, 1883, very abundant in open woods, associated with great numbers of the White-crowned Sparrow. May 3, 1884, first noted; April 4, 1885, noted.

*Vigo County:* Several noted, April 14, 1888, and again on April 21.

142. *SPIZELLA MONTICOLA MONTICOLA* (Gmelin). TREE SPARROW. (559)

An abundant winter resident, arriving from the north late in November or about the time of the first snow and remaining until the last of March or even later. It most delights in open brushy, weedy woodlands and old fence-rows, where it finds abundant food in the seeds of the weeds.

*Carroll County:* November 5, 1878, abundant; March 5, 1879, very many noted; December 12 to 29, 1884, pretty common, coming into the gardens to feed on seeds. Very abundant during the winter of 1884-5, coming about the gardens, orchards and yards. March 18, 1885, still very abundant, as it was all winter; common in the yards and gardens in Camden.

*Vigo County:* March 9, 1889, still abundant; day coldest for some time.

*Monroe County:* January 12, 1883, several seen, and on February 10, many scores noted; noted by Professor Blatchley as late as April 19.

One of the prettiest sights one may see in early winter is a flock of these cheerful little birds, just arrived from the north and feeding along some brushy fence row or at the edge of some weedy field. They are very busy and very happy as they fly from the low trees and bushes down among the rag weeds or other seed-bearing plants where they find an abundance of seeds that seem just to their taste. They glean very industriously, the while chirping or singing merrily; now and then taking short flights into the bushes or up into the trees near by but returning promptly to the weeds or to the ground beneath, not remaining long in one place but moving through the copsy tangle by easy stages, feeding as they go. And then again in early spring while snow still lies among the weeds and bushes and in all protected places, and the birds begin to prepare for the return to their summer home in the north, the tree sparrows are even more interesting than they were in the fall. They glean among the weeds as before but spend more time in the trees singing their sweet little song which means they will soon leave us, not to be seen again until next fall after the first snows have come.

143. *SPIZELLA PASSERINA PASSERINA* (Bechstein).

CHIPPING SPARROW. (560)

A common and very familiar summer resident, coming about the yards and orchards and building its nests in the small cedars and similar trees about the house. The nest is usually constructed largely of horse-hairs, hence "Hair bird", a name by which this bird is often known.

*Carroll County:* May 29, 1883, set of two fresh eggs; March 27, 1884, first seen; April 3, 1885, several seen, first arrivals. May 14, 1919, set of four fresh eggs, nest in woodbine vine, at Burlington, reported by Donovan Beck.

*Monroe County:* Common summer resident, nesting commonly in the small cedars which are abundant in old pastures and open woods about Bloomington.

*Vigo County:* Very common summer resident. April 1, 1888.

144. *SPIZELLA PALLIDA* (Swainson). OLIVE-COLORED SPARROW. (561)

Probably a rare spring and fall migrant. One shot by Mr. Blatchley September 27, 1890, near Terre Haute; it was with a flock of tree sparrows. Not noted in any of the other counties.

145. *SPIZELLA PUSILLA PUSILLA* (Wilson). FIELD SPARROW. (563)

Common summer resident. Nests on the ground in old fields and similar places.

*Carroll County:* In the spring of 1883, unusually common and singing sweetly in the evening on the prairie farms in Tippecanoe and Jefferson

townships. May 28, 1883, nest with four nearly fresh eggs, placed near the ground. Apparently less common in the other counties.

*Monroe County:* Quite common.

*Vigo County:* April 1, 1888, four noted.

146. JUNCO HYEMALIS HYEMALIS (Linnæus).

SLATE-COLORED JUNCO; BLACK SNOWBIRD; SNOWBIRD. (567)

Abundant winter resident: perhaps our most familiar winter bird. Arrives from the north about the middle of October and remains until about the middle of April. During the winter these cheery little birds are everywhere,—in the weeds and thickets along the rivers and creeks, in the woods and fields, along the fence-rows, and about the orchards and farm buildings. —in short, wherever there are weeds upon the seeds of which they feed. They even come about the house and pick up any stray crumbs or food that may be put out for them.

There is in Indiana a belief, common among the less well informed, that the black snowbirds suddenly change their dress in the spring and become song sparrows, and that the sparrows in the fall change back to snowbirds!

*Carroll County:* October 14, 1883, first of the season seen; April 1, 1884, still present but restless as if about to leave; April 13, a few still present; October 14, first of the season seen. March 18, 1885, still very abundant; April 21 left today: common up to a few days ago.

Noted by Miss Ava Evermann near Burlington as follows: January 5, 1907, a few seen in woods with chickadees; October 28, a dozen or more in piles of brush and among low bushes. January 1, 1908, several among brush piles in the woods; February 6, a dozen or more came into the garden, rested a few minutes on the grape vines, then flew away.

*Monroe County:* January 12, 1883, common.

*Vigo County:* March 9, 1889, still abundant about Terre Haute.

In July, 1878, I found Juncos nesting on Whiteside Mountain in southwestern North Carolina.

147. PEUCÆA FESTIVALIS BACHMANI (Audubon).

BACHMAN'S SPARROW. (575a)

A rather rare summer resident in Monroe County. I knew of perhaps five or six nests in open woodland north of Bloomington between 1882 and 1886. Most frequent in brushy spots in open woodlands.

Not known from Carroll or Vigo.

148. MELOSPIZA MELODIA MELODIA (Wilson). SONG SPARROW. (581)

A common summer resident, usually a few remaining through the winter. Every one knows the Song Sparrow. It comes about our gardens, nesting on or near the ground wherever there are vines, weeds, or small bushes to afford protection.

*Carroll County:* February 16, 1878, collected at Camden; February 6 and 8, 1879, numerous and in full song; noted also on 15th, 25th and 27th (a

very cold day), and on March 5 when it was abundant; June 17, 1883, set of three fresh eggs. December 25, 1884, several seen in Dillen's cornfield near Camden, one collected; day cold and snow very deep. Noted by Miss Ava Evermann as follows: October 28, 1907, eight or nine about piles of brush; later the same day saw four or five in a tree top. January 1, 1908, saw five or six in a brush pile in the woods; March 1, one singing in the orchard.

*Monroe County:* April 21, 1882, set of three eggs, somewhat incubated; February 10, 1883, several noted.

*Vigo County:* Very common, especially along the river.

149. MELOSPIZA LINCOLNI LINCOLNI (Audubon). LINCOLN'S SPARROW. (583)

Rare migrant; noted in Carroll, Monroe, and Vigo counties. Several seen near Terre Haute, April 17, 1888, and again on May 5.

150. MELOSPIZA GEORGIANA (Latham). SWAMP SPARROW. (584)

A rare spring and fall migrant; noted most often in Vigo County, where I have frequently seen it in the marshy ground about the Five-mile Pond.

151. PASSERELLA ILIACA ILIACA (Merrem). FOX SPARROW. (585)

A common spring and fall migrant, arriving early in March while the snow still lingers in protected places. Then it may be seen in the copses and underbrush, scratching among the dead leaves that cover the ground.

*Carroll County:* March 5, 1878, taken; October 25 and November 6, noted; March 8, 1879, common, one collected; March 30, 1884, many noted on the Charley Bowman farm southwest of Camden. March 18, 1885, one seen and collected in Deer Creek bottom above Camden; ground covered with snow in most places.

*Monroe County:* Appearing about the middle of March and remaining a week or more.

*Vigo County:* Common early spring and late fall migrant. One of my favorite walks about Terre Haute was along the old canal bed north of town, and there I was always sure to find many fox sparrows any day in March or early April, scratching among the leaves under the low bushes.

152. PIPILO ERYTHROPHthalmus ERYTHROPHthalmus (Linnæus).

TOWHEE. (587)

A common summer resident, sometimes remaining all winter, as it did in 1888-89, in Vigo County.

*Carroll County:* March 8, 1879, a pair seen; May 22, 1883, found a nest with five young nearly able to fly; March 19, 1884, first one seen, near Burlington; March 26, 1885, first (a male), seen; April 12, pretty common; on July 12, 1881, found a nest with four fresh eggs, on the home farm. The nest was about 10 inches from the ground in a small bush. This is an unusually late nesting date for this species. Noted at Burlington by Miss Evermann as follows: October 28, 1907, about six in the woods flying from one brush pile to another. January 1, 1908, six or eight seen in thickets; January 3, only one seen in woods where saw six or eight on the first.

*Vigo County:* Four noted, March 17, and several, March 21 and 24. Nest with three fresh eggs taken near Terre Haute, May 20, 1888.

*Monroe County:* January 12, 1883, one heard.

In Indiana this bird is known as Marsh robin, French robin, towhee, or joréc.

153. *CARDINALIS CARDINALIS CARDINALIS* (Linnaeus).

CARDINAL; REDBIRD; KENTUCKY CARDINAL. (593)

Permanent resident in all the counties. One of our most beautiful, interesting and best known birds. Common about old thickets, open woodlands with underbrush, along unkept fence rows, and about the borders of swamps.

*Carroll County:* Usually rather common, especially along Wild Cat and Deer Creek, even coming into the villages wherever there is suitable cover. May 24, 1883, nest with eggs near Burlington, found by my nephew, Edwin C. Evermann. In the winter of 1883-4, they were exceedingly abundant in Tippecanoe Township, but much less so the following winter, though rather common March 11-18. Less common now than formerly: during a week, June 25 to July 1, 1905, spent on my old home farm, only one was seen. Ava Evermann contributes the following records from Burlington: December 1, 1907, one seen in cedar tree near house; 16th, one on fence covered with a sarsaparilla vine the berries of which it appeared to be eating. January 1, 1908, "while walking in the woods along a deep ravine, I came suddenly upon a bunch of song sparrows, juncos, and chewinks and while listening to their mingled calls, a series of distinct 'tsips' rang sharply above the other notes. After searching for a few minutes, a female Cardinal was discovered high in a tree across the ravine"; February 5, one seen near the house; March 1, the characteristic sharp 'tsip' heard and a male Cardinal discovered not far away.

In 1877, I had a pair of cardinals as pets. I bought them from a man in Hamilton County, August 18, for \$2.00 plus \$2.50 for the cage! One day the male was let out of its cage and allowed the freedom of a room in the house. Happening to find a parlor match on the mantle, the bird picked it up in its strong bill, when it went off with a loud report which greatly frightened the bird. A short time afterward, I held another match near him which he snapped with disastrous results: for the bird fell over dead, whether from fright or from inhaling the sulphur fumes, I do not know.

*Vigo County:* A fine male collected near Grant, April 14, 1888; another near Terre Haute, March 2, 1889, by A. J. Woolman, and a pair south of Terre Haute, November 16, following. A nest with one egg in a thorn tree southwest of Terre Haute, April 27, 1890.

