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PROCEEDINGS

of the

NEBRASKA

ORNITHOLOGISTS' UNION

Volume IV complete in 2 parts 1908-09
Volume V complete in 5 parts 1910-13
Volume VI complete in 3 parts 1915.
(per Circular in File 191)

1908-1915

PROCEEDINGS
OF THE
NEBRASKA ORNITHOLOGISTS' UNION
AT ITS
FOURTH, FIFTH, SIXTH, SEVENTH AND EIGHTH
ANNUAL MEETINGS

Lincoln, Nebr., January 24, 1903
Lincoln, Nebr., January 30, 1904
Omaha, Nebr., December 31, 1904
Lincoln, Nebr., December 29, 1905
Lincoln, Nebr., January 19, 1907
Adjourned to Weeping Water,
Nebr., May 18, 1907.

EDITED BY
MYRON H. SWENK

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ABSTRACT OF MINUTES

FOURTH ANNUAL MEETING

The fourth annual meeting of the Nebraska Ornithologists' Union was called to order in room 301 of Mechanic Arts Hall, University of Nebraska, at 11:30 A.M., January 24, 1903, with President Bates in the chair. Fifteen members were present.

The Recording Secretary reported that the proceedings of the third annual meeting, having been unavoidably delayed in publishing, were about to come from the press. He also described a card catalogue of the members which he had prepared. His report was, on motion of Lawrence Bruner, accepted and adopted. The Corresponding Secretary then briefly reported on the duties of his office. The report of the Treasurer was, in his absence, read by the Recording Secretary. On motion of Lawrence Bruner, the report was referred to an auditing committee to be appointed by the chair. The President appointed as this committee Lawrence Bruner, Elizabeth Van Sant, and J. C. Crawford, Jr. The Record Committee reported considerable progress. On motion of H. B. Ward, all new business was left to the afternoon session. The Corresponding Secretary then reported on the result of the mail ballot and pronounced the following officers as elected:

President, F. H. Shoemaker, Omaha,
Vice-President, Anna E. Caldwell, Lincoln,
Corresponding Secretary, J. C. Crawford, Jr., West Point,
Treasurer, August Eiche, Lincoln,
Executive Committee, Geo. E. Condra, Lincoln; J. A. Dickinson, Gresham; H. B. Lowry, Lincoln.

On motion of Lawrence Bruner, the present Recording Secretary was continued in office for the coming year, in accordance with the previously expressed desire of the Union to make this a permanent office. The creation of the office of Custodian was accomplished, and Myron H. Swenk of Lincoln appointed by the Executive Committee to fill it. Adjournment at 12:20 P.M. to

meet again at 2:30 P.M. On reassembling the following program was enjoyed:

President's Address, "Birds and Man".....J. M. Bates
 "Educational Value of Bird Study".....Mrs. C. S. Lobingier
 "Devices for Interesting Children in Bird Study".....Anna Caldwell
 "Observations of the Number of Birds to the Square Mile in
 Custer County".....J. M. Bates
 "Birds of the Niobrara Valley".....Myron H. Swenk
 "Birds of Cherry County".....R. H. Wolcott

Each of these papers was thoroughly discussed by the members after presentation.

The matter of forming an Audubon Auxiliary was presented by the Recording Secretary, and a scheme, with a proposed constitution, for its organization presented. He then moved the appointment of a committee to control this organization. H. B. Ward moved as a substitute motion that a committee of five be appointed by the President to take in charge the bird protection work in this state, and that the matter be referred to this committee for action. Carried. The President appointed Wilson Tout, chairman, and Anna Caldwell, Mrs. C. S. Lobingier, Lawrence Bruner, and R. H. Wolcott as this committee.

The proposed amendments to the constitution were read, and, on motion of Lawrence Bruner, were adopted. A motion by Lawrence Bruner that with the sanction of the Executive Committee the secretaries be empowered to accept for publication articles on birds not found in Nebraska was carried. A motion by Lawrence Bruner that a committee of five be appointed to take in charge the execution of a proposition to make the fifth annual meeting one devoted especially to game birds was carried. The President appointed as the committee R. H. Wolcott, chairman; Lawrence Bruner, G. B. Simpkins, I. S. Trostler, J. M. Bates. A motion by R. H. Wolcott that the Secretary be empowered to prepare the published volumes of the proceedings in bound form, provided any member authorized by the President would care to take the matter in charge, was carried. F. H. Shoemaker moved that the business transactions carried on at the morning session be ratified. After reading of minutes they were

adopted. A motion made by R. H. Wolcott that the Auditing Committee continue in office and report to the Secretary for publication was carried. A vote of thanks to the retiring President was given and the new President introduced. Adjournment.

R. H. WOLCOTT, *Secretary*.

FIRST ANNUAL FIELD DAY.—This meeting was held at Lincoln, May 9, 1903, the party dividing into two sections, one taking the train to Waverly and returning through the woods along Salt creek, the other section going around the lake west of Lincoln and visiting the adjacent sloughs. The composite list reached 104 species and subspecies for the day.

FIFTH ANNUAL MEETING

The fifth annual meeting of the Nebraska Ornithologists' Union was called to order in room 301 of Mechanic Arts Hall, University of Nebraska, at 11:30 A.M., Saturday, January 30, 1904, and, in the absence of President Shoemaker, Vice-President Anna E. Caldwell presided. Twelve members were present.

The Secretary read a letter from President Shoemaker conveying his deep regret at the unavoidable circumstances which prevented his being present at the meeting, after which he presented an informal report on the duties of his office. The Treasurer's report was then read, and on motion to that effect by R. H. Wolcott, an auditing committee was appointed by the chair. This committee was Lawrence Bruner, Myron H. Swenk, and Wilson Tout. Informal reports from the Custodian, Record Committee, and Committee on Bird Protection were presented. The Executive Committee then reported on the mail ballot. The following officers were declared elected:

President, R. H. Wolcott, Lincoln,

Vice-President, Mrs. C. S. Lobingier, Omaha,

Corresponding Secretary, E. H. Jones, Dunbar.

Treasurer, August Eiche, Lincoln,

Executive Committee, Anna Caldwell, Lincoln; H. B. Duncanson, Peru; S. R. Towne, Omaha.

The amendment increasing the dues to \$2 for active and \$1 for associate membership was declared passed, as was also the amendment fixing the quorum at the members present; but that allowing ornithologists from outside the state to become active members was lost. The Executive Committee appointed Myron H. Swenk to the office of Recording Secretary and Custodian. Adjourned at 12:30 to meet again at 2:30.

After calling to order, a discussion of the proposed amendments was indulged in. I. S. Trostler moved the adoption of the amendment increasing dues. Carried. A motion by Lawrence Bruner that there be created a list of subscribers was carried. A motion by Lawrence Bruner that the amendment fixing the quorum at the members present be adopted was presented, and amended by I. S. Trostler that that number be not less than nine. Motion as amended carried. Motion by I. S. Trostler that the amendment allowing ornithologists from outside the state to become active members be laid on the table. Carried. A motion that the present Committee on Bird Protection be continued was carried. On motion of J. M. Bates, article IX was changed to read, "two-thirds of members voting" instead of "two-thirds of the active members." Article VI, section 1, was changed to read "one month before the date of annual meeting," instead of "by the first day of November in each year." All business having been transacted, the following program was presented:

President's Address, "Birds of Childs Point, Near Omaha" (read by title).....	F. H. Shoemaker
"The Bird Fauna of Cut-Off Lake, Near Omaha".....	I. S. Trostler
"Additional Notes on Cherry County Birds".....	R. H. Wolcott
"Some Bird Horizons".....	Wilson Tout
"Notes Taken in 1903 on the Birds of Sioux County," Lawrence Bruner	
"California Avian Notes".....	J. S. Hunter
"Bird Observations of a Two Days' Tour in Southwestern Nebraska".....	Myron H. Swenk
"May Lists at Lincoln".....	R. H. Wolcott
"Notes From Norfolk".....	J. H. Mackay

A motion was then made by R. H. Wolcott that a Field Day be held at Omaha the coming May 14. Carried. Installation of

new officers, and vote of thanks for retiring ones. Adjournment.

R. H. WOLCOTT, *Secretary*.

SECOND ANNUAL FIELD DAY.—In compliance with Dr. Wolcott's resolution passed at the Annual Meeting, the Field Day was held at Pries' lake, near Florence, Douglas county, May 14, 1904, 79 species being recorded for the day.

SIXTH ANNUAL MEETING

The sixth annual meeting of the Nebraska Ornithologists' Union was called to order at 11:00 A.M. in the lecture room of the Omaha public library, Saturday, December 31, 1904, with President R. H. Wolcott in the chair. Eleven members were present.

The report of the Recording Secretary and Custodian was given verbally and briefly by Myron H. Swenk, and on motion of Anna Caldwell was accepted. The Treasurer was not present, and, having prepared no statement in writing, President Wolcott gave a verbal report previously conveyed to him by the Treasurer. On motion of Wilson Tout the chair appointed Lawrence Bruner and H. B. Lowry as an auditing committee to examine and report on the Treasurer's report when completed. President Wolcott reported for the Record Committee and Wilson Tout for the Bird Protection Committee. Three names were proposed for membership and unanimously elected. Wilson Tout resigned from the chairmanship of the Bird Protection Committee, owing to lack of time for continuing in that capacity, and the committee was discontinued. The officers were then announced by the Secretary. The ballot showed the election of the following members:

President, Wilson Tout, Dunbar,

Vice-President, Agnes M. Dawson, Omaha,

Corresponding Secretary, Anna Caldwell, Lincoln,

Treasurer, F. H. Shoemaker, Omaha,

Executive Committee, Lawrence Bruner, R. H. Wolcott, and August Eiche, all of Lincoln.

Upon request, Wilson Tout, the President-elect, responded briefly, explaining his appreciation of the honor bestowed upon him by the Society. He also moved the adoption of a resolution that the Union extend a vote of thanks to Lawrence Bruner, R. H. Wolcott, and Myron H. Swenk, the authors of the new "Birds of Nebraska," which was carried unanimously. Lawrence Bruner responded briefly. The Union then adjourned at 12:00 M. to accept the hospitality of S. R. Towne at dinner, and meet again at 2:00 P.M.

The afternoon session was called to order at 2:45 P.M. Reading of papers being in order, the following program was rendered:

President's Address, "An Analysis of Nebraska's Avifauna,"

	R. H. Wolcott
"Bird Observations at Home".....	Mrs. G. A. Loveland
"The Dunbar Bird Club".....	Wilson Tout
"The Birds of Lincoln and Vicinity".....	Myron H. Swenk
"The Arkansas Kingbird and Brewer Blackbird in Knox County".....	I. S. Trostler
"The Economic Aspect of Birds".....	Lawrence Bruner
"Methods of Bird Food Study".....	J. S. Hunter

The minutes were approved. The date of the Field Day was left to the Executive Committee. A motion was passed giving a vote of thanks to the retiring officers. Adjournment.

MYRON H. SWENK, *Secretary*.

THIRD ANNUAL FIELD DAY.—The Executive Committee decided to hold this meeting at Dunbar, Nebraska, May 5 and 6, 1905. In the evening of May 5 a very interesting and well-attended public meeting was held in the town hall, Messrs. Sheldon, Swenk, and Bruner being the speakers of the evening, Wilson Tout presiding. A very enjoyable field meeting was held the next day, though unfavorable weather held the composite list down to 69 species.

SEVENTH ANNUAL MEETING

The seventh annual meeting of the Union was held in room 301, Mechanic Arts Hall, University of Nebraska, on December

29, 1905. President Tout called the meeting to order at 2:10 P.M. with eleven members present. The Secretary and Custodian gave a brief verbal report, and, in the absence of the Treasurer, read that officer's report. On motion it was referred to the Executive Committee to audit. A motion extending thanks to the Treasurer and Secretary for their efforts during the past year was unanimously carried. R. H. Wolcott responded briefly for the Record Committee. New business being in order, an extended discussion of the problem of publication was taken up, and finally a motion by R. H. Wolcott that the resources of the Union be devoted to the publication of a quarterly, just as large as possible without incurring indebtedness to the Society, the details to be left to the judgment of the editor, was carried, Wilson Tout desiring to go on record as opposed to the quarterly idea. The Secretary then moved that a permanent Advisory Editorial Committee of two be appointed to confer with, advise, and assist the Secretary in editing the publication, to assume a partial responsibility for it, and to start any new incumbent in the duties of the office. The motion was carried. The President appointed Lawrence Bruner and R. H. Wolcott as members of the Advisory Editorial Committee. R. H. Wolcott then moved that a committee of five be appointed as an Educational Committee to take charge of the educational aspect of the Union's aims. The motion prevailed, and the chair appointed Caroline Stringer, Lawrence Bruner, H. B. Duncanson, Anna Caldwell, and Margaret Thompson as the Educational Committee. No amendments to the Constitution were presented. The Secretary then announced the officers for 1906, as follows:

President, S. R. Towne, Omaha,
Vice-President, Mrs. G. H. Payne, Omaha,
Treasurer, F. H. Shoemaker, Omaha,
Corresponding Secretary, Elizabeth Van Sant, Omaha,
Executive Committee, H. B. Lowry, Lincoln; E. H. Barbour,
Lincoln; Wilson Tout, Dunbar.

The permanent office of Recording Secretary and Editor was retained by Myron H. Swenk. The afternoon session then adjourned.

The evening session was called to order at 8:30 P.M. President Tout addressed the society upon the subject of "Bird Educational Methods," after which the following program was rendered:

"Some Expedients Used in Nest Building".....R. H. Wolcott
 "The Principal Bird Records for 1905".....Myron H. Swenk
 "A Sand-Hill Heronry".....R. H. Wolcott
 "Some Peculiar Birds' Nests".....Lawrence Bruner
 "The Early Nesting of the Sierra Crossbill".....P. B. Peabody

After the program R. H. Wolcott moved that Wilson Tout be elected chairman of the Educational Committee, and the motion unanimously prevailed. The minutes of the meeting were read and accepted. Adjournment.

MYRON H. SWENK, *Secretary.*

FOURTH ANNUAL FIELD DAY.—By announcement of the Executive Committee, the fourth annual Field Day was held at Peru, May 4 and 5, 1906. On the evening of May 4, exercises were held in the Peru Normal chapel, at which time addresses were given by members of the Union. Wilson Tout acted as chairman of the meeting. R. H. Wolcott gave an illustrated talk on the birds he had observed and photographed in Cherry county during the past two summers. Myron H. Swenk followed with an illustrated discussion of North American birds which have become extinct or are now approaching extinction. Lawrence Bruner then spoke on the problem of bird protection, laying special emphasis upon the local aspects. During the evening several selections by the Peru Male Quartet were very much enjoyed by all. The next day a large and interesting list of birds was secured by the members of the Union among the hills about the town.

EIGHTH ANNUAL MEETING

The eighth annual meeting of the Nebraska Ornithologists' Union was held in two sessions: the first in room 301, Mechanic Arts Hall, University of Nebraska, on Saturday, January 19, 1907; the second or adjourned session in the First Congregational Church at Weeping Water, Nebraska, on Saturday, May 18, 1907.

The first session was called to order at 2:30 P.M. with President Towne in the chair. Ten members were present. The officers reported briefly, and the Treasurer not being present, his report was read by R. H. Wolcott. Myron H. Swenk reported for the Record Committee. Wilson Tout reported much progress by the Educational Committee, of which he is chairman, and outlined some of the lines of work he proposed to take up. As the meeting had been primarily convened for special business, the program, election, and installation of officers and election of members was postponed until the fifth annual May Field Day, which it was unanimously voted should be held at Weeping Water, Nebraska, May 3 and 4, 1907, and which should be considered as an adjourned session of the present meeting. (Owing to the highly inclement weather of these dates, the meeting was later postponed by the Executive Committee to May 18.)

The proposed changes outlined in the Corresponding Secretary's letter of January 14, as voicing the suggestions of the Executive Committee, were then thoroughly debated, pro and con, and it seemed the sentiment of the members that the changes there advised were desirable, namely, (1) the reduction of membership classes to one class to be known as *members*, with annual dues of \$2, (2) the combination of the offices of Recording and Corresponding Secretary, the abolishment of the office of Custodian, and the formation of the Executive Committee from the officers, and (3) the abandonment for the present of further attempts to carry on bird protection work as started by the Bird Protection Committee and the Audubon Auxiliary of the N. O. U.

It was then moved that the Constitution be taken up, section by section, and proposed amendments be acted upon. The following amendments were carried unanimously:

1. That in article I, section 2, the words, "to encourage the proper study of ornithology in the schools and to foster the cause of bird protection," be cut out, and the words, "and to encourage the study of birds in the state of Nebraska," be substituted.

2. That article II, section 1, be entirely cut out and that section 2 be numbered section 1, except that the words, "and active," be cut out, and the words, "only members of this class," be supplanted by the words, "all members," and the words, "in good standing," be inserted.

3. That article II, section 3, be entirely cut out, and that section 4 be numbered section 2, and that section 5 be numbered section 3, and that section 6 be entirely cut out.

4. That in article IV, section 1, the words, "a Recording Secretary, a Corresponding Secretary," be cut out and the words, "a Secretary," be substituted, and the words, "and a Custodian," be cut out.

5. That in article IV, section 2, the words, "three members elected by the Union with the President and Recording Secretary as ex-officio members. The chairman shall be the elective member of the committee that received the largest number of votes," be cut out, and the words, "the officers," substituted.

6. That in article IV, section 3, the words, "on Records and Migration," be cut out.

7. That in article V, section 1, the words, "provided for in article IV, section 3," be cut out, that sections 3 and 4 of Article V be combined under "Duties of the Secretary," and that the words, "to have charge of all property of the Union," be inserted in this section, that section 5 become section 4, that section 6 be cut out, that section 7 become section 5, and that in this section the words, "and place," be inserted and the words, "to decide the election in case of a tie," be cut out.

8. That in article VI, section 1, the words, "and the Executive Committee," "a mail," "of active members of the Union," "Corresponding," and "active," be cut out, and in section 2 the words, "except that the offices of Recording Secretary and Custodian shall be considered permanent," be cut out.

9. That in article VIII, section 1, the words, "active," be cut out, that sections 2 and 3 be entirely cut out, and sections 4 and 5 become 2 and 3 respectively.

10. That in article IX, section 1, the word, "active," be cut out.

11. That in section 3 of the by-laws "Secretary" be substituted for "Custodian," and in section 6 the word "active" be cut out.

It was moved and carried that the Secretary redraft the constitution embodying the above amendments, and the copy be submitted to the Executive Committee for approval before publication. Adjournment at 5:30 P.M.

The second session was called to order at 7:30 P.M. with A. E. Sheldon as chairman, President Towne having found it impossible

to be present. Four new members were elected. The place and time of the next meeting were discussed, several localities being mentioned, Bellevue and Crete prominently, and the matter was turned over to the Executive Committee for final decision, as the constitution provides. A resolution was unanimously passed expressing the preference that the winter meetings be discontinued, and that all business be transacted in the evening of the Annual Field Day, the reason assigned being that many could not attend both meetings, and preferring the Field Day, the attendance at the business meetings was very small. The report of the Treasurer was submitted, and Lawrence Bruner and Wilson Tout were appointed as Auditing Committee. Wilson Tout reported on the May Day Contest inaugurated by the Educational Committee, and provision was made by the Society for furnishing and distribution of the prizes. The election of officers then proceeded by ballot, with the following result:

President, Myron H. Swenk, Lincoln,
Vice-President, Emily Wood, Omaha,
Secretary, Wilson Tout, North Platte,
Treasurer, F. H. Shoemaker, Omaha.

The meeting then adjourned at 8:15 P.M., and repaired in a body to the church auditorium to hear the address by Lawrence Bruner on the subject, "Why We Study Birds," which was attended by an interested audience of the townspeople of Weeping Water.

MYRON H. SWENK, *Secretary*.

FIFTH ANNUAL FIELD DAY.—The entire day of Saturday, May 18, was given over to exploring the woods about Weeping Water and observing the birds. During the day 93 species were seen by members of the Union, an unexpectedly large list for so late in the season.

REPORT OF TREASURER, 1902-1904

RECEIPTS

Balance from previous Treasurer, February 1, 1902.....	\$ 64.63
Balance from previous Treasurer, January 22, 1903.....	10.00
4 Annual dues for 1901—Active.....	4.00
4 Annual dues for 1901—Associate.....	2.00
44 Annual dues for 1902—Active.....	44.00
32 Annual dues for 1902—Associate.....	16.00
61 Annual dues for 1903—Active.....	61.00
61 Annual dues for 1903—Associate.....	30.50
37 Annual dues for 1904—Active.....	74.00
31 Annual dues for 1904—Associate.....	31.00
2 Annual dues for 1905—Active.....	4.00
Sale of Proceedings: 1902.....	7.20
1903.....	6.70
1904.....	40.75
	\$395.78

EXPENDITURES

Paid State Journal Co., February 20, 1902, on II Proceedings.....	\$ 50.00
Paid State Journal Co., April 15, 1902, on II Proceedings..	25.00
Paid State Journal Co., October 28, 1902, balance on II Proceedings.....	11.05
Postage for 1902.....	1.50
Paid State Journal Co., September 5, 1903, on III Proceedings.....	75.00
Paid State Journal Co., January 15, 1904, on III Proceedings.....	25.00
Postage and stenographic work for 1903.....	15.25
Paid Cornell Photo and Engraving Co., for plates in III Proceedings, February 2, 1904.....	20.00
Paid Jacob North & Co., for printing indices, February 3, 1904.....	24.00

Paid State Journal Co., March 25, 1904, on III Proceedings.....	20.00
Paid State Journal Co., May 24, 1904, on III Proceedings.....	20.00
Paid State Journal Co., June 16, 1904, on III Proceedings.....	10.00
Paid State Journal Co., October 3, 1904, on III Proceedings.....	15.00
Paid State Journal Co., November 2, 1904, on III Proceedings.....	10.00
Paid State Journal Co., December 12, 1904, on III Proceedings.....	10.00
Paid State Journal Co., December 17, 1904, on III Proceedings.....	15.00
Paid State Journal Co., January 4, 1905, on III Proceedings.....	14.78
Postage, stationery, and stenographic work for 1904.....	21.45
Balance on 1902 banquet, May 5, 1904.....	4.00
Paid Woodruff-Collins Printing Co., October 10, 1904....	6.75
Paid New Century Printing Co., December 16, 1904.....	2.00
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	\$395.78

Respectfully submitted,

AUGUST EICHE, *Treasurer.*

REPORT OF TREASURER, 1905-1907

RECEIPTS

1 Annual dues for 1903—Associate.....	\$ 0.50
2 Annual dues for 1904—Active.....	4.00
3 Annual dues for 1904—Associate.....	3.00
31 Annual dues for 1905—Active.....	62.00
18 Annual dues for 1905—Associate.....	18.00
18 Annual dues for 1906—Active.....	36.00
10 Annual dues for 1906—Associate.....	10.00
3 Annual dues for 1907—Active.....	6.00
	<hr/>
	\$139.50

EXPENDITURES

Paid State Journal Co., August, 1905, on III Proceedings..	\$ 15.00
Paid State Journal Co., November, 1905, on III Proceedings.....	20.00
Paid State Journal Co., December, 1905, balance on III Proceedings.....	32.37
Receipt books and postage for Treasurer.....	5.06
Postage for Secretary.....	1.42
Stenographic work.....	.25
Premium on money orders.....	.20
Balance on hand, May 18, 1907.....	65.20
	<hr/>
	\$139.50

Respectfully submitted,

FRANK H. SHOEMAKER, *Treasurer.*

CONSTITUTION AND BY-LAWS

ARTICLE I. (NAME AND OBJECT)

Section 1. This Association shall be known as 'The Nebraska Ornithologists' Union.

Sec. 2. Its aims shall be to promote the study of ornithology by more closely uniting the students of this branch of natural history, and to encourage the study of birds in the state of Nebraska.

ARTICLE II. (MEMBERS)

Section 1. Any student of ornithology resident in Nebraska, not less than sixteen years of age, may become a member on receiving a majority vote of the members present at any meeting. All members in good standing shall have the right to vote and hold office.

Sec. 2. Honorary members shall be elected for their eminence in ornithology or for distinguished services in furthering the aims for which this Union is established.

Sec. 3. Application for membership in the interim between meetings may be considered by the Executive Committee, and the application granted by a unanimous vote of the committee.

ARTICLE III. (QUORUM)

Section 1. A quorum for the transaction of business shall be the active members present at any annual meeting, provided the number is not less than nine.

ARTICLE IV. (OFFICERS AND COMMITTEES)

Section 1. The officers of this Union shall be: a President, a Vice-President, a Secretary, and a Treasurer.

Sec. 2. There shall be an Executive Committee consisting of the officers.

Sec. 3. Standing committees shall be appointed by the President with the concurrence of the Executive Committee.

ARTICLE V. (DUTIES OF OFFICERS AND COMMITTEES)

Section 1. Duties of the President. It shall be the duty of the President to preside at all the meetings of the Union, to appoint the standing committees, and to perform such other duties as may properly pertain to the office.

Sec. 2. Duties of the Vice-President. It shall be the duty of the Vice-President to act in the absence or incapacity of the President.

Sec. 3. Duties of the Secretary. It shall be the duty of the Secretary to keep a record of the meetings of the Union, to countersign all orders and documents issued by the President, to conduct the general correspondence of the Union, to prepare the program of the meetings, to send out the call for such meetings, to superintend the publication of the Proceedings of the Union, to have charge of all property of the Union, and to perform such other duties as properly pertain to the office.

Sec. 4. Duties of the Treasurer. It shall be the duty of the Treasurer to receive and have charge of all moneys of the Union and to pay such bills as are endorsed by the President and Secretary.

Sec. 5. Duties of the Executive Committee. It shall be the duty of the Executive Committee to fix the date and place of the annual meeting, to act on applications for membership as provided in article II, section 3, to concur in the appointment of standing committees as provided in Article IV, section 3, to fill by temporary appointment offices which shall become vacant, and to nominate three persons for each of the several offices that are to be filled annually.

ARTICLE VI. (ELECTION OF OFFICERS AND COMMITTEES)

Section 1. The election of all officers shall be by ballot, a majority of those voting being required to elect, and the Secretary shall send a list of the nominees of the Executive Committee to each member one month before the date of the annual meeting.

Sec. 2. The term of office shall extend from the end of one annual meeting to the end of the next one.

ARTICLE VII. (MEETINGS)

Section 1. The annual meeting of the Union shall be held at such place and time as the Executive Committee shall decide.

ARTICLE VIII. (DUES AND ASSESSMENTS)

Section 1. The annual dues of the members shall be two dollars (\$2), due at the time of election to membership and on the date of each annual meeting thereafter.

Sec. 2. In case of failure to pay dues before the close of the year, a member shall forfeit his right to the publications of the Union.

Sec. 3. In case of failure to pay dues for two years a member shall be dropped from the roll of the Union.

ARTICLE IX. (AMENDMENTS)

Section 1. An amendment to this constitution may be adopted by an affirmative vote of two-thirds of the members present at any annual meeting, one month notice of the proposed amendment having been given all members.

BY-LAWS.

Section 1. The actual amount expended by the officers in carrying on their official duties shall be refunded to them.

Sec. 2. All members in good standing shall receive gratis one copy of the publications of the Union. Other copies of the publications may be distributed under sanction of the Executive Committee.

Sec. 3. All papers presented at the meetings shall be the property of the Union and shall be filed with the Secretary.

Sec. 4. The order of business at the annual meeting shall be as follows: 1, Reports of Officers; 2, Reports of Committees; 3, Proposal of Names and Election of Members; 4, New Business; 5, Announcement of Election of Officers and Committees; 6,

Presentation and Discussion of Papers and Remarks; 7, Installation of Officers; 8, Reading of Minutes; 9, Adjournment.

Sec. 5. Application for membership must be made to the Executive Committee, and such application must have the endorsement of at least one member in good standing, which shall be expected to be a proper recommendation of the candidate.

Sec. 6. Any of the By-Laws may be amended or repealed by vote of a majority of the members.

LIST OF MEMBERS

Corrected to January 1, 1908. Names of Charter Members indicated by an asterisk.

HONORARY MEMBERS

Miller, Dr. George L., 624 N. 19th St., Omaha 1901

MEMBERS

Arter, Jason, Kirkwood, Nebraska 1902
 Barbour, Miss Carrie, Dept. Geology, Uni. of Neb., Lincoln, 1902
 *Barbour, Dr. E. H., Prof. Geology, Uni. of Neb., Lincoln, 1900
 Bassett, S. C., Gibbon, Nebraska 1901
 *Bates, Rev. J. M., Red Cloud, Nebraska 1900
 Brainerd, Miss Lida, 3214 Hamilton St., Omaha 1904
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 *Crawford, J. C., U. S. National Museum, Division Insects,
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 *Dickinson, J. A., Lincoln 1900
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Pollard, Hon. Isaac, Nehawka, Nebraska	1903
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*Sessions, L., Norfolk, Nebraska	1900
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Sheldon, Mrs. A. E., Lincoln	1904
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Smith, Mrs. Chas. C., Exeter, Nebraska	1907
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PROCEEDINGS OF THE
NEBRASKA ORNITHOLOGISTS' UNION

AN ANALYSIS OF NEBRASKA'S BIRD FAUNA

BY ROBERT H. WOLCOTT

The number of species and subspecies of birds known to have occurred up to the present time within the limits of Nebraska is 406, which large number is due to its unusually favorable geographical location. The state lies on the border line between the humid eastern faunal areas and the arid areas of the west, and is frequented by forms characteristic of each. Its extent east and west, and the difference in elevation between the two ends of the state is sufficiently great that while the eastern end is in the Mississippi valley, and shares its faunal character, the northwest corner is fairly in the foothills of the Rocky mountains. Its latitude and the extremes of its climate are such that many southern birds reach its southern border in the summer, while the storms of winter bring to it at that season a large number of northern visitors.