*Monroe County:* April 29, 1882, a nest with two fresh eggs; January 12, 1883, four or five seen. Probably most common in this county. A fine male collected near Bloomington in June, 1888.

154. *ZAMELODIA LUDOVICIANA* (Linnaeus), ROSE-BREADED GROSBREAK. (595)

Rather common spring and fall migrant and rare summer resident, arriving from the south about the first of May.

*Carroll County*: I well remember the first specimen of this beautiful species I ever collected. It was in September, 1877, just when I had begun to take a real interest in birds, and as I was collecting in an open wood on the present J. Milton Beek farm south of Burlington. It was a female in good plumage and was feeding in the top of a tall elm. On May 3, 1883, I saw several, both males and females, in Stone's woods near Burlington. On May 24, I shot a fine plumaged male at the "drift" on Wild Cat Creek above Burlington. A nest with eggs found in a buttonbush (*Cephalanthus occidentalis*), in a swamp west of the Michigan road on the north bank of Wild Cat Creek, in spring of 1882. On May 5, 1884, several seen in Wise's woods southwest of Camden; May 4, 1885, several seen near my house at Camden.

*Vigo County*: Several seen near Terre Haute, April 28 and 30, and again on May 5, 1888. A female collected on Honey Creek, five miles southeast of Terre Haute, May 12.

*Monroe County*: Noted, April 23, 1886. Rather common migrant but rare summer resident.

155. *PASSER DOMESTICUS HOSTILIS* Kleinschmidt. ENGLISH SPARROW.

This miserable pest is all too common in and about Terre Haute and all over Vigo County, as well as in Carroll and Monroe counties, and the less said about it the better. It made its appearance at Camden in 1877; now abundant in all the counties.

*Carroll County*: June 17, 1882, set of four fresh eggs. January 8, 1920, as I passed north on the train through Bringhurst, I noted 20 to 30 English Sparrows about a warehouse near the railroad station.

156. *PASSERINA CYANEA* (Linnæus). INDIGO BUNTING. (598)

A common summer resident in all the counties, perhaps most abundant in Monroe and Vigo.

*Carroll County*: May 18, 1878, collected; June 23, 1882, nest with two nearly fresh eggs; May 13, 1883, first of the season seen near the Air Line bridge on Deer Creek, east of Delphi; May 24, a nest with three fresh eggs found near Burlington, by Edwin C. Evermann. May 6, 1885, a male seen; June 29 to July 1, 1905, one male seen on home farm near Burlington.

*Vigo County*: Noted at Terre Haute, April 28, May 3 and May 5, 1888.

*Monroe County*: An abundant summer resident. Noted, May 13, 1882 and April 24, 1886.

157. *SPIZA AMERICANA* (Gmelin). DICKCISSEL. (604)

A fairly common summer resident.

*Carroll County*: I remember distinctly the first specimen of this species I ever recognized. It was a fine male sitting in a small walnut tree in a field at the turn of the road south of Camden, just before reaching the creek. It was singing in its animated way and doubtless had its nest in the field somewhere near by. This was on May 20, 1878. Since then the species has become more common in Carroll County. May 10, 1885, noted. On the

last days of June, 1905, two or three were seen and heard singing on the fences about the meadows and along the road at the old home farm.

*Vigo County:* Equally common summer resident; often noted in the fields north, east, and south of Terre Haute.

*Monroe County:* Probably more common than in either Carroll or Vigo. Several pairs could be seen any fine day in late spring or early summer in or about the fields north or east of Bloomington.

158. *PIRANGA ERYTHROMELAS* Vieillot. SCARLET TANGER. (608)

A common summer resident; chiefly in open woodlands and along the streams.

*Carroll County:* Arrives from the south about the middle of April to the first of May, and remains until in September. October 5, 1878, taken; June 17, 1882, set of three fresh eggs; May 3, 1883, saw several males near Camden; May 12, first female seen; June 11, found a nest with five eggs, two of which were Cowbird's, about 30 feet from the ground in a beech tree in the east woodland on my father's farm near Burlington; incubation had begun. May 5, 1884, first noted, a male and a female; May 11, saw a female building her nest, 50 feet up in a tree in Dillen's woods southeast of Camden; April 23, saw a female in Little Deer Creek bottom near Joseph Trent's; June 25-July 1, 1905, a male seen in pasture west of house on home farm.

This beautiful bird is of especial interest to all ornithologists and others who know about it, as being the bird that kindled in Elliot Coues, when a child, an undying interest in bird life. Dr. Coues's story of the event is so interesting and so charmingly written that I cannot refrain from giving it here. He says: "I hold this bird in particular, almost superstitious, recollection, as the very first of all the feathered tribe to stir within me those emotions that have never ceased to stimulate and gratify my love for birds. More years have passed than I care to remember since a little child was strolling through an orchard one bright morning in June, filled with mute wonder at beauties felt, but neither questioned nor understood. A shout from an older companion—"There goes a Scarlet Tanager!"—and the child was straining eager, wistful eyes after something that had flashed upon his senses for a moment as if from another world, it seemed so bright, so beautiful, so strange. What is a Scarlet Tanager? mused the child, whose consciousness had flown with the wonderful apparition on wings of ecstasy; but the bees hummed on, the scent of flowers floated by, the sunbeam passed across the greensward, and there was no reply—nothing but the echo of a mute appeal to Nature, stirring the very depths with an inward thrill. That night the vision came again in dreamland, where the strangest things are truest and known the best; the child was startled by a ball of fire, and fanned to rest again by a sable wing. The wax was soft then, and the impress grew indelible. Nor would I blur it if I could—not though the flight of years has borne sad answers to reiterated questionings—not though the wings of hope are tipped with lead and brush the very earth, instead of soaring in scanted sunlight."

It was the thoughtless killing of a Scarlet Tanager that gave me my first pang in relation to the destruction of useful birds. It was many years ago.

I was a mere child, but I remember it distinctly, so deep was the impression made upon me. With several older companions we were going, one Saturday afternoon, to the old swimming hole at the mill-dam on Wild Cat Creek above Burlington. One of the older boys had a gun, and as we passed along the edge of the woods at the side of a field a male Scarlet Tanager—it seemed to me the most beautiful bird I had ever seen—appeared on a limb overhanging our path. The boy with the gun, to show his skill, fired and brought it down, not dead but sorely wounded and calling piteously—I can hear it yet; I have never forgotten its cry or the protest which the other boys and I made to our thoughtless companion. I am sure our protest did good, for he is now a kindly, sympathetic man who would protest as strongly as we did then should he see any one needlessly taking the life of any wild bird.

*Monroe County:* Perhaps even more common than in the other counties. On May 6, 1882, a score or more seen at the north edge of Dunn's woods with unusual numbers of bobolinks and Baltimore orioles, feeding in a small meadow. Noted again in numbers in the same place, April 22 and May 8, 1886. June 2, 1882, a nest with five partially incubated eggs at Wyandotte Cave.

*Vigo County:* Quite common. First seen in 1888, on April 30, near the Fair grounds. A fine male collected May 12, 1888, near Sand Hill, three miles east of Terre Haute. On April 26, 1890, my student, D. C. Ridgley, shot an unusually beautiful specimen at Sand Hill. It was probably a one-year-old male. The black of wings and tail was very glossy, the red quite clear but pale; back, breast, and sides with numerous patches of yellowish, and in the black of one shoulder was one red feather. This was the first tanager seen that season. Three days later, April 29, near the same place, I secured another unusually marked and very beautiful male. There were three very small patches of olive on the head and five or six larger ones on the rump; from middle of belly backward slightly more than half was light yellow; the shorter under tail coverts were bright red, the others clear yellow. A male noted April 30, another May 2, and May 5, 1888.

159. *PIRANGA RUBRA RUBRA* (LINDRÖS). SUMMER TANAGER. (610)

This beautiful tanager is common throughout southern Indiana but apparently does not go much, if at all, north of Vigo County.

In Monroe County, it is a rather common summer resident, arriving from the south in the latter part of April and remaining until late in September. It most delights in the open woodlands of beech and maple. I have seen it most frequently north and east of Bloomington, perhaps merely because my trips afield most often took me in that direction. Although I saw this species often in the seasons of 1882, 1885, and 1886, I find but two entries in my notes—May 20, 1882, shot six (males and females); not very common; April 28, 1886, seen. A female obtained north of Bloomington, May 4, 1886, was remarkable for its very bright plumage, the throat, breast, and crissum being rich orange, while the tail above, and the entire head, were quite red. The sex was determined by dissection and was certain. While on a walking trip to Wyandotte Cave in June, 1882, I saw the Summer Tanager frequently between Orleans and the Ohio River.

In Vigo County I have seen it frequently but never north of Terre Haute. I have the following definite records: A male taken, April 25, 1888, east of the Fair grounds, it being the first of the season. Another male at Sand Hill, May 12, and still another male at Sand Hill, April 29, 1889. May 3, 1891, noted.

160. *PROGNE SUBIS SUBIS* (Linnæus). PURPLE MARTIN. (611)

Common summer resident arriving late in March. March 28, 1884, first of the season observed at Camden; April 2, 1885, first of the season in Camden. A week later they were common. April 2, 1888, at Burlington.

In Monroe County, very common; noted at Bloomington, March 28, 1886. Noted at Terre Haute, April 4, 6, and 8, 1888.

Originally nesting in hollow trees, now preferring the martin boxes which many thoughtful people put up for them. In the Southern States it is a common practice to hang large gourds (in the side of which a suitable hole has been cut), on a cross-piece at the top of a tall pole set firmly in the ground in the yard, barn-lot, or garden. One may sometimes see several of these gourds on one pole, and a pair of martins for each of them.

161. *PETROCHELIDON LUNIFRONS LUNIFRONS* (Say). CLIFF SWALLOW. (612)

Very abundant summer resident and well known bird in all the counties, arriving about the middle of April and remaining until late in September. Nesting commonly under the eaves of barns or other farm building, sometimes on cliffs wherever sniffler ones are found.

In Carroll County, noted April 18, 1884, between Delphi and Pittsburg, and on April 23, near Camden. Noted at Terre Haute, April 14, 1888.

162. *HIRUNDO ERYTHROGASTRA* Boddaert. BARN SWALLOW. (613)

*Carroll County:* Equally common with the preceding as a summer resident, arriving about the middle of April. July 1, 1882, set of three fresh eggs. April 24, 1884, first of the season noted at Camden; April 16, 1885, four or five seen at Camden. Abundant also in Vigo County. Noted April 8 and 15, 1888. Equally common in Monroe.

This swallow usually nests inside of barns or other buildings attaching its nest to the rafters.

163. *IRIDOPROCNE BICOLOR* (Vieillot). TREE SWALLOW. (614)

A rare spring and fall migrant. Arrives about the first of April. Most often seen about ponds and streams where it will circle about over the water in search of insects. On April 6 and 7, 1885, this swallow was abundant at Lake Maxinkuckee, flying about over the edge of the lake in pursuit of insects, alighting now and then on the limbs of a dead tree on the shore, prospecting for suitable holes in which to nest; common about the lake in spring and fall in all years from 1899 to 1913, on which observations were made. I have seen it near Camden early in April, flying about over the Armstrong pond. In Monroe and Vigo counties, I have noted it only in the

spring and even then only rarely. Probably nests in the northern part of the state, but not in Carroll, Vigo or Monroe County.

A beautiful and attractive little swallow, readily known by its white belly.

164. *RIPARIA RIPARIA* (Linnæus). BANK SWALLOW. (616)

A common summer resident; most abundant along the river and creeks, nesting in holes in the banks. Arrives early in April; April 6, 1884, on Deer Creek just above Camden, and April 8, 1885, three or four seen on Deer Creek near Camden cemetery. Not so common in Monroe County, but quite common in Vigo. Noted April 10, and 15, 1888. Very abundant at Lake Maxinkuckee nesting in holes in the bluff at the gravel-pit where the young are often seen in large numbers in summer and fall sitting on the telegraph wires along with even greater numbers of cliff swallows.

165. *STELGIDOPTERYX SERRIPEXNIS* (Audubon).

ROUGH-WINGED SWALLOW. (617)

Summer resident in all the counties but not so common as the Bank Swallow. At Gosport north of Bloomington nearly completed nests were found May 8, 1886. At Terre Haute many noted, April 21, 1888.

The habits and general appearance of the two species are very similar and it is difficult to distinguish them except with specimens actually in hand.

166. *BOMBYCILLA GARRULA* (Linnæus). BOHEMIAN WAXWING. (618)

I have noted this beautiful bird only in Carroll County, and that many years ago when I saw a flock of perhaps a half dozen in some cedar trees in my father's yard.

167. *BOMBYCILLA CEDRORUM* Vieillot. CEDAR WAXWING. (619)

Common summer resident, arriving rather late in spring but remaining quite late in the fall; sometimes present all winter. Usually going in small flocks. Nesting late in the summer, the nest often placed on a horizontal limb of some apple tree in an orchard.

*Carroll County:* December 31, 1878, observed; February 27, 1879, a large flock seen in an orchard feeding on frozen apples that were still hanging on the trees; many were seen again on March 1 and 5, feeding in hackberry trees in Deer Creek bottoms east of Camden; June 26, 1882, set of 5 fresh eggs, nest in an apple tree in orchard on home farm. On May 24, 1883, several seen at the drift on Wild Cat Creek above Burlington, where I had noted them as being quite common the summer before. They were at rest and remained most of the time in some soft maples which overhang the creek. From these trees they would frequently dart out over the creek in pursuit of insects which they were quite expert in capturing. In the summer of 1883 and 1884, several nests, usually in apple trees, were found near Burlington. During the winter of 1883-4, these birds were common

about Camden. On February 8, 1885, saw a flock of a dozen in cedar trees in Dr. Armstrong's yard in Camden.

*Vigo County:* Equally common and well known; numbers observed about Terre Haute every summer.

*Monroe County:* Noted every summer; small flocks often seen in winter; February 10, 1883, a dozen or more seen near Bloomington.

168. *LANIUS BOREALIS* Vieillot. GREAT NORTHERN SHRIKE. (621)

I have seen this species only in Carroll County. On January 8, 1884, I saw one in Madison Township just west of Daniel H. Schnepp's, and ten days later I shot one from an apple tree at Mr. Noble's, two miles northeast of Camden. The weather had been very cold with much snow for two weeks, and the snow very deep.

169. *LANIUS LUDOVICIANUS EXCUBITORIDES* Swainson.

WHITE-RUMPED SHRIKE; BUTCHER-BIRD. (622a)

A rather common resident, especially in Carroll and Vigo counties.

*Carroll County:* In the summer of 1882, noted several in the prairie west of the Wabash, and one or two along an osage orange hedge northeast of Delphi. On November 13, one seen near Woodville, and the next day one seen on the Dayton pike near Pymont. J. Milton Beck saw one near Burlington about the same time. On May 11, 1883, one seen in field between Delphi and Pittsburg. On March 27, 1884, one seen just south of Camden; May 10, nest with six eggs somewhat incubated, in hedge west of Pittsburg; May 27, saw one on Michigan road north of Burlington. The species is increasing in this county.

*Monroe County:* A very rare resident in 1881-86. I have no definite records.

*Vigo County:* Quite common, especially in the prairie parts of the county. I have seen several nests. On April 26, 1890, one with six well incubated eggs 10 feet from ground in a honey locust southeast of Terre Haute. Several others seen in osage orange hedges south and southeast of Terre Haute. A set of six gotten near Frankfort, April 21, 1888, by Al. J. Keyes; nest in hedge, only six feet from ground.

170. *VIREOSYLVA OLIVACEA* (Linnæus). RED-EYED VIREO. (624)

A common summer resident. Frequents the open woods and the edge of forests. Of all our singing birds this is the one which sings most continuously throughout the day. Even in the heat of the day when most birds are quiet this vireo, often called "preacher", may be heard.

*Carroll County:* 1883, May 3, first seen, but already common; June 18, nest with two fresh eggs. In 1884, first noted, May 2; noted again, May 5, south of Camden. First seen in 1885, on May 4. On June 10, 1883, found nest with two cowbird eggs and one vireo, which was slightly broken, apparently picked by the cowbird.

*Vigo County:* A male collected, April 28, 1888, five miles southwest of Terre Haute; many seen. Others noted April 30.

*Monroe County:* One of the most common residents from the last of April to late in September.

171. VIREOSYLA PHILADELPHIA Cassin. PHILADELPHIA VIREO. (626)

Spring and fall migrant, possibly a rare summer resident. Arrives in Carroll County from the south early in May. On May 13, 1884, collected one in a thicket on the hillside opposite Porter's mill on Deer Creek. Several others were seen. They were not as mute as stated by some observers.

In Vigo County I took a male near Hunt's, three miles southeast of Terre Haute, May 15, 1888; another was seen May 5. I have noted the species in Monroe County.

172. VIREOSYLVA GILVA GILVA (Vieillot). WARBLING VIREO. (627)

This cheery little bird is a rather common summer resident in all the counties, often coming about the house and nesting in the trees in the orchards and yards. In Carroll County I noted it frequently from the early part of May onward. May 25, 1878, seen; June 19, 1882, set of three well incubated eggs; June 20, 1883, nest with three fresh eggs; in 1884, first observed on May 2; again seen on May 7. In 1885, noted on May 6; on June 16, found a nest with two fresh eggs in an apple tree in our orchard.

In Vigo County I collected a pair (male and female), near Hunt's three miles southeast of Terre Haute, May 15, 1888.

In Monroe County it was noted, April 26, 1886, and at many other times.

173. LANIVIREO FLAVIFRONS (Vieillot). YELLOW-THROATED VIREO. (628)

A fairly common spring and fall migrant; seen most frequently on wooded hillsides. Noted near Camden, May 5, 1884. A male taken near Sand Hill three miles east of Terre Haute, May 12, 1888. A pair (male and female), taken at same place, April 30, 1890. A male taken in woods northeast of Bloomington, May 4, 1886; others seen, April 17.

174. VIREO SOLITARIUS SOLITARIUS (Wilson). BLUE-HEADED VIREO. (629)

A fairly common spring and fall migrant; usually seen in deep woods and along the streams.

*Carroll County:* Collected two males in an oak grove in the prairie near the New Beauty schoolhouse in Tippecanoe Township, May 10, 1884. I think I saw a few others. These were the first of the season.

*Monroe County:* A female taken in Ferris woods northeast of Bloomington, May 4, 1886; first one noted.

*Vigo County:* It occurs in Vigo County during the migrations but I have no definite records.

175. VIREO GRISEUS GRISEUS (Boddaert). WHITE-EYED VIREO. (631)

A rather common spring and fall migrant; possibly a rare summer resident. I have seen it often in all the counties.

*Carroll County:* April 28, 1885, two seen.

*Vigo County:* One specimen taken near Terre Haute May 12, 1888.

*Monroe County:* One noted, April 28, 1886, near Rocky Run road north of Bloomington. It was on a hillside and warbling joyously.

176. *MNIOTILTA VARIA* (Linnæus). BLACK AND WHITE WARBLER. (636)

A rare summer resident, but more common during the migrations. An interesting little bird, climbing around the tree trunks after the manner of a creeper. Nests on the ground in the woods, at the base of some small shrub or bunch of weeds.

*Carroll County:* 1884, April 28, first noted and common, May 10, one collected near the New Beauty schoolhouse, Tippecanoe Township; 1885, April 26, first of season seen, on Deer Creek above Camden.

*Vigo County:* A male collected, April 26, 1888, by J. D. Collins near the river north of Terre Haute; another by me May 10, 1890, at Sand Hill east of Terre Haute; and a week later still another at the Goose Pond nine miles south of Terre Haute.

*Monroe County:* Common; often seen on the densely wooded hillsides northeast of Bloomington.

177. *PROTONOTARIA CITREA* (Boddaert). GOLDEN SWAMP WARBLER. (637)

This is to me the most beautiful and interesting of all our warblers. Except for one fine male collected and two females seen, May 7, 1885, at a little pond near the Leonard mill east of Camden and, possibly, one in a willow swamp southwest of Terre Haute in May, 1889, I know this bird only from the old Maple Swamp between Sedalia and Cutler, Carroll County and just east of the Vandalia railroad. I visited this swamp on May 21, 1883. Soon after entering the swamp I caught a glimpse of a bright-colored bird as it flew from a hole in a small dead snag not far away and disappeared in a thicket near by. Soon it reappeared, evidently solicitous for its treasures which were in the nest in the old snag. By short flights and with much anxiety, it approached the snag and I saw that it was the Golden Swamp Warbler. Its nest contained five beautiful fresh eggs. Later in the day several other nests were found which we did not molest, one of four, one of three, and five or six not yet completed. They were all in deserted sapsucker holes, or similar holes in small dead snags or trees and four to ten feet above the water.