It should be noted at the outset that in the meeting of eastern and western subspecies of the same species in the state there is, of course, no sharp line dividing them, but on the contrary a gradual shading of the one into the other. Intermediate specimens occur representing all shades of gradation between them. It may be that only a few of the specimens taken at the eastern end of the state represent the one, while only at the extreme west are found specimens typical of the other. But throughout this discussion the subspecies assigned to any region is that to which the majority of specimens taken there approach most closely.

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The whole number may be grouped as below, the adjectives "eastern," "western," etc., referring to the distribution of the species within the state, and those species which have actually been found breeding being marked by an asterisk. The nomenclature and the numbers prefixed to the species are according to the most recent revision of the A. O. U. check list.

I.—SPECIES FOUND IN SOME PART OF THE STATE, IN LARGER OR SMALLER NUMBERS, AT ALL SEASONS OF THE YEAR

- *132. Mallard—*Anas platyrhynchos* Linn. In winter few, on open water, south.
- *139. Green-winged Teal—*Nettion carolinensis* (Gmel.). In winter few, on open water, south; in summer rare breeder, north.
- *143. Pintail—*Dafila acuta* (Linn.). In winter few, on open water, south.
- 146. Red-head—*Mareca americana* (Eyt.). In winter few, on open water, south.
- *172. Canada Goose—*Branta canadensis* (Linn.). On larger open bodies of water in winter.
- *289. Bob-white—*Colinus virginianus* (Linn.).
- *300. Ruffed Grouse—*Bonasa umbellus* (Linn.). Eastern.
- *305. Prairie Chicken—*Tympanuchus americanus* (Reich.). Shows an evident movement southeastward in winter.
- *308b. Prairie Sharp-tailed Grouse—*Pediocetes phasianellus campestris* Ridgw. Western.
- *309. Sage Hen—*Centrocercus urophasianus* (Bonap.). Northwestern.
- *316. Mourning Dove—*Zenaidura macroura carolinensis* (Linn.). In winter in flocks, south.
- *325. Turkey Vulture—*Cathartes aura septentrionalis* (Wied.). Rare in winter, south.
- *331. Marsh Hawk—*Circus hudsonius* (Linn.). In winter few, south.
- *332. Sharp-shinned Hawk—*Accipiter velox* (Wils.). In winter occasional, south; breeding northwest.
- *333. Cooper Hawk—*Accipiter cooperi* (Bonap.). In winter frequent, south.
- *337. Red-tailed Hawk—*Buteo borealis* (Gmel.). Eastern.
- *337a. Krider Hawk—*Buteo borealis kriderii* Hoopes. Western; eastward in winter.
- 337b. Western Red-tail—*Buteo borealis calurus* (Cass.). Western; eastward in winter.

- *339. Red-shouldered Hawk—*Buteo lineatus* (Gmel.). Eastern; rare in winter, southeast.
- *342. Swainson Hawk—*Buteo swainsoni* Bonap. Rare in winter, south.
- *348. Ferruginous Rough-leg—*Archibuteo ferrugineus* (Licht.). Rather western; east in winter.
- *349. Golden Eagle—*Aquila chrysaetos* (Linn.). Now western, rare; more common and eastward in winter.
352. Bald Eagle—*Haliaeetus leucocephalus* (Linn.). Rare.
- *355. Prairie Falcon—*Falco mexicanus* Schlegel. Western; eastward in winter.
356. Duck Hawk—*Falco peregrinus anatum* (Bonap.). Probable breeder northwest; in winter rare, southeast.
- *365. Barn Owl—*Aluco pratincola* (Bonap.). Eastern.
- *366. Long-eared Owl—*Asio wilsonianus* (Less.).
- *367. Short-eared Owl—*Asio flammeus* (Pont.).
- *368. Barred Owl—*Strix varia* Bart. Eastern.
- *372. Saw-whet Owl—*Cryptoglaux acadicus* (Gmel.). Breeds only east; in winter dispersed over state.
- *373. Screech Owl—*Otus asio* (Linn.).
- *375. Great Horned Owl—*Bubo virginianus* (Gmel.). Eastern.
- *375a. Western Horned Owl—*Bubo virginianus pallescens* Stone. Western.
- *378. Burrowing Owl—*Scototyto cunicularia hypogaea* (Bonap.). Now rare eastward.
- *390. Belted Kingfisher—*Ceryle alcyon* (Linn.). In winter about open water, south.
- *393. Hairy Woodpecker—*Dryobates villosus* (Linn.). Eastern.
- *393e. Rocky Mountain Hairy Woodpecker—*Dryobates villosus monticola* Anth. Western.
- *394b. Batchelder Woodpecker—*Dryobates pubescens homorus* (Cab.). Western.
- *394c. Northern Downy Woodpecker—*Dryobates pubescens medianus* (Swains.). Eastern.
- *405. Northern Pileated Woodpecker—*Phloeotomus pilcatus abieticola* (Bangs). Eastern. Possibly extinct.
- *406. Red-headed Woodpecker—*Melanerpes erythrocephalus* (Linn.). Rare in winter, southeast.
- *408. Lewis Woodpecker—*Asyndesmus lewisi* Riley. Western.
- *409. Red-bellied Woodpecker—*Centurus carolinus* (Linn.). Rare in winter, southeast.
- *412a. Northern Flicker—*Colaptes auratus luteus* Bangs. More common eastward.
- *413. Red-shafted Flicker—*Colaptes cafer collaris* (Vigors). More common westward.
- *474b. Prairie Horned Lark—*Otocoris alpestris praticola* Hensh. Eastern.

- *474c. Desert Horned Lark—*Otocoris alpestris leucolaema* (Coues). Western; eastward in winter.
- *475. Magpie—*Pica pica hudsonica* (Sab.). Now western; moving eastward in winter.
- *477. Blue Jay—*Cyanocitta cristata* (Linn.). More common eastward; less numerous in winter.
- *488. Crow—*Corvus brachyrhynchos* Brehm. Rare westward.
- *492. Pinion Jay—*Cyanoccephalus cyanocephalus* (Wied). Western; moving eastward in winter.
- *501.1. Western Meadowlark—*Sturnella neglecta* Aud. Few in winter, south.
- *511b. Bronzed Grackle—*Quiscalus quiscula aeneus* (Ridg.). In winter few, south.
521. Red Crossbill—*Loxia curvirostra minor* (Brehm). Present in summer in the Pine ridge; in winter dispersed over state.
- *529. Goldfinch—*Astragalinus tristis* (Linn.). Eastern.
- 529a. Western Goldfinch—*Astragalinus tristis pallidus* Mearns. Western.
533. Pine Siskin—*Spinus pinus* (Wils.). Probably breeds northwest.
- *566. White-winged Junco—*Junco aikeni* Ridg. Northwestern.
581. Song Sparrow—*Melospiza melodia* (Wils.). In winter, south; rare in summer, north. Most of our winter birds are the Dakota Song Sparrow.
- *587. Towhee—*Pipilo erythrophthalmus* Linn. Eastern. In winter rare, southeast.
- *588. Arctic Towhee—*Pipilo maculatus arcticus* (Swain.). Western, eastward in migrations. In winter rare, southeast.
- *593. Cardinal—*Cardinalis cardinalis* (Linn.). Southeastern.
- *619. Cedar Waxwing—*Bombycilla cedrorum* Vieill. Rare breeder, north; few in winter, south.
- *726. Brown Creeper—*Certhia familiaris americana* (Bonap.). Eastern. Rare in summer; in winter, common only southeast.
- *727. White-bellied Nuthatch—*Sitta carolinensis* Lath. Eastern.
- *727c. Rocky Mountain Nuthatch—*Sitta carolinensis nelsoni* Mearns. Western.
731. Tufted Titmouse—*Baeolophus bicolor* (Linn.). Eastern.
- *735. Eastern Chickadee—*Penthestes atricapillus* (Linn.). Rare, east.
- *735a. Long-tailed Chickadee—*Penthestes atricapillus septentrionalis* (Harris).
- *754. Townsend Solitaire—*Myadestes townsendii* (Aud.). Northwest; in winter southeastward.
- *761. Robin—*Planesticus migratorius* (Linn.). Few in winter, southeast.
- *766. Bluebird—*Sialia sialis* (Linn.). In winter rare, southeast.

II.—SPECIES MIGRANT IN SPRING AND FALL AND WHICH REMAIN
IN LARGER OR SMALLER NUMBERS TO BREED IN THE STATE;
AND ALSO SUMMER VISITORS WHICH ARE STRAGGLERS AND
DO NOT BREED HERE

- *3. Horned Grebe—*Colymbus auritus* Linn. Not common.
 *4. Eared Grebe—*Colymbus nigricollis californicus* (Heerm.).
 *6. Pied-billed Grebe—*Podilymbus podiceps* (Linn.).
 58. Laughing Gull—*Larus atricilla* Linn. Summer straggler from the south.
 *69. Forster Tern—*Sterna forsteri* Nutt.
 *74. Least Tern—*Sterna antillarum* Less.
 *77. Black Tern—*Hydrochelidon nigra surinamensis* (Gmel.).
 *131. Hooded Merganser—*Lophodytes cucullatus* (Linn.).
 *135. Gadwall—*Chaulelasmus streperus* (Linn.).
 137. Widgeon—*Mareca americana* (Gmel.).
 *140. Blue-winged Teal—*Querquedula discors* (Linn.).
 *142. Shoveller—*Spatula clypeata* (Linn.).
 *144. Wood Duck—*Aix sponsa* (Linn.). Eastern.
 *147. Canvasback—*Marila vallisneria* (Wils.).
 150. Ring-necked Duck—*Marila collaris* (Donov.).
 *167. Ruddy Duck—*Erismatura jamaicensis* (Gmel.).
 *181. Trumpeter Swan—*Olor buccinator* (Rich.). Now rare breeder.
 186. Glossy Ibis—*Plegadis autumnalis* (Hass.). Straggler from the southeast.
 187. White-faced Glossy Ibis—*Plegadis guarauna* (Linn.). Straggler from the southwest.
 *190. Bittern—*Botaurus lentiginosus* (Mont.).
 *191. Least Bittern—*Ixobrychus exilis* (Gmel.). Eastern.
 *194. Great Blue Heron—*Ardea herodias* Linn.
 196. Egret—*Herodias egretta* Gmel. Straggler from the south.
 *197. Snowy Egret—*Egretta candidissima* Gmel. Rare.
 200. Little Blue Heron—*Florida caerulea* Linn. Straggler from the south.
 *201. Green Heron—*Butorides virescens* Linn. Eastern.
 *202. Black-crowned Night Heron—*Nycticorax nycticorax naevius* (Bodd.).
 203. Yellow-crowned Night Heron—*Nyctanassa violacea* (Linn.). Rare straggler from the south.
 *206. Sandhill Crane—*Grus mexicana* (Muell.).
 *208. King Rail—*Rallus elegans* Aud. Eastern.
 *212. Virginia Rail—*Rallus virginianus* Linn. Eastern.
 *214. Sora—*Porzana carolina* (Linn.). Eastern.
 216. Black Rail—*Creciscus jamaicensis* (Gmel.). Rare.
 218. Purple Gallinule—*Ionornis martinica* (Linn.). Straggler from southeast.

- *219. Florida Gallinule—*Gallinula galatea* (Licht.). Eastern.
 *221. Coot—*Fulica americana* Gmel.
 *224. Wilson Phalarope—*Steganopus tricolor* (Vieill.).
 *225. Avocet—*Recurvirostra americana* Gmel.
 226. Black-necked Stilt—*Himantopus mexicanus* (Muell.). Straggler from the south.
 *228. Woodcock—*Philohela minor* (Gmel.). Eastern. Rare.
 249. Marbled Godwit—*Limosa fedoa* (Linn.).
 254. Greater Yellow-legs—*Totanus melanoleucus* (Gmel.).
 *256. Solitary Sandpiper—*Hedromas soliterius* (Wils.). Rare breeder, north.
 *258a. Western Willet—*Catoptrophorus semipalmatus inornatus* (Brewst.).
 *261. Upland Plover—*Bartramia longicauda* (Bechst.).
 *263. Spotted Sandpiper—*Actitis macularia* (Linn.).
 *264. Long-billed Curlew—*Numenius americanus* Bechst.
 *273. Killdeer—*Oxyechus vociferus* (Linn.).
 *277. Piping Plover—*Aegialitis meloda* (Ord).
 281. Mountain Plover—*Podasocys montanus* (Towns.). Western.
 326. Black Vulture—*Catharista urubu* (Vieill.). Straggler from the south.
 *327. Swallow-tailed Kite—*Elanoides forficatus* (Linn.). Eastern. Rare.
 337d. Harlan Hawk—*Buteo borealis harlani* (Aud.). Straggler from the southwest.
 *343. Broad-winged Hawk—*Buteo platypterus* (Vieill.). Eastern.
 357b. Richardson Pigeon Hawk—*Falco columbarius richardsonii* (Ridg.). Rare now.
 *360. Sparrow Hawk—*Falco sparverius* Linn.
 360a. Desert Sparrow Hawk—*Falco sparverius phalaena* Less. Western; straggling eastward in migrations.
 *364. Osprey—*Pandion haliaetus carolinensis* (Gmel.). Eastern.
 *387. Yellow-billed Cuckoo—*Coccyzus americanus* (Linn.). Eastern.
 *388. Black-billed Cuckoo—*Coccyzus erythrophthalmus* (Wils.).
 402. Yellow-bellied Sapsucker—*Sphyrapicus varius* (Linn.). Eastern.
 *417. Whip-poor-will—*Antrostomus vociferus* (Wils.). Eastern.
 *418. Poorwill—*Phalaenoptilus nuttallii* (Aud.). Western.
 *420. Nighthawk—*Chordeiles virginianus* (Gmel.). Eastern.
 *420a. Western Nighthawk—*Chordeiles virginianus henryi* (Cass.). Western.
 *420c. Sennett Nighthawk—*Chordeiles virginianus sennetti* (Coues). Western. Eastward in migrations.
 *423. Chimney Swift—*Chaetura pelagica* (Linn.). Eastern.
 *425. White-throated Rock Swift—*Aeronautes melanoleucus* (Bd.). Western.
 *428. Ruby-throated Hummingbird—*Archilochus colubris* (Linn.). Eastern.

432. Broad-tailed Hummingbird—*Selasphorus platycercus* (Swain.). Western.
443. Scissor-tailed Flycatcher—*Muscivora forficata* (Gmel.). Straggler from the south.
- *444. Kingbird—*Tyrannus tyrannus* (Linn.).
- *447. Arkansas Kingbird—*Tyrannus verticalis* Say. Western, rare breeder eastward; more common eastward in migrations.
- *452. Great-crested Flycatcher—*Myiarchus crinitus* (Linn.). Eastern.
- *456. Phoebe—*Sayornis phoebe* (Lath.). Eastern.
- *457. Say Phoebe—*Sayornis saya* (Bonap.). Western.
- *461. Wood Pewee—*Myiochanes virens* (Linn.). Eastern.
462. Western Wood Pewee—*Myiochanes richardsonii* (Swain.). Western.
- *465. Acadian Flycatcher—*Empidonax vireescens* (Vieill.). Eastern; but taken once as straggler in Pine ridge.
- *466. Traill Flycatcher—*Empidonax traillii* (Aud.).
- 466a. Alder Flycatcher—*Empidonax traillii aliorum* Brewst. Probably breeds in north-west; migrant in state eastward.
- *467. Least Flycatcher—*Empidonax minimus* Bd. Eastern.
- *494. Bobolink—*Dolichonyx oryzivorus* (Linn.). Eastern.
- *495. Cowbird—*Molothrus ater* (Bodd.).
- *497. Yellow-headed Blackbird—*Xanthocephalus xanthocephalus* (Bonap.). As a breeder more common westward.
- *498. Red-winged Blackbird—*Agelaius phoeniceus* (Linn.).
- *501. Meadowlark—*Sturnella magna* (Linn.). Rare. Local race breeding about Cherry county lakes.
- *506. Orchard Oriole—*Icterus spurius* (Linn.). Eastern.
- *507. Baltimore Oriole—*Icterus galbula* (Linn.). Eastern.
- *508. Bullock Oriole—*Icterus bullocki* (Swains.). Western.
- *510. Brewer Blackbird—*Euphagus cyanocephalus* (Wagl.). Breeding northward and westward.
- *538. Chestnut-collared Longspur—*Calcarius ornatus* (Townsend.). Breeding northward.
- *539. McCown Longspur—*Rhyacophanes meadowii* (Lawr.). Western.
- *540. Vesper Sparrow—*Pooecetes gramineus* (Gmel.). Eastern.
- *540a. Western Vesper Sparrow—*Pooecetes gramineus confinis* Bd. Western.
546. Grasshopper Sparrow—*Ammodramus sarranarum australis* Mayn. Straggler along eastern border of state.
- *546a. Western Grasshopper Sparrow—*Ammodramus sarranarum bimaculatus* Swain.
- *547a. Western Henslow Sparrow—*Passerherbulus henslowii occidentalis* (Brewst.). Eastern.
- *552. Lark Sparrow—*Chondestes grammacus* (Say). Eastern.
- *552a. Western Lark Sparrow—*Chondestes grammacus strigatus* (Swain.). Western.

- *560. Chipping Sparrow—*Spizella passerina* (Bechst.). Eastern.
 *560a. Western Chipping Sparrow—*Spizella passerina arizonae* Coues.
 Western.
- *561. Clay-colored Sparrow—*Spizella pallida* (Swain.). Rare breeder
 northward.
- *562. Brewer Sparrow—*Spizella breweri* Cass. Breeder in northwest.
- *563. Field Sparrow—*Spizella pusilla* (Wils.). Eastern.
- *563a. Western Field Sparrow—*Spizella pusilla arnaca* Chad. West-
 ern.
- *584. Swamp Sparrow—*Melospiza georgiana* (Lath.). Eastern.
- *595. Rose-breasted Grosbeak—*Zamelodia ludoviciana* (Linn.). Eastern.
- *596. Black-headed Grosbeak—*Zamelodia melanocephala* (Swain.).
 Western.
- *597a. Western Blue Grosbeak—*Guiraca caerulea lazula* (Less.).
- *598. Indigo Bunting—*Passerina cyanea* (Linn.). Eastern.
- *599. Lazuli Bunting—*Passerina amoena* (Say). Western.
- *604. Dickcissel—*Spiza americana* (Gmel.).
- *605. Lark Bunting—*Calamospiza melanocorys* Stejn. Rare eastward.
- *607. Western Tanager—*Piranga ludoviciana* (Wils.). Western.
- *608. Scarlet Tanager—*Piranga erythromelas* Vieill. Eastern.
- *610. Summer Tanager—*Piranga rubra* (Linn.). Rare; southeastern.
- *611. Purple Martin—*Progne subis* (Linn.). Eastern.
- *612. Cliff Swallow—*Petrochelidon lunifrons* (Say).
- *613. Barn Swallow—*Hirundo erythrogastra* Bodd.
- *614. Tree Swallow—*Iridoprocne bicolor* (Vieill.). Breeds northward.
- *615. Violet-green Swallow—*Tachycineta thalassina lepida* (Mearns).
 Western.
- *616. Bank Swallow—*Riparia riparia* (Linn.).
- *617. Rough-winged Swallow—*Stelgidopteryx serripennis* (Aud.). East-
 ern.
- *622a. White-rumped Shrike—*Lanius ludovicianus excubitorides* (Swain.).
- 622e. Migrant Shrike—*Lanius ludovicianus migrans* Palmer. Eastern.
- *624. Red-eyed Vireo—*Vireosylva olivacea* (Linn.).
- *627. Warbling Vireo—*Vireosylva gilva* (Vieill.). Eastern.
- *627a. Western Warbling Vireo—*Vireosylva gilva swainsonii* (Bd.).
 Western.
- *628. Yellow-throated Vireo—*Lanivireo flavifrons* (Vieill.). Eastern.
- *629b. Plumbeous Vireo—*Lanivireo solitarius plumbeus* (Coues). Breed-
 ing in northwest.
630. Black-capped Vireo—*Vireo atricapillus* Woodh. Straggler from
 southwest.
- *631. White-eyed Vireo—*Vireo noveboracensis* (Gmel.). Eastern.
- *633. Bell Vireo—*Vireo bellii* Aud. Eastern.
- *636. Black and White Warbler—*Mniotilta varia* (Linn.). Eastern.
- *637. Prothonotary Warbler—*Protonotaria citrea* (Bodd.). Eastern.
639. Worm-eating Warbler—*Helminthos vermivorus* (Gmel.). East-
 ern.

- *641. Blue-winged Warbler—*Lermivora pinus* (Linn.). Eastern.
 *645. Nashville Warbler—*Lermivora rubricapilla* (Wils.). Eastern.
 648a. Northern Parula Warbler—*Compsothlypis americana usneae*
 Brewst. Eastern.
 *652. Yellow Warbler—*Dendroica aestiva* (Gmel.).
 *656. Audubon Warbler—*Dendroica auduboni* (Townsend). Western.
 *658. Caerulean Warbler—*Dendroica caerulea* (Wils.). Eastern.
 *659. Chestnut-sided Warbler—*Dendroica pennsylvanica* (Linn.). Eastern.
 663a. Sycamore Warbler—*Dendroica dominica albilora* Ridg. Straggler
 from the south to the southeastern part of the state.
 *673. Prairie Warbler—*Dendroica discolor* (Vieill.). Eastern.
 *674. Ovenbird—*Sciurus aurocapillus* (Linn.).
 *675a. Grinnell Water-thrush—*Sciurus noveboracensis notabilis* Ridg.
 Breeds northwestward.
 *676. Louisiana Water-thrush—*Sciurus motacilla* (Vieill.). Eastern.
 *677. Kentucky Warbler—*Oporornis formosa* (Wils.). Eastern.
 |*679. Mourning Warbler—*Oporornis philadelphia* (Wils.). Eastern.
 Breeding reported but once and the occurrence, if true, no doubt
 accidental.]
 680. MacGillivray Warbler—*Oporornis tolmiei* (Townsend). Western.
 *681. Yellowthroat—*Geothlypis trichas* (Linn.). Eastern.
 *681a. Western Yellowthroat—*Geothlypis trichas occidentalis* Brewst.
 Western.
 *683. Yellow-breasted Chat—*Icteria virens* (Linn.). Eastern.
 *683a. Long-tailed Chat—*Icteria virens longicauda* (Lawr.). Western.
 684. Hooded Warbler—*Wilsonia citrina* (Bodd.). Eastern. Rare.
 *687. Redstart—*Setophaga ruticilla* (Linn.).
 701. Dipper—*Cinclus mexicanus unicolor* (Bonap.). Straggler from
 west to western Nebraska.
 702. Sage Thrasher—*Oroscoptes montanus* (Townsend). Summer resi-
 dent in northwest.
 *703. Mockingbird—*Mimus polyglottos* (Linn.). Eastern.
 *703a. Western Mockingbird—*Mimus polyglottos leucopterus* (Vig.).
 Western.
 *704. Catbird—*Dumetella carolinensis* (Linn.).
 *705. Brown Thrasher—*Toxostoma rufum* (Linn.).
 *715. Rock Wren—*Salpinctes obsoletus* (Say). Western.
 718. Carolina Wren—*Thryothorus ludovicianus* (Lath.). Rare; south-
 eastern.
 *719. Bewick Wren—*Thryomanes bewickii* (Aud.). Southeastern; rare.
 *721a. Western House Wren—*Troglodytes aedon parkmanii* Aud.
 *724. Short-billed Marsh Wren—*Cistothorus stellaris* (Licht.). Eastern.
 *725d. Long-billed Marsh Wren—*Telmatodytes palustris iliacus* Ridg.
 *751. Blue-gray Gnatcatcher—*Poliophtila caerulea* (Linn.). Eastern.
 *755. Wood Thrush—*Hylocichla mustelina* (Gmel.).

- 758a. Olive-backed Thrush—*Hylecichla ustulata swainsonii* (Cab.). In Pine ridge canyons in summer.
- *761a. Western Robin—*Planesticus migratorius propinqua* (Ridg.). Western.
- *768. Mountain Bluebird—*Sialia currucoides* (Bechst.). Western.

III.—SPECIES OCCURRING IN THE STATE ONLY IN SPRING AND FALL MIGRATIONS AND BREEDING NOT PROBABLE, THOUGH INDIVIDUALS MAY BE SEEN IN SUMMER, PRESUMABLY BIRDS THAT HAVE FALLEN OUT IN MIGRATION FROM SOME CAUSE, AS PERHAPS, IN THE CASE OF SHORE BIRDS AND DUCKS, INJURY BY SHOT WOUNDS. SOME OF THEM MAY REMAIN IN THE WINTER DURING MILD WEATHER

1. Western Grebe—*Acchmophorus occidentalis* Lawr. Straggler from the west.
7. Loon—*Gavia immer* (Brünn.).
36. Pomarine Jaeger—*Stercorarius pomarinus* (Temm.). Rare.
37. Parasitic Jaeger—*Stercorarius parasiticus* (Linn.). Rare.
51. Herring Gull—*Larus argentatus* Pont.
54. Ring-billed Gull—*Larus delawarensis* Ord. A possible breeder northward in the sand hills.
59. Franklin Gull—*Larus franklinii* Swain. & Rich.
60. Bonaparte Gull—*Larus philadelphia* (Ord).
64. Caspian Tern—*Sterna caspia* Pall.
70. Common Tern—*Sterna hirundo* Linn.
120. Double-crested Cormorant—*Phalacrocorax auritus* (Less.).
125. White Pelican—*Pelecanus erythrorhynchos* Gmel. May have once bred.
126. Brown Pelican—*Pelecanus occidentalis* (Linn.). A straggler only.
129. Merganser—*Mergus americanus* Cass. May winter.
130. Red-breasted Merganser—*Mergus serrator* Linn. May winter.
133. Red-legged Black Duck—*Anas rubripes* Brewst.
- 133a. Black Duck—*Anas rubripes tristis* Brewst. A possible breeder.
136. European Widgeon—*Mareca penelope* (Linn.). Accidental.
141. Cinnamon Teal—*Querquedula cyanoptera* (Vieill.). Rare; more common westward.
148. Scaup—*Marila marila* (Linn.).
149. Lesser Scaup—*Marila affinis* (Eyt.). A possible breeder in the sand hills, northward.
153. Buffle-head—*Charitonetta albeola* (Linn.). May winter.
169. Snow Goose—*Chen hyperborea* (Pall.).
- 169a. Greater Snow Goose—*Chen hyperborea nivalis* (Forst.).
- 169.1. Blue Goose—*Chen caerulescens* (Linn.).

- 171a. White-fronted Goose—*Anser albifrons gambeli* (Hartl.).
- 172a. Hutchins Goose—*Branta canadensis hutchinsii* (Rich.). May winter.
- 172c. Cackling Goose—*Branta canadensis minima* Ridg.
- 173a. Brant—*Branta bernicla glaucogastra* (Brehm). A straggler.
180. Whistling Swan—*Olor columbianus* (Ord).
204. Whooping Crane—*Grus americana* (Linn.). May have once bred.
205. Little Brown Crane—*Grus canadensis* (Linn.).
215. Yellow Rail—*Coturnicops noveboracensis* (Gmel.). Eastern.
223. Northern Phalarope—*Lobipes lobatus* (Linn.).
230. Jack Snipe—*Gallinago delicata* (Ord). Winters regularly in small numbers about springs and spring-fed bogs. Has been seen during the summer, north.
231. Dowitcher—*Macrorhamphus griseus* (Gmel.).
232. Long-billed Dowitcher—*Macrorhamphus scolopaccus* (Say).
233. Stilt Sandpiper—*Micropalama himantopus* (Bonap.).
234. Knot—*Tringa canutus* Linn.
239. Pectoral Sandpiper—*Pisobia maculata* (Vieill.).
240. White-rumped Sandpiper—*Pisobia fuscicollis* (Vieill.).
241. Baird Sandpiper—*Pisobia bairdii* (Cooes). Has been seen during the summer.
242. Least Sandpiper—*Pisobia minutilla* (Vieill.). A possible rare breeder, north.
- 243a. Red-backed Sandpiper—*Pelidna alpina sakhalina* (Vieill.).
246. Semipalmated Sandpiper—*Ercunetes pusillus* (Linn.). Has been taken during the summer.
248. Sanderling—*Calidris leucophaca* (Pall.).
251. Hudsonian Godwit—*Limosa haemastica* (Linn.).
255. Yellow-legs—*Totanus flavipes* (Gmel.). Has been seen in summer.
262. Buff-breasted Sandpiper—*Tryngites subruficollis* (Vieill.). Has been taken in summer.
265. Hudsonian Curlew—*Numenius hudsonicus* Lath.
266. Eskimo Curlew—*Numenius borealis* (Forst.).
270. Black-bellied Plover—*Squatarola squatarola* (Linn.).
272. Golden Plover—*Charadrius dominicus* Muell.
274. Semipalmated Plover—*Aegialitis semipalmata* Bonap.
278. Snowy Plover—*Aegialitis nivosa* Cass. Straggler from west.
- 283a. Ruddy Turnstone—*Arenaria interpres morinella* (Linn.).
357. Pigeon Hawk—*Falco columbarius* Linn. A few winter.
459. Olive-sided Flycatcher—*Nuttallornis borealis* (Swain.).
463. Yellow-bellied Flycatcher—*Empidonax flaviventris* Bd. Eastern.
- 498d. Northern Redwing—*Agelaius phoeniceus fortis* Ridg. Frequently winters.
509. Rusty Blackbird—*Euphagus carolinus* (Muell.). Occasionally winters.