In another part of the swamp were several of these birds not yet mated. The pairing season was on, and the birds were in active courtship. Many a combat between rival males was witnessed. Near the center of the swamp was an acre of comparatively open water, a pond in fact, covered with a thick growth of water-lilies. From the edge of this pond a couple of males darted by us across the open space, then circled about the pond, the one in close pursuit of the other. Often they crossed and recrossed the open water, circled around its margin, then darted off through the trees and disappeared from view, only to return again after a time and repeat the same performance. Sometimes the one was not a coward and stood his ground. Then a fierce conflict occurred; frequently they would clinch and fall nearly to the water before letting loose. Then they would ascend in a spiral flight far up among the tree tops, only to return promptly to the pond

again. Then they separated, one of them flying in a slow fluttering sort of way across the open space to an old snag in which the female was building the nest. With wings bent downward and tail outspread so as to show plainly the white outer feathers, he would give expression to his happiness in an excited but pleasing little song which I wish I could describe, were I good at that sort of thing. Then he perched upon a limb just above my head, where, with drooping, tremulous wings, and head erect, he warbled very prettily his delicate little song of love, oblivious of all except of her who was so busy at the old willow snag. Although she seemed very busy indeed, she doubtless heard the little song and understood full well its subtle meaning.

I again visited this swamp, May 21, 1885. Several Golden Swamp Warblers or Prothonotarias were seen chasing about, across and around the open spaces among the trees that stood in water one to three feet deep. The season was evidently later than it was in 1883. Several nests were found but laying had not yet begun. The males were in full song and a very pretty sight they made.

The nests, examined critically on my first visit, were, as already stated, always occupied deserted sapsucker or similar holes usually in small rotten trees, saplings or snags, and varied from four to ten feet above the water. One examined was about six feet up in a very rotten snag not over four inches in diameter. The shell left by the excavation of the hole was very thin, less than half an inch. The cavity was but four inches deep and was filled nearly to the top by the nest which was composed almost entirely of some species of moss. Several other nests situated in similar places and constructed from similar materials were seen.

178. HELMITHEROS VERMIVORUS (Gmelin). WORM-EATING WARBLER. (639)

Common summer resident in Monroe and Vigo counties; not noted in Carroll. Nests on the ground. I have seen nests in the woods east of Terre Haute, also near Coal Creek northwest of that city. April 20, 1887, nest with three eggs at Pine Hills, Montgomery County. On April 28, 1888, I collected a fine specimen about five miles southwest of Terre Haute.

On May 4, 1886, I collected a pair about two miles northeast of Bloomington. The first (a male) was in a thicket on a hillside near an old road. When first seen it was near the ground, then it flew into a bush about eight feet up. About a half mile further north I obtained a female. When first seen it was on the ground at the bottom of a small cañon. Besides these two, several others were observed on the same day. One pair seen building a nest at the foot of a small maple sprout on a hillside facing west. The nest was not nearly completed. One of the birds, probably the female, was carrying dead leaves with which she made the bottom and outside walls. She would come near the nest while I was sitting within 20 feet of it, eye me suspiciously, fly away some distance, return by short flights, then fly away again, only to repeat the maneuvers again until I moved farther away, then she came to the nest and proceeded with the building.

On May 13, I found a nest with five eggs plus two of the cowbird. Prof. W. S. Blatchley found a nest with six eggs of the warbler and one cowbird. Both of these nests were on a hillside and each was at the base of a small shrub. All the eggs were fresh.

## 179. VERMIVORA PINUS (Linnæus). BLUE-WINGED WARBLER. (641)

Common spring and fall migrant; and rare summer resident at least in Carroll County. About the first of July, 1883?, I saw a nest of young nearly able to fly. The nest was in a clump of wild rose bushes on the home farm, just west of the house. The old birds were seen and positively identified. Noted April 28, 1884. Specimens were taken May 10, 1884; and May 4, 6, 11, and 21, 1885. A fine adult male collected April 27, 1886, north of Bloomington. It was feeding among the young buds in the top of an elm. Every now and then it would utter a weak grasshopper-like note. It was alone and the first one seen that year. Several others were seen the next day. I have no records for Vigo County.

## 180. VERMIVORA CHRYSOPTERA (Linnæus). GOLDEN-WINGED WARBLER. (642)

A rare spring and fall migrant. The only specimen I ever collected in Carroll County. I shot in the grove just north of the railroad bridge at Camden, May 6, 1885. G. G. Williamson obtained one at Bloomington in the spring of 1886. On May 2, 1888, I secured a fine male near Terre Haute.

## 181. VERMIVORA RUBRICAPILLA RUBRICAPILLA (Wilson).

## NASHVILLE WARBLER. (645)

Common spring and fall migrant; arrives from the south about the first to tenth of May; usually frequenting the upper parts of the tree-tops, not so common near the ground.

On May 9, 1883, shot two on home farm near Burlington; after this date many others seen. May 13, 1884, shot one in an old orchard near Porter Sterling's, southwest of Camden; first of season. Common May 4-7, 1885. A male collected April 30, 1888, near the fair grounds east of Terre Haute; a female at Sand Hill, ten days later. One noted April 27, 1886, near Bloomington.

## 182. VERMIVORA CELATA CELATA (Say). ORANGE-CROWNED WARBLER. (646)

Apparently a very rare migrant. I have but one record and that is of a specimen I collected May 5, 1888, on Honey Creek, 5 miles southeast of Terre Haute.

## 183. VERMIVORA PEREGRINA (Wilson). TENNESSEE WARBLER. (647)

A common spring and fall migrant.

*Carroll County:* May 22, 1883, shot two near Burlington. Noted also May 12, 1884, and May 4 to 19, 1885, when it was very common.

*Vigo County:* Many noted at Sand Hill May 9-12, 1888, and a male collected May 12; another male collected at the Goose Pond May 3, 1890.

*Monroe County:* Very common; often noted in May, usually high up in tree-tops.

184. *COMPSOTILYPIS AMERICANA AMERICANA* (Linnæus).

## PARULA WARBLER. (648)

A fairly common spring and fall migrant. Especially common in Carroll County May 4 to 10, 1885; collected a male May 6, 1885.

In Vigo County many noted May 9, 1888, and a brilliantly colored male collected at the Sand Hill, April 24, 1890.

Noted also in Monroe County especially in the spring.

185. *DENDROICA TIGRINA* (Gmelin). CAPE MAY WARBLER. (650)

A common spring and fall migrant. Arrives about the middle of May; most common in low trees along streams. Noted in Carroll County May 8, 1885, and on many other dates. Noted in Vigo County May 8 and 9, 1888; also on May 10 when a female was collected at Sand Hill; again on May 17, 1890, when a pair were collected at the Goose Pond. Equally common in Monroe County; often noted along Griffy and Beanblossom creeks.

186. *DENDROICA ÆSTIVA ÆSTIVA* (Gmelin). YELLOW WARBLER. (652)

A fairly common summer resident. Arrives from the south in the latter part of April and remains until in September.

This beautiful little bird is our most common and familiar summer resident warbler. One or more pairs may usually be seen in any patch of willows along the river or any creek or about ponds. It is also frequently seen in the orchards. It builds a very pretty nest of grayish vegetable fiber, fastening it to twigs of fruit or shade trees or willows or low shrubbery of any kind.

*Carroll County:* May 22, 1883, shot one in yard on home farm; first of season noted. In spring of 1883, obtained several at Miller's pond near Burlington, the only one seen there prior to May 8, 1884. May 8, 1885, saw one in old orchard near Springboro, first of season; two seen on 12th and one got in Dolph McKinney's yard in Camden; on 13 saw two and got one in an old orchard near Porter Sterling's south of Camden; April 28, 1885, saw one or two near Pittsburg, and again May 4.

*Vigo County:* April 22, 1888, two seen; May 15, a female collected southeast of Terre Haute; May 1, 1890, a male collected 5 miles south of Terre Haute; May 17, a female shot at the Goose Pond; April 28, 1891, noted.

*Monroe County:* May 13, 1882, several; May 4, 1886, a male collected in orchard north of Bloomington, first of season; 6th, two seen, one collected, in White River bottoms near Gosport.

187. *DENDROICA CERULESCENS CERULESCENS* (Gmelin).

## BLACK-THROATED BLUE WARBLER. (654)

A fairly common spring and fall migrant. Most often seen on or near the ground in low shrubbery in open woods.

*Carroll County:* May 3, 1883, one seen near Burlington, and again on the 8th; on 10th and again on 13th, saw one or more between Camden and Delphi; May 7, 1884, saw a few and collected one near the Frank Thomas pond south of Camden, first noted; noted again May 4, 1885.

*Vigo County:* April 28, 1888, a male shot 5 miles southeast of Terre Haute; May 17, 1890, a female collected at the Goose Pond.

*Monroe County:* Frequently noted in the small wooded gulches northeast of Bloomington and along Griffy Creek.

188. *DENDROICA CORONATA* (Linnaeus). MYRTLE WARBLER. (655)

Perhaps our most abundant warbler. Sometimes a few individuals may remain all winter. I think I have seen them every month in the year except in January. They may be seen almost anywhere, in low bushes, in tall trees, about the yards and orchards, in the hedges along the roadside, and particularly along the streams.

*Carroll County:* April 30, 1878, first taken at Camden; October 5, again taken at Camden. April 20, 1884, many noted near feeder dam on Wabash River at Delphi; 23d, seen on Deer Creek above Camden, shot a male; 21st to 26th, common, first female noted on 26th.

*Vigo County:* April 14, 1888, shot a male at Grant; May 5, 1889, noted; April 30, 1890, two males and a female collected at Sand Hill.

*Monroe County:* February 10, 1883, saw eight or 10. During the winter of 1882-3, I think this warbler could be seen at any time; I saw one or more every time I went into the woods.

189. *DENDROICA MAGNOLIA* (Wilson). MAGNOLIA WARBLER. (657)

A common spring and fall migrant. Most usually seen feeding among the lower branches of trees.

*Carroll County:* May 4, 1878, took the first specimen I ever collected, in a woods northwest of Camden. May 9, 1883, shot one near Burlington; 23d, got two near Burlington; April 20, 1884, first noted; 7th, collected one near the Thomas pond south of Camden; May 7, 1885, saw two or three, collected one.

*Vigo County:* May 2, 1888, collected a male; 5th, noted; 12th, shot a female at Honey Creek five miles southeast of Terre Haute; 15th, collected a male on the Hunt farm; and 17th, obtained a male at the Goose Pond.

*Monroe County:* Frequently seen, especially along the creeks.

190. *DENDROICA CERULEA* (Wilson). CERULEAN WARBLER. (658)

A common spring and fall migrant; a few may remain to breed. Arrives in the first days of May.

*Carroll County:* May 9, 1883, quite common; 23d, shot one near Burlington. May 5, 1884, first noted, got two; 8th, common.

*Vigo County:* May 2, 1888, got a male east of the fair grounds; April 28, 1890, got a male on Cruft's commons in Terre Haute; 30th, got two males at Sand Hill. May 3, collected a male at the Goose Pond.

*Monroe County:* Common migrant; most frequent rather high up in the trees.

## 191. DENDROICA PENNSYLVANICA (Linnæus).

## CHESTNUT-SIDED WARBLER. (659)

Common spring and fall migrant. Arrives about the middle of May.<sup>10</sup> Frequents the tops of tall trees.

*Carroll County:* May 22, 1883, first of the season noted, got two. May 7, 1884, first of season. May 4, 1885, first noted, several seen, two collected. One of the best places to find these beautiful warblers was in the woodland in the bend of Deer Creek just below Camden.

*Vigo County:* First noted in 1888, on May 5, when got a male on Honey Creek; 7th and 12th seen again, collected three at Sand Hill. May 3, 1890, a male at the Goose Pond; 10th, a male collected at Sand Hill.

*Monroe County:* I noted it May 4, 1886, when I saw several northeast of Bloomington, and collected one male.

## 192. DENDROICA CASTANEA (Wilson). BAY-BREADED WARBLER. (660)

Common spring and fall migrant. Arrives early in May; most frequent along the streams or in the apple trees about the house.

*Carroll County:* May 4, 1878; May 22, 1883, saw three; 24th, collected one; May 5, 1884, first of season noted near Camden, which I collected; May 5, 1885, collected a male. Abundant in May in the woods in the creek bottom just below Camden.

*Vigo County:* May 5, 1888, one seen; 9th, noted; 11th, noted; 10th, male collected at Sand Hill; 17th, a pair obtained at the Goose Pond.

*Monroe County:* May 4, 1886, a male collected in the Ferris woods, first of the season noted by me, but Chas. H. Bollman noted it a few days earlier; 6th, a fine male collected in the same woods.

## 193. DENDROICA STRIATA (J. R. Forster). BLACK-POLL WARBLER. (661)

Common spring and fall migrant. The last of the warblers to arrive in the spring; when the Black-polls appear the migrations are about over.

*Carroll County:* I first took this species May 3, 1878, near Camden. May 21, 1883, got a pair in the Maple swamp; noted daily from 23d to 25th; saw others and collected some May 21, 1885.

*Vigo County:* I recorded this warbler May 8, 1888, 12th (collected a male at Sand Hill), and 17th when got a female at the Goose Pond.

*Monroe County:* Apparently not very common, but at least a few seen every spring, usually well toward the tree-tops.

## 194. DENDROICA FUSCA (Müller). BLACKBURNIAN WARBLER. (662)

Rather common spring and fall migrant. Often seen in the fruit trees about the house; appearing just when the apple trees are in full bloom, about the last of April. Of all our warblers, I think this was the first to attract my attention. More years have passed than I care to remember since, as a small boy, while playing one morning in the yard in the rear of my father's house near Burlington, I was fascinated by the beauty of an apple tree that had burst into full bloom over night as it were. While gazing in

rapt wonder at the beautiful tree with its fresh waxy green leaves and its even fresher delicately beautiful flowers, I was startled and delighted by the arrival in the tree of what seemed to me the most beautiful bird I had ever seen. Its rich colors as it moved about among the blossom-laden branches charmed me. Of course, I did not then know what it was; I knew only that it was a bird, and the prettiest I had ever seen. But the vision has remained most distinct in my memory to this day, although it was many years afterward before I became especially interested in birds; and then, one day, while collecting, I secured an adult Blackburnian warbler in full plumage. Then the vision came back to me and I realized that this was the same bird that had so charmed me on that sweet morning in early May long ago.

In Carroll County, I collected one near Burlington, May 24, 1883, another near Pittsburg, April 28, 1885, and saw another May 8.

In Vigo County, I have noted it May 5, 1888, also May 8. May 17, 1890, collected two males at the Goose Pond.

In Monroe County, a few might be seen each spring, especially in the orchards and open thickets. One collected April 27, 1886.

195. *DENDROICA DOMINICA ALBILORA* Ridgway. SYCAMORE WARBLER. (663a)

Spring and fall migrant; not common; perhaps a few remain to breed. Arrives as early as the middle of April.

*Carroll County:* May 9, 1883, one noted; May 24, shot one on Wild Cat Creek near the dam above Burlington. April 20, 1884, one or two seen on the Wabash near Delphi; April 23, one seen on Deer Creek west of Camden. April 23, 1885, collected two on Little Deer Creek near Joseph Trent's.

*Vigo County:* My only record is of a male taken and another seen at Grant, April 14, 1888.

*Monroe County:* Apparently a summer resident, breeding near water courses, though I never actually found a nest. A specimen collected April 16, 1886, on Griffy Creek.

196. *DENDROICA VIRENS* (Gmelin). BLACK-THROATED GREEN WARBLER. (667)

One of our most abundant spring and fall migrants; arrives in spring in the last days of April, and in the fall early in September.

*Carroll County:* May 3, 1883, several seen, one collected. May 5, 1884, first noted, one collected on Deer Creek below Camden. April 28, 1885, one or two seen near Pittsburg; next seen May 4.

*Vigo County:* May 2, 1888, a male taken at the fair grounds, first of season noted; 15th, a female taken at the Hunt farm. April 24, 1890, noted, and 30th, a male taken at Sand Hill; May 17, a female at Goose Pond.

*Monroe County:* Common everywhere in thickets and low forests and underbrush in April and May, and again in September. Collected May 4, 1886.

197. *DENDROICA VIGORSI* (Audubon). PINE WARBLER. (671)

Spring and fall migrant; not common. My only definite record is of a pair collected near Camden, April 29, 1885. I had other specimens collected in Carroll County, also specimens collected in Vigo County, but they,

as well as the records, burned up in the fire of March 8, 1888. I have no record for Monroe County.

198. *DENDROICA PALMARUM PALMARUM* (Gmelin). PALM WARBLER. (672)

Migrant; much more common in spring than in the fall. Most frequent along fence-rows, near and on the ground.

*Caryoll County*: Several seen and a few collected in the Deer Creek bottoms east of Camden, April 21, 1885. Among the places where I remember to have seen these interesting little birds in unusual numbers is along the road east of Camden just where it comes down to the creek above the old Dillen farm. I remember on one occasion (probably in April) there were a score or more along the fence and even out in the road. On another occasion many were seen along the road from Camden to Delphi at the old Bragunier farm.

*Vigo County*: April 21, 1888, one seen; April 30, 1890, two males collected at Sand Hill; May 1, four males and one female collected at the 5-mile pond north of Terre Haute.

*Monroe County*: Not common; one taken May 6, 1886.

199. *DENDROICA DISCOLOR* (Vieillot). PRAIRIE WARBLER. (673)

One specimen taken in Monroe County, April 26, 1885, by the late Charles H. Bollman.

200. *SEIURUS AUROCAPILLUS* (Linnaeus). OVEN-BIRD. (674)

A common summer resident; frequenting the deep woods where its loud ringing note may be heard on any quiet day during spring and early summer. The Oven-bird is one of the frequent victims of the parasitic habits of the cowbird. On May 28, 1883, a nest with full complement of Oven-bird eggs and two eggs of the cowbird was found by Vern Beck, near Burlington. Incubation was well advanced in all.

On May 23, 1890, I found an Oven-bird's nest at Turkey Run, Parke County, which contained 2 cowbird eggs in which incubation had begun, but there were no Oven-bird eggs. Noted in Carroll County May 4, 1885, and on many other occasions. Noted in Vigo County April 25 and May 3, 1888, three miles southeast of Terre Haute; and May 10, 1890, a male collected at Honey Creek south of Terre Haute. Common in Monroe County; noted April 24, 1886, near Bloomington.

201. *SEIURUS NOVEBORACENSIS NOVEBORACENSIS* (Gmelin).

WATER-THRUSH. (675)

A rather infrequent spring and fall migrant; most often seen along the streams. May 5 and 12, 1888, seen near Terre Haute; a male collected at Sand Hill on 12th and a female on 15th at the same place. It occurs also in Monroe County.

## 202. SELURUS MOTACILLA (Vieillot). LOUISIANA WATER-THRUSH. (676)

A rather rare summer resident, breeding along the banks of streams or about woodland ponds.

*Carroll County:* Noted May 6, 1884, and May 5, 1885, near Camden. A nest found many years ago among the roots of a large tree that had been blown down, on my father's farm.

*Vigo County:* April 11, 1888, noted; 17th collected a male east of the fair ground at Terre Haute; April 14, 1889, and May 1, 1890, noted.

## 203. OPORORNIS FORMOSUS (Wilson). KENTUCKY WARBLER. (677)

A not very common summer resident. Perhaps more common in Monroe and Vigo counties than in Carroll. Bloomington, May 6, 1886; June 4, 1886, Mr. Blatchley found a nest with large young. Found breeding north of town in June. A nest with five fresh eggs and one cowbird egg at Eel River Falls, Owen County, June 1, 1889.

## 204. OPORORNIS AGILIS (Wilson). CONNECTICUT WARBLER. (678)

A rare spring and fall migrant. Arrives about the middle of May.

I have few records of this bird. May 21, 1883, shot one near the Maple swamp in Carroll County, and noted another May 21, 1885, in same locality. I have seen it also in Vigo and Monroe counties.

## 205. OPORORNIS PHILADELPHIA (Wilson). MOURNING WARBLER. (679)

A rare spring and fall migrant; most often seen in heavy underbrush in woodlands and along old fence-rows.

I have only one record, and that is of one taken May 21, 1885, near the Maple swamp in Carroll County.

## 206. GEOTHLYPIS TRICHIAS TRICHIAS (Linnæus).

## MARYLAND YELLOW-THROAT. (681)

One of our most common and interesting summer residents among the warblers; most often seen in the low shrubbery, marsh grasses and vines about creek borders and ponds and marshes.

*Carroll County:* May 11, 1878, one collected; set of three fresh eggs taken May 22, 1883, nest in edge of a pond on home farm, and on June 12, young able to fly; May 5, 1885, first of season, a female, seen near Burlington; April 24, 1885, a pair noted in a thicket in Carrollton Township, first of season.

In Parke County, found a nest with four eggs and one of the cowbird, about a foot from ground in weeds in edge of a field at Bryant's Ford, eggs all fresh.

*Vigo County:* April 28, 1888, many seen, a male collected, five miles southwest of Terre Haute; May 3, a female collected three miles southeast of Terre Haute on the Hunt farm.

*Monroe County:* Common; one collected April 28, 1886.

207. *ICTERIA VIRENS VIRENS* (Linnaeus). YELLOW-BREASTED CHAT. (683)

A tolerably common summer resident, frequenting dense thickets, vine-covered fence-rows, and similar places. Apparently this curious and interesting bird has become more common in recent years. Prior to 1879, I never observed it in Carroll County.