517. Purple Finch—*Carpodacus purpureus* (Gmel.). Rarely winters.
537. Painted Longspur—*Calcarius pictus* (Swain.).
- 542a. Savannah Sparrow—*Passerculus sandwichensis savanna* (Wils.). Eastern.
- 542b. Western Savanna Sparrow—*Passerculus sandwichensis alaudinus* (Bonap.). A possible breeder northwestward.
545. Baird Sparrow—*Ammodramus bairdii* (Aud.).
548. Leconte Sparrow—*Passerherbulus leconteii* (Aud.).
- 549.1. Nelson Sparrow—*Passerherbulus nelsoni* (Allen).
553. Harris Sparrow—*Zonotrichia querula* (Nutt.). Winters commonly south.
554. White-crowned Sparrow—*Zonotrichia leucophrys* (Forst.).
- 554a. Intermediate Sparrow—*Zonotrichia leucophrys gambelii* (Nutt.).
558. White-throated Sparrow—*Zonotrichia albicollis* (Gmel.). Eastern.
- 581j. Dakota Song Sparrow—*Melospiza melodia juddi* (Bishop). Winters.
583. Lincoln Sparrow—*Melospiza lincolni* (Aud.).
585. Fox Sparrow—*Passerella iliaca* (Merr.). Eastern. Rarely winters.
- 585c. Slate-colored Fox Sparrow—*Passerella iliaca schistacea* (Bd.). Western.
626. Philadelphia Vireo—*Vireosylva philadelphia* Cass. Eastern.
629. Blue-headed Vireo—*Lanius solitarius* (Wils.). Eastern.
638. Swainson Warbler—*Helinaia swainsonii* Aud. Straggler from southeast, once recorded.
642. Golden-winged Warbler—*Vermivora chrysoptera* (Linn.). Eastern.
644. Virginia Warbler—*Vermivora virginiae* (Bd.). Straggler from southwest.
646. Orange-crowned Warbler—*Vermivora cclata* (Say).
647. Tennessee Warbler—*Vermivora peregrina* (Wils.). Eastern.
650. Cape May Warbler—*Dendroica tigrina* (Gmel.). Eastern.
654. Black-throated Blue Warbler—*Dendroica caerulescens* (Gmel.). Eastern.
655. Myrtle Warbler—*Dendroica coronata* (Linn.).
657. Magnolia Warbler—*Dendroica magnolia* (Wils.). Eastern.
660. Bay-breasted Warbler—*Dendroica castanea* (Wils.). Eastern.
661. Black-poll Warbler—*Dendroica striata* (Forst.). Eastern.
662. Blackburnian Warbler—*Dendroica fusca* (Muell.). Eastern.
667. Black-throated Green Warbler—*Dendroica virens* (Gmel.). Eastern.
671. Pine Warbler—*Dendroica vigorsii* (Aud.). A possible breeder. Eastern.
672. Palm Warbler—*Dendroica palmarum* (Gmel.). Eastern.
679. Mourning Warbler—*Oporornis philadelphia* (Wils.). Eastern.

685. Wilson Warbler—*Wilsonia pusilla* (Wils.). Eastern.
 685a. Pileolated Warbler—*Wilsonia pusilla pilcolata* (Pall.). Western
 686. Canadian Warbler—*Wilsonia canadensis* (Linn.). Eastern.
 697. Pipit—*Anthus rubescens* (Turn.).
 700. Sprague Pipit—*Anthus spragueii* (Aud.).
 748. Golden-crowned Kinglet—*Regulus satrapa* Licht. Rarely winters.
 749. Ruby-crowned Kinglet—*Regulus calendula* (Linn.). Rarely winters.
 756a. Willow Thrush—*Hylocichla fuscescens salicicola* Ridg.
 757. Gray-cheeked Thrush—*Hylocichla aliciae* (Bd.). Eastern.
 759a. Audubon Hermit Thrush—*Hylocichla guttata auduboni* (Bd.).
 759b. Hermit Thrush—*Hylocichla guttata pallasii* (Cab.). Eastern.
 767a. Chestnut-backed Bluebird—*Sialia mexicana bairdi* Ridg. Straggler from the west.

IV.—WINTER VISITORS TO THE STATE

2. Holboell Grebe—*Colymbus holboellii* (Reinh.).
 9. Black-throated Loon—*Gavia arcticus* (Linn.). Straggler. One record.
 11. Red-throated Loon—*Gavia stellata* (Pont.). Rare. Two records.
 43. Iceland Gull—*Larus leucopterus* Faber. Straggler. One record.
 47. Great Black-backed Gull—*Larus marinus* Linn. Straggler. One record.
 62. Sabine Gull—*Xema sabinii* (Sab.).
 151. Golden-eye—*Clangula clangula americana* (Bonap.).
 152. Rocky Mountain Golden-eye—*Clangula islandica* (Gmel.).
 154. Old Squaw—*Harelda hycmalis* (Linn.).
 155. Harlequin Duck—*Histrionicus histrionicus* (Linn.).
 163. Scoter—*Oidemia americana* Swain.
 165. White-winged Scoter—*Oidemia deglandi* Bonap.
 166. Surf Scoter—*Oidemia perspicillata* (Linn.).
 334. Goshawk—*Aster atricapillus* (Wils.).
 347a. Rough-leg—*Archibuteo lagopus sancti-johannis* (Gmel.).
 370. Great Gray Owl—*Scotiapterx nebulosa* (Gmel.). Straggler. One definite record.
 371. Richardson Owl—*Cryptoglaux funerea richardsoni* (Bonap.). Straggler. Two records.
 375b. Arctic Horned Owl—*Bubo virginianus subarcticus* (Hoy). Straggler. Two records.
 376. Snowy Owl—*Nyctea nyctea* (Linn.).
 377a. Hawk Owl—*Surnia ulula caparoch* (Muell.). Straggler. One record.
 400. Arctic Three-toed Woodpecker—*Picoides arcticus* (Swain.). Rare.
 474. Horned Lark—*Otocoris alpestris* (Linn.). Eastern.

- 474k. Hoyt Horned Lark—*Otocoris alpestris hoyti* Bishop.
 478c. Black-headed Jay—*Cyanocitta stelleri annectens* (Bd.). Straggler from the west. One record.
 484. Canada Jay—*Perisoreus canadensis* (Linn.). Straggler. One record.
 484a. Rocky Mountain Jay—*Perisoreus canadensis capitalis* Ridg. Northwest.
 491. Clark Nutcracker—*Nucifraga columbiana* (Wils.). A possible breeder in the northwest. Southward and eastward in winter.
 514. Evening Grosbeak—*Hesperiphona vespertina* (Coop.).
 515. Pine Grosbeak—*Pinicola enucleator leucura* (Muell.).
 521a. Mexican Crossbill—*Loxia curvirostra stricklandi* Ridg.
 522. White-winged Crossbill—*Loxia leucoptera* Gmel.
 524. Gray-crowned Rosy Finch—*Leucosticte tephrocotis* Swain. Western, straggling eastward.
 528. Redpoll—*Acanthis linaria* (Linn.).
 534. Snow Bunting—*Plectrophenax nivalis* (Linn.).
 536. Lapland Longspur—*Calcarius lapponicus* (Linn.).
 536a. Alaska Longspur—*Calcarius lapponicus alascensis* Ridg. Western.
 559. Tree Sparrow—*Spizella monticola* (Gmel.). Eastern.
 559a. Western Tree Sparrow—*Spizella monticola ochracea* Brewst.
 567. Slate-colored Junco—*Junco hyemalis* (Linn.).
 567b. Shufeldt Junco—*Junco hyemalis shufeldti* Coale. Straggler from west.
 618. Bohemian Waxwing—*Bombycilla garrula* (Linn.).
 621. Northern Shrike—*Lanius borealis* Vieill.
 722. Winter Wren—*Nannus hiemalis* (Vieill.). Eastern.
 726b. Rocky Mountain Creeper—*Certhia familiaris montana* Ridg. Northwest.
 728. Red-bellied Nuthatch—*Sitta canadensis* Linn.
 730. Pygmy Nuthatch—*Sitta pygmaea* Vigors. Northwestern.

V.—SPECIES NOW EXTINCT WITHIN THE LIMITS OF NEBRASKA

307. Lesser Prairie Hen—*Tympanuchus pallidicinctus* Ridg. Now found in southwestern U. S. Not seen in Nebraska since the early seventies.
 *310. Wild Turkey—*Meleagris gallopavo silvestris* (Vieill.). Formerly eastern.
 315. Passenger Pigeon—*Ectopistes migratorius* (Linn.).
 *382. Carolina Paroquet—*Conuropsis carolinensis* (Linn.). Formerly southeastern.
 486. Western Raven—*Corvus corax sinuatus* (Wagl.).
 487. White-necked Raven—*Corvus cryptoleucus* Couch. Western.

VI.—INTRODUCED SPECIES

- Ring-necked Pheasant—*Phasianus torquatus* Gmel. Southeastern.
 —— English Sparrow—*Passer domesticus* (Linn.).

The distribution of Nebraska birds through the year may, then, be summarized as follows:

Found within the state during the whole year.....	72
Found in migrations and during the summer.....	174
Found during spring and fall migrations, in certain cases accidental in summer, and in others possibly wintering.....	106
Winter birds, possibly in some cases coming early in fall and in others lingering late in spring.....	46
Birds now extinct within the limits of the state.....	6
Introduced species, which have gained a foothold.....	2
	406
Birds concerning the breeding of which within the state we have defi- nite positive evidence.....	205
Birds, not known to be extinct, which have been taken in mid-summer	257
Birds, not known to be extinct, which have been taken during mid- winter.....	132

II

It is interesting and not without significance to compare the number of forms included in the Nebraska fauna with the total number recognized in the A. O. U. check list, according to the latest revision (July, 1909), introduced species being excluded.

	N. AM.	NEBR.	PER CENT
Pygopodes (Divers).....	36	8	22
Longipennes (Gulls, Terns).....	50	15	30
Tubinares (Albatrosses, Shearwaters, Petrels)	41	—	—
Steganopodes (Cormorants, Pelicans, etc.)....	25	3	12
Anseres (Ducks, Geese, Swans).....	65	39	60
Odontoglossae (Flamingos).....	1	—	—
Herodiones (Ibises, Herons).....	26	11	42
Paludicolae (Cranes, Rails, etc.).....	24	11	46
Limicolae (Shore birds).....	77	37	48
Gallinae (Pheasants, Grouse, etc.).....	53	7	13
Columbae (Doves, Pigeons).....	17	2	12
Raptores (Hawks, Owls, etc.).....	100	39	39
Psittaci (Parrots).....	2	1	50

	N. AM.	NEBR.	PER CENT
Coccyges (Cuckoos, Kingfishers, etc.).....	13	3	23
Pici (Woodpeckers)	47	12	26
Macrochires (Goatsuckers, Swifts, Humming- birds)	35	9	26
Passeres (Flycatchers and song birds).....	595	207	35
Total	1207	404	33.5
Water birds	345	124	36

Some of the larger passerine families furnish the following figures:

	A. O. U.	NEBR.	PER CENT
Tyrannidae (Flycatchers)	36	14	39
Alaudidae (Horned Larks)	15	4	27
Corvidae (Crows, Jays, etc.).....	39	10	26
Icteridae (Blackbirds, Orioles, etc.).....	34	13	38
Fringillidae (Sparrows, Finches, etc.).....	191	60	31.5
Hirundinidae (Swallows)	17	7	41
Vireonidae (Vireos)	25	10	40
Mniotiltidae (Wood Warblers)	74	42	57
Troglodytidae (Wrens)	34	7	21
Mimidae (Mockingbirds and Thrashers).....	15	5	33
Paridae (Titmice)	24	3	12
Turdidae (Thrushes)	30	12	40

A comparison of the percentage composition of the bird fauna of North America and Nebraska develops the same facts that are brought out above.

	N. AM. PER CENT	NEB. PER CENT
Pygopodes	3.0	2.0
Longipennes	4.1	3.7
Tubinares	3.4	—
Steganopodes	2.0	0.7
Anseres	5.4	9.6
Odontoglossae	0.8	—
Herodiones	2.1	2.7
Paludicolae	2.0	2.7
Limicolae	6.4	9.2
Water birds	28.6	30.7
Gallinae	4.4	1.7
Columbae	1.4	0.5
Raptores	8.3	9.6
Psittaci	0.2	0.25
Coccyges	1.1	0.7

	N. AM. PER CENT	NEB. PER CENT
Pici	3.9	3.0
Macrochires	2.9	2.2
Passeres	49.3	51.2
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	100.7	99.75

Passerine families:

Tyrannidae	3.0	3.5
Alaudidae	1.2	1.0
Corvidae	3.2	2.5
Icteridae	2.8	3.2
Fringillidae	15.8	14.9
Hirundinidae	1.4	1.7
Vireonidae	2.0	2.5
Mniotiltidae	6.1	10.4
Troglodytidae	2.8	1.7
Mimidae	1.2	1.2
Paridae	2.0	0.7
Turdidae	2.5	3.0

Certain facts developed by these figures might reasonably have been inferred; others, however, are not exactly what would have been expected.

Excluding the Odontoglossae and the Psittaci, where the numbers are so small as to permit of the drawing of no conclusions, Nebraska has less than its share of Pygopodes, Tubinares, and Steganopodes, which are in part or all marine; of Columbæ, Cocyges, and Macrochires, which are of more southern distribution; and of Gallinae and Pici, which seem to be rather localized in distribution and tending to break up into more numerous local forms to the south and west. On the other hand, the state has a relatively large number of Anseres, Paludicolæ, and Limicolæ, due to its position in the Mississippi valley, the great highway for such birds in migration, and of Herodiones, which show a tendency to straggle northward in summer along this same pathway. Water birds, as a group, are relatively numerous in the state, also, because of the general evenness of its surface over the greater part of its extent and the number of ponds and sloughs which dot its surface. The Raptores are numerous because of the abundance of food, the sparse population of certain portions of the state, and

also because the geographical location of Nebraska is such as to bring to its borders forms from both east and west.

The families of Passeres show some striking contrasts. Tyrannidae, Icteridae, Hirundinidae, Vireonidae, Mniotiltidae, and Turdidae are relatively numerous. This may be explained in the case of the Hirundinidae by the fact that the forms do not show a tendency to break up into subspecies and are of wide distribution; in the case of the Mniotiltidae by this fact and also by the fact that in the relatively few cases where subspecies occur, Nebraska receives its share of both eastern and western forms; and in the case of the other families by the occurrence of both eastern and western subspecies.

Nebraska is relatively deficient in Fringillidae, which seems particularly surprising, and in Alaudidae, Corvidae, Troglodytidae, Mimidae, and Paridae. The family Troglodytidae reaches its highest development in tropical America, and the species increase rapidly in number as we go southward. The others show a strong tendency to the formation of local races, more numerous west and south, and in the case of the Corvidae, and especially the Paridae, this is accompanied with a minimum tendency toward migration.

III

If for the purposes of further analysis we limit our discussion to those birds which make their home in Nebraska we shall deal with only 232 species and subspecies, including all those listed above as residents, those summer birds which can in no sense be considered stragglers, and species which formerly bred but are now extinct. It is interesting to observe in what direction from Nebraska lie the centers of distribution of these forms during their breeding season. In the compilation of these lists we have depended upon the last edition of Coues' Key (1903) and the four volumes, now published, of Ridgway's Birds of North and Middle America. Of these birds the following are of general distribution in North America:

6.	Pied-billed Grebe.	142.	Shoveller.
69.	Forster Tern.	144.	Wood Duck.
132.	Mallard.	190.	Bittern.

191. Least Bittern.	364. Osprey.
194. Great Blue Heron.	366. Long-eared Owl.
201. Green Heron.	390. Belted Kingfisher.
202. Black-crowned Night Heron.	495. Cowbird.
221. Coot.	611. Purple Martin.
263. Spotted Sandpiper.	612. Cliff Swallow.
273. Killdeer.	613. Barn Swallow.
316. Mourning Dove.	614. Tree Swallow.
331. Marsh Hawk.	616. Bank Swallow.
332. Sharp-shinned Hawk.	617. Rough-winged Swallow.
333. Cooper Hawk.	652. Yellow Warbler.
352. Bald Eagle.	

To these should be added the following which are distributed generally over the interior of the continent:

206. Sandhill Crane.	511b. Bronzed Grackle.
224. Wilson Phalarope.	547a. Western Henslow Sparrow.
258a. Western Willet.	633. Bell Vireo.
305. Prairie Chicken.	

Two forms are characteristic of the high plains, of which a considerable portion of this state forms a part. These are:

420c. Sennett Nighthawk.	563a. Western Field Sparrow.
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Thus Nebraska lies, roughly speaking, at the center of distribution of 38 forms.

The following birds breed mainly to the northward of us:

3. Horned Grebe.	256. Solitary Sandpiper.
77. Black Tern.	261. Upland Plover.
131. Hooded Merganser.	264. Long-billed Curlew.
135. Gadwall.	308b. Prairie Sharp-tailed Grouse.
137. Widgeon.	349. Golden Eagle.
139. Green-winged Teal.	356. Duck Hawk.
140. Blue-winged Teal.	367. Short-eared Owl.
143. Pintail.	372. Saw-whet Owl.
146. Red-head.	521. Red Crossbill.
147. Canvas-back.	533. Pine Siskin.
150. Ring-necked Duck.	538. Chestnut-collared Longspur.
167. Ruddy Duck.	539. McCown Longspur.
172. Canada Goose.	561. Clay-colored Sparrow.
181. Trumpeter Swan.	619. Cedar Waxwing.
249. Marbled Godwit.	758a. Olive-backed Thrush.
254. Greater Yellow-legs.	

Six species are more abundant, as breeders, to the southward:

74. Least Tern.	325. Turkey Vulture.
197. Snowy Egret.	327. Swallow-tailed Kite.
216. Black Rail.	365. Barn Owl.

Naturally, most of our breeding birds are distributed along the same parallels of latitude as those which cut Nebraska, and the centers of abundance are either to the eastward or westward. In enumerating these forms those whose range extends rather more to the north or to the south of these parallels are indicated by the letters N or S, respectively, in parentheses. To the eastward are the following:

208. King Rail (S).	428. Ruby-throated Hummingbird.
212. Virginia Rail (N).	444. Kingbird.
214. Sora (N).	452. Great-crested Flycatcher.
219. Florida Gallinule (S).	456. Phoebe.
228. Woodcock (N).	461. Wood Pewee.
277. Piping Plover.	465. Acadian Flycatcher (S).
289. Bob-white.	466a. Alder Flycatcher (N).
300. Ruffed Grouse.	467. Least Flycatcher (N).
337. Red-tailed Hawk.	474b. Prairie Horned Lark (N).
339. Red-shouldered Hawk.	477. Blue Jay.
343. Broad-winged Hawk.	488. Crow.
360. Sparrow Hawk.	494. Bobolink (N).
368. Barred Owl (N).	498. Red-winged Blackbird (N).
373. Screech Owl.	501. Meadowlark (N).
375. Great Horned Owl.	506. Orchard Oriole (S).
387. Yellow-billed Cuckoo (S).	507. Baltimore Oriole.
388. Black-billed Cuckoo.	529. Goldfinch (N).
393. Hairy Woodpecker.	540. Vesper Sparrow (N).
394c. Northern Downy Woodpecker (N).	552. Lark Sparrow.
402. Yellow-bellied Woodpecker (N).	560. Chipping Sparrow.
405. Northern Pileated Woodpecker (N).	563. Field Sparrow.
406. Red-headed Woodpecker.	581. Song Sparrow (N).
409. Red-bellied Woodpecker (S).	584. Swamp Sparrow (N).
412a. Northern Flicker (N).	587. Towhee (N).
417. Whip-poor-will.	593. Cardinal (S).
420. Nighthawk.	595. Rose-breasted Grosbeak (N).
423. Chimney Swift.	598. Indigo Bunting.
	604. Dickcissel (S).
	608. Scarlet Tanager.

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| 610. Summer Tanager (S). | 681. Yellowthroat (N). |
| 622c. Migrant Shrike (N). | 683. Yellow-breasted Chat (S). |
| 624. Red-eyed Vireo. | 684. Hooded Warbler (S). |
| 627. Warbling Vireo. | 687. Redstart (N). |
| 628. Yellow-throated Vireo. | 703. Mockingbird (S). |
| 631. White-eyed Vireo. | 704. Catbird. |
| 636. Black and White Warbler. | 705. Brown Thrasher. |
| 637. Prothonotary Warbler (S). | 718. Carolina Wren (S). |
| 639. Worm-eating Warbler (S). | 719. Bewick Wren (S). |
| 641. Blue-winged Warbler (S). | 724. Short-billed Marsh Wren (N). |
| 645. Nashville Warbler (N). | 725d. Long-billed Marsh Wren (N). |
| 648a. Northern Parula Warbler (N). | 726. Brown Creeper (N). |
| 658. Caerulean Warbler (N). | 727. White-bellied Nuthatch (N). |
| 659. Chestnut-sided Warbler (N). | 731. Tufted Titmouse (S). |
| 663a. Sycamore Warbler (S). | 735. Chickadee (N). |
| 673. Prairie Warbler. | 751. Blue-gray Gnatcatcher. |
| 674. Oven-bird (N). | 755. Wood Thrush. |
| 676. Louisiana Water-thrush (S). | 761. Robin. |
| 677. Kentucky Warbler (S). | 766. Bluebird. |

To the westward we find:

- | | |
|--|------------------------------------|
| 4. Eared Grebe. | 457. Say Phoebe. |
| 225. Avocet. | 462. Western Wood Pewee. |
| 281. Mountain Plover (N). | 466. Trail Flycatcher. |
| 309. Sage Hen. | 474c. Desert Horned Lark (N). |
| 337a. Krider Hawk. | 475. Magpie. |
| 337b. Western Red-tail. | 492. Piñon Jay. |
| 342. Swainson Hawk. | 497. Yellow-headed Blackbird. |
| 348. Ferruginous Rough-leg. | 501.1. Western Meadowlark. |
| 355. Prairie Falcon. | 508. Bullock Oriole. |
| 357b. Richardson Pigeon Hawk. | 510. Brewer Blackbird. |
| 360a. Desert Sparrow Hawk. | 529a. Western Goldfinch. |
| 375a. Western Horned Owl. | 540a. Western Vesper Sparrow. |
| 378. Burrowing Owl. | 546a. Western Grasshopper Sparrow. |
| 393c. Rocky Mountain Hairy Woodpecker. | 552a. Western Lark Sparrow. |
| 394b. Batchelder Woodpecker. | 560a. Western Chipping Sparrow. |
| 408. Lewis Woodpecker. | 562. Brewer Sparrow. |
| 413. Red-shafted Flicker. | 566. White-winged Junco (N). |
| 418. Poor-will. | 588. Arctic Towhee. |
| 420a. Western Nighthawk. | 596. Black-headed Grosbeak. |
| 425. White-throated Rock Swift. | 597a. Western Blue Grosbeak (S). |
| 432. Broad-tailed Hummingbird. | 599. Lazuli Bunting. |
| 447. Arkansas Kingbird. | |

605. Lark Bunting.	683a. Long-tailed Chat.
607. Western Tanager.	702. Sage Thrasher.
615. Violet-green Swallow.	703a. Western Mockingbird (S).
622a. White-rumped Shrike.	715. Rock Wren.
627a. Western Warbling Vireo.	721a. Western House Wren.
629b. Plumbeous Vireo.	727c. Rocky Mountain Nuthatch.
656. Audubon Warbler.	735a. Long-tailed Chickadee.
675a. Grinnell Water-thrush (N).	754. Townsend Solitaire.
680. MacGillivray Warbler.	761a. Western Robin.
681a. Western Yellowthroat.	768. Mountain Bluebird.

Again, to recapitulate, of the birds that make their home in Nebraska:

- 38 find here approximately their center of distribution.
- 31 are more abundant to the northward,
- 6 are more abundant to the southward,
- 94 are eastern birds, and
- 63 are western forms, making a total of 232.

IV

The distribution of animal life in Nebraska is such that those who have worked upon the problem have come unanimously to the recognition of five distinct regions, based particularly upon the study of the birds and mammals, but also substantiated by observations made upon other groups. These agree roughly with the phytogeographical areas into which the state has been divided,* and correspond to marked differences in topographical and climatological conditions. They have been previously defined† as follows:

1. The Missouri Region, including the wooded bottoms, bluffs, and ravines along the Missouri river, and extending outward along the tributary streams into the next region.
2. The Prairie Region, including rolling prairies, intersected with streams fringed with a straggling growth of timber, and extending westward approximately half way across the state. Its

*Pound and Clements. *The Phytogeography of Nebraska*. Lincoln: 1900.

†Wolcott. *Biological Conditions in Nebraska*. Proc. Neb. Acad. Sci., viii: 1906.

western limit, where it meets the sand-hill region, is an irregular but very definite line; to the northward it merges into the plains region in the Niobrara valley and south of the Platte it meets the plains region again by a boundary which is ill-defined.

3. The Sand-hill Region, a broad expanse of sand hills between the Niobrara valley on the north and the Platte valley on the south, together with several smaller outlying areas of sand hills south of the Platte and north of the Niobrara.

4. The Plains Region, high arid table-lands, westward from the preceding to the boundary of the state, extending eastward along the Niobrara and south of the Platte to meet the prairie region.

5. The Pine Ridge Region, a foot-hill area including the deep canyons of the Pine ridge in Sioux and Dawes counties, the sides of which are covered with an open growth of pines, while the deep, cool recesses have a thicker growth of pine and deciduous trees and harbor many plants of a northern distribution or of higher altitudes. (Conditions here have been well described by Cary in these Proceedings for the Third Annual Meeting, pp. 63-75.)

Of these regions the first two belong to the Carolinian faunal area, as defined by Merriam, which is the humid portion of the Upper Austral life zone; the third and fourth are in the Upper Sonoran, which is the arid portion of the same life zone; while the fifth is to be referred to the Transition zone. The character of the bird fauna in each region is determined by the conditions of temperature and moisture which form the basis for the establishment of these zones and areas, and also by other local conditions.

An enumeration of the more prominent environments in each region will serve to indicate the character of each and its possibilities as a place of residence for birds:

I. The Missouri region.

1. The river, with its shifting sand-bars.
2. The thickets of willow, and young cottonwoods.
3. The tall bottomland timber, largely cottonwood.
4. The cleared areas, cultivated fields, and scattered shrubbery of the bottom-lands.
5. The cut-off ponds, and swamps or marshes:

6. The cool wooded ravines with springs and brooks.
7. The bluffs with open woods and shrubbery and occasional vertical clay banks, largely artificial in origin.

II. The prairie region.

1. The larger streams, generally broad and shallow and with shifting sand-bars and sandy mud-flats.
2. The smaller streams with steep, muddy banks.
3. The prairie ponds, with marshes and mud-flats, frequently alkaline.
4. The fringe of straggling timber and shrubbery along the streams.
5. Thickets of plum and other shrubs back from the streams, on higher ground, and following up the draws.
6. The open prairie, with weed patches, especially at the heads of the draws.
7. Planted groves.

This region follows up the river valleys into the sand-hill region.

III. The sand-hill region.

1. The open sand hills, with "blow-outs," where the wind has scooped out a sandpit, often twenty-five to fifty yards across.
2. Shrubby here and there in sheltered pockets in the hills.
3. Wet valleys with hay flats, sloughs and marshes.
4. Lakes with sandy, marshy or boggy shores. Mostly without outlets. The streams which lead out of this region head in such lakes or bogs or marshes.
5. Tree-claims and groves about the ranches.

IV. The plains region.

1. The open level plains.
2. The few streams running frequently in more or less narrowed, often rock-walled, canyons.
3. Irrigating ditches and artificial ponds.
4. Few and relatively small marshy tracts along the streams or ditches or about the ponds.
5. Rocky buttes and ridges rising above the general level.

6. Straggling pine timber scattered over the sides of the canyons or on the tops and talus slopes of the buttes and ridges.
7. Deciduous trees and shrubbery in the bottoms of the canyons and along the streams.
8. The "bad lands."

V. The Pine ridge region.

1. The deep canyons, often several hundred feet in depth hemmed in by sheer rocky walls and pine-covered talus slopes.
2. The mixed pine and deciduous tree growth and shrubbery forming a dense cool thicket at the bottoms of the canyons where are cold springs, and, leading away from them, small brooks, which often are lost out in the valley, which belongs to the previous region and is Upper Sonoran.

V

In discussing the distribution of Nebraska birds with respect to the regions of the state outlined above, we have first to consider a considerable number which are able to adapt themselves to such a variety of conditions that they find a suitable environment in each of them, in which they are resident during the breeding season. They are as follows:*

289. Bob-white. Now general; formerly Mo. and Pr.	388. Black-billed Cuckoo.
316. Mourning Dove.	406. Red-headed Woodpecker.
325. Turkey Vulture.	412a. Northern Flicker. More common eastward.
333. Cooper Hawk.	413. Red-shafted Flicker. More common westward.
342. Swainson Hawk.	444. Kingbird.
357b. Richardson Pigeon Hawk. Now very rare.	466. Trail Flycatcher.
360. Sparrow Hawk.	488. Crow. Rare S. and westward.
366. Long-eared Owl.	495. Cowbird.
373. Screech Owl.	

*In the lists which follow these abbreviations are used: Mo., Missouri region; Pr., prairie region; S., sand-hill region; Pl., plains region; P. R., Pine ridge region.

511b.	Bronzed Grackle. Not common westward.	687.	Redstart. Rare S.
581.	Song Sparrow. Northward only.	704.	Catbird. More common eastward.
597a.	Western Blue Grosbeak.	705.	Brown Thrasher. Rare westward.
612.	Cliff Swallow.	721a.	Western House Wren.
613.	Barn Swallow.	735a.	Long-tailed Chickadee.
622a.	White-rumped Shrike.	755.	Wood Thrush. Rare S. and westward.
624.	Red-eyed Vireo.	761.	Robin.
652.	Yellow Warbler.	766.	Bluebird. Rare westward.
674.	Ovenbird. Very rare, if present, S.		

The following are excluded from the Pine ridge region by the narrow sense in which that term is here applied, including only the wooded canyons, but are found in all the others :

4.	Eared Grebe. Most common S.	256.	Solitary Sandpiper. Northward.
6.	Pied-billed Grebe.	263.	Spotted Sandpiper.
132.	Mallard. Not common except S.	273.	Killdeer.
140.	Blue-winged Teal. Most common S.	331.	Marsh Hawk.
172.	Canada Goose. Formerly; now only S. and Pl. and rare.	367.	Short-eared Owl.
190.	Bittern. Most common S.	390.	Belted Kingfisher.
191.	Least Bittern.	497.	Yellow-headed Blackbird. Rare east of S.
194.	Great Blue Heron. Rare Pl.	498.	Red-winged Blackbird.
202.	Black-crowned Night Heron.	501.1.	Western Meadowlark.
221.	Coot. Most common S.	604.	Dickcissel.
		616.	Bank Swallow.
		725d.	Long-billed Marsh Wren.

There are a few birds which belong to the open country and are therefore common to the prairie, sand-hill, and plains regions, but not found in the other two. They are :

77.	Black Tern. Most abundant S.	261.	Upland Plover.
142.	Shoveller. Rare except S.	277.	Piping Plover. Rare Pl.
206.	Sandhill Crane. Rare except S.	305.	Prairie Chicken.
249.	Marbled Godwit. Northward.	378.	Burrowing Owl.
254.	Greater Yellowlegs. Northward.	475.	Magpie. Formerly; now only Pl. and P. R.
		546a.	Western Grasshopper Sparrow.
		605.	Lark Bunting.

It is worthy of note that no woodland birds are common to the two woodland regions, the Missouri and the Pine ridge.

The ranges of the following birds in the state are practically limited by the boundary of the Carolinian area, and they are therefore confined to the Missouri and prairie regions, except as they straggle out the fringe of trees and shrubbery along the rivers into the plains, or across to the lakes and marshes of the sand-hills :

- | | | | |
|-------|--|-------|--|
| 74. | Least Tern. | 474b. | Prairie Horned Lark. |
| 131. | Flooded Merganser. Also in Pl. northward. | 477. | Blue Jay. Rapidly extending in S. and Pl. |
| 144. | Wood Duck. Also in Pl. northward. | 494. | Bobolink. Into S. northward. |
| 197. | Snowy Egret. Southward. | 506. | Orchard Oriole. Into Pl. north and south. |
| 201. | Green Heron. | 507. | Baltimore Oriole. |
| 208. | King Rail. Rare S. | 529. | Goldfinch. |
| 212. | Virginia Rail. Also S. | 540. | Vesper Sparrow. |
| 214. | Sora. Rare S. | 547a. | Western Henslow Sparrow. |
| 216. | Black Rail. | 552. | Lark Sparrow. |
| 219. | Florida Gallinule. Rare S. | 560. | Chipping Sparrow. |
| 327. | Swallow-tailed Kite. Southward. | 563. | Field Sparrow. |
| 337. | Red-tailed Hawk. | 584. | Swamp Sparrow. Rare S. |
| 339. | Red-shouldered Hawk. Rare Pr. | 587. | Towhee. |
| 365. | Barn Owl. | 593. | Cardinal. Southward. |
| 368. | Barred Owl. | 595. | Rose-breasted Grosbeak. |
| 375. | Great Horned Owl. | 598. | Indigo Bunting. |
| 387. | Yellow-billed Cuckoo. Rare S. | 608. | Scarlet Tanager. |
| 393. | Hairy Woodpecker. Into Pl. northward. | 611. | Purple Martin. |
| 394c. | Northern Downy Woodpecker. Into Pl. northward. | 614. | Tree Swallow. Into Pl. northward. |
| 420. | Nighthawk. | 617. | Rough-winged Swallow. Into Pl. and S. |
| 409. | Red-bellied Woodpecker. | 619. | Cedar Waxwing. Into Pl. northward. |
| 417. | Whip-poor-will. Rare Pr. | 622c. | Migrant Shrike. |
| 423. | Chimney Swift. | 627. | Warbling Vireo. |
| 428. | Ruby-throated Hummingbird. | 628. | Yellow-throated Vireo. |
| 452. | Great-crested Flycatcher. | 631. | White-eyed Vireo. Rare Pr. |
| 456. | Phoebe. Rare S. | 633. | Bell Vireo. |
| 461. | Wood Pewee. | 636. | Black and White Warbler. Into Pl. northward. |
| 465. | Acadian Flycatcher. Rare Pr. | 639. | Worm-eating Warbler. Rare Pr. |

677.	Kentucky Warbler.	Rare	718.	Carolina Wren.	Southward.
	Pr.		724.	Short-billed Marsh Wren.	
681.	Yellowthroat.		727.	White-bellied Nuthatch.	
683.	Yellow-breasted Chat.		731.	Tufted Titmouse.	Southward.
703.	Mockingbird.				

It may be added that the following are limited to this area in migrations :

215.	Yellow Rail.		657.	Magnolia Warbler.	
463.	Yellow-bellied Flycatcher.		660.	Bay-breasted Warbler.	
542a.	Savanna Sparrow.		661.	Black-poll Warbler.	
558.	White-throated Sparrow.		662.	Blackburnian Warbler.	
585.	Fox Sparrow.		667.	Black-throated Green Warbler.	
626.	Philadelphia Vireo.		671.	Pine Warbler.	
629.	Blue-headed Vireo.		672.	Palm Warbler.	
642.	Golden-winged Warbler.		679.	Mourning Warbler.	
647.	Tennessee Warbler.		685.	Wilson Warbler.	
650.	Cape May Warbler.		686.	Canadian Warbler.	
654.	Black-throated Blue Warbler.		759b.	Hermit Thrush.	

The bird fauna of the Missouri region, naturally, is characterized particularly by the number of woodland forms, and those which follow, though they may straggle through the prairie region in their migrations, find only in the former, within the state, conditions suitable for summer residence and breeding.

228.	Woodcock.		637.	Prothonotary Warbler.	
300.	Ruffed Grouse.		641.	Blue-winged Warbler.	
343.	Broad-winged Hawk.		645.	Nashville Warbler.	
352.	Bald Eagle.	Northward.	648a.	Northern Parula Warbler.	
364.	Osprey.	Northward.	658.	Caerulean Warbler.	
372.	Saw-whet Owl.		659.	Chestnut-sided Warbler.	
382.	Carolina Paroquet.	Now extinct.	673.	Prairie Warbler.	
			676.	Louisiana Water-thrush.	
402.	Yellow-bellied Woodpecker.		684.	Hooded Warbler.	
405.	Northern Pileated Woodpecker.	Now rare, if not extinct.	719.	Bewick Wren.	Southward.
			726.	Brown Creeper.	
467.	Least Flycatcher.		735.	Chickadee.	Rare, most specimens 735a.
610.	Summer Tanager.	Southward.	751.	Blue-gray Gnatcatcher.	

Turning now to the Upper Sonoran we find the following birds ranging throughout the two regions belonging to this area :

- | | | | |
|-------|---|-------|--|
| 264. | Long-billed Curlew. Northward. | 529a. | Western Goldfinch. |
| 308b. | Prairie Sharp-tailed Grouse. Northward. | 540a. | Western Vesper Sparrow. |
| 348. | Ferruginous Rough-leg. | 552a. | Western Lark Sparrow. |
| 375a. | Western Horned Owl. Also P. R. | 563a. | Western Field Sparrow. |
| 420c. | Sennett Nighthawk. | 588. | Arctic Towhee. Also P. R. |
| 447. | Arkansas Kingbird. Rarely in Pr. also. | 596. | Black-headed Grosbeak. Also P. R.; rarely into Pr. |
| 474c. | Desert Horned Lark. | 599. | Lazuli Bunting. Rare S. |
| | | 681a. | Western Yellowthroat. |
| | | 683a. | Long-tailed Chat. |

The following are confined as summer residents to the sand-hill region, the lakes and marshes of which harbor a numerous water-bird population:

- | | | | |
|------|-------------------------------------|-------|--|
| 3. | Horned Grebe. Rare, northward. | 150. | Ring-necked Duck. |
| 69. | Forster Tern. | 167. | Ruddy Duck. |
| 135. | Gadwall. | 181. | Trumpeter Swan. Formerly. |
| 137. | Widgeon. | 224. | Wilson Phalarope. |
| 139. | Green-winged Teal. Rare, northward. | 225. | Avocet. |
| 143. | Pintail. | 258a. | Western Willet. Rare. |
| 146. | Red-head. | 501. | Meadowlark. A local race about the lakes of Cherry county. |
| 147. | Canvasback. Rare. | | |

The following are common to the plains and the Pine ridge regions:

- | | | | |
|-------|--------------------------------|-------|----------------------------------|
| 360a. | Desert Sparrow Hawk. | 475. | Magpie. Formerly eastward to Pr. |
| 418. | Poor-will. | 715. | Rock Wren. |
| 432. | Broad-tailed Hummingbird. | 761a. | Western Robin. |
| 457. | Say Phoebe. | | |
| 462. | Western Wood Pewee. In groves. | | |

These are characteristic of the plains region:

- | | | | |
|-------|--|-------|--|
| 281. | Mountain Plover. | 538. | Chestnut-collared Longspur. Northward. |
| 309. | Sage Hen. Northwestward. | 539. | McCown Longspur. |
| 337b. | Western Red-tail. Rare. | 561. | Clay-colored Sparrow. Northward. |
| 420a. | Western Nighthawk. | 562. | Brewer Sparrow. Northwestward. |
| 508. | Bullock Oriole. In groves | 702. | Sage Thrasher. Northwestward. |
| 510. | Brewer Blackbird. Also extending into Pr. northward. | 703a. | Western Mockingbird. |

Finally, the following are peculiar to the Transition in the Pine ridge region:

332. Sharp-shinned Hawk.	533. Pine Siskin.
337a. Krider Hawk.	560a. Western Chipping Sparrow.
349. Golden Eagle.	566. White-winged Junco.
355. Prairie Falcon.	607. Western Tanager.
356. Duck Hawk.	615. Violet-green Swallow.
393c. Rocky Mountain Hairy Woodpecker.	627a. Western Warbling Vireo.
394b. Batchelder Woodpecker.	629b. Plumbeous Vireo.
408. Lewis Woodpecker.	656. Audubon Warbler.
425. White-throated Rock Swift.	675a. MacGillivray Warbler.
466a. Alder Flycatcher.	727c. Rocky Mountain Nuthatch.
492. Pinion Jay.	754. Townsend Solitaire.
521. Red Crossbill.	758a. Olive-backed Thrush.
	768. Mountain Bluebird.

To recapitulate, we have:

Forms generally distributed in the state.....	34
Forms excluded only from the Pine ridge region..	22
Forms generally distributed in prairie, sand-hill, and plains regions	12
Forms belonging to the Missouri and prairie re- gions	64
(Forms migrating through these two regions alone	22)
Forms peculiar to the Missouri region	24
Forms peculiar to the prairie region.....	0
Total Carolinian forms (excluding migrants)....	88
Forms of general distribution in the Sonoran area	16
Forms peculiar to the sand-hill region.....	15
Forms peculiar to the plains region.....	12
Forms common to plains and Pine ridge regions..	8
Total Upper Sonoran forms.....	51
Forms peculiar to the Pine ridge region (Transi- tion)	25
	<hr/>
	232

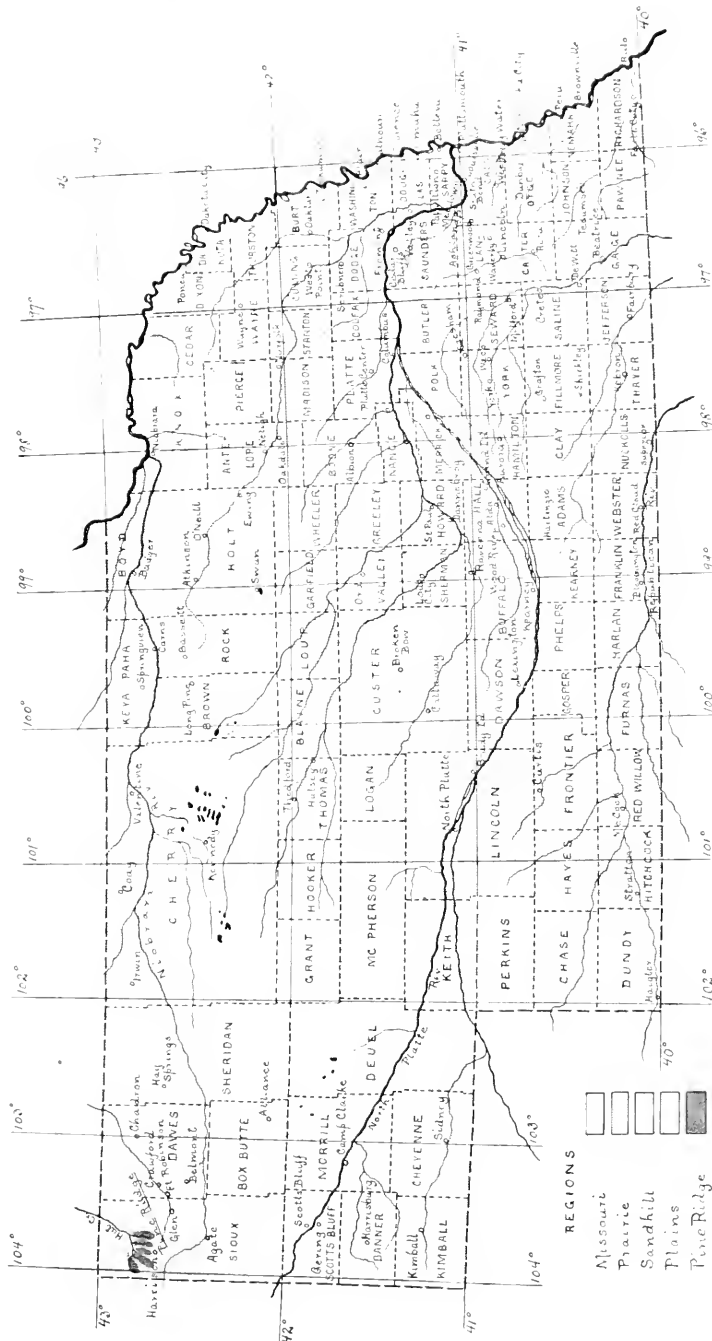
The five regions may be contrasted thus, excluding from each the forms which show a tendency to straggle into it from another:

	SUMMER RESIDENTS	PECULIAR TO IT
Missouri region	144	24
Prairie region	132	0
Sand-hill region	99	15
Plains region	104	12
Pine ridge region	67	25

The forms peculiar to both the Missouri and Pine ridge regions are mostly woodland forms; those peculiar to the sand hills, with one exception, water birds; while those peculiar to the plains are birds of the west which find the western end of Nebraska within the limit of their range. The prairie region is distinctly Carolinian, which brings it into contrast with the sand-hill region, which is Upper Sonoran; but it has no marked physical or floral features, such as have the other regions, to attract forms peculiar to it, and is marked off from the rest of the Carolinian area by negative rather than positive characters. The small number of forms in the Pine ridge region is due to the narrow limit here set to it, practically restricting it to woodland forms.

VI

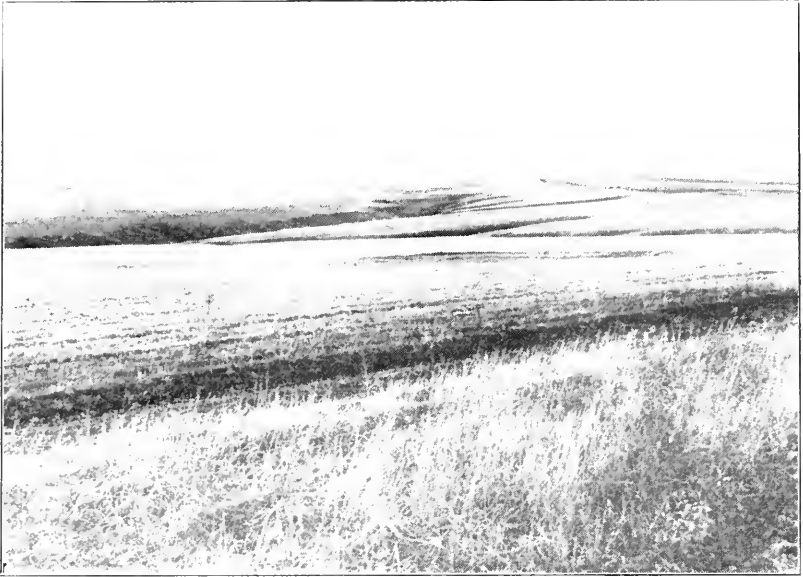
Of course neither resident birds nor migrants are evenly distributed through any given type of environment, and birds are often migrant in environments from which as residents they are excluded. Studies expected to furnish data in regard to such local distribution of forms within our state are now being carried on, but have not progressed far enough to permit of exact statements being made. It is hoped that more of our members than are now engaged in such investigations may participate. Most valuable work can be done in any locality by one who will make a careful study of the local bird fauna with respect to occurrence and abundance of different forms in the various local environments and during the different seasons of the year.



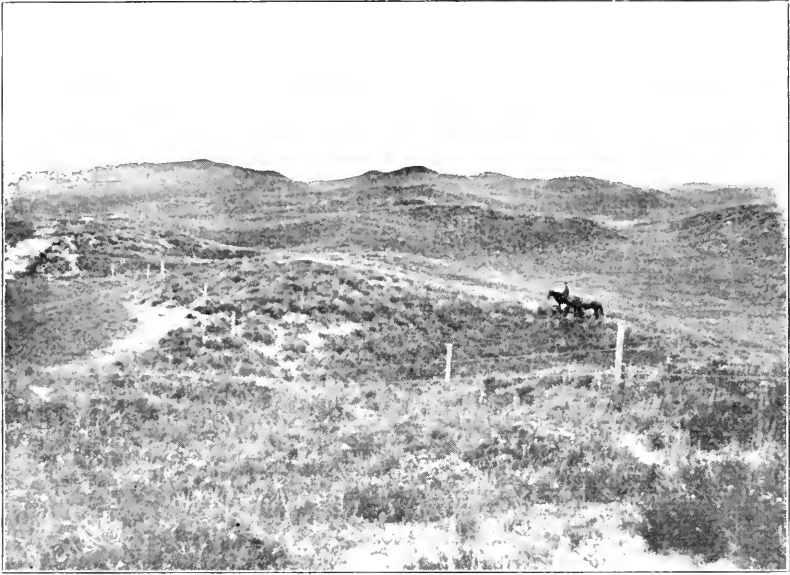
THE FAUNAL REGIONS OF NEBRASKA



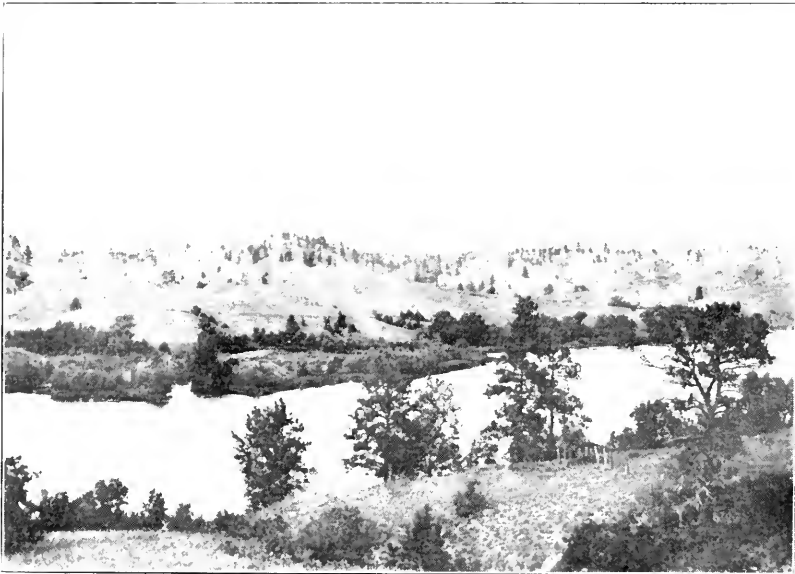
THE MISSOURI REGION.—Upper figure, a view near Peru, showing a wooded bluff, the Missouri river with sandbars, islands and bottomland timber, and the opposite bluffs in the distance. Lower figure, a creek in Richardson county, nine miles from its confluence with the Missouri, showing heavy timber.



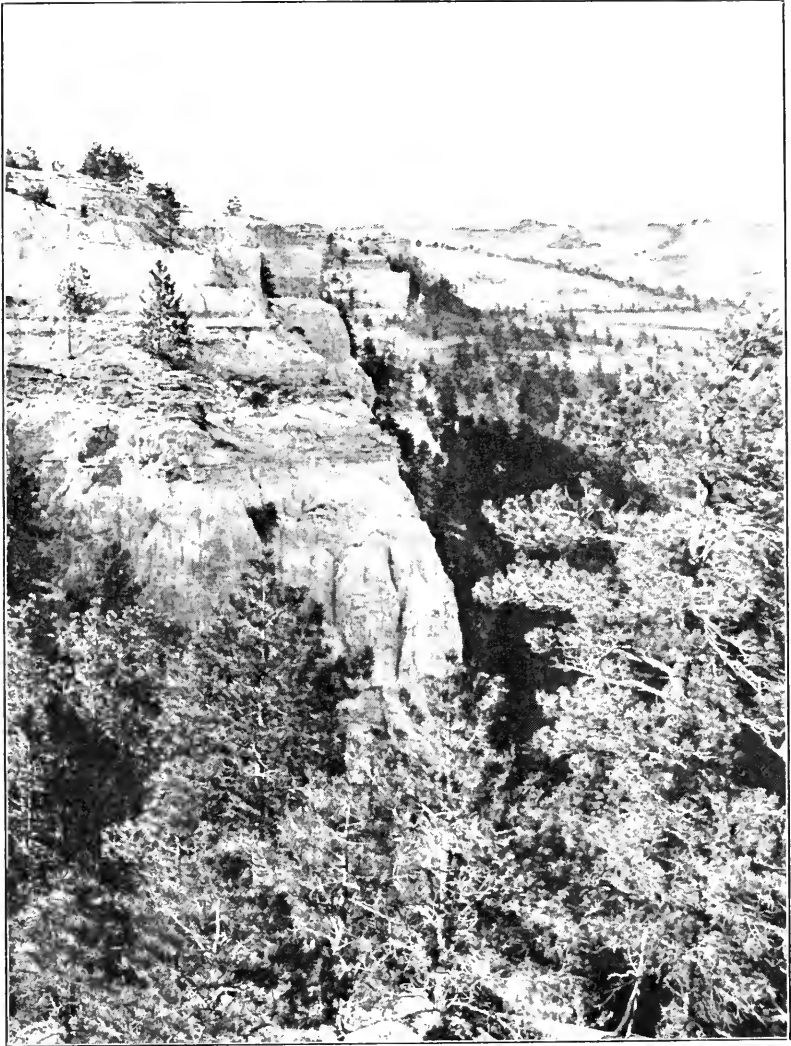
THE PRAIRIE REGION.—Upper figure, a piece of virgin open prairie four miles west of Lincoln, showing the upper end of a draw. Lower figure, a view in Johnson county, showing the manner in which timber follows up a creek valley and out into tributary draws.



THE SAND-HILL REGION.—Upper figure, a view in the sand hills, on the Dismal river Forest Reserve, Thomas county, showing the characteristic topography. Lower figure, Watt's lake, Cherry county, a typical sand-hill lake surrounded by reeds and rushes; sand in the foreground, hills in the distance.



THE PLAINS REGION.—Upper figure, a view in Box Butte county showing the open plains. Lower figure, a pond made by damming the Minnehaduzza near Valentine. Shows a river-valley in the plains region with a growth of deciduous trees and shrubbery next the river, the barren slopes covered with a straggling growth of pine, and the flat open plains stretching away beyond.



THE PINE RIDGE REGION.—View looking backward into a canyon on the north side of Pine ridge showing its depth, and the dense growth of vegetation in its recesses, which harbor transition forms.

PROCEEDINGS

OF THE

NEBRASKA ORNITHOLOGISTS' UNION

AT ITS

NINTH, TENTH AND ELEVENTH ANNUAL MEETINGS

Bellevue, Nebr., May 8 and 9, 1908

Lincoln, Nebr., May 14 and 15, 1909

Peru, Nebr., April 29 and 30, 1910

EDITED BY
MYRON H. SWENK

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PROCEEDINGS OF THE
NEBRASKA ORNITHOLOGISTS' UNION

OFFICERS

1907-08.	President.....	Myron H. Swenk, Lincoln
	Vice-President.....	Emily Wood, Omaha
	Secretary.....	Wilson Tout, North Platte
	Treasurer.....	F. H. Shoemaker, Omaha
1908-09.	President.....	August Eiche, Lincoln
	Vice-President.....	Jeanette McDonald, Omaha
	Secretary.....	Myron H. Swenk, Lincoln
	Treasurer.....	F. H. Shoemaker, Omaha
1909-10.	President.....	H. B. Duncanson, Peru
	Vice-President.....	Joy Higgins, Omaha
	Secretary.....	Myron H. Swenk, Lincoln
	Treasurer.....	G. M. Pinneo, Lincoln

ABSTRACT OF MINUTES

NINTH ANNUAL MEETING

The first session of the ninth annual meeting of the Nebraska Ornithologists' Union was called to order in the Presbyterian Church at Bellevue, Nebraska, at 7:45 P.M. on Friday, May 8, 1908, with President Myron H. Swenk in the chair. Fourteen members were present, Messrs. Bruner, Livers, Shoemaker, Smith, Swenk, Wolcott and Zimmer, and Misses Bruner, Harper,

Hitte, McDonald, Stringer, VanSant and Wood. In the absence of Secretary Wilson Tout, R. H. Wolcott acted temporarily in that capacity.

The report of the Treasurer was read and referred to an auditing committee composed of Messrs. Bruner, Livers and Smith. R. H. Wolcott reported briefly for the Record Committee. The names of Messrs. W. L. French of Peru, E. B. Salter of Norfolk, and Misses Joy Higgins and Mary Alter of Omaha were proposed for membership and duly elected by the society. On a motion to that effect all new business was postponed until the next session and the election of officers was taken up. The ballot resulted in the election of the following as officers for 1908-09:

President, August Eiche, Lincoln,
 Vice-President, Jeanette McDonald, Omaha,
 Secretary, Myron H. Swenk, Lincoln,
 Treasurer, F. H. Shoemaker, Omaha.

The business meeting then adjourned at 8:15 P.M. to take up the public program of the evening. Many visitors from Omaha and students from Bellevue College were present, comfortably filling the church. The program was opened by an invocation by Dr. Phelps, who then warmly welcomed the Union to Bellevue and lauded the efforts of the society to popularize bird study by distributing its meetings among the various educational centers of the state. President Swenk responded on behalf of the Union and explained the aims and past history of the Union and its ambitions for the future. He also cordially invited the people of Bellevue to accompany the field parties on the excursion of the next day. The following program was then rendered:

President's Address, "A Sketch of the Evolution of Our Bird Fauna"	- - - -	Myron H. Swenk
"The Uses that Birds Have Made of Structures Built by Man"	- - - -	R. H. Wolcott
"The Crow Family (Corvidae) in Nebraska"	- - - -	Lawrence Bruner
"Devices of Bird Study"	- - - -	Wilson Tout

The program concluded at 9:30 P.M. after the members had enjoyed a short social session.

The second session was called to order at 8:00 P.M. on Saturday, May 9, after the field trip, in the same room as on the preceding evening. Eleven members were present, Messrs. French, Livers, Shoemaker, Smith, Swenk, Tout, Wolcott and Zimmer and Misses Marshall, VanSant and Wood. Eleven visitors were also in attendance. The names of Captain Crimmins of Fort Crook and Mrs. Childs of "Childs' Point" near South Omaha were presented for membership and the persons elected. The report of the Treasurer was accepted, having been found correct by the auditing committee.

New business being in order it was moved and carried that the Union prepare check-lists for field use and supply them to members at cost. The matter of planning for the publication of a new "Birds of Nebraska" was taken up, and after some discussion it was moved that the matter be referred to a committee to be appointed by the chair, to attempt to devise some plan for publication, investigating the cost and to report at the next meeting. The motion was carried. The President appointed on this committee Messrs. Wolcott, Shoemaker and Tout, with instructions to report at the next meeting.

Following the new business the more technical part of the program was taken up. R. H. Wolcott presented a very interesting discussion of the "Variation in Cherry County Meadowlarks" and illustrated the same with specimens. Discussion of the topic by several members followed. Myron H. Swenk then presented a short paper on "Ornithological Book-Keeping" in which the new records established since the publication of the "Birds of Nebraska" in 1904 were discussed. Six new forms have been added, thus bringing the total number of definitely recorded species and subspecies in our list to 402. Following this paper a few minutes were devoted to recording the principal bird notes of the year. Mr. Ira C. Jenks of Santa Rosa, California, then addressed the Union on California birds and illustrated his remarks by the exhibition of numerous specimens. Following this address the Union adjourned at 9:30 P.M.

WILSON TOUT, *Secretary*.

SIXTH ANNUAL FIELD DAY.—Leaving Bellevue at 6:30 A.M.