*Carroll County:* May 8, 1883, I heard and saw this bird for the first time in Carroll County. It was in Stockton's woods near Burlington. The next day I heard it again on the same farm. These two were the only places where I heard it that year. The next year a pair remained all summer in a thicket on the Armstrong hill southeast of Camden; they evidently nested there. Noted again May 5, 1885, near Camden, also near Burlington.

*Vigo County:* I noted it April 4, 1888, when I saw four or five, and again, May 3, when I collected a male three miles southeast of Terre Haute.

*Monroe County:* Noted near Bloomington May 13, 1882, and doubtless seen at other times.

208. *WILSONIA CITRINA* (Boddaert). FLOODED WARBLER. (684)

Rather rare summer resident.

My only Carroll County records are of two males collected near Camden, May 5, and others seen May 18, 1885. And the only Vigo County record is of a male taken east of the fair grounds, May 2, 1888. Mr. G. G. Williamson found a nest with six young in Monroe County, May 26, 1886. One seen by me May 8 of the same spring.

209. *WILSONIA PUSILLA PUSILLA* (Wilson).

## WILSON'S WARBLER. (685)

Somewhat more common than the preceding as a spring and fall migrant.

I have but one Carroll County record, May 18, 1885, when I collected a specimen near Camden. In Vigo County, I obtained a male at the Hunt farm, May 3, 1888, two males at Sand Hill, May 12, and another male at Hunt's, May 15. My only Monroe County record is of one collected May 8, 1886.

210. *WILSONIA CANADENSIS* (Linnaeus). CANADA WARBLER. (686)

Rather rare migrant.

*Carroll County:* May 24, 1883, shot two, the first I ever saw, near Burlington; May 12, 1885, got one; several others obtained May 12 to 18, near Camden.

*Vigo County:* May 2, 1888, got a male; May 3, saw one; and May 12, got a male on Honey Creek five miles southeast of Terre Haute.

*Monroe County:* May 4, 1886, got a female northeast of Bloomington; only one seen.

211. *SETOPHAGA RUTICILLA* (Linnaeus). REDSTART. (687)

This beautiful little bird is one of our most common summer residents. It is usually seen in the deep woods especially near water.

*Carroll County:* June 12, 1882, nest with three fresh eggs in a small elm in the Maple swamp. Arrived from the south on May 3 in 1883, and by the 19th, both sexes were common. On June 13, I found a nest with three partially incubated eggs, 15 feet from the ground, in a beech tree in Stockton's woods near Burlington. On May 21, a nest with five fresh eggs was found about eight feet from ground in a small elm tree in the Maple swamp near Lexington. Noted May 6, 1884, and May 4 and 6, 1885.

*Vigo County:* May 3 and 5, 1888; May 12, a male collected on Honey Creek.

*Monroe County:* Usually a common summer resident, but not many seen in 1885 or 1886.

212. *ANTHUS RUBESCENS* (Tunstall). PIPIT. (697)

Spring and fall migrant; not very common; goes north early in the spring and may be seen along the streams even before all the snow has gone.

One of my earliest and most pleasant recollections of this interesting little bird is of a walk one afternoon, March 19, 1879, along the banks of Deer Creek above Camden. Snow still covered the ground everywhere except in a few small areas here and there and along the immediate shores of the creek. Just east of the railroad was a narrow strip of naked ground on the north bank of the stream and there I came suddenly upon a flock of about 20 Pipits feeding near the water's edge. They were not easily frightened and permitted me to approach within a few yards of them, thus giving a good opportunity to observe them closely. They were feeding busily and seemed to find their food chiefly close to the water. After they had apparently exhausted the supply at that place they flew, singly or in twos or threes, to a similar place farther down the creek.

In Vigo County I have recorded the Pipit on April 12, 13, and 15 to 25, 1888. It doubtless occurs in Monroe County, but I have no record.

213. *MIMUS POLYGLOTTOS POLYGLOTTOS* (Linnaeus). MOCKINGBIRD. (703)

A very rare summer resident. We have seen it in Vigo County only three times; twice south of Terre Haute near Honey Creek, and once just south of the blast furnace about an osage orange hedge.

In Monroe County, we have seen it but once, on April 29, 1882, a fine male in full song in the cemetery just west of Bloomington. Charles H. Bollman had seen it previously near Bloomington. A month later—May 29—while on a geological and natural history tramp to Wyandotte Cave, we saw one in Orange County about 35 miles south of Bloomington. It has never been observed in Carroll County.

214. *DUMETELLA CAROLINENSIS* (Linnaeus). CATBIRD. (704)

Perhaps our most familiar and best known summer resident among our songbirds; common about the gardens, orchards, fields and open woods wherever there are thickets or briar patches. Arrives from the south April 20 to May first. Nests with full sets of eggs by May 15 or 20.

*Carroll County:* July 14, 1882, nest with three fresh eggs. May 3, 1883, first noticed this morning, rather common; May 21, nests with two and four eggs near the Maple swamp; several others seen. After this date the species

was common. April 27, 1884, two or three seen between Camden and Burlington. April 23, 1885, Mrs. Evermann saw two in our garden at Camden and the next day I saw two east of Camden.

*Vigo County:* April 28, 1888, saw several and collected a female near the Wabash above Terre Haute. Very common summer resident in Vigo, as it is also in Monroe County.

215. *TOXOSTOMA RUFUM* (Linnæus). BROWN THRASHER. (705)

Next to the catbird, this is our most familiar summer resident songster, frequenting much the same sorts of places as the catbird chooses, and much resembling it in song. Arrives about the first of April, begins nesting early in May. Young birds ready to leave nest by May 25 to 30. Favorite nesting places for the Brown Thrasher are the osage orange hedges. Numerous nests could be seen each spring in the hedges south of Terre Haute. Another place where nesting birds could be found was in the briar patches and thick under brush along the old canal.

*Carroll County:* June 19, 1882, nest with two fresh eggs; May 28, 1883, saw young birds nearly full grown. April 3, 1884, three seen in barnyard at my old home near Burlington, the first of the season. Heard others at Camden the next day. April 2 was very stormy, raining and snowing all day, but the 3d. was pleasant. May 21, found several nests, some with young, others with eggs, in briar patches and thickets at edge of the old Maple swamp south of Cutler. April 5, 1885, heard first of the season this afternoon at Camden. In 1883, I found a nest on the end of a fence rail protected by a rather dense clump of rose bushes.

*Vigo County:* April 8, 1888, ten noted; seen again on 10th and 11th; 21st, collected a female at Honey Creek five miles south of Terre Haute. April 27, 1889, a male collected near Terre Haute. May 3, 1890, four nests, with 4, 4, 3, and 5 eggs, respectively, all fresh or nearly so, in osage orange hedge 7 miles south of Terre Haute.

*Monroe County:* May 22, 1882, nest with two fresh eggs. Very common in Monroe, as it is in Vigo and Carroll counties.

216. *THRYOTHORUS LUDOVICIANUS LUDOVICIANUS* (Latham).

CAROLINA WREN. (718)

A rather rare permanent resident in each of the counties, most evident in the fall or early winter; apparently increasing in abundance.

*Carroll County:* First noted in the fall of 1877, October 10 to November 16. Heard February 27, 1879, a very cold day; noted singing sweetly March first. Noted often in the winter of 1883-4, especially February 8 to 24.

*Vigo County:* One (female) obtained near Terre Haute April 29, 1890, by W. J. Whitaker. A male and female collected at Sand Hill January 24, 1891. Obtained one and saw another May 13, 1882.

*Monroe County:* Very common in the winter of 1882-3. A male collected January 12, 1883, north of Bloomington. One seen May 2, 1888.

This is a southern species, least common in Carroll County and more abundant the further south one goes in the state. As one wanders along

the brush-lined streams or through the woods in winter, there is no more cheery song to be heard than that of the Carolina Wren. It matters not how deep the snow may be or how cold the air, if there be no wind, the loud, clear, bell-like, ringing notes of this active little bird are sure to be heard.

217. *THRYOMANES BEWICKI BEWICKI* (Audubon). BEWICK'S WREN. (719)

A rather rare summer resident in Vigo and Monroe counties; not noted in Carroll.

A male collected at Sand Hill, Vigo County, April 5, 1890, the first of the season. One seen in my yard in Terre Haute two days later.

218. *TROGLODYTES AEDON AEDON* Vieillot. HOUSE WREN. (721)

One of our most sociable little summer residents; trusting us by coming close about our houses, building its nest in any suitable box or hole anywhere about the house; perhaps driving away the bluebirds.

*Carroll County:* On the home farm near Burlington one of the outbuildings (a woodshed) was built of logs, one of which was hollow, and in this hollow a pair of wrens built their nest every year for many years. Another pair built annually in a clothesline box that stood in the kitchen yard; while still another pair built their nest in a hole (air shaft) in the large chimney built in the north end of the house. Noted at Camden April 28, 1884; common the next day. Noted April 21, 1885, also on April 26 and 28. On June 25, 1905, a pair observed building in the clothesline box at the old home, but for some reason they abandoned it; perhaps the pestiferous English sparrow was the cause.

*Vigo County:* Quite common, especially about farmhouses.

*Monroe County:* Common summer resident, but probably less so than the Bewick's Wren.

219. *NANNUS HIEMALIS HIEMALIS* (Vieillot). WINTER WREN. (722)

A rare resident, doubtless breeding, though we never found its nest. On April 9, 1885, collected a female in Deer Creek bottom below the Porter mill, west of Camden. Others noted at various times in the winter in the thick underbrush about fallen trees and rotten logs, along the streams. Frequently seen at such times and in such situations in each of the three counties.

Next to the Carolina Wren this diminutive bit of fluffy feathers is one of our most cheerful winter residents.

220. *CISTOTHORI'S STELLARIS* (Naumann).

SHORT-BILLED MARSH WREN. (724)

Noted in Vigo County May 8, 1889, by J. Rollin Slonaker.

221. *TELMATODYTES PALUSTRIS ILIACUS* Ridgway.

PRAIRIE MARSH WREN. (725d)

A not uncommon summer resident, breeding in some numbers among the cattails and scirpus patches in the Five-mile Pond, the Goose Pond, and in other similar places in Vigo County. A female collected at the Goose

Pond May 17, 1890. One seen in Monroe County May 13, 1886. Not noted in Carroll County, although it doubtless occurs there among the tules along the old canal.

222. *CERTILIA FAMILIARIS AMERICANA* Bonaparte. BROWN CREEPER. (726)

A spring and fall migrant, going north very early in the spring and returning south quite late in the fall.

One of our most curious little birds, readily known by its small size, brown speckled suit, long slender, curved bill, and its habit of always hunting on the trunks of trees, starting in near the ground, gradually working upward until a considerable height is reached, then flying to the base of another nearby tree and again working upward as before.