Saturday morning, May 9, 1908, one division of the field party proceeded north along the Burlington tracks paralleling the Missouri river to Childs' Point, there meeting with the second division which had left South Omaha at 5:45 A.M. and proceeded eastward from Childs' Crossing on the interurban. The whole party, consisting of twenty-one members of the Union and a large number of their friends from Omaha and Bellevue, took dinner together at Coffin Springs. The composite list of species seen by members of the party during the forenoon was seventy-eight, and to this several additions were made by the explorations of the afternoon.

TENTH ANNUAL MEETING

The tenth annual meeting of the Nebraska Ornithologists' Union was called to order in the ordinary of the Lincoln Hotel at Lincoln, Nebraska, at 8:15 P.M., with President Eiche in the chair. During the afternoon the members had gathered at Mr. Eiche's home and spent several hours there in examining his splendid collection of mounted birds, after which all had met at the hotel for a banquet at 7:00 P.M. Ten members were present, Messrs. Bruner, Duncanson, Eiche, Pinneo, Sheldon, Swenk, Tout, Wolcott and Zimmer and Miss Higgins. Three visitors were also present as guests of the Union.

The Secretary reported on the publication of the check-lists and the proceedings of the society, the present condition of the property of the Union and its exchanges, and by vote of the society his report was approved. The Treasurer being absent and his report not yet at hand, the Secretary moved that an auditing committee be appointed by the chair to audit the report when received and if found to be correct to refer the same to the Executive Committee for acceptance. The motion was carried. The President appointed Messrs. Wolcott, Bruner and Swenk as the auditing committee.

R. H. Wolcott reported for the Record Committee, stating that as no records had been referred to it during the past year no session had been held, but that probably action would be taken on

various new records in the near future. Wilson Tout reported very interestingly for the Educational Committee, describing the progress of their efforts to work out a course of bird study for the schools, both in the grades and in high schools. He stated that many of the teachers were eager for such help, although some were indifferent. He described the very successful outcome of the May Day list contest, stating that over 1,000 lists were sent in, and quoted some of the favorable reports on it from various schools. Mr. Tout's idea was that by interesting the boys and girls in bird study we would not only do much toward strengthening the spirit of bird protection but also increase greatly the number of future bird lovers and bird scientists, and thus lay a proper foundation for the permanence of the Union and its work. Mr. Tout's report was adopted and discussed by R. H. Wolcott and H. B. Duncanson. The latter gentleman at the close of his remarks moved that the Educational Committee be asked to draft a scheme for bringing the Union in closer contact with the nature study work of the schools and to bring out greater interest in bird study, and to report their plan to the Executive Committee for final approval before putting it into operation. This motion was unanimously carried. The Birds of Nebraska Publication Committee appointed at the last session, not being ready to report, was on motion of the Secretary continued for another year.

The proposal of new names for membership in the Union being in order, the names of Messrs. C. V. Williams and C. R. Weeks of Peru, C. G. Phillips of Aurora, Dr. D. C. Hilton of Lincoln, Mr. and Mrs. J. S. Ewart of Lincoln, and Miss Louise McPherson of Omaha were submitted and all were elected to membership.

The Secretary moved that he be empowered to send out check-lists to members free of cost, if, with the request for them, sufficient postage were forwarded for their delivery. The motion prevailed. Wilson Tout wished to recommend that the Record Committee pass upon all the new records to date and publish same in the proceedings, and also maintain a department of current notes, which suggestion met with approval by the members present.

The election of officers for 1909-10 was then taken up, the ballot resulting as follows:

President, H. B. Duncanson, Peru,
 Vice-President, Joy Higgins, Omaha,
 Secretary, Myron H. Swenk, Lincoln,
 Treasurer, G. M. Pinneo, Lincoln.

At this point the new President was installed, and on request gave a short talk on his hopes for the Union during the coming year. The program was then taken up and the following papers presented by various local members:

President's Address, "The Ducks of the State" (read by title)
 - - - - - August Eiche, Lincoln
 "Some Results of Four Years' Collecting in the Vicinity of
 Lincoln" - - - - - J. T. Zimmer, Lincoln
 "A Few Things We Can Do" - R. H. Wolcott, Lincoln
 "The Past and Present of the N. O. U."
 Lawrence Bruner, Lincoln
 "My Diary of Bird Observations Made at Lincoln" (read by
 title) - - - - - H. B. Lowry, Lincoln
 "Ideas on the Intergrading Ranges of Certain Subspecies in
 Nebraska" (read by title) - Myron H. Swenk, Lincoln

Following the program and the discussion of the papers given, the Union adjourned at 10:30 P.M.

MYRON H. SWENK, *Secretary*.

SEVENTH ANNUAL FIELD DAY.—Saturday morning, May 15, 1909, the field party of the N. O. U. left the viaduct west of Lincoln at 7:00 A.M. and proceeded to the saline flats and lake in the vicinity, but owing to the very heavy rainfall of the preceding day and night these were greatly flooded and the waterfowl and shore birds much scattered. The mill woods on the north shore of the lake were thoroughly explored. Returning, the party left on the Union Pacific for Hanlon, 12 miles south of Lincoln, at 11:05 A.M. Immediately after arrival lunch was eaten in the woods and the remainder of the day spent in the vicinity, the party arriving in Lincoln again at 5:45 P.M. The composite list of the day reached ninety-four species, the largest made since the first annual field day seven years previously.

ELEVENTH ANNUAL MEETING

The eleventh annual meeting of the Nebraska Ornithologists' Union was held at Peru, Nebraska, Friday and Saturday, April 29 and 30, 1910. The first meeting was a public one held in the Peru Normal Chapel, on the evening of April 29 at 8:30 o'clock. Professor H. B. Duncanson, the retiring President, had the meeting in charge. An address of welcome by President J. W. Crabtree of the Normal School was followed by the appearance of the Peru Glee Club which rendered several very enjoyable numbers. A reading appropriate to the occasion was given by Mrs. Daisy Nettleton and was much appreciated. President Duncanson then proceeded with his annual address, which was upon the subject, "Some Interesting Points in the Embryological Development of Birds," and was well illustrated with lantern slides. Upon the close of this address Professor Lawrence Bruner responded to a request of the President that he discuss briefly the subject of Bird Study, taking up this line of thought in a very original and entertaining way. Announcement was then made of the field trip to be held the next day, to which all of the visitors present were invited. Adjournment at 10:30.

EIGHTH ANNUAL FIELD DAY.—A start was made from Peru at 6:30 A.M. Saturday morning, April 30, about fifty people joining in the party. The party divided into three sections, all maintaining a parallel course from Peru, northwestward along the Missouri bluffs to a position directly east of Julian, which was reached shortly after noon. A camp dinner was then prepared and enjoyed by all, after which a business meeting of the Union was held in the woods. The meeting was called to order by President Duncanson. The Treasurer's report, in the absence of that officer, was read by the Secretary and referred by the President to an auditing committee composed of Messrs. Bruner, French and Wolcott. The Secretary and Vice-President being present reported briefly. The names of Messrs. A. C. Whitford and L. O. Horsky were proposed for membership and both were duly elected. The constitutional amendment proposing to combine the offices of Secretary and Treasurer, owing to the difficulty of easily handling the business of the Union when placed in the

hands of two members sometimes living in different towns, was taken up and adopted without debate. The amendment involved amending Article IV, Section 1, to strike out the words "a Secretary and a Treasurer" and substituting "a Secretary-Treasurer," and combining Sections 3 and 4 of Article V, entitling same "Duties of the Secretary-Treasurer," and numbering it Section 3 and numbering Section 5 Section 4; also changing the word "Secretary" in Section 3 of the by-laws to "Secretary-Treasurer." The election of officers was then taken up, the ballot resulting in the election of the following for 1910-11:

President, L. Sessions, Norfolk,
 Vice-President, Mrs. A. E. Sheldon, Lincoln.
 Secretary-Treasurer, Myron H. Swenk, Lincoln.

After a short informal discussion of the next meeting, publications, etc., the business session adjourned and the party continued the field trip to Barney, where a Burlington train was caught at 6:00 P.M. The composite list of the field party for the day numbered seventy-five species of birds.

MYRON H. SWENK, *Secretary*.

REPORT OF TREASURER, 1907-08

RECEIPTS

Cash on hand, May 18, 1907.....	\$ 65.20
1 Annual dues for 1906—Active.....	2.00
1 Annual dues for 1906—Associate.....	1.00
19 Annual dues for 1907.....	38.00
	<hr/>
	\$106.20

EXPENDITURES

Telegrams of postponement Weeping Water meeting....	\$ 1.00
Postage on announcements and Proceedings.....	2.00
Printing of Proceedings, Vol. IV, part 1, Jacob North & Co.	37.85

Exchange15
Balance on hand, May 8, 1908.....	65.20
	<hr/>
	\$106.20

Respectfully submitted,
FRANK H. SHOEMAKER, *Treasurer*.

REPORT OF TREASURER, 1908-09

RECEIPTS

Cash on hand, May 8, 1908.....	\$ 65.20
1 Annual dues for 1906—Associate.....	1.00
11 Annual dues for 1907.....	22.00
20 Annual dues for 1908.....	40.00
	<hr/>
	\$128.20

EXPENDITURES

Printing of 5,000 check-lists of Nebraska Birds.....	\$ 31.05
Postage, Secretary	2.00
Postage, Treasurer	3.40
Balance on hand, May 15, 1909.....	91.75
	<hr/>
	\$128.20

Respectfully submitted,
FRANK H. SHOEMAKER, *Treasurer*.

REPORT OF TREASURER, 1909-10

RECEIPTS

Cash received from previous Treasurer, May 15, 1909....	\$ 91.75
1 Annual dues for 1906—Active.....	2.00
1 Annual dues for 1906—Associate.....	1.00
2 Annual dues for 1907.....	4.00

8 Annual dues for 1908.....	16.00
24 Annual dues for 1909.....	48.00
Balance from banquet	1.00
Sale of Proceedings	3.45
Interest on account	1.06
	<hr/>
	\$168.26

EXPENDITURES

Cornell Engraving Co., halftones for Proceedings, Vol. IV, part 2	\$ 30.53
Jacob North & Co., printing Vol. IV, part 2.....	78.50
Postage, Secretary	3.55
Stenography, Secretary	1.90
Balance on hand, April 30, 1910.....	53.78
	<hr/>
	\$168.26

Respectfully submitted,

G. M. PINNEO, *Treasurer.*

CONSTITUTION AND BY-LAWS

ARTICLE I. (NAME AND OBJECT)

Section 1. This Association shall be known as The Nebraska Ornithologists' Union.

Sec. 2. Its aims shall be to promote the study of ornithology by more closely uniting the students of this branch of natural history, and to encourage the study of birds in the state of Nebraska.

ARTICLE II. (MEMBERS)

Section 1. Any student of ornithology resident in Nebraska, not less than sixteen years of age, may become a member on receiving a majority vote of the members present at any meeting. All members in good standing shall have the right to vote and hold office.

Sec. 2. Honorary members shall be elected for their eminence in ornithology or for distinguished services in furthering the aims for which this Union is established.

Sec. 3. Application for membership in the interim between meetings may be considered by the Executive Committee, and the application granted by a unanimous vote of the committee.

ARTICLE III. (QUORUM)

Section 1. A quorum for the transaction of business shall be the active members present at any annual meeting, provided the number is not less than nine.

ARTICLE IV. (OFFICERS AND COMMITTEES)

Section 1. The officers of this Union shall be: a President, a Vice-President and a Secretary-Treasurer.

Sec. 2. There shall be an Executive Committee consisting of the officers.

Sec. 3. Standing committees shall be appointed by the President with the concurrence of the Executive Committee.

ARTICLE V. (DUTIES OF OFFICERS AND COMMITTEES)

Section 1. Duties of the President. It shall be the duty of the President to preside at all the meetings of the Union, to appoint the standing committees, and to perform such other duties as may properly pertain to the office.

Sec. 2. Duties of the Vice-President. It shall be the duty of the Vice-President to act in the absence or incapacity of the President.

Sec. 3. Duties of the Secretary-Treasurer. It shall be the duty of the Secretary-Treasurer to keep a record of all the meetings of the Union, to countersign all orders and documents issued by the President, to conduct the general correspondence of the Union, to prepare the program of the meetings, to send out the call for such meetings, to superintend the publication of the Proceedings of the Union, to have charge of all property of the Union, to receive and have charge of all moneys of the Union and to pay such bills as are indorsed by the President and to perform such other duties as properly pertain to this office.

Sec. 4. Duties of the Executive Committee. It shall be the duty of the Executive Committee to fix the date and place of the annual meeting, to act on applications for membership as provided in Article II, section 3, to concur in the appointment of standing committees as provided in Article IV, section 3, to fill by temporary appointment offices which shall become vacant, and to nominate three persons for each of the several offices that are to be filled annually.

ARTICLE VI. (ELECTION OF OFFICERS AND COMMITTEES)

Section 1. The election of all officers shall be by ballot, a majority of those voting being required to elect, and the Secretary-Treasurer shall send a list of the nominees of the Executive Committee to each member one month before the date of the annual meeting.

Sec. 2. The term of office shall extend from the end of one annual meeting to the end of the next one.

ARTICLE VII. (MEETINGS)

Section 1. The annual meeting of the Union shall be held at such place and time as the Executive Committee shall decide.

ARTICLE VIII. (DUES AND ASSESSMENTS)

Section 1. The annual dues of the members shall be two dollars (\$2), due at the time of election to membership and on the date of each annual meeting thereafter.

Sec. 2. In case of failure to pay dues before the close of the year, a member shall forfeit his right to the publications of the Union.

Sec. 3. In case of failure to pay dues for two years a member shall be dropped from the roll of the Union.

ARTICLE IX. (AMENDMENTS)

Section 1. An amendment to this constitution may be adopted by an affirmative vote of two-thirds of the members present at any annual meeting, one month notice of the proposed amendment having been given all members.

BY-LAWS

Section 1. The actual amount expended by the officers in carrying on their official duties shall be refunded to them.

Sec. 2. All members in good standing shall receive gratis one copy of the publications of the Union. Other copies of the publications may be distributed under sanction of the Executive Committee.

Sec. 3. All papers presented at the meetings shall be the property of the Union and shall be filed with the Secretary-Treasurer.

Sec. 4. The order of business at the annual meeting shall be as follows: 1, Reports of Officers; 2, Reports of Committees; 3, Proposal of Names and Election of Members; 4, New Business; 5, Announcement of Election of Officers and Committees; 6, Pre-

sentation and Discussion of Papers and Remarks; 7, Installation of Officers; 8, Reading of Minutes; 9, Adjournment.

Sec. 5. Application for membership must be made to the Executive Committee, and such application must have the indorsement of at least one member in good standing, which shall be expected to be a proper recommendation of the candidate.

Sec. 6. Any of the By-Laws may be amended or repealed by vote of a majority of the members.

LIST OF MEMBERS

Corrected to July 1, 1910. Names of Charter Members indicated by an asterisk.

HONORARY MEMBERS

Miller, Dr. George L., 624 N. 19th St., Omaha..... 1901

MEMBERS

Alter, Miss Mary, 413 N. 25th St., Omaha..... 1908
 Arter, Jason, Kirkwood 1902
 Barbour, Miss Carrie, Dept. Geology, Uni. of Neb., Lincoln 1902
 *Bates, Rev. J. M., Red Cloud..... 1900
 Bruner, H. F., Swan P. O., Holt County..... 1901
 *Bruner, Prof. Lawrence, Dept. Entomology, Uni. of Neb.,
 Lincoln 1900
 Childs, Mrs. Lowrie, Maxwellton, Ft. Crook Bvd., South
 Omaha 1908
 Crimmins, Captain M. L., Ft. Crook..... 1908
 Dawson, Miss Agnes M., 514 N. 23d St., Omaha..... 1903
 Duncanson, Prof. H. B., Dept. Zoology, State Normal, Peru, 1901
 *Eiche, August, 1133 O St., Lincoln..... 1900
 Ewart, Mrs. J. S., 27th and P Sts., Lincoln..... 1909
 French, Prof. W. L., Dept. Dairy Husbandry, Uni. of Neb.,
 Lincoln 1908
 Gifford, Dr. H., 563-573 Brandeis Bldg., Omaha. 1903
 Griggs, Prof. Leland, Doane College, Crete..... 1907

Harper, Miss Alice, 2416 Cass St., Omaha.....	1906
*Hayward, Mrs. Mary Smith, Chadron.....	1900
Higgins, Miss Joy, 527 Park Ave., Omaha.....	1908
Hitte, Miss Alice E., 102 S. 25th Ave., Omaha.....	1904
Hilton, Dr. David C., 1238 O St., Lincoln.....	1909
Horsky, L. O., Mailing Division, P. O., Omaha.....	1910
Littell, Mrs. Elsie, County Superintendent of Schools, Wayne	1910
Livers, Rev. Ralph W., 722 N. 25th St., South Omaha....	1907
Lowry, Dr. H. B., 843 S. 10th St., Lincoln.....	1901
McDonald, Miss Jeanette, 318 S. 26th St., Omaha.....	1905
McPherson, Miss Louise, 701 Park Ave., Omaha.....	1909
Payne, Mrs. Geo. H., W. Dodge St., Omaha.....	1901
Phillips, C. G., Aurora	1909
Pinneo, G. M., Y. M. C. A. Bldg., Lincoln.....	1905
Pollard, Hon. Isaac, Nehawka.....	1903
Salter, E. B., Norfolk	1908
*Sessions, L., Norfolk	1900
Sheldon, Mrs. A. E., Lincoln	1904
*Shoemaker, F. H., 2960 Dewey Ave., Omaha.....	1900
Smith, Mrs. Chas. C., Exeter	1907
*Swenk, Prof. Myron H., Dept. Entomology, Uni. of Neb., Lincoln	1900
Tobitt, Miss Edith, Omaha Public Library, Omaha.....	1907
*Tout, Wilson, Superintendent of Schools, North Platte..	1900
Towne, Dr. S. R., 446 Brandeis Bldg., Omaha.....	1902
*VanSant, Miss Elizabeth, 2960 Dewey Ave., Omaha.....	1900
Weeks, C. R., Dept. Agriculture, State Normal, Peru.....	1909
Whitford, A. C., Ashland High School, Ashland.....	1910
Williams, C. V., Dept. Biology, State Normal, Peru.....	1909
*Wolcott, Prof. R. H., Dept. Zoology, Uni. of Neb., Lincoln	1900
Wood, Miss Emily, 2416 Ellison Ave., Omaha.....	1901
Zimmer, J. T., Dept. Entomology, Uni. of Neb., Lincoln..	1907

PROCEEDINGS OF THE

NEBRASKA ORNITHOLOGISTS' UNION

SOME NOTES ON THE WINTER BIRDS OF
DAWES COUNTY

BY JOHN T. ZIMMER

In the latter part of November, 1910, it became necessary for me to spend a couple of weeks in the vicinity of Crawford, Dawes county, Nebraska, in field investigations of an entomological nature. However as abundant opportunity was offered, I was enabled to make some rather extensive observations on the bird life of that region. Previously on but two occasions had systematic ornithological observations been made in that part of the state during cold weather, once during middle December, 1895 and again from February 18 to 29, 1896, in reality parts of the same winter, when parties headed by Professor Lawrence Bruner worked in that locality.

I arrived in Crawford on November 26 and on the next day proceeded south-eastward from the town to the vicinity of Squaw mound, near the head of Squaw creek, where I made my headquarters until December 5, on which date I returned to Crawford. I then explored the valley of the White river until December 10, when I returned to Lincoln. One side trip was made. On December 9 I visited Glen, in Sioux county, where I spent the day and returned the same evening. With this exception, all my observations were made within the bounds of Dawes county.

I might here make a brief statement regarding the types of country visited. The vicinity of Squaw mound on the Pine ridge is high table-land or plateau containing the heads of numerous canyons which are destitute of deciduous timber

at this altitude but support a heavy growth of pines and cedars. Lower down in these canyons water appears, together with the beginnings of deciduous growth or "brush-timber" as it is called by the ranchmen. Down in the valley of the White river, about one thousand feet below the summit of Squaw mound, and in the more immediate vicinity of Crawford, this kind of growth prevails, although the buttes which rise near the river possess the coniferous trees and have the accompanying faunal characteristics. Glen, in Sioux county, is not radically different from the Crawford territory as it is also situated on the banks of the White river.

The following list comprises the extent of the winter bird fauna of this region as I found it. Several of the forms are new definite records for the state, viz., Western Evening Grosbeak, Mountain Pine Grosbeak, Cassin Purple Finch, Pink-sided Junco and Mountain Song Sparrow, and these will be noted more fully in the individual discussions of each species.

1. *Branta bernicla glaucogastra* (Brehm)—Brant.

A single flock of twelve of these birds was observed on November 30. I was on the summit of the ridge and the birds passed rather near to me so that I was able to make out very distinctly the white on abdomen and sides of neck. My attention was first attracted to the birds by their note which was much hoarser than that of the Canada Goose and resembled a grunt more than a "honk."

2. *Gallinago delicata* (Ord)—Wilson Snipe.

On December 7, while following down a little stream which empties into the White river, I flushed three of these birds. I fired at one of them but it continued on its way around a bend in the stream, and on following the line of its flight, I found my bird lying in the water on a bunch of cress, from which it was easily secured. It had been shot and wounded previously, for its breast contained a very large scar, which was, however, completely healed over. Wilson Snipe has been found before in Sioux and Dawes counties at this season of the year and is evidently a regular resident, found wherever the presence of numerous springs secures a soft, boggy soil.

3. *Colinus virginianus* (Linnaeus)—Bob-white.

I observed flocks of Bob-white at Crawford on December

6 and 7, and at Glen, on December 9, I saw several coveys. None were found on the high plateau, but all were seen in the lower valleys.

4. *Pedioecetes phasianellus campestris* Ridgway — Prairie Sharp-tailed Grouse.

These birds were seen only on the evening of November 27 on the plateau at the head of Squaw canyon, where a flock of eighteen or so passed me on their way toward some roosting place. A single individual had been observed somewhat earlier in the day in the same general locality.

5. *Circus hudsonius* (Linnaeus)—Marsh Hawk.

I observed this hawk but once, on December 5, near Crow butte.

6. *Archibuteo lagopus sancti-johannis* (Gmelin) — Rough-legged Hawk.

This hawk was noted but once, December 1, near Squaw mound.

7. *Archibuteo ferrugineus Lichtenstein*—Ferruginous Rough-leg.

This bird also was seen on but a single occasion. A pair was observed on November 28. The birds rose from their posts at my approach and as they sailed away displayed the conspicuous white marking at the base of the tail.

8. *Aquila chrysaetos* (Linnaeus)—Golden Eagle.

While exploring the rocky cliffs of the Pine ridge south of Crow butte on December 3, I surprised a single Golden Eagle from his perch on a peculiar, chimney-shaped piece of rock which rose sheer twenty or thirty feet from the narrow summit of the ridge.

9. *Falco peregrinus anatum* Bonaparte—Duck Hawk.

The only record I have of this species is on December 8 when one of the hawks was noted flying over the hills between Crawford and Fort Robinson. It was reported by Professor Bruner in 1903 as probably breeding about eight miles west of the fort.

10. *Falco columbarius* Linnaeus—Pigeon Hawk.

On December 3, while I was watching a flock of juncos, the birds suddenly stopped their chattering, flocked to-

gether, flattened all their feathers and seemed to lose all fear of me. I looked around for the cause and discovered a Pigeon Hawk. The bird was dashing into another flock of juncos in a little thicket across the canyon and endeavoring to capture one. The juncos were too active and, in addition, were protected by the network of branches through which the hawk could not force itself and it succeeded in catching one only after a number of attempts.

11. *Falco sparverius phalaena* Lesson—Desert Sparrow Hawk.

I was surprised to note this species on November 30 on which date I saw a single bird on the high plateau. A few days later, December 2, while exploring a little canyon in the near vicinity of this first locality, I caught a hasty glimpse of a hawk as it disappeared around a bend in front of me, and from the impression I received of its size and coloration in the brief moment I had it in view, I concluded it to be this species, possibly the same bird previously seen. I refer this note to *phalaena* rather than to typical *sparverius* as the former is the breeding form in north-western Nebraska.

12. *Crypto~~glau~~x acadica* (Gmelin)—Saw-whet Owl.

I saw this little owl along the White river between Crawford and Fort Robinson on December 8. My attention was drawn to the presence of the bird by the actions of a flock juncos and tree sparrows, most of which sought concealment though one or two of the boldest White-winged Juncos followed the intruder the length of the grove. This owl is probably an uncommon resident in that part of the state, as elsewhere in Nebraska.

13. *Dryobates villosus monticola* Anthony—Rocky Mountain Hairy Woodpecker.

Hairy woodpeckers, undoubtedly referable to this form, were noted on November 28 and 30 and December 3, 9, and 10.

14. *Dryobates pubescens homorus* Cabanis and Heine—Batchelder Woodpecker.

I saw and secured three individuals of this bird on December 3 and 7. It is the resident form of the downy woodpecker in this region.

15. *Colaptes cafer collaris* Vigors—Red-shafted Flicker.

A single individual, flushed near the base of Saddle-back butte, was the only one I saw of this species.

16. *Otocoris alpestris leucolaema* (Coues)—Desert Horned Lark.

This form of the horned lark, which is also the breeding form of the region under discussion, was abundant and occurred in large flocks both on the high plateau and in the White river valley. They were seen practically every day and were the only variety of the species noted. Several specimens were secured, one of which was found on the railroad track some distance from any telegraph wires and with no marks on it to account for its death.

17. *Pica pica hudsonia* (Sabine)—Magpie.

Magpies were abundant and were seen every day and in every possible locality, though never in flocks but usually singly or in pairs. Their highly contrasting plumage of white and glossy black was a conspicuous feature of the otherwise more or less dull background of leafless trees in the valleys though none the less marked against the dark green of the conifers higher up on the hillsides. Their harsh voice was also very evident and consisted chiefly of a call or alarm note resembling the syllables "cack-cack-cack-cack-" repeated rapidly and at frequent intervals. The birds' other notes were too varied to bear reproduction but were somewhat less harsh in tone and at times sank to an even softer whistle that was not at all unpleasing. The bulky nests of the species were at this season of the year prominent objects in the trees everywhere. The birds are heartily disliked for their thieving habits and their fondness for eggs and young chickens and are shot at all times by the ranchmen. They are extremely wary on this account and hard to approach. The single specimen that I secured was obtained only because the bird was so busy "singing" that he failed to notice my approach.

18. *Nucifraga columbiana* (Wilson)—Clarke Nutcracker.

The Clarke Nutcracker or Clarke Crow was one of the first birds I saw on my trip. While I was driving out to the ranch house where I made my first headquarters, one of these birds flew across the road in front of the horses. It

reminded me of nothing so much as a young Red-headed Woodpecker in that its flight was markedly woodpecker-like and its grayish body and head and its black wings and tail with white on secondaries gave it, at least superficially, a very close resemblance to the bird mentioned. The next day I saw a single individual which was sitting in the top of a tall pine and uttering its peculiar "charr-charr," a note totally distinct from that of any other bird I have ever heard. The following day, November 29, I saw a pair and secured one of them. All the occurrences of this bird noted were at the heads of the canyons on the high plateau.

19. *Cyanocephalus cyanocephalus* (Wied)—Pinion Jay.

The Pinion Jay is even more thoroughly disliked by the ranchmen than is the magpie. It is abundant and goes about in flocks of many hundreds and even thousands. These flocks will alight upon grain fields and, the ranchmen claim, materially injure the crops in a very short time. The birds are not particularly wary but are somewhat difficult to approach at times owing to their restless nature which keeps them constantly moving. I have been standing in the line of approach of a flock of Pinion Jays and had them settle all around and within a foot or two of me and not show the least sign of fear when I moved around among them. They would turn and peer at me and were full of curiosity. Even when I shot they would merely rise, wheel around with loud outcries for a moment or so and then settle down and continue their activities as if nothing had happened to disturb them. Their high, nasal "kree-kree-" or "karee-karee-", repeated rapidly many times in succession or long drawn out, was a very familiar sound. The birds were seldom seen in the deciduous growth but seemed to prefer to keep to the pine covered hills, and there their dull bluish and faint white coloration showed rather prettily against the dark green foliage.

20. *Sturnella neglecta* Audubon—Western Meadowlark.

November 27 numbers of these birds were in evidence around Crawford. None were seen on the high plateau, and when I returned to Crawford the ones which had been there were gone, probably driven away by a blizzard which had raged a few days before.

21. *Hesperiphona vespertina montana* Ridgway — Western Evening Grosbeak.

I noted this bird on two occasions. The first occurrence was on December 7, on which date I saw a flock of them along the White river but was unable to approach the birds, and in the absence of a specimen referred them to this form only provisionally. On December 10, while exploring a little canyon north of Saddle-back butte, I heard the call note of the species, which faintly suggested that of the Purple Finch, and discovered one of the birds in the top of a tree just above me. I secured it but in doing so startled from its perch another which I had not seen. I obtained this specimen also and it proved to be the mate of the one first taken. The specimens might be referable to either typical *vespertina* or its variety *montana*, being practically intermediate in regard to size of wing and bill, although they come a little closer to *montana*, while in the width of the frontal band the tendency is also in that direction. These facts taken in conjunction with the geographical situation of the locality and its accompanying preponderance of western subspecies, leave little doubt in my mind as to the variety to which these two birds should be referred. This record adds a new bird to the Nebraska list as no specimens approaching this form have heretofore been taken.

22. *Pinicola enucleator montana* Ridgway—Rocky Mountain Pine Grosbeak.

Two male pine grosbeaks decidedly referable to this form were obtained on November 30, and form the basis for the inclusion of this bird in the Nebraska list. They were taken from a flock of about twenty-five which were in the top of a pine tree busily engaged in devouring the larvae of an injurious sawfly, the depredations of which were the cause of my being in that part of the state on field work. The birds first drew my attention by their peculiar chirping or chattering, a distinctive enough note when once recognized. The birds themselves are rather inconspicuous except for their white wing bars and their rather large size. December 9, while at Glen, I saw an additional pair which like the flock observed before was at the highest part of the ridge.