*Carroll County:* A pair (male and female), taken from a tree near Camden, February 1, 1879; day cold and snowing hard. On February 15, another pair taken on same tree, the day very much colder than on first; one seen March 5. April 6, 1884, two seen in heavy timber just above the Graham mill on Deer Creek, these being the first seen for some time. On April 23, one noted in Deer Creek bottom below the Porter mill. One seen November 3, 1906, by Miss Evermann on a tree in the yard at her home in Burlington; not seen again until January 28, 1908, when she saw two in same yard.

*Vigo County:* Noted near Terre Haute, March 30 and 31, 1888.

*Monroe County:* One collected, October 10, 1885; noted by G. G. Williamson, May 31, 1888.

223. *SITTA CAROLINENSIS CAROLINENSIS* Latham.

WHITE-BREADED NUT-HATCH. (727)

A common and familiar permanent resident.

*Carroll County:* On our home farm near Burlington, we always had, in the fall of the year, a large pile of fine pumpkins in the corner of a lot near the house. Some of these were daily thrown over the fence into a pasture where, after being broken or cut open, they were eaten by the cows. Several nuthatches were always about, ready to feed on the pumpkinseeds which they would usually carry away and hide in holes or crevices in some nearby tree. So intimately associated with the pumpkins were these amusing little birds that we always called them "pumpkinseed" birds. They are also called Tomtit. Collected a male May 6, 1885, in Deer Creek bottoms near the old Dillen millrace. June 25 to July 1, 1905, a pair noted in pasture west of house on home farm. Ava Evermann contributes the following records: January 5, 1907, several seen in the woods with titmice, chickadees, and woodpeckers. Throughout the winter (1906-7) nuthatches were seen on the trees in the orchard and on an ash tree near the house; October 28, one heard high up in an elm; another seen same day. January 1, 1908, two seen running up and down the trunk of a large hackberry tree; their soft but distinct twitter disclosed their presence; January 3, one heard.

*Vigo County:* January 11, 1890, a pair collected northeast of Terre Haute, and a male obtained a week later on Honey Creek.

*Monroe County:* January 12, 1883, one or two noted near Bloomington.

224. *Sitta Canadensis* Linnaeus. RED-BREASTED NUTHATCH. (728)

Spring and fall visitant and probably rare summer resident.

*Carroll County:* In August, 1878, three or four young just able to fly, seen at a small pond on the home farm; one was collected. May 3, 1883, one seen and heard near same place; May 7, 1885, a pair collected near the Leonard mill on Deer Creek, east of Camden.

*Vigo County:* A female collected at Sand Hill, May 10, 1890.

*Monroe County:* One collected on Thanksgiving Day, 1882, near Bloomington. One got in Turner's grove, February 10, 1883. A pair or more might have been seen in this grove at any time in the winter of 1882-3.

225. *Beolophus bicolor* (Linnaeus). TUFTED TITMOUSE. (731)

A common permanent resident. Of all the birds that remain with us during the cold, blustery days of winter, connecting that cheerless season of ice and sleet and snow with summer's sunshine and flowers, perhaps the most common, as well as the best known, is the Tufted Titmouse. Everyone knows this saucy, plain-colored little bird. He is not at all a gaudy bird, but quite Quakerish in his plain suit of leaden gray. He is a hardy bird, enduring, indeed, seeming to enjoy, the rigors of our severest winters without any desire to plume his wing for that distant flight which takes from us most of our musical summer birds when the autumn days come on. No! little cares he if the storms do come, the wind howl, the leaves fall, and the temperature go to zero and below, for here he stays and seems really to enjoy the cold. He may be seen on almost any day in the old apple trees near the house, about the woodpile, or in the depths of the forest, flitting about in that saucy, bravado-like way of his, gleaning from the crevices of the bark and the freshly split wood his daily food, the while keeping up an almost incessant whistling or scolding, should you intrude too closely upon his hunting ground. He has an omnivorous taste, feeding upon almost anything and everything, animal or vegetable, and thus is he able to procure food of some kind or other at any season of the year.

The mating season begins early in April. The nests are in deserted woodpecker holes or natural cavities in trees or old dead stubs in deep or open woods, or in the apple or other trees about the house. The eggs are usually five to eight in number and are pure white or sometimes light cream ground-color, profusely speckled with reddish-brown.

These birds will sometimes nest in boxes put up for the purpose and may thus be brought and kept about the house during the nesting season.

*Carroll County:* 1877-1879, noted often. January 22, 1879, one collected. Miss Evermann noted a few near Burlington January 5, 1907, and says they can be seen almost any time of the year near her house; October 28, two heard; December 16, one seen in porch and on grape arbor. January 1, 1908, noted in the woods; 2d, one seen in lilac bush near house; March 1, two seen in garden; they have been about the house all winter; one flew into the porch after some wahoo berries that were hanging on the wall.

*Vigo County:* Permanent resident; seen often. April 19, 1888, a male collected; 30th, a male obtained near the fair grounds. April 24, 1890, a female secured at Sand Hill.

*Monroe County:* Quite as common and well known as in the other counties.

## 226. PENTHESITES ATRICAPILLUS ATRICAPILLUS (Linnaeus).

## CHICKADEE. (735)

A rather common winter visitor in all the counties, coming down from farther north late in the fall and remaining until spring. Not always distinguished from the Carolina chickadee. Ava Evermann gives the following record from Burlington: November 17, 1906, two seen. January 5, 1907, several seen in woods with nuthatches, titmice, and woodpeckers; October 28, one heard in woods.

## 227. PENTHESITES CAROLINENSIS CAROLINENSIS (Audubon).

## CAROLINA CHICKADEE. (736)

Common permanent resident in all the counties. Could be seen any day in the year. Nests in old sapsucker holes or other cavities in dead trees or even in fence-posts and other similar situations.

## 228. REGULUS SATRAPA SATRAPA Lichtenstein.

## GOLDEN-CROWNED KINGLET. (748)

A rather common late fall and early spring migrant; a few remain all winter. In the winter of 1882-3, a pair remained in a grove of evergreens at the Turner place just west of Bloomington.

*Carroll County:* Specimens collected at Camden, November, 1877; two secured April 9, 1885, common three days later. Miss Evermann on October 27, 1907, saw two in a little hawthorn bush near Burlington. They were very busy looking for insects and insect eggs and paid no attention to observation. On November 12, one flew into the porch against a screen, then to an apple tree where, after regaining its strength, it began to search for insects and eggs or other food.

*Vigo County:* March 27, 1888, one seen; noted again March 31 and April 1; April 17, one got east of the fair grounds. April 12, 1890, a male got on Honey Creek.

*Monroe County:* February 10, 1883, four or five seen in Turner's grove.

## 229. REGULUS CALENDULA CALENDULA (Linnaeus).

## RUBY-CROWNED KINGLET. (749)

Like the preceding, a not uncommon late fall and early spring migrant in all the counties.

*Carroll County:* October 5, 1878, one taken near Camden. October 12, three collected; October 19, one secured.

*Vigo County:* April 19, 1888, five or six noted and a pair (male and female) taken west of Terre Haute; April 21, a male taken on Honey Creek; April 12, 1890, a male taken on Honey Creek; April 28, a male shot on the "commons" south of Terre Haute.

*Monroe County:* Noted often in late fall and early spring, especially in Turner's grove.

## 230. POLIOPTILA CERULEA CERULEA (Linnaeus).

## BLUE-GRAY GNATCATCHER. (751)

A fairly common summer resident. Arrives about the middle of April; begins nest building by the first of May. The nest is one of the most beautiful. It is a small, deeply cup-shaped structure covered on the outside with small greenish or grayish lichens, and is usually placed on some nearly horizontal limb.

*Carroll County*: April 23, 1884, first seen today in Deer Creek bottom below Camden; May 5, saw two pairs building their nests near Camden; May 8, saw a pair building in a white oak near Springboro bridge west of Pittsburg. The nest was about 18 feet from the ground. It was about an inch deep inside and very nicely made. On the 10th, this nest was still unfinished but the birds were working industriously; May 17, I secured the two nests found on the 5th; each contained five fresh eggs. April 22, 1885, first of the season seen. The species was common on the 26th.

*Vigo County*: May 10, 1888, a male obtained at Sand Hill; April 14, noted.

*Monroe County*: August 15, 1885, saw several and collected one in Smith's woods near Bloomington. April 12, 1886, noted.

## 231. HYLOCICHLA MUSTELINA (Gmelin). WOOD THRUSH. (755)

Not uncommon as a summer resident; frequenting deep woods. In all nature there is no sound more beautiful and stirring than the song of the Wood Thrush. The birds arrive from the south in the last days of April and their rich liquid notes may soon be heard in any deep woods you may visit. By the middle or twentieth of May their nests with the full complement of eggs may be found.

*Carroll County*: June 17, 1882, nest with three fresh eggs, incubation begun. May 3, 1883, quite common near Burlington. The Wood Thrush, with many other species, seems to have returned last night, a great wave of birds having arrived and today the woods are full of birds.

The Wood Thrush is one of the victims of the Cowbird's parasitic habits. On May 24, 1883, I found a nest with four Wood Thrush and three Cowbird eggs, all nearly fresh. On May 28, I found three nests, one with four eggs just hatching, another with four nearly fresh. April 28, 1884, returned last night. Saw several in Stone's woods near Burlington. After May 5, they were quite common. April 23, 1885, saw and heard three or four on the Joseph Trent farm in Carrollton Township,—the first of the season.

*Vigo County*: May 6, 1886, one noted; noted again May 3 and 5. Quite common in Vigo as it also is in Monroe County.

*Monroe County*: May 6, 1886, nest with full set of eggs near Bloomington.

## 232. HYLOCICHLA FUSCESCENS FUSCESCENS (Stephens). VEERY. (756)

Rare spring and fall migrant.

*Carroll County*: April 16, 1885, noted as especially common.

*Vigo County*: May 3, 1888, three seen, one collected, at the Hunt farm three miles southeast of Terre Haute; 12th, a female collected near Terre Haute. May 14, 1890, a female at the Sand Hill.

*Monroe County*: May 13, 1886, several seen near Bloomington.

## 233. HYLOCICHLA ALICLE ALICLE (Baird). GRAY-CHEEKED THRUSH. (757)

A not uncommon spring and fall migrant; observed in all the counties but I have only a few definite records.

*Vigo County:* May 3, 1888, one seen. April 29, 1890, one secured at Sand Hill; May 3, a female collected at the Goose Pond, another male on Honey Creek May 10, another at Sand Hill May 14.

## 234. HYLOCICHLA USTULATA SWAINSONI (Tschudi).

## OLIVE-BACKED THRUSH. (758a)

*Carroll County:* April 9, 1885, several seen, one secured.

*Vigo County:* April 24, 1890, a male collected at Sand Hill; May 10, a male collected at Sand Hill. No record for Monroe County.

## 235. HYLOCICHLA GUTTATA PALLASI (Cabanis). HERMIT THRUSH. (759b)

A rather common spring and fall migrant. Arrives in the spring about the twentieth of April, or perhaps earlier, and may be seen at least as late as the middle of May. A quiet, retiring bird, not often seen except by those who are curious and know when and where to look for it.

*Carroll County:* October 5, 1878, one collected. May 11, 1883, found one dead near the Evans schoolhouse, Tippecanoe Township. March 30, 1884, a thrush believed to be this species seen today; April 23, several seen along Deer Creek near Camden.

*Vigo County:* April 1, 1888, three seen; 17th, collected two females east of the fair grounds; 19th, shot a female west of Terre Haute. October 15, 1889, Dr. J. T. Scovell collected one near Terre Haute. April 12, 1890, four males collected on Honey Creek; 16th, one male and two females secured at Sand Hill; another female at the same place on 24th, and a male on 30th.

Noted also in Monroe County but I have no definite records.

There is among the songs of birds none more deliciously sweet than that of the Hermit Thrush.

In the swamp in secluded recesses,

A shy and hidden bird is warbling a song.

Solitary the Thrush,

The hermit withdrawn to himself, avoiding the settlements,

Sings by himself a song.

—Whitman.

## 236. PLANESTICUS MIGRATORIUS MIGRATORIUS (Linnaeus). ROBIN. (761)

Of all our birds the common Robin is the most familiar and best loved. In all the counties covered by this paper it is a common summer resident, and, usually a few remain all winter in favorable places along the rivers and creeks, particularly where there are wild grapes, hackberries, and other trees, shrubs or vines that furnish it with food.

The robins are among the first to return from the south. They are always hailed as harbingers of spring, and their coming is always an event that brings pleasure to all who are at all observing. Even as early as the first day of March, or sometimes as early as January, they may be seen.

Our January or February "thaw" seldom fails to bring back a few to us. In early March, while snow still lingers in all protected places and flurries of snow are still frequent, one may sometimes see large numbers of robins scattered over the fields and pastures picking up such bits of food as they can find, the while uttering their call notes but not yet their song. They hop about over the ground and usually continue feeding until late in the evening when they take wing, resuming their northward flight, which they continue through the night. Sometimes the flock may be made up wholly or in part of birds that will remain in the vicinity to breed; if so, they soon scatter more or less and ere long begin preparations for nest building.

In this part of Indiana one of the favorite places for robins' nests was on rails of the old Virginia rail fences. The nest was usually placed on the third to fifth rail from the ground and just outside of where the rails crossed. The rail above afforded protection from rain, the height from the ground was some protection against black-snakes and other ground inhabiting enemies, and, besides, the proximity to the crossing of the rails was also a protection. In the books this nesting site is spoken of as unusual, but in my boyhood experience it was the most common. At the beginning of the breeding season they scatter about over the farms and in the villages, rarely entering heavily wooded areas except at the edges of fields or other open places. The orchards, yards, shade trees along the village or town streets, and the borders of the woods are their favorite nesting places. Besides the rail fences, common nesting sites are in the crotches of apple and pear trees in the orchards; of maples, elms and other shade trees in the yards and along the streets; and in the beeches, oaks, and cottonwoods about the barnyards and at the edges of woodlands about the fields. The nest might be placed only two or three feet from the ground (as when the Virginia rail fence was utilized), or six to 40 feet if placed in the crotch or on a limb of some tree.

Usually two, sometimes three, broods are reared each season, and the number of eggs in the set is four or five. I have frequently known the same old nest, especially those placed on a fence rail, to be repaired and used two or even three seasons.

Albinism is of frequent occurrence among robins. In March, 1908, my niece, Miss Ava Evermann, saw an albino Robin about the Barker Stockton home just south of Burlington. It stayed about several days then disappeared. In the fall it was observed again in the same locality. Apparently it had gone farther north for the summer and returned in the fall with other robins in their fall migration. In the fall of 1918, Miss Evermann saw another partial albino Robin at Kokomo.

Miss Evermann has told me an interesting story about a Robin that saw itself in a mirror. She says:

"One of the most interesting observations I ever made concerning the Robin was one winter when one came into our big back porch after some dogwood (*Cornus florida*) berries which I had hung above a mirror, the fall before. The mirror rested on a little shelf and the bird came to the shelf, saw himself in the glass, found by using his bill that he couldn't get to the other bird that way, so, after seeming to study about it for a little while, he hopped to the edge and looked behind the glass. This without

results, of course, so he hurried back and surveyed himself again. He grew quite excited and ruffled his feathers as he looked at the bird in the glass. Then he would look behind the glass again and again, each trip seeming more hurried than the one before, as if he were thinking he might, by hurrying, get there before the other bird could get away. Well, I watched that Robin long enough to convince me that it had some reasoning faculty. Don't you think it had?"

Some times robins gather up in great numbers and roost together at night in some selected place. In the fall of 1887 (I think it was: my notes were lost in the Indiana State Normal School fire of March 8, 1888), thousands of robins roosted for several nights in a grove of pine trees near Cataract, Owen County. Just before dusk robins in great numbers were seen coming in from all directions, to spend the night in these trees. Just when and in what manner they left I had no opportunity to determine.

A few definite dates for the various counties follow:

*Carroll County:* January 25, 1879, a few seen; they acted as if lost; March 5, one seen. June 19, 1882, nest with two fresh eggs. May 24, 1883, nest with four fresh eggs. February 5, 1884, saw two near John T. St. John's on Wild Cat Creek, Democrat Township. The weather had been very cold since December until February 3, and during the night of February 4-5 rain had fallen almost continuously; February 25, saw several in Camden. I think they had come from the north, the weather having been quite cold for the last few days; April 10, saw a pair building a nest in a pine tree in A. A. McKinney's yard in Camden; May 4, this nest contained young birds; May 5, saw a nest on eave of Baptist church in Camden. March 8, 1885, first of season seen at Burlington; March 11-13, common; April 26, found first nest, with four fresh eggs, in a cedar tree in my yard in Camden. February 7, 1908, one seen in orchard in Burlington. While this is the only one I saw, I was told that several remained all winter along the small stream which runs through the village. Miss Evermann saw three at Kokomo March 5, 1920, and several next day.

*Monroe County:* May 5, 1882, set of four eggs slightly incubated. A few (five or six) seen February 10, 1883, and a great number, perhaps 500, six days later. Full sets of eggs found May 5.

*Vigo County:* February 23, 1888, one seen; others noted March 3; January 18, 1896, three seen on Honey Creek south of Terre Haute.

An albino was taken at Terre Haute many years ago by the late Dr. J. T. Seovell.

237. *SIALIA SIALIS SIALIS* (Linnæus). BLUEBIRD. (766)

Formerly an abundant summer resident, now much reduced in numbers as a result of the clearing up of the land with the consequent destruction of favorable nesting places, and of persecutions of various kinds.

With us the Bluebird is always associated with the robin. These are the two birds that were most familiar and best known to country boys and girls in Indiana 30 to 50 years ago. They returned from the south about the same time each spring, frequented the same parts of the farm, were equally familiar and confiding, built their nests close about the homes and, in the fall, departed for the south at about the same time. Their coming in the

spring was always hailed with delight and their going in the fall was always regarded as portending the coming of snow and sleet and storm.

Like the robin, a few bluebirds might remain quite late in the fall in seasonable years, sometimes even throughout the winter.

Every field on a typical Indiana farm in those days had scores of stumps on every acre. Many of these stumps were hollow. The hole was usually only a few inches in diameter and 10 to 30 inches deep. These holes were apparently regarded by the bluebirds as ideal nesting sites, if we judge from the frequency with which they were occupied for that purpose.

There was an 18-acre field which was, for several years following that in which it was cleared for cultivation, remarkably well supplied with stumps. The author of these notes has very good reason for remembering these stumps, as he had to dig around every one of them; and how often have his ribs been bruised and his sides made to ache by blows from the plow handles as the plow struck the roots which were far-reaching and ever in the way! He was admonished to plow close and to dig the dirt up loose because the "best corn grows closest to the stump"! This, however, did not prevent the work from being about the hardest the small boy could find on the farm. But there was one compensating pleasure,—the finding of a bluebird's nest now and then in these hollow stumps. Just how many were found memory does not now safely fix, but it must have been more than a score in this one field every year. Usually a second brood would be reared, a new stump being frequently selected for the second nest.

Next to hollow stumps, deserted woodpecker holes in dead trees were oftenest used. Sometimes the hole would be in a stump, sometimes in a stake or post of the fence. Bird boxes put up about the house were sure to be used, especially before the advent of the pestiferous English sparrow. We have found bluebirds' nests in holes in elm, oaks of several species, maple, poplar, cottonwood, beech, walnut, buckeye, ash, wild cherry, hickory, sycamore, butternut, willow, apple, pear, and doubtless in others; also fence stakes, posts and rails, and in various bird houses put up about the habitations of man.

Definite records for *Carroll County* are as follows:

February 20, 1878, seen; October 25, noted at Camden. February 6-8, 1879, three or four seen; 25th, common about Camden; March 5, saw 40 to 50 males; 6th, saw two or three females, first of season. May 22, 1883, Vern Beck found a nest with six eggs. February 12, 1884, first of the season seen and heard; 22d, noted as common since 13th; March 7, noted; April 10, seen building; 25th, Matthew Sterling took a set of eggs near Camden; May 5, took a set of five fresh white eggs from a box we had put up in our yard in Camden; 18th, another set of five, also pure white, from same birds, but in another box which we had provided; June 3, a third set of five, also white, in the first box and by the same pair of birds. March 7, 1885, first of season; 10th and 11th, quite common; April 22, five fresh eggs in box in our garden in Camden; first nest of the season. June 25-July 1, 1905, several pairs seen on the old home farm. Ava Evermann noted the Bluebird at Burlington March 24, 1907, when one was seen, and again on October 28, when one was observed in an open woods, and on March 3, 1920, at Kokomo where she had not noted any since Thanksgiving of 1919.

*Monroe County:* April 2, 1882, set of five fresh eggs from box put up in my yard in Bloomington; April 4, set of five fresh eggs near Bloomington. January 12, 1883, four or five seen; February 10, noted.

*Vigo County:* February 18, 1888, four seen; others seen on 19th and 20th; March 3, nine seen. March 13, 1889, a male collected near Terre Haute by J. C. Cunningham. May 3, 1890, set of four fresh eggs in hole in willow near the Goose Pond.

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