23. *Carpodacus cassini* Baird—Cassin Purple Finch.

A third species to be added to the Nebraska list is the

Cassin Purple Finch. It was recorded formerly from Sioux county by J. B. White who failed, however, to corroborate his statements with the evidence of actual specimens. I observed the birds on December 7 and 8 and secured two specimens, both males, on the first mentioned date. With one exception the birds seen were associated with Redpolls. The species is easily recognized in the field by the brighter purplish hue of the crown in contrast to the duller shade of the back. The bird's call note seems to be a chirp best represented by the syllables "to-wheat-to-wheat-" uttered in a rather leisurely manner and not particularly penetrating in quality.

24. *Loxia curvirostra minor* (Brehm)—Crossbill.

Crossbills were moderately common in the coniferous growth. Five specimens taken December 2, 4, and 10 are referable to this form rather than to *L. c. stricklandi*, although several of them exceed the maximum measurements of *minor* in one or more particulars. Most of these birds as well as many found in eastern Nebraska would fit nicely into the diagnosis of *L. c. bendirei* Ridgway and I should refer them to that subspecies had the A. O. U. committee seen fit to accept it as distinct. As it is the birds must be called *minor* although they are not typical.

25. *Loxia curvirostra stricklandi* Ridgway—Mexican Crossbill.

A single female taken December 4 should probably be referred to this form as it has a wing measurement of 94 mm. and culmen of 20 mm.

26. *Leucosticte tephrocotis* Swainson — Gray-crowned Rosy Finch.

The Gray-crowned Rosy Finch or *Leucosticte* was not common. I secured a single female along the White river on December 7. The only other representatives of the species I found were noted December 10. On that day I watched a flock composed of more than three hundred birds. They were flying around and wheeling in great curves, just skimming the ground as if preparatory to alighting and then rising suddenly, turning and allowing the light to catch and reflect the rosy tinge of their under parts much as the white underparts of a flock of sandpipers flash suddenly into view as the birds skim the water of some little pond.

27. *Acanthis linaria* (Linnaeus)—Redpoll.

Redpolls were abundant in the deciduous growth along the White river and the streams flowing into it. None were seen on the plateau or higher in the canyons than the deciduous growth extended. Several specimens taken all prove to be typical *linaria*.

28. *Astragalinus tristis pallidus* (Mearns)—Pale Goldfinch.

Goldfinches, like the Redpolls, were seen only in deciduous timber. No specimens were taken but the birds observed all had the wing bars of maximum width and evidently belonged to the western form which is the resident one in that section of the state. They were but moderately common; not nearly so numerous as the Redpolls.

29. *Zonotrichia querula* (Nuttall)—Harris Sparrow.

On December 6 while working the White river valley I was very much surprised to see a Harris Sparrow. I was unable to secure the specimen that day but did so on the day following when I found it in about the same locality and again in a flock of tree sparrows. The record is interesting from a double standpoint. The species has not previously been recorded west of Cherry county while in addition it is not known to winter except in southern Nebraska. A wintering individual from Dawes county is therefore, to say the least, unusual.

30. *Spizella monticola ochracea* Brewster — Western Tree Sparrow.

Western Tree Sparrows were seen twice on the plateau and every day along the White river where they were abundant.

31. *Junco aikenii* Ridgway—White-winged Junco.

This species was the most abundant bird in the region visited. The juncos occurred in flocks of greater or less extent and were distributed over the high ridge as well as down in the river valley.

32. *Junco hyemalis connectens* Coues—Shufeldt Junco.

Shufeldt Juncos were moderately common and were associated with the White-winged Juncos. Almost every flock of the latter, especially in the lower valley, contained one or more individuals of the present species, which were immedi-

ately distinguishable from the white-winged form by their black heads, rufous backs and pinkish sides as well as by their lack of conspicuous wing bars. Several specimens were secured.

33. *Junco hyemalis mearnsi* Ridgway—Pink-sided Junco.

In the flocks containing the White-winged and Shufeldt Juncos there were individuals of still another form present. These were the Pink-sided Juncos. They were not so abundant as the Shufeldt Juncos but were not uncommon. Their pale, ashy heads served to separate them distinctly from the last named form, while their broadly pinkish sides and lack of wing bars prohibited their being confused with the white-winged species. The pinkish coloration was even more extended than in *connectens*. Three specimens were secured November 2 and December 3 and 8, and represent the first definite evidence for the inclusion of this bird in our fauna. The species was at one time included in our list on the strength of a junco, taken at Lincoln by a student in the taxidermy class, March 11, 1895, but the specimen was lost and its identity doubted and for this reason has been excluded. With the evidence now at hand, the species can be reinstated.

34. *Melospiza melodia* (Wilson)—Song Sparrow.

A specimen of song sparrow taken December 7 seems to be identical with true *melodia*. The same species was taken at Crawford December 12, 1895 by Professor Bruner.

35. *Melospiza melodia montana* Henshaw — Mountain Song Sparrow.

December 7 I took a specimen of song sparrow which is decidedly referable to the western or mountain form. The specimen, an adult male, has a bill with basal depth of only 6.8 mm. while the average of eight eastern Nebraska males of *M. m. melodia* is 7.88 mm. The other characters are also well in accord with those of the present subspecies. The bird taken first attracted my attention by its nervous actions which reminded me very much of those of a Winter Wren. It kept up a continual chirping which bore some resemblance to the note of an English Sparrow but was decidedly more musical. The capture of this specimen definitely adds still another new bird to our list.

36. *Pipilo maculatus arcticus* (Swainson)—Arctic Towhee.
A single Arctic Towhee was seen in Squaw canyon on December 4. The bird is a common summer resident and breeder in this region but seldom winters.
37. *Bombycilla garrula* (Linnaeus)—Bohemian Waxwing.
The only bird of this species noted was secured along the White river, December 8.
38. *Lanius borealis* Vieillot—Northern Shrike.
I saw this bird twice. The first occurrence was in Squaw canyon December 4 and the second at Glen, December 9.
39. *Certhia familiarismontana* Ridgway — Rocky Mountain Creeper.
December 3 I saw a pair of these birds in Squaw canyon but was unable to secure them as they were in a situation where I did not care to shoot. The birds were noticeably different from typical *C. f. americana* in their larger size and the much purer white of their under parts as well as by the somewhat brighter coloration of the rump. These two individuals were the only representatives of the species that I saw.
40. *Sitta carolinensis nelsoni* Mearns—Rocky Mountain Nuthatch.
On three occasions I found this nuthatch, November 30 and December 1 and 10, and on each occasion the birds were in pairs and in the higher localities, on the ridge or on the summits of the buttes. None were seen in the deciduous growth of the lower valley. Several specimens were taken, all referable to this form.
41. *Sitta canadensis* Linnaeus—Red-breasted Nuthatch.
The Red-breasted Nuthatches, although reported to be uncommon winter residents of the state were common in the vicinity of Squaw mound. Every day during my stay on the top of the ridge I saw these active little fellows and in every case they were found in a flock of Long-tailed Chickadees. Almost every flock of the chickadees had one or more of these visitors and if they were not at once seen, a moment's listening would result in hearing their characteristic nasal call. I found none of the birds in the valley.

42. *Penthestes atricapillus septentrionalis* (Harris) — Long-tailed Chickadee.

Long-tailed Chickadees were almost as abundant as the White-winged Juncos, if not fully so. Only a few individuals together at a time, yet they were everywhere. They were exceedingly tame and full of curiosity and would come up as close to me as they dared and watch me closely. One little fellow, I remember in particular, followed me up Squaw canyon for a quarter of a mile or so and finally had the temerity to fly up and perch on the barrel of my gun within a foot or two of my head. How long it would have remained there I cannot say for its perch was so slippery as to make it necessary for the bird to find a more secure footing and it flew off.

43. *Saxicola aenanthe leucorhoa* (Gmelin)—Greenland Wheat-ear.

Under this caption I am obliged to record one of the most severe disappointments I have experienced in field work. On the morning of December 2, I was exploring the ridge north of Squaw mound when my attention was attracted by a bird some distance down the southern slope. It was hovering over the ground and would remain for a short time almost motionless except for the rapid beating of its wings. Suddenly it would drop to the ground where it would stay for a little while, and then rise, fly for a short distance and repeat the performance. It did this several times while I watched it and in doing so gradually drew nearer. It suddenly became aware of my presence, however, and sought a perch on a fence post well out of range. All efforts to approach it were useless as it kept pace with my movements and I was forced to have recourse to my field glasses and note-book. I then began another series of attempts at approach but without success. After a weary chase the bird took to the canyons where it succeeded in finally eluding me. I regret very much that I was unable to secure the specimen as the species is not only new to Nebraska but is extremely rare in the country, although it has been taken in New York, Maine, Michigan, Louisiana and Colorado. In the absence of more definite data, although I am sure of the identity of the bird I saw, the species cannot be included in our fauna positively.

PROCEEDINGS OF THE
NEBRASKA ORNITHOLOGISTS' UNION

MISCELLANEOUS NOTES

THREE INTERESTING MARCH RECORDS.—During the month of March, 1911, the following three records have come to my notice:

Eskimo Curlew (*Numenius borealis*). On March 22, 1911, while Mr. Fred Geiger was duck shooting in a blind near Waco, York county, two of these birds came flying by within gun range and both were shot by him. The identity of the birds was not at once recognized but later they were named by an old-time hunter and were then brought to Lincoln for mounting, in this way coming to my notice. Both birds were females, with well developed ovaries. This record is particularly interesting, dealing as it does with a species which has not been collected in the state for many years past, and of which grave doubts have been expressed that any still exist alive anywhere (see Cooke, Bulletin 35, Biological Survey, p. 76).

Harlan Hawk (*Buteo borealis harlani*). On March 28, 1911, a fine male of this species was shot at Ceresco, Saunders county. It came into my hands for mounting and is now in my collection.

Cinnamon Teal (*Querquedula cyanoptera*). While hunting at the lakes near Shickley, Fillmore county, on March 30, 1911, Mr. Henry Clarke, Jr. shot a teal coming in at a great height and it proved to be a fine male of this species. It came into the possession of Mr. Harry Harley of Lincoln, for whom I have mounted the specimen.

August Eiche, *Lincoln*.

ON TWO NEW SCOTER RECORDS AND THE EASTWARD RANGE OF THE PINION JAY.—On November 1, 1910, at Cody lake near Cody, Cherry county, Mr. George A. Turner shot a young male White-winged Scoter (*Oidemia deglandi*), and an adult female Surf Scoter (*Oidemia perspicillata*), and, not recognizing the species he gave them to Mr. J. F. Parks of Hot Springs, South Dakota, who sent them to me for mounting. These two ducks are now the property of Mr. Parks at Hot Springs. Both species have previously been recorded from Lincoln and Omaha, but records of Scoters in Nebraska are always interesting.

During the month of November and in early December, 1910 a flock of Pinion Jays visited the grounds of the Norfolk Asylum. One was shot and brought me to be mounted. While the bird is common in the western part of the state, I feel quite sure that they seldom visit as far east as Madison county, as I have never seen them here before and jays are usually in evidence when anywhere in the neighborhood.

L. Sessions, Norfolk.

PINE GROSBEAKS AND BOHEMIAN WAXWINGS AT LINCOLN.—During the winter just passed flocks of these two birds were seen repeatedly in the small grove of cedars about the Superintendent's residence on the University Farm Campus. The Pine Grosbeaks (*Pinicola enucleator leucura*) were first noted by Swenk on November 7, 1910, when a flock of thirty or forty alighted in the cedars, remaining only a few minutes but yet long enough to enable complete identification. Smaller flocks were again noted on November 15 and November 21 by both Swenk and Zimmer. The Bohemian Waxwings (*Bombycilla garrula*) were first seen by Zimmer on November 8, 1910; then none were noted until February 22, 1911, when a flock of twenty-three were noted by Swenk, they remaining in the cedars for several hours. They were noted for the last time on March 6 by Swenk.

Myron H. Swenk and J. T. Zimmer, Lincoln.

SOME BIRD NOTES FROM LINCOLN COUNTY.—Little Brown Crane (*Grus mexicanus*).—A record for this bird was made by the identification of a head and foot which was brought to me by one of the pupils of the North Platte High School. She secured these parts of the bird from Dr. Drost, a resident of the city. When questioned the Doctor said he was shooting ducks over decoys on a slough north of the North Platte River. A flock of about fifty birds came in over

the decoys and in the twilight and from the position of the hunter they were so indistinctly seen as to be mistaken for game birds. One bird fell at the first shot and the flock rose. The bird was brought to town and only the head and foot were saved, these being now in the collection of Mr. J. T. Zimmer of Lincoln. The bird was shot March 14, 1911.

White-winged Junco (*Junco aikenii*).—A specimen was secured December 26, 1910, from a flock of about twenty-five which made their headquarters in a neighbor's yard. They seemed to be seen there oftenest, chirping among some low trees and often feeding from the ground. The same birds were seen on nearly every day for about six weeks during the winter.

Redpoll (*Acanthis linaria*).—January 28, 1911, a flock of redpolls settled in the trees near my home and spent several hours talking to each other while feeding among the weeds and vegetable stalks of my last year's garden. They were very tame. I did not take a specimen as my glasses were sufficient to identify them. They were seen in different parts of the city on occasions during the month but disappeared before the first of February.

Lapland Longspur (*Calcarius lapponicus*).—On the evening of January 12, 1909, I spent some time in the evening listening to some birds which were flying around in the darkness. Their twitter was characteristic and attracted me. It was about nine o'clock that I heard them. It was snowing very lightly and the birds seemed to be flying in the storm. Later the snow turned to sleet and rain and still later it snowed a little more. In the morning I found a Lapland Longspur near the back door of my home. Later I found several more. They were not dead but seemed to be frozen or chilled by the rain, sleet and snow. When the school children came to school they brought many individuals. After being in a warm room for a while most of the birds revived but those which were left out on the ground died. I counted the number of dead birds on a vacant lot and then estimated the number of birds which died from the exposure of that one night in the city at 10,000. There were no reports of dead birds outside of town although inquiry was made from a number of people. Most of the birds were found in those parts of the city where the streets were lighted.

Wilson Tout, North Platte.

SOME RESULTS OF FOUR YEARS' OBSERVATION AND COLLECTING CHIEFLY IN THE VICINITY OF LINCOLN.—The following records and notes were all made at Lincoln, Lancaster county, unless otherwise stated:

Western Grebe (*Aechmophorus occidentalis*).—On October 23, 1909, I watched a pair of these birds for some time at the lake west of the city. They were very clearly seen although they kept well off-shore.

Caspian Tern (*Sterna caspia*).—A flock of twelve Caspian Terns was observed on May 2, 1908, at the lake. At times they flew directly over me and I was able to make the identification certain.

Wood Duck (*Aix sponsa*).—Twice I have noted Wood Ducks, once on June 14, 1907, and again on October 10, 1908. On both occasions the birds were paired.

King Rail (*Rallus elegans*).—On May 30, 1910, Dr. R. H. Wolcott and myself found this bird breeding at Lincoln. On that date a nest containing seven eggs was found in the center of a wild rice swamp. Several individuals of the species were seen the same day and also later in the same locality but only the one nest was located.

Yellow Rail (*Coturnicops noveboracensis*).—I have a female of this species which I took at South Bend, Cass county, on May 8, 1909. I observed two individuals on April 30 of the same year near Lincoln but was unable to secure a specimen.

Northern Phalarope (*Lobipes lobatus*).—I have the following dates for this species: May 11, 1907, May 14, and 24, 1910.

Red-backed Sandpiper (*Pelidna alpina sakhalina*).—Formerly common, this species has of recent years been seen on but few occasions. In the spring of 1910, however, numerous individuals were seen by different observers. I found them on May 7 and 14 and June 9 of that year.

Marbled Godwit (*Limosa fedoa*).—This is another species uncommon of late years. I saw a single one on May 28, 1910.

Hudsonian Godwit (*Limosa haemastica*).—On June 12, 1910, Dr. R. H. Wolcott and I found a Hudsonian Godwit at Ceresco, Saunders county. The bird was associating with a pair of Killdeers, whose nest was found, but no mate was seen, and it was undoubtedly merely a straggler. The specimen was taken and proved to be a female.

Buff-breasted Sandpiper (*Tryngites subruficollis*).—I secured the male of a pair of this species at Waverly, Lancaster county, on the early date of August 14, 1909.

Swallow-tailed Kite (*Elanoides forficatus*).—July 14, 1905. I watched a pair of these birds as they circled around in the air. The locality was a few miles north of Lincoln.

Goshawk (*Astur atricapillus*).—A single individual of the Goshawk was noticed November 16, 1907.

Richardson Owl (*Cryptoglaux funerea richardsoni*).—I saw a Richardson Owl on October 19, 1907. The bird was perched on a low shock of grass near a patch of woods along Salt Creek and allowed me to approach to within a few feet without taking fright. Even then it did not seem to see me, although it was beginning to grow dusk, but became alarmed by the snapping of a twig on which I inadvertantly stepped and took wing, flapping slowly across the creek.

Olive-sided Flycatcher (*Nuttallornis borealis*).—At Roca, Lancaster county, on September 4, 1909, Mr. M. H. Swenk and myself noted a bird of this species which I secured. It was a female.

Yellow-bellied Flycatcher (*Empidonax flaviventris*).—On May 21, 1910, Dr. R. H. Wolcott and I observed Yellow-bellied Flycatchers south of Roca but were unable to secure a specimen.

Alder Flycatcher (*Empidonax trailli alnorum*).—I have two specimens of this flycatcher, which has not been included heretofore in the list of Nebraska species. One of the specimens, a male, was taken at Lincoln on May 20, 1909, and the other, a breeding female, was secured at Union, Cass county, on July 23, 1910.

Horned Lark (*Otocoris alpestris*).—On December 24, 1908, I obtained a specimen of the true *O. alpestris* from a flock of *O. a. praticola*. The bird was singled out of the flock almost immediately on account of its larger size and its more extended yellow markings.

Meadowlark (*Sturnella magna*).—On three occasions, November 14, 1908, April 9, 1909, and February 23, 1911, I have seen and heard meadowlarks which I could not satisfactorily call *S. neglecta* both on account of their markings and their song, which latter was radically different from that of the western species. A male which I secured on April 9, 1909, proved to be easily referable to *magna*.

Leconte Sparrow (*Passerherbulus lecontei*).—As a particularly early record for the Leconte Sparrow I have a specimen which I obtained on March 17, 1909.

Nelson Sparrow (*Passerherbulus nelsoni*).—The Nelson Sparrow was noted by Dr. R. H. Wolcott and myself on May 30, 1910, near Waverly, where several individuals were seen and two females were secured. The birds were in a low, wet, grassy piece of country and were never seen except when flushed, at which times they would rise and fly low, just clearing the top of the grass, and drop quickly out of sight.

Western Blue Grosbeak (*Guiraca caerulea lazula*).—I collected the nest and eggs of this bird at Lincoln on July 18, 1908. The set contained three eggs of the grosbeak and one of a cowbird.

Blue-headed Vireo (*Lanivireo solitarius*).—May 10, 1910, I secured a male of this species near Lincoln. It was the only one seen.

Prothonotary Warbler (*Protonotaria citrea*).—I found this warbler as far west as South Bend on May 8, 1909.

Northern Parula Warbler (*Campsothlypis americana usneae*).—I have seen this bird on September 9, 1908 and April 4, 1909 at Lincoln and on April 30, 1910, at Child's Point, Sarpy county. A female was secured on each of the first two occasions.

Magnolia Warbler (*Deudroica magnolia*).—I have three specimens of this warbler, two males taken on May 25, 1909, at Lincoln and May 19, 1910, at Child's Point, and a female secured May 26, 1909, at Lincoln.

Blackburnian Warbler (*Deudroica fusca*).—I noted an individual of this species May 25, 1909.

Kentucky Warbler (*Oporornis formosus*).—This warbler was found as far west as Lincoln where I collected a female on May 12, 1909.

Mourning Warbler (*Oporornis philadelphia*).—On May 25, 1909, I secured a pair of Mourning Warblers at Lincoln and on September 4 of the same year obtained an immature female at Roca.

Hooded Warbler (*Hilsonia citrina*).—This bird was noted on May 12.

Wilson Warbler (*Hilsonia pusilla*) and Pileolated Warbler (*H. p. pileolata*).—I have seen the Wilson Warbler on May 11, 1907, May 18, 1909 and September 8, 1909. On September 4, 1909, at Roca I secured three specimens of this species one of which seems referable to the western subspecies because of its much brighter coloration, especially on the forehead.

All three of the specimens were males. This is the first definite evidence for including *pileolata* in the list of Nebraska forms.

Canada Warbler (*Wilsonia canadensis*).—May 26, 1909, I watched a bird of this species for some time but was unable to approach it.

Carolina Wren (*Thryothorus ludovicianus*).—The records which I have for the Carolina Wren are April 12, 1909 at Lincoln and May 8 of the same year at South Bend.

Winter Wren (*Tannus hiemalis*).—I have the following dates for this bird: November 28, 1907, December 27, 1907, February 14, 1908 and October 17, 1908. I secured a female on the second mentioned date and a male on the last one.

Short-billed Marsh Wren (*Cistothorus stellaris*).—A male of this species was obtained October 1, 1910.

Chickadee (*Parus atricapillus*).—November 28, 1907, I secured a female evidently referable to true *atricapillus*.

Golden-crowned Kinglet (*Regulus satrapa*).—I have taken this bird as late as November 27, 1908.

Townsend Solitaire (*Myadestes townsendi*).—I have a female which I obtained December 7, 1907. It has been reported at Lincoln during the winter several times.

Willow Thrush (*Hylocichla fuscescens salicivola*).—This bird has been seen twice, once at Lincoln May 25, 1909, and again at Roca May 21, 1910. A female was obtained on the first mentioned date.

Hermit Thrush (*Hylocichla guttata pallasi*).—I have seen this bird twice, on April 20, 1907, and on October 10, 1908, on which latter date a male was collected.

J. T. Zimmer, Lincoln.

THE TOWNSEND SOLITAIRE WINTERING IN WEBSTER COUNTY.—On January 7, 1911, I collected a specimen of the Townsend Solitaire (*Myadestes townsendi*) at Red Cloud. This is the first record for the south central part of the state.

J. M. Bates, Red Cloud.

RECORDS OF SOME RARE BIRDS IN NEBRASKA.—The following records of the occurrence of several species of rare birds in this state are worthy of note:

Gray-headed Junco (*Junco phaeonotus caniceps*).—On April 19, 1911, Mr. Chas. S. Ludlow of Red Cloud, Webster county, took the first specimen of this species to be definitely recorded for the state, though in the "Birds of Nebraska" the statement is made that it was expected to occur in western Nebraska in winter. Concerning the taking of this specimen, Mr. Ludlow says that there had been a thunder-storm the night before, and the morning was clear, with a cold north-west wind. The bird was first seen in a peach tree, singing a low, sweet song somewhat resembling that of the Tree Sparrow, and from the tree it flew to the ground, where he watched it from a distance of not over twenty feet while it scratched around. It then flew to a brush pile, joining a flock of Tree Sparrows, and here Mr. Ludlow shot it. It is the only specimen of the species he has ever seen. The specimen is now in the collection of Mr. J. T. Zimmer of Lincoln.

Western Grebe (*Aechmophorus occidentalis*).—A specimen of this grebe was taken by Mr. A. L. Wilson, a ranchman, at Horseshoe lake, Lincoln county, November 10, 1908, and is now in the collection of Mr. August Eiche of Lincoln.

Cinnamon Teal (*Querquedula cyanoptera*).—A male was shot by Mr. Charles Armstrong at Greenwood, Cass county, May 4, 1909, being one of two specimens seen.

Northern Phalarope (*Lobipes lobatus*).—A pair in full breeding plumage was taken by Mr. George Pinneo at Lincoln, June 6, 1908.

A Magnolia Warbler (*Dendroica magnolia*) was observed by the writer at Omaha, May 10, 1908, and a Canada Warbler (*Wilsonia canadensis*) was seen on the same day and in the same locality, Child's Point.

Robert H. Wolcott, Lincoln.

PROCEEDINGS OF THE
NEBRASKA ORNITHOLOGISTS' UNION

SOME NOTES ON THE SUMMER BIRDS OF
SOUTHWESTERN NEBRASKA

BY M. H. SWENK AND J. T. ZIMMER

The western edge of the extreme southern part of the state of Nebraska, embracing Dundy, Chase and Perkins counties, or the area between the fortieth and forty-first parallel and the fourth and fifth guide meridian west, has been on the whole but poorly studied ornithologically, especially as regards the migrating birds, and so far as known to us no ornithologist has made observations on the migrants of this portion of the state. Our knowledge of the winter birds is largely gained from observations made on a one day trip from Wray, Colorado, and Haigler, Nebraska, November 16, 1901, by L. Bruner and R. H. Wolcott. The co-authors of this paper have both visited the region under discussion in the early summer and made close observations on the summering birds. Swenk first visited the region in July 1903, when, in company with L. Bruner, bird observations covering three days, the 23 to the 25, were made along the line of the Burlington from Max to Haigler. Again, in 1905, Swenk spent a week in the region, driving over the plateau from Ogallalla, Keith county, to Imperial, Chase county, and collecting around Imperial, Culbertson, in Hitchcock county, and Haigler, in Dundy county. Zimmer arrived at Grant, Perkins county, on June 30, 1911, and the next day drove across country to Imperial, leaving Imperial on July 3 and spending July 4 to 11 exploring the region about Haigler.

The area under discussion lies in the plains region of the state, but there is at places a tendency toward sandhill formation, especially north of Haigler, east of Imperial and east and

south of Grant. At other places, especially in Perkins and Chase counties, there are no real sandhills and the plateau is covered with typical plains vegetation. There is no stream of any size in Perkins county; in Chase county the largest river is the Whiteman's Fork of the Republican, or as it is called thereabouts, the Frenchman; Dundy county is crossed in the southern part by the Middle Fork of the Republican or the Arickaree. Whiteman's Fork is a small stream, narrow enough to leap across at many points and flowing through a treeless valley. The Arickaree is rather broad but the farmers along its course so deplete the supply of water for irrigation purposes that the bed is almost dry before it reaches the Kansas-Nebraska line. The season of 1911 was excessively dry, and at the time of these observations there was no running water, only a few pools here and there fed by springs and not over a foot or so in depth, usually less. In 1903 and 1905, which seasons were characterized by more rainfall, there was running water in the river bed. In places along the Arickaree there are scattered clumps of trees, and willow covered "islands" are not infrequent. The presence of even this thin tree growth has a profound effect upon the species of birds one is apt to meet, and, as the following list and annotations will show, is a pathway which eastern species are following in extending their range to the westward. The lower valleys in the river bottom are covered with high grass, with here and there a reedy marsh, but these latter were largely dried out in 1911. Back from the river valley one comes at once to treeless hills covered with sagebrush, yucca and cactus, varied with blowouts where the soil is sandy, and not infrequently, along the margin of the river bed, eroded into more or less prominent bluffs and buttes.

While the total numbers of species observed, fifty-three, is not large, it is believed to represent practically all of the species present in the summer season, except occasional stragglers, and includes all of the common breeders in the region. It adds considerable definite knowledge of the exact distribution of many of our birds and shows pretty clearly the character of the shifting of ranges of the various species in this part of the state within the past decade.

1. *Querquedula discors* (Linnaeus)—Blue-winged Teal.

A pair of these ducks was flushed from a pond a few miles south of Grant, June 22, 1905, by Swenk.

(*Olor buccinator* (Richardson)—Trumpeter Swan.

On June 22, 1905, while riding on the mail stage from

Ogallala to Grant, a fellow passenger living near Ogallala told Swenk of having seen three swans that morning on the Platte river near town. He stated that he believed that the birds were nesting somewhere in the vicinity. Earlier in the season there had been four of these birds, but several days previously, on June 14, this man had shot one of them and captured it alive. He stated that the wounded bird was being kept alive at a farm house near Hershey. The three surviving birds were being kept under surveillance by a ranchman named Stansbury, who was searching for the nest. Swenk did not have an opportunity to verify this report, but as swans are known to have formerly nested in western Nebraska the apparently disinterested statements of this man have great plausibility.)

2. *Botaurus lentiginosus* (Montagu)—Bittern.

On July 5, 1911, Zimmer flushed a pair of bitterns from the river bottom near Haigler where they had been concealed in a clump of reeds.

3. *Hedodromas solitarius* (Wilson)—Solitary Sandpiper.

Evidently a summer resident, though its breeding in this region is doubtful. One was noted on a sandbar in the Republican near Benkelman by Swenk, July 23, 1903, and several individuals were seen along the Arickaree near Haigler by Zimmer, July 5, 6, and 7, 1911.

4. *Bartramia longicauda* (Bechstein)—Upland Plover.

Both Swenk and Zimmer found these birds common on the plateau between Grant and Imperial, June 22, 1905, and July 1, 1911. On the latter date Zimmer found these birds the most plentiful of all the species present and usually the only ones in sight back in the hills south of Imperial miles away from water. Often in approaching too near a nest for the continued peace of mind of the owners they would rise in the air, circling closely around with rapid wing-beats and giving their simple liquid call perhaps a little more rapidly than usual. Once the danger was past with a querulous note or two the birds would settle back to reassure themselves that all was safe. At Haigler Swenk heard these birds flying over during the night of July 24, 1903, and Zimmer saw six of them July 7, 1911, some distance west of town.

5. *Oxyechus vociferus* (Linnaeus)—Killdeer.

A common bird of the region. Swenk found birds with

young unable to fly at Grant, June 22, 1905. Zimmer saw several at Imperial July 1 and 2, 1911, and the species was found commonly along the Arickaree from Benkelman to Haigler, July 23 and 24, 1903, by Swenk, and about the little pools of water in the almost dry river bed at Haigler, July 4-11, 1911, by Zimmer.

6. *Colinus virginianus* (Linnaeus)—Bob-white.

Bob-whites were rather abundant along the Arickaree at Haigler, especially during 1911, when they were found every day by Zimmer from July 4 to 11 in flocks of greater or less size, each flock evidently composed of the members of a single family. When surprised these flocks would scatter in every direction, although the young were barely able to fly. Swenk noted them at the same place June 26, 1905. Zimmer saw Bob-whites between Grant and Imperial July 1, 1911, but Swenk did not note this species when going over the same ground in 1905. Evidently the dry season of 1911 favored the increase of this bird.

7. *Tympanuchus americanus* (Reichenbach)—Prairie Chicken.

Prairie Chickens were noted by Swenk between Grant and Imperial, June 22, 1905, and at one place along the road the buggy passed within a foot and a half of a hen which was squatting immovably, with all her feathers drawn close, between two clumps of grass. Only when the buggy was stopped and the bird nearly touched would she flush, and when she did so over a dozen downy young scattered through the grass, calling confusedly. Zimmer flushed a Prairie Chicken from a grass-grown hollow near the river at Haigler July 9, 1911.

8. *Zenaidura macroura carolinensis* (Linnaeus) — Mourning Dove.

Abundant. Noted by both Swenk and Zimmer at Imperial, June 23, 1905, and July 1-2, 1911, respectively, and from Max to Haigler, July 23, 1903, by Swenk. Zimmer found it abundant at Haigler, July 4-11, 1911, also.

9. *Cathartes aura septentrionalis* Wied—Turkey Vulture.

A Turkey Vulture was noted by Swenk near Haigler, July 24, 1903, and on both July 5 and 8, 1911, Zimmer noted a pair of them sailing about overhead at the same place.

10. *Circus hudsonius* (Linnaeus)—Marsh Hawk.

Zimmer saw this species at Imperial on July 1 and 2 and at

Haigler from July 7 to 11, 1911. On July 8 he found the nest of a pair of these birds in a swamp near Buffalo creek, several miles east of Haigler, and flushed the hawks themselves nearby. The birds were all on the wing and the nest, therefore, was empty, but the parents showed as much anxiety during his exploration of the swamp as though the nest had contained eggs or nestling young.

11. *Buteo swainsoni* Bonaparte—Swainson Hawk.

Swenk noted a dead hawk of this species along the road between Grant and Imperial, June 22, 1905. Two large hawks which he took to be this species were also seen circling about overhead.

12. *Archibuteo ferrugineus* (Lichtenstein)—Ferruginous Roughleg.

At Haigler, July 25, 1903. Swenk noted one of these hawks in the sandhills north of town, the bird allowing a very close approach, while Zimmer noted hawks of this species flying overhead at the same locality, July 5, 8, and 11, 1911. Near Imperial, July 1, 1911, Zimmer observed one perched motionless on a pile of boulders that marked the summit of a near-by hill.

13. *Falco sparverius* (Linnaeus)—Sparrow Hawk.

A pair of Sparrow Hawks were noted by Bruner at Max, July 23, 1903. This record is referred to the eastern form, though the birds may easily have been the desert form, *F. s. phalaena*, which is resident in Sioux county.

14. *Asio flammeus* (Pontopiddan)—Short-eared Owl.

One seen at Benkelman, June 25, 1905, by Swenk.

15. *Otus asio* (Linnaeus)—Screech Owl.

On July 9, 1911, in a little grove of willows near the swamp containing the Marsh Hawk nest, Zimmer found about a half dozen screech owls and secured a specimen. This bird, though somewhat paler than our eastern Nebraska screech owls, is unquestionably referable to the eastern subspecies and does not closely approach the Rocky Mountain form, *O. a. maxwelliae*.

16. *Speotyto cunicularia hypogaea* (Bonaparte)—Burrowing Owl.

Both Swenk and Zimmer noted this owl commonly between Grant and Imperial, perched like so many statues on the fence posts and sleepily turning their heads to watch the

passing buggy and its occupants. They are mostly confined to the vicinity of the prairie-dog towns. Swenk noted them at prairie dog towns between Stratton and Max on July 23, 1903, and again several miles east of Haigler on the same day. Zimmer also found these birds at Haigler, and in the hills south of Imperial, on July 2, 1911, found a Burrowing Owl hunting in the broad daylight.

17. *Coccyzus americanus* (Linnaeus)—Belted Kingfisher.

On July 6, 1911, Zimmer saw three Yellow-billed Cuckoos some distance west of Haigler and attempted to collect one of them, but the bird escaped owing to the gun missing fire. Returning on a later date he found no trace whatever of the of extreme southwestern Nebraska is the California Cuckoo birds. It is highly probable that the Yellow-billed Cuckoo, *C. a. occidentalis*, which form is stated to be the common and almost exclusive summer resident and breeder over the whole state of Colorado up to the extreme eastern edge of the state, but the identity of these Haigler birds must remain an open question pending the securing of specimens.

18. *Ceryle alcyon* (Linnaeus)—Belted Kingfisher.

On July 25, 1903, Swenk noted a Kingfisher come flying down the Arikaree and into the town, alighting on a large water tank on the main street and spending some time peering into its depths. Zimmer noted the species at Haigler on July 6, 8, and 11, 1911.

19. *Melanerpes erythrocephalus* (Linnaeus) — Red-headed Woodpecker.

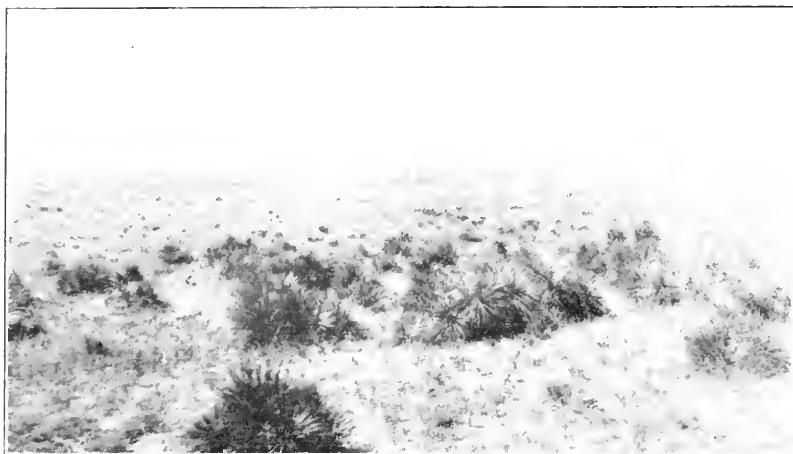
Swenk noted this woodpecker at Ogallala, June 21, 1905, at Benkelman, July 23, 1903, and a pair at Haigler, July 25, 1903. Zimmer noted it but once, at Haigler, July 8, 1911, when a single individual was seen.

20. *Colaptes auratus luteus* Bangs—Northern Flicker.

Moderately common at Haigler in 1911, where Zimmer noted it on July 6, 8, 9, and 10. On the last date he found an immature bird where it had hanged itself by getting its neck caught in the framework of a windmill tower where two supports came together in a sharply angled Y. It was quite recently dead when he found it.

21. *Colaptes cafer collaris* Vigors—Red-shafted Flicker.

Zimmer found this species rather less common than the preceding, but noted it at Haigler on July 4, 8, and 11.



Sage brush and yucca covered plains at the Nebraska-Colorado line west of Haigler, the dry bed of the Arickaree in the distance. July 10, 1911. J. T. Zimmer.



First rise of sandhills back from the bed of the Arickaree northeast of Haigler. July 11, 1911. J. T. Zimmer.

Swenk noted neither this nor the preceding at Haigler either in 1903 or 1905.

22. *Chordeiles virginianus sennetti* Coues—Sennett Nighthawk.
A common summer resident and breeder. Swenk noted it frequently on the high ground between Grant and Imperial and at Max, Parks and Haigler. Zimmer collected a male at Haigler, July 5, 1911. It renders itself conspicuous by perching on the tops of the fence posts during the day.
23. *Tyrannus tyrannus* (Linnaeus)—Kingbird.
Swenk noted this flycatcher at Haigler June 26, 1905, one bird only being seen, while in 1911 Zimmer found it rather common in the same locality, July 4-11.
24. *Tyrannus verticalis* Say—Arkansas Kingbird.
Swenk found this species common in Dundy county in 1903, especially eastwardly. At Max he noted five birds, at Benkelman two and at Parks one. He did not see it at Haigler either in 1903 or 1905, nor did Zimmer note it at Haigler in 1911.
25. *Sayornis sayus* (Bonaparte)—Say Phoebe.
At Haigler, July 24, 1903, Swenk noted a pair of Say Phoebes and two years later, on June 26, 1905, he saw several different birds at that place. In 1911, Zimmer noted the bird there several times, and saw it also at Imperial, July 2, 1911. This flycatcher is quiet and rather shy, and its soft "pe-ur" or "whe-eer" is in keeping with its actions and appearance and in contrast to the vociferous and aggressive Kingbird.
26. *Otocoris alpestris leucolaema* (Coues)—Desert Horned Lark.
In 1903 Swenk found this bird very common in Dundy county, noting it at Max, Benkelman and Haigler; it was, in fact, one of the commonest birds in the region. In 1905 it was very abundant along the road between Ogallala and Grant, June 22, but in Dundy county it was almost absent. Zimmer did not find it much in evidence in 1911, and noted it but twice at Haigler, July 5 and 6.
27. *Cyanocitta cristata* (Linnaeus)—Blue Jay.
Not noted by Swenk in 1903 or 1905, but present, though not very common, at Haigler in 1911, several individuals being present which were noted July 6, 7, 8, and 11.
28. *Dolichonyx oryzivorus* (Linnaeus)—Bobolink.
Noted only once, a single bird in a valley near a large

ranch several miles north of Imperial, June 22, 1905. The bird was not present in the highlands.

29. *Molothrus ater* (Boddaert)—Cowbird.
Swenk noted a large number of cowbirds following the cattle on a large ranch in the sandhills north of Haigler, July 25, 1903, and Zimmer observed small flocks of these birds at Haigler from July 6 to 10, 1911.
30. *Xanthocephalus xanthocephalus* (Bonaparte)—Yellow-headed Blackbird.
At Haigler, July 25, 1903, Swenk noted Yellow-headed Blackbirds at three different places; a flock of two males and four females along the Arickaree, later three females along the same stream, and a large flock at a well in the sandhills north of town. Not noted by Zimmer.
31. *Agelaius phoeniceus* (Linnaeus)—Red-winged Blackbird.
Swenk noted several Red-winged Blackbirds in the valley north of Imperial where the Bobolink was seen, June 22, 1905, and also noted the species at Benkelman, July 23, 1903. Zimmer noted individuals every day from July 6 to 9 and on the 11th at Haigler, though the birds were not numerous.
32. *Sturnella neglecta* Audubon—Western Meadowlark.
Very common over the whole region. Noted by both Swenk and Zimmer at Grant, Imperial and Haigler, and by Swenk at Ogallala, Max, Benkelman, Parks, etc.
33. *Icterus spurius* (Linnaeus)—Orehard Oriole.
Heard singing but not seen by Swenk at Haigler, July 25, 1903, and noted by Zimmer at the same locality on July 4 and July 6 to 11, 1911.
34. *Quiscalus quiscula acencus* Ridgway—Bronzed Grackle.
Zimmer noted this blackbird as not uncommon at Haigler in July, 1911, where he saw it practically every day from the 4th to 11th. Swenk did not see this bird either in 1903 or 1905.
35. *Astragalinus tristis pallidus* (Mearns)—Pale Goldfinch.
Swenk saw a single bird at Ogallala, June 21, 1905, and Zimmer saw individuals near the Arickaree at Haigler on July 4, 6, and 9, but the birds were not common.
36. *Ammodramus savannarum bimaculatus* Swainson—Western Grasshopper Sparrow.

On the plateau from Grant to Imperial, June 22, 1905, those sparrows were common, and Swenk noted them at Max and Benkelman on July 23, and at Haigler on July 24, 1903. Zimmer saw a few at both Imperial and Haigler, and took a specimen at the latter place on July 9, 1911.

37. *Chondestes grammacus strigatus* Swainson—Western Lark Sparrow.

Plentiful over the entire region, and apparently not confined to any one type of country. Noted by both Swenk and Zimmer at Grant, Imperial and Haigler, and by Swenk at Benkelman and Parks. Seen by both observers every day while in the region.

38. *Zamelodia melanocphala* (Swainson)—Black-headed Grosbeak.

Noted only once in the region, by Swenk at Benkelman, July 23, 1903.

39. *Guiraca caerulea lazula* (Lesson)—Western Blue Grosbeak.

Zimmer found this species rather common in the region under consideration, and the birds were fully as much at home on the almost barren sandhills as in the watered river valleys. In spite of the fact that they have a rather pleasing song, they were all more or less quiet at this time. While they usually nest at low elevations, in bushes and on weeds, they occasionally have higher ambitions for the observer found a nest, containing three eggs, placed twelve feet from the ground in the fork of a tree where a branch joined the main trunk. This nest was discovered at Haigler on July 6, 1911, and the bird was seen on or near the nest on several subsequent days. Swenk noted this bird at Haigler, July 25, 1903.

40. *Spiza americana* (Gmelin)—Dickcissel.

On the high plateau between Ogallala and Imperial, representing most of Perkins and Chase counties, the Dickcissel was not seen, except in the valley north of Imperial where one was seen by Swenk, June 22, 1905. Along the Arickaree it was noted at Max and Parks, July 23, 1903, one individual at the former place and two at the latter, by Swenk. Zimmer saw a single bird at Haigler on July 8 and 9, 1911. Obviously the Dickcissel does not flourish in this dry country, and occurs only in small numbers along the valleys of the streams.

41. *Calamospiza melanocorys* Stejneger—Lark Bunting.

This bird was common along the road from Ogallala to Grant, June 22, 1905, and Zimmer saw numbers of them between Grant and Imperial, July 1, 1911. The birds are present throughout the hills and undoubtedly breed there, though no nests were discovered. They are often seen along the road, usually in pairs, a black and white male with its duller colored and streaked mate, where they precede one along a line of fence, flying ahead from post to post or from wire to wire and finally swinging around in a wide circle and returning to a position some distance behind. At Haigler, Swenk flushed a lone bird west of town July 24, 1903, and the next day started several pairs of them from a large deep blowout in the sandhills north of that town. Zimmer did not note the Lark Bunting at Haigler.

42. *Progne subis* (Linnaeus)—Purple Martin.

Swenk noted this swallow at Imperial, June 23, 1905, and at Haigler two days later. Zimmer did not find the species at Haigler in 1911.

43. *Petrochelidon lunifrons* (Say)—Cliff Swallow.

On July 24, 1903, Swenk saw five of these swallows flying over the river at Haigler, and on June 26, 1905, others were again noted at the same locality, but the species was not seen by Zimmer in 1911.

44. *Hirundo erythrogastra* Boddaert—Barn Swallow.

One was seen between Ogallala and Grant, June 22, 1905, by Swenk, and a dozen or more pairs were found nesting under a bridge at Haigler four days later by the same observer, who noted three birds at Benkelman on the 23rd, also, Zimmer found Barn Swallows common at Haigler, noting individuals on July 4, 6, and 11, 1911.

45. *Riparia riparia* (Linnaeus)—Bank Swallow.

Swenk noted twenty-six of these swallows between Benkelman and Parks, July 23, 1903, and Zimmer saw several of them at Haigler on July 4 and again on July 8, 1911.

46. *Stelgidopteryx serripennis* (Audubon)—Rough-winged Swallow.

Zimmer noted this species at Haigler on July 5, 8, and 11, 1911, where it was somewhat more common than the Bank Swallow.

47. *Lanius ludovicianus excubitorides* Swainson—White-rumped Shrike.

On July 11, 1911, Zimmer saw several of these shrikes near Haigler.

48. *Vireosylva gilva* (Vieillot)—Warbling Vireo.

Zimmer heard a warbling vireo singing in the top of a tall tree in the Arickaree valley on July 6, 1911, but an attempt to collect the bird was unsuccessful. No others of this species were noted. It is possible that the warbling vireo of extreme southwestern Nebraska may be the western form, *V. g. swainsoni*, which occurs in Sioux county and over Colorado, but the taking of specimens must determine this point.

49. *Geothlypis trichas occidentalis* Brewster — Western Yellowthroat.

A single bird seen July 11, 1911, near Buffalo creek east of Haigler should probably be referred to the western subspecies, which is the breeding form in Colorado and in northwestern Nebraska. The bird was noted by Zimmer, but was not secured as it retreated to a dense brush heap from which it could not be dislodged.

50. *Mimus polyglottos leucopterus* (Vigors)—Western Mockingbird.

Zimmer noted this bird twice at Haigler, on July 8 and 11, and collected a pair on the first mentioned date. They were found in a little grove along the river.

51. *Toxostoma rufum* (Linnaeus)—Brown Thrasher.

Zimmer saw a single Brown Thrasher several miles west of Haigler on July 6, 1911. It was in a thorn hedge and probably nested somewhere in the vicinity.

52. *Penthestes atricapillus septentrionalis* (Harris)—Long-tailed Chickadee.

A single bird noted by Swenk along the river near Haigler, flying by and calling, July 24, 1903.

53. *Sialia sialis* (Linnaeus)—Bluebird.

Heard by Zimmer on the morning of July 4 about 3:40 A. M., before the local celebration started at Haigler, but not found again until July 9. Among only a single pair near this town and not observed elsewhere in the region by either Zimmer or Swenk.

SEVERAL INTERESTING WARBLER RECORDS FROM
DAWES COUNTY.

Black-throated Green Warbler—(*Dendroica virens*)—On September 14, 1911, I took a fine male of this pretty warbler in Squaw canyon, near Crawford. The bird was noted first in a brush heap along the creek but flew to the low branch of an overhanging willow, from which place I secured it. The species is usually restricted to the more eastern parts of the state.

Townsend Warbler—(*Dendroica townsendi*)—On September 19, 1911, I was exploring the shrubbery along West Ash creek, north of Squaw Mound, when I noticed a warbler which was new to me. It was extremely shy and hard to approach and I completely lost sight of it for a time, but I finally secured it and found it to be an adult male Townsend Warbler. This is the first record of the occurrence of this western warbler in Nebraska.

MacGillivray Warbler—(*Oporornis tolmici*)—A single adult male of this species was found and secured in West Ash creek canyon on September 11, 1911. This individual was moving rapidly about the willows that margined the creek at this place and was so active that I had difficulty in getting a fair shot at it. Cary found this warbler as a probable breeder in Monroe canyon and in the bad-lands pockets of Sioux county in the summers of 1900 and 1901.

Pileolated Warbler (*Wilsonia pusilla pilcolata*)—I found the Pileolated Warbler to be one of the commonest birds and by far the commonest of the Mniotiltidae in the canyons during the fall migration in 1911. Usually they were to be seen in the little clumps of dogwood and willow that line the creek banks and roadsides, but on September 17 I saw a single bird at the extreme summit of the ridge among the pines where it was associating with a flock of Audubon Warblers. The little "ehib" of the Pileolated was quite characteristic, and was alone enough to distinguish the little fellows from their neighbors in the canyons. The birds were quite fearless and full of curiosity and I was able to take a number of specimens, all of which are distinctly referable to this western form.

J. T. Zimmer, Lincoln

PROCEEDINGS OF THE
NEBRASKA ORNITHOLOGISTS' UNION

BIRDS OF THE THOMAS COUNTY FOREST RE-
SERVE

BY JOHN T. ZIMMER

This paper is intended to treat of the birds found on the United States Government Forest Reserve, which lies chiefly in Thomas county, Nebraska, with headquarters at Halsey. The period of observation extends from April to latter October, and thus includes not only all of the breeding birds and summer residents, but the spring and fall migrants as well, while the latter probably further include most of the wintering forms.

The first ornithologists to visit the Reserve were L. Bruner and R. H. Wolcott, who were there in May, 1904, and again in April, 1905, being on the latter trip accompanied by H. B. Ward. In 1906, Frank M. Chapman, accompanied by an artist and a preparator, Messrs. Bruce Horsfall and J. D. Figgins, and by L. Bruner, made a flying trip to Halsey for the purpose of getting material for the Prairie Chicken group of the "habitat groups" at the American Museum of Natural History. His party was present at the Reserve from May 3 to 6 of that year, and his notes published in his "Camps and Cruises of an Ornithologist" contain references to certain birds not recorded by the other observers. In June of the same year R. H. Wolcott visited the Reserve and made observations, and in July, 1908, he returned there, accompanied by F. H. Shoemaker, and made further notes on the birds of the region. In July, 1909, (10-12) M. H. Swenk, accompanied by J. A. G. Rehn of the Philadelphia Academy of Natural Sciences, visited the Reserve and made notes on the breeding birds, while the following year, from October 27-29, he listed the fall migrants. My first trip to Halsey was a flying one made in June, 1911, from the 7th to

the 10th of that month, when I was accompanied by M. H. Swenk. In July of that year a party, headed by R. H. Wolcott and F. H. Shoemaker, spent part of that month on the Reserve studying the fauna, while I returned to the region on August 20 following, and was present until September 3, at which time I left the Reserve for more western portions of the state. Returning on September 20, I was again at the Reserve until the 24th of that month, which date closed my observations there for the year. The following year, 1912, I reached Halsey on the evening of May 14 and left on September 10, having spent all of the time between these dates on the Reserve, with the exception of a week from June 28 to July 5.

My personal notes and observations were made during spare time from an entomological problem which was the immediate cause of my presence at the Reserve, most of them in the valley of the Middle Loup river, that being the stream which flows immediately past the Reserve station. Several trips were made, however, on horseback across the hills to the Dismal river, which, directly south of the station, lies about eight or nine miles away and which presents some features differing from those on the Middle Loup, such as a more meandering course in a narrower valley with heavier and larger timber and a more plentiful sprinkling of native cedars. These trips were made on May 26, June 16 and July 14, 1912. The following list and observations are based primarily upon data from my own note-books, but I have drawn upon the notes of the other observers, which have been placed at my disposal, wherever they have added forms or observations which were not noted by me. The record as presented may be considered as covering a period from May 3 to October 29 with practical completeness.

Perhaps a short description of the various types of country found on the Reserve will aid in a better understanding of some of the notes made in this paper. Briefly stated, two faunal regions occur on the Reserve, Sandhill and Prairie, the former Upper Sonoran and the latter Carolinian. The Sandhill type of country is the predominant one and occupies all of the territory with the exception of the river valleys which are more of the Prairie type, and which exist as narrow tongues extending well into the sandhills. Both regions contain various types of habitats which are more or less distinct in certain respects, although it is not always possible to delimit them solely by the nature of their bird population. These habitats

have been classified by R. H. Wolecott in his "Analysis of Nebraska's Bird Fauna" (*antca* IV, part 2, p. 48, 1909) but the conditions on the Reserve present a slight variation due to the proximity of the two faunal areas and the presence of a considerable number of planted pines. The habitats may be defined as follows:

A.—SANDHILLS (UPPER SONORAN).

I. *Open country.*

- a. GRASSLAND.—The greatest portion of the area embraced by this paper is of this type. It is a succession of hills and hollows, the latter of varying size and depth, very frequently much elongate or more or less connected with other hollows in almost continuous succession for some distance, with the closed valleys thus formed separated from corresponding valleys to the northward or southward by similarly extending ranges of hills. In general, however, the conformation is irregular. No running water occupies the region. The soil is sand with a characteristic vegetation of Bunch-grass (*Andropogon scoparius*), yucca, cacti of several species and other plants. The birds which breed in this area are the Upland Plover, Prairie Chicken, Prairie Sharp-tailed Grouse, Burrowing Owl, Mourning Dove, Desert Horned Lark, Western Meadowlark, Western Vesper Sparrow, Western Grasshopper Sparrow and Western Lark Sparrow. Five of these ten were not found breeding elsewhere—the Prairie Chicken, Prairie Sharp-tailed Grouse, Mourning Dove, Western Vesper Sparrow and Western Grasshopper Sparrow; the rest were noted in the river valley either breeding or in situations which gave strong probability of their doing so.
- b. SANDY WASTES.—Most of these are blowouts or sand pits scooped out of the hills, usually on the southwestern slope. The point ornithologically interesting is the fact that the rotary action of the wind in forming these blowouts has cut the sand from one side, perhaps more commonly the southwestern one, and left it more or less sheer and hard-packed in contrast to the opposite slope of loose sand. This firm bank is used by the Belted Kingfisher and Rough-winged Swallow to hold their horizontal burrows when no suitable places are available along the river

shore. When the latter situations are available, however, the birds by preference make use of them. Other sandy wastes, artificial in their primal origin but presenting no features not already shown by natural formations, are the plowed fire-guards. These the wind frequently seizes upon and converts in part into blowouts—the remainder are mere strips of bare sand like the numerous denuded areas on the hills which have been hollowed out hardly enough to be called true blowouts. These places are frequented by the Sennett Nighthawk, which bird is characteristic of the habitat, rarely if at all breeding in the valley although commonly seen there in its crepuscular flights.

2. *Shrubbery*.—Shrubbery of various kinds dots the hills in places, but in many of the deeper hollows where the snow drifts pile up in winter in the shelter of the northwest wall and there furnish a greater supply of moisture than elsewhere in the spring, the result has been to produce a heavier growth of vegetation in that particular portion of the valley. The plants which ordinarily form these pockets are several. The low-growing New Jersey Tea (*Ceanothus americanus*), Wolfberry (*Symphoricarpos occidentalis*) and Wild Rose (*Rosa arkansana*) occur in beds which shelter the Western Field Sparrow. Wild Plum (*Prunus americana*) and Western Choke Cherry (*P. melanocarpa*) often form dense thickets which are utilized by the Western Blue Grosbeaks. Hackberry (*Celtis occidentalis*) and Ash (*Fraxinus lanceolata*) are of frequent occurrence, sometimes in such quantity as to warrant the application of the name grove. The Hackberry furnishes nesting sites for the Swainson Hawk and Great Blue Heron and probably also the Arkansas Kingbird. The only Marsh Hawk nest discovered was in the shelter of one of the beds of *Symphoricarpos*, but it is probable that a heavy growth of tall grass would have answered the purpose just as well.
3. *Wet places*.—No permanently moist valleys or sloughs are present among the hills near the Reserve and hence no notes were made concerning the bird population of such places. Moist spots in the neighborhood of stock wind-mills exert an influence, at least on the insect life of the place but they are of such small size as to have little effect

on the bird population. However, the Killdeer has been found nesting in such a situation. Certain of the valleys undoubtedly contain enough moisture in the early spring to affect the migrating visitors but during the nesting season they are usually dry and cannot be considered under the present heading.

4. *Lakes*—Although present in many parts of the sandhills, lakes are absent in the territory embraced by this paper.
5. *Ranch buildings*.—The artificial conditions imposed by ranch buildings probably affect bird life in the hills as well as in the valleys, but in the absence of any such building in the portion of the hills which I explored, I am unable to give any data on this particular habitat.
6. *Planted groves*.—Pine groves are not a natural habitat of sandhill country nor yet an ordinary artificial one, but the presence of a pine-covered area so large as that on the Reserve will, someday, in all probability, furnish conditions not to be disregarded in a consideration of the biology of the region. Even now there is an appreciable effect on the entomology of the place, but the trees are mostly of such small size and of so recent establishment that as yet little influence is to be noted on the bird life of the region during the breeding season. It is hardly possible that the occurrence of the Audubon Warbler and Rocky Mountain Bluebird, both residents of pine-covered territory, can be attributed to the presence of the conifers on the Reserve, especially since neither bird was seen in the planted areas.

No groves of deciduous trees were found which were of undoubted artificial origin. One or two were visited which might have been planted but they presented no features which distinguished them, ornithologically speaking, from some of the larger natural groves. One nest, evidently that of a Swainson Hawk, although not definitely so determined, occupied a tree in one of these places. No other possibilities in the nature of breeding birds were noted.

B.—PRAIRIE (CAROLINIAN).

1. *Larger streams with sandy mud flats and sandbars*.—This habitat is furnished by the Middle Loup and Dismal rivers,

both of moderate size and with sandy beds. As breeding inhabitants the Killdeer and Spotted Sandpiper were to be noted definitely, and the latter bird was found breeding nowhere else.

2. *Smaller streams with steep, muddy banks.*—The Dismal river should probably be partially classified in this group, since in its meanderings it cuts numerous cliffs in the hills that margin its course. These banks are steep and often clayey and are occupied by the Belted Kingfisher and the Rough-winged and Bank Swallows, birds, the first two of which at least, in the absence of such situations resort to blowouts in the sandhills for nesting.
3. *Prairie ponds.*—This habitat occurs along the river at various points but seems to be lacking near the locality of my observations. The grassy banks of a tiny brook or two sheltered a few Redwinged Blackbird nests but the area embraced was too limited to furnish very ample data on such environment.
4. *Thickets along the river.*—Thickets occur at various points along the rivers and consist mostly of growths of Wild Plum, Western Choke Cherry, Dogwood (*Cornus stolonifera*), Haw (*Crataegus occidentalis*) and Sandbar Willow (*Salix fluviatilis*) interlaced with a tangle of Wild Raspberry (*Rubus occidentalis*), in places so dense as to be almost impenetrable, and, at least in summer, very hot and close. Here are found the Screech Owl, Yellow-billed and Black-billed Cuckoos, Kingbird, Blue Jay, Red-winged Blackbird, Orchard Oriole, Pale Goldfinch, Western Field Sparrow, Black-headed Grosbeak, Bell Vireo, Yellow Warbler, Maryland Yellowthroat, Long-tailed Chat, Catbird and Brown Thrasher. Of these, the Kingbird, Bell Vireo, Maryland Yellowthroat, Yellow Warbler and Catbird were found to breed nowhere else. This environment, of all those present on the Reserve, is the richest in species and total inhabitants, for its extent, both during the breeding season and during migration; more than one-half of the birds included in the following list were found in these thickets at one time or another.
5. *Thickets back from the streams.*—These differ from the foregoing mostly in their position at or near the base of the hills which gives them a partial resemblance to the

hill pockets. Willows (*Salix humilis*) are less frequent here than in the river thickets, Ash (*Fraxinus lanccolata*) occurs commonly, and the growths of *Symphoricarpos* and other low shrubs add their quota to the list of residents. As these thickets are intermediate between the sandhill and river growths, they possess something of the character of both and have little that is truly characteristic. The regular residents are the Screech Owl, Yellow-billed and Black-billed Cuckoos, Blue Jay, Pale Goldfinch and Long-tailed Chat in common with the riverside habitat, Western Blue Grosbeak in common with the sandhill pockets, Western Field Sparrow in common with both, and the Arctic Towhee and Black-and-White Warbler more plentiful here than elsewhere if not entirely confined to this environment.

A possible subhead under the above might be entitled *Woodland*. At various places the trees are large and the ground beneath is cool and shaded. Mossy springs may be present although the water does not flow far before it gradually seeps into the sand. Such situations may tempt the more arboricole birds during migrations, for it was there that I noted the Robin and Audubon Warbler, there the Olive-backed and Willow Thrushes were the most abundant, and there the Redstart and Black-poll Warbler were seen the most frequently. So far as I could learn, however, there were no characteristic breeders in this particular territory.

6. *Open Country.*

- a. GRASSLAND.—The grass-covered portions of the valley support but one species distinct from those of the open sandhills—the Diekeissel. Other breeders in the habitat are the Upland Plover, Burrowing Owl, Desert Horned Lark and Western Lark Sparrow. The Western Meadowlark and Western Grasshopper Sparrow may also breed there but good evidence is lacking.
- b. SANDY STRETCHES.—These patches of bare sand occur frequently in the region where the wind has persistently blown away the loose soil and prevented vegetation from taking hold. Plowed fields often form a base for such operations. The Sennett Nighthawk (rarely), Killdeer and Desert Horned Lark (more frequently) are seen there

but I never found evidence of the breeding of these birds in such places.

7. *Ranch buildings.*—Two birds alone seem to have utilized man-made structures in their nest building—the Barn Swallow and the Western Lark Sparrow—the latter but once to my knowledge as described under the discussion of that species. The swallow is probably dependent on man for its presence in the region but the sparrow is able to find and does find nesting sites of various sorts over most of the region and is not dependent on human aid.
8. *Planted groves.*—No data are at hand to indicate the effect of artificial groves on the species of birds occurring in the locality. Only in their artificial nature do such groves differ from some of the *woodland* or some of the natural groves of trees in the valley, and the very presence of the latter would tend to minimize the effectiveness of the former in their influence on bird life were such influence present. As stated in the note on *woodland*, such effects are not noticeable and at present I am unable to offer any discussion of this particular habitat.

In examining the above notes it must, of course, be borne in mind that the divisions do not hold during migrations, at which times the birds wander over a wide range of territory. Witness the occurrence of the Kingbird, Black-headed Grosbeak and Brown Thrasher miles from the river valley in a hackberry grove. Even during breeding time, some of the species frequent situations where they do not nest, for example the Mourning Dove, Sennett Nighthawk and Great Blue Heron.

Owing to the merging of the Prairie and Sandhill regions on the Reserve, some difficulty is experienced in assigning the proper region to certain of the species of birds, especially in the case of the migrants which because of the proximity of the two faunal areas, may be found in both of them within the space of a very few minutes. In the case of the breeders it is not so difficult and some interesting comparisons may be brought out by tabulating the forms somewhat as follows:

1. Birds common to both Sandhills and Prairie in the state which preferred Prairie when both regions were avail-

able:—

Killdeer	Western Lark Sparrow
Bobwhite	Arctic Towhee
Screech Owl	Dickeissel
Burrowing Owl	Bank Swallow
Black-billed Cuckoo	Rough-winged Swallow
Belted Kingfisher	Yellow Warbler
Northern Flicker	Catbird
Kingbird	Brown Thrasher
Traill Flycatcher	

2. Birds common to Sandhills and Prairie, which preferred Sandhills:—

Great Blue Heron	Arkansas Kingbird
Prairie Chicken	Desert Horned Lark
Prairie Sharp-tailed Grouse	Western Meadowlark (near Prairie)
Mourning Dove	Western Vesper Sparrow
Marsh Hawk	Western Grasshopper Sparrow
Swainson Hawk	Western Blue Grosbeak
Sennett Nighthawk	Lark Bunting

3. Birds common to Sandhills and Prairie, of equal distribution over both:—

Upland Plover	Western Field Sparrow
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4. Birds restricted in their choice because of the absence of their accustomed habitat in the Sandhills. All of them common to both regions in general but here restricted to Prairie:

Spotted Sandpiper	Barn Swallow
Redwinged Blackbird	

5. The remainder are Prairie forms which keep to Prairie habitats:

Yellow-billed Cuckoo	Bell Vireo
Blue Jay	Black-and-White Warbler
Orehard Oriole	Maryland Yellowthroat
Pale Goldfinch	Long-tailed Chat
Chipping Sparrow	

(Note:—The absence of typical Sandhills birds is due to the

absence of lakes and marshes, since most of these are shore and water birds).

There is little to add here to this discussion. In general it appears that the brush and thicket inhabiting birds prefer such places in the valley and that the open country birds are better suited in the hills. This is not entirely due to the greater abundance of the accustomed habitat in the preferred region because many of the thickets in the hills are fully as dense and secluded as those in the valleys, and, on the other hand, there is much open country in the valleys. Undoubtedly a detailed study of the various habitats in the regions throughout the state will bring to light much that will aid in explaining these facts but such a detailed study I will leave for other and later treatment and will allow the following list to stand as it is.

1. *Larus delawarensis* Ord—Ring-billed Gull.

On August 28, 1911, I saw a single gull of this species winging its way along the Loup river, and on May 21, the following year, I saw another bird in much the same situation. The species is probably only a migrant in this vicinity although it remains throughout the summer in the lake region of Cherry county, adjoining Thomas county on the north.

2. *Larus franklini* Richardson—Franklin Gull.

R. H. Wolcott reports this gull migrating at Halsey. I have never noted the species there nor have I other records of its occurrence there.

3. *Sterna forsteri* Nuttall—Forster Tern. This bird is also a migrant, being reported by R. H. Wolcott alone.

4. *Hydrochelidon nigra surinamensis* (Gmelin)—Black Tern.

The Black Tern may breed in suitable situations in the region under consideration but I did not succeed in finding any indications of the fact, although there were birds present in small numbers up until June 10. None were seen after that date until July 31, from which time they were again noted until August 9. The species breeds quite commonly in Cherry county and other favorable localities over the state, including parts of the sandhills, and might very well breed on the Reserve also in the presence of reedy ponds and marshes such as occur elsewhere along the Loup river. If any such marshes are

near the Reserve I failed to find them, which may, in part at least, account for the absence of positive breeding records. The terns were usually found along the river, darting through the air in graceful, swallow-like flight or moving quietly over the stream with eyes intent on the water, ready at an instant's notice for a lightning-like descent upon some luckless fish. When not thus engaged they could be seen standing singly or in a row along the edge of a sandbar, heading into the wind and motionless except when now and then one would busy itself with preening its feathers.

5. *Pelecanus erythrorhynchos* Gmelin.—White Pelican.

This pelican was noted by R. H. Wolcott at Halsey. No other records are at hand.

6. *Mergus americanus* Cassin—Merganser.

On May 21, 1912, I saw five Mergansers on the Middle Loup and watched them for some time as they swam about in the stream. Finally, one by one, they emerged on to a low sandbar near the far shore of the river, and, burying their heads in their back feathers, they settled down for a peaceful nap from which they were soon rudely awakened by something which must have alarmed them for with one accord they straightened their necks, leaped into the air and sped away up stream. This date is a rather late one for the occurrence of this duck in Nebraska as it is one of the earlier migrants to pass through the state on the way to its breeding grounds.

7. *Anas platyrhynchos* Linnaeus—Mallard.

The Mallard was found only during migration although it breeds commonly in localities throughout the state. I saw a flock of these ducks on June 10, 1911, and another on August 25, 1912, both on the river near the Reserve. M. H. Swenk noted a flock of twenty-five on the Loup October 28, 1910, and a smaller flock on the following day. Although but a migrant the species is undoubtedly of regular occurrence.

8. *Chauliastur streperus* (Linnaeus)—Gadwall.

Two ducks of the present species were noted on the Middle Loup river on June 14, 1912, two on June 19 on the same stream but several miles farther up, and a single bird on June 24 near the place where the last two were

seen. These birds, probably only a single pair seen on the several occasions, very likely bred in the valley but I found no nests to corroborate this conclusion. This duck is known to breed locally in the sandhills.

9. *Ncttion carolinense* (Gmelin)—Green-winged Teal.

A flock of about a dozen were noted on the Loup, August 28, 1910, by M. H. Swenk.

10. *Querquedula discors* (Linnaeus)—Blue-winged Teal.

The Blue-winged Teal also nests in the sandhills of Nebraska and had I been near any lakes or ponds I would probably have found breeding pairs of the birds, but the only occasions I saw the species were August 30, 1911, and May 17, 1912, a solitary bird in both cases, the first one on the river, the second on a little brook emptying into the larger stream. M. H. Swenk flushed several from ponds and sloughs near Dunning, June 7, 1911, and R. H. Wolcott noted it in June, 1906.

11. *Spatula clypeata* (Linnaeus)—Shoveller.

This duck is recorded by R. H. Wolcott as occurring during June, 1906, and doubtfully in July, 1911. It is probably only a migrant at this point.

12. *Dafila acuta* (Linnaeus)—Pintail.

Pintails are recorded by F. M. Chapman as having been seen on the river at the Reserve. The species did not occur during my observations, which, however, took place some time after the normal migration period of these ducks.

13. *Marila affinis* (Eyton)—Lesser Bluebill.

A pair of Lesser Bluebills was seen on the Dismal river on May 26, 1912, but neither of the birds was noted on any of the later excursions to that stream. Although evidently mated, these were in all likelihood only migrating individuals. A small flock was noted on the Loup by M. H. Swenk October 28, 1910.

14. *Botaurus lentiginosus* (Montagu)—Bittern.

The only time I saw the Bittern was on August 20, 1911, on which date I flushed a single bird from the margin of the river where it had been half concealed in the tall grass. R. H. Wolcott records it in June, 1906, and July, 1908, and F. M. Chapman in May, 1906.

15. *Ardea herodias* Linnaeus—Great Blue Heron.

During June, 1911, and throughout the summer of 1912, I saw Great Blue Herons on the Middle Loup, and on several trips to the Dismal river in the latter year also found the birds, wading solemnly over the sandbars and through the shallows or standing motionless—slim gray shadows, hardly to be noticed until some movement betrayed their presence. At dusk they often showed black against the sun on the water or loomed up big as they flew overhead, now and then uttering a harsh, discordant squawk. Not infrequently I would hear them down on the river in the middle of the night, when their voices, not the most musical at any time, would assume an added weirdness. Once in the spring I saw a small group of the herons in the valley back from the river but they seemed to have no particular business to perform there and flew abruptly on being approached, only to alight on the nearest hillside. At times, too, they would alight on the hill tops near the Reserve station and stand motionless or stalk gravely along the summit. On the evening of May 21, 1912, a flock numbering thirty or forty flew overhead, going eastward, but these were, I suspect, the members of a nesting colony.

Such a colony I knew to be located somewhere back in the hills but although I learned of the general location of the place from different persons who had been there, no one seemed able to furnish me with accurate directions for reaching the place. On May 19, 1912, I set out with several of the forestry men in an attempt to find the pocket in which grew the little grove of trees where the herons had chosen to build their nests. After most of a day spent in quartering the ground for miles in every direction from a point which we had chosen as a center of operations, we had almost made up our minds to give up the search or try in some other direction when a heron was noted overhead, apparently returning from a fishing trip on the Dismal. We followed it with our eyes and saw it alight scarcely a half mile away in what appeared to be a patch of low growing bushes in a shallow depression. When the place was reached the shallow depression was found to be a deep but not extensive valley, and the low bushes the tops of hackberry trees twenty or thirty feet in height. The trees formed a circular grove seventy-five or a

hundred feet in diameter, which, viewed from a little distance, presented the appearance of a huge nest, since it was depressed in the center where the trees were smaller and more bent, weighted down, evidently, by the heron nests which were more numerous there than at the outer edge. This appearance of the grove, however, was much more apparent later in the summer after the leaves were well out on the trees, but at this time, all the more clearly because of the comparatively bare branches, the trees and the ground beneath showed white with the droppings of the generations of the birds which had been reared there.

At our approach thirty-two herons rose into the air and circled around with loud outcries, but finally they alighted on the crests of the nearby hills where they stood on every side lined up like sentinels on post. Occasionally one or two would sail over the grove to reconnoiter, only to fly back to resume their old posts or occupy new ones. We found the nests to be bulky constructions of sticks, hardly more than hollowed-out platforms, a yard or so in diameter and with the depression about six inches deep. From the hill above I had seen the pale greenish-blue eggs in the nests but under the trees I found broken eggshells, so I suspected the presence of young birds also. Later I discovered a few young herons, although most of the eggs were as yet unhatched. The usual number in a clutch was four, but some sets were of five.

On May 30, I returned to the heronry, and although at this time one set of eggs was discovered, all the others had hatched and the nests contained young birds in nestling down of white. These little fellows put up a comical fight when disturbed, craning their long necks and striking out bravely with their sharp bills, which might have been formidable enough had they managed to reach one's eyes. On June 24 another trip to the heronry found the young birds well feathered and clambering over the nests, frequently passing from one tree to another during their scramblings. On this occasion the odor of dead fish was unpleasantly strong, although it had not been particularly noticeable on the previous visits. Several dead fish, measuring up to a foot in length, were found under the trees.

I did not get back to the place until the 25th of August

and by that time it was almost deserted. Only three birds were seen about the grove and these appeared to be on the eve of departure. In fact, no herons had been seen along the river for some time previously. August 31 I saw the last one, perhaps one of those seen at the heronry on the 25th, a lone bird, fishing along the river.

This heronry is situated between the Dismal and the Loup rivers, about nine miles from the former and four miles from the latter. Both streams are visited by the birds. Another heronry is said to be located a number of miles west of the one I visited but I never found time to search for it.

16. *Butorides virescens* (Linnaeus)—Green Heron.

No Green Herons were in evidence during 1912, but on August 28, 1911, a single male bird was taken from its perch on a brush heap overhanging the river. This furnishes a rather westerly record for the species in Nebraska.

17. *Nycticorax nycticorax naevius* (Boddaert)—Black-crowned Night Heron.

The Black-crowned Night Heron is probably only a migrant at Halsey although it breeds locally in the sandhills of the state. Two records are in my note-book, one of an immature bird noted standing in the shallows of the river on September 20, 1911, the other of a lone individual seen flying along the stream on September 3, 1912.

18. *Grus mexicana* (Muller)—Sandhill Crane.

The Sandhill Crane has been noted by R. H. Wolcott as occurring in the region.

19. *Fulica americana* Gmelin—Coot.

The Coot is a summer resident and possible breeder in the lakes and marshes of the sandhills but I noted it only once at Halsey. July 17, 1912, one was seen swimming about alone in the river near the Reserve station.

20. *Gallinago delicata* (Ord)—Wilson Snipe.

F. M. Chapman reports a Wilson Snipe from the Loup valley but I saw none there, although on May 26, 1912, I flushed one from a boggy flat along the shore of the Dismal river where it had been poking about in the spring-dotted soil. It did not flush until very nearly trod

upon by my horse. It was not seen on later occasions and was, in all likelihood, a migrating bird.

21. *Pisobia maculata* (Vieillot)—Pectoral Sandpiper.
Reported by R. H. Woleott as present in June 1906.
22. *Pisobia fuscicollis* (Vieillot)—White-rumped Sandpiper.
This sandpiper was noted on August 21, 1911, and again rather commonly from May 20 to 31, 1912, on both the Loup and Dismal rivers. A flock of twenty-five White-rumped and Baird Sandpipers was seen at the latter place on May 26, while single individuals of the present species were noted in the Loup valley as late as June 5 and June 19.
23. *Pisobia bairdi* (Coues)—Baird Sandpiper.
I saw a Baird Sandpiper on August 21, 1911, and during 1912 I found flocks of the birds on the Loup river on May 21, 31 and June 1. On May 26 they were seen on the Dismal river in company with the preceding species.
24. *Pisobia minutilla* (Vieillot)—Least Sandpiper.
On July 12, 1912, I saw a pair of Least Sandpipers in a very favorable situation for their breeding. They were at the time out in the middle of the stream on a sandbar and were quite wary. Since I could not conceal myself while approaching them, I was unable to get within range before they became sufficiently alarmed to fly. These birds were not migrants, I believe, although they may have been merely summer residents.
25. *Ereunetes pusillus* (Linnaeus)—Semipalmated Sandpiper.
The Semipalmated Sandpiper was noted very sparingly on August 20, 1911, and on May 21 and 25, 1912, on the Middle Loup and was seen in small numbers on the Dismal river on May 26 of the latter year. It probably migrates regularly at Halsey in greater or less numbers.
26. *Totanus melanoleucus* (Gmelin)—Greater Yellow-legs.
On September 20, 1911, there was a single Greater Yellow-legs present on the sandbars in the river near the station. It was not noted on other occasions.
27. *Helodromas solitarius* (Wilson)—Solitary Sandpiper.
I noted the Solitary Sandpiper on September 1 and 2, 1911, and on July 12 and 17 and September 6, 1912, a

single bird in every instance. An adult female taken July 12 showed no ovarian development such as would have been present had she been a breeding individual. At most the species can be considered as a summer resident at this locality.

28. *Bartramia longicauda* (Bechstein)—Upland Plover.

From May 17 until August, 1912, I found Upland Plovers at various times in both the Loup and Dismal river valleys as well as scattered over the intervening hills. They were not abundant as I found them to be at Imperial in Chase county (*antea* V, p. 41, 1912) but the surroundings are as favorable for the birds as at that locality and with the diminution of their breeding grounds by the settlement of the land in other places they will in all probability retire to just such situations as this country affords. The region is suitable for little but grazing in its present state, and it will not for a long time, if ever, be anything but the endless succession of grass-covered hills and hollows, broken here and there by blowouts and patches of bare sand or by a tiny clump of shrubbery in a pocket—just the sort of territory where these retiring birds thrive best. These plover-like sandpipers are often seen stalking through the grass like the Bobwhite, and when alarmed fly with rapid wing beats and a clear, whistled, "whoet'-whoet'-whoet'- whoet' — —." If a fence post be near they may alight upon it or they may circle around in a wide sweep and alight upon the ground but a short distance away. The most characteristic note of the birds is almost indescribable but it may perhaps be represented as a long, rolling, "pr-r-r-r-r-re-e-e-e-o-u-u-u——," the syllables blending into one another in a rising inflection until the climax is reached and then dying away into silence. When heard on a still night from the darkness overhead, the sound is almost uncanny, and even in daylight there is something in the nature of it which seems quite in keeping with the lonely surroundings of these birds.

29. *Tryngites subruficollis* (Vieillot) — Buff-breasted Sandpiper.

A single Buff-breasted Sandpiper was found on the shore of a little sandbar island in the Loup river on September 2, 1911, but was too wary to allow itself to be taken. I

have no other records of the occurrence of this bird at Halsey. It is not common anywhere in the state.

30. *Actitis macularia* (Linnaeus)—Spotted Sandpiper.

Spotted Sandpipers were scattered along the Middle Loup and Dismal rivers and were noted until September 7, 1912. One pair was seen frequently on a little wooded island near the Reserve station but, although I felt sure that there was a nest at this place, I was unable to find it until June 13. On that date I set out to make a minute survey with the resolve to find the nest if at all possible. I waded out to the island and sat down near the center of it to see if the birds would give me any clue, for in that part of the island they had been seen on many occasions and it was there, in fact, that the female was always last seen when I suspected that she was returning home. Scarcely had I seated myself when the male was overhead, nervous and fluttering. He circled about me once or twice and then flew over a nearby clump of willows, so I rose to my feet and circled the group of trees, entering it at the opposite side. The center of the place was somewhat more open than the margin and barely had I set foot within the clearing when the female was up before me. It took no exertion on my part to find the place from which she had flown and the nest was soon in view, if nest it could properly be called. It was a mere hollow in the ground at the foot of a willow stub and was lined only by the rubbish of sticks and leaves which covered the earth at that place, and contained four eggs. A young male of the species was secured on August 20, 1911, evidently a bird reared in the neighborhood, possibly by the same pair whose nest I found the following year.

31. *Numenius americanus* Bechstein—Long-billed Curlew.

On July 11, 1912, Mr. Bovee, a ranchman living near the Reserve station, told me that he had seen a family of Long-billed Curlews, old and young, in the river valley near his place only the day before. I attempted to find them on the following day but was unsuccessful in catching sight of them, although that evening I heard the call of one overhead when it was too dark to see the bird itself. This one was flying in the direction of Mr. Bovee's place and may well have been one of the birds he saw.

32. *Oryzochus vociferus* (Linnaeus)—Killdeer.

The Killdeer was undoubtedly the commonest of the shore birds present at Halsey and was found until the 3rd of September in 1911, and until the 5th of that month in 1912. It may have been present in 1911 later than the 3rd, which was the last date of my observation until the 20th, but it was absent in the latter part of the month when I returned to Halsey. Two nests of four eggs each were found on the same island as the nest of the Spotted Sandpiper and in a very similar situation, although in a different clump of willows. The parent Killdeers were never seen on the nests and never tried to lead me away from their vicinity by the methods which some birds employ of feigning a broken wing, but when I was near the group of willows the birds would squat down in a depression of the sand nearby and remain perfectly quiet, only now and then raising their heads to see if I had gone. So long as I remained motionless, so did they, and by no means could I make them acknowledge ownership of the nests or eggs except by their nervous attitude and the fact that they were more quiet than usual. The ordinary notes of the Killdeer are the well known, "kill-dee kill-dee kill-dee---," and the "cry-baby-baby-baby-baby-ery-baby-baby." One bird, which I heard a number of times several miles up the river from the station, possessed some peculiarity in its voice so that the "baby" part of the latter call was given in a falsetto key. The result was ludicrous, as can be imagined.

33. *Colinus virginianus* (Linnaeus)—Bob-white.

In 1911 about a dozen of these birds were present on the Reserve near the station where I saw them nearly every day, but during 1912 I found them only at intervals and then so few, only one or two at a time, that I suspected that the numbers had decreased materially. The explanation was found when I was told that Bob-whites had been found frozen several times during the winter of 1911-1912. Most of the birds were in the brush along the river, but often I found them in the open valley and in the undergrowth at the base of the hills. On August 28, 1911, a single Bob-white was seen about a half-mile back in the hills, and on June 7, 1912, one was heard but not seen in almost the same situation.

34. *Tympanuchus americanus* (Reichenbach)—Prairie Chicken.

Although I saw but a single Prairie Chicken during 1911, I found the birds in numbers during 1912, when, in the earlier part of May, the loud booming of the males could be heard in the early morning from different points in the surrounding prairie. A few weeks later flocks of downy young were found, ranging the hills in charge of their watchful mother. Several times I came across the young birds when my first indication that they were near at hand was the sight of the parent skulking through the grass or fluttering over the hill, apparently badly hurt. In such cases I refused to be deluded and began to search for the little striped fellows hidden in the grass, often with the result of finding them almost under my feet. There was no movement on their part to tell me they were there nor did they do anything but squat flat to earth until I picked them up. No sooner would I lift one in my hand, however, than it would set up a loud peeping which generally brought the mother on a run. In one such instance the parent bird appeared over the crest of the hill, where she had skulked away at my approach, and came directly toward me with half-open wings, as if to drive me away. When within a few feet of me she turned quickly and ran in a wide circle about me, clucking all the while like a barnyard hen. Finding that her efforts to drive me away were of no avail she flew with whirring wings over the hill only to return and circle about me in the same way as before, still clucking loudly. This time the chicks left their hiding places, and, with subdued peepings, ran under cover of the vegetation in the direction of the place where the mother had taken a stand and when I left a few moments later not a chick was to be seen. At this time the young were light yellow in color beneath, tinged with warm brown dorsally and with two black stripes down the back, each stripe broken in two places, thus giving the appearance of six short black streaks. The head was brownish yellow dorsally, marked with a central row of blackish blotches and with smaller black markings in the post-ocular region.

About this time, also, I found several nests full of egg-

shells indicating the number of eggs in the set to have been in the neighborhood of thirteen, but did not discover a nest with the sitting parent or with the eggs yet unhatched, for the close-sitting bird would be almost impossible to see in the long grass of the hollows. The nests were merely places in the grass where the hen had settled the plants down on the ground and laid her eggs on top of the grassy mat. Even after the family had left there was scarcely a depression to mark the place, and the whole nest was so open and plainly to be seen that only the coloration of the sitting bird would conceal the situation from the would-be observer.

Later in the summer I came across flocks of the chicks grown larger, and then, instead of keeping close to earth, they would fly up and scatter over the hill, looking very small in comparison to the size of their mother. In reality they were about six or seven inches in length, but their flight was strong and direct although necessarily of comparatively short duration. Still later, in the latter part of August and early September, almost grown, they were joined by the old males, which, until then, had been off by themselves in small groups, and the combined flocks, often in company with Prairie Sharp-tailed Grouse, ranged the hills to feed, rising with whirring wings, when flushed, to settled again when they had put the crest of a hill between themselves and the observer. October 27-29, 1910, M. H. Swenk found them common in the sandhills about the Reserve, but not so abundantly as at the eastern edge of the sandhills in Custer county.

35. *Pediocetes phasianellus campestris* Ridgway — Prairie Sharp-tailed Grouse.

Like the Prairie Chicken, the Prairie Sharp-tailed Grouse nests in the hills, where I frequently found the males during the summer, feeding in little flocks while the females were sitting and taking care of the young. One flock of the little chicks was all that I found, and that on June 18, 1912. The mother bird had flown with loud voiced "euc'euc'euc'euc'----" but had dropped to earth and skulked rapidly over the hilltop, only to return in a moment and approach me closely and then flutter with apparently broken wing over the grass away from the spot where I

stood. This she repeated several times but at last gave up the attempt to lead me away and sought a position on a nearby rise of ground from which she called anxiously. At the beginning of her maneuvers I discovered one of the chicks at my feet, but further search proved to be useless, and not another one could I find, so well were they protected by their color and markings and so quiet did they remain. The chick that I found was in nestling down and resembled very much the downy young of the Prairie Chicken, although even at this age there was a difference in the amount of feathering on the tarsi, which character is so marked in the adults.

36. *Zenaidura macroura carolinensis* (Linnaeus)—Mourning Dove.

The dove is rather abundant on the Reserve, as it is elsewhere in the state, and is found everywhere from the underbrush along the river to the open hills. When nesting, it chooses the latter situation almost exclusively and constructs a twig-lined hollow on the ground in the shelter of a clump of bunch-grass or perhaps beneath a pine tree if it happens to be in a planted portion of the Reserve. The birds can be seen in the early morning coming to the river valley from the hills and returning again in the evening, since none of them, apparently, remain in the valley over night. Some of the nests discovered were fully a mile or more from the wooded river bottom, and none at all were found closer than the first adjoining hillside.

37. *Cathartes aura septentrionalis* Wied—Turkey Vulture.

At intervals throughout the summer of 1912, a buzzard could be seen sailing in broad circles high overhead on widespread, motionless wings. Numerous times a pair of them would be seen together and once I saw three. Whether or not the birds which I noted on the Dismal river were the same individuals as those which appeared from time to time in the other valley I cannot positively say, but I suspect such was the case since in the wide expanse of territory over which a buzzard ranges the few miles which separate the two streams would be inconsiderable. Probably the pair, or possibly two pairs, nested in the vicinity of the former stream.

38. *Circus hudsonius* (Linnaeus)—Marsh Hawk.

A pair of Marsh Hawks were seen at the Reserve during both years that I was there, and nested in the bottom of a deep hollow a short distance back from the river. I knew the nest to be situated somewhere in this particular hollow, but I could never flush the old birds from it and they would not alight near it while I was in the neighborhood, but would perch on nearby hilltops or fence posts and watch my every movement, occasionally flying over me with rapid "cac'-cac'-cac'-cac'---" but never giving me the least indication of the exact position of their home. On June 20, 1912, I was watching the pair from a distance when the female turned her course suddenly and slanted downward to a part of the valley which I had somehow overlooked during my explorations. I hurried down the intervening slope and this time had no difficulty in locating the nest on the ground in the middle of a thick growth of *Symphoricarpos*. There was little evidence of architectural ability apparent at the time; the nest was a mere flat mound of sticks, matted with excreta and having a few scattered bones and feathers lying upon it, the feathers from the plumage of the old birds and in all probability moulted rather than purposely removed. Six young birds were present, five of them well grown and hidden in the brush nearby, the sixth but little larger than when hatched and lying in the nest where it could do nothing but squirm and move its head about when I would have touched it. The healthy birds were beginning to develop quills and contour feathers, the latter for the most part on the back of the head where they formed a black, spike-like crescent or crown which gave the youngsters a peculiarly vicious appearance, especially when, on being approached, they edged off, opened their beaks and hissed sharply. Meanwhile the old birds circled about with anxious calls and began a series of downward swoops, shooting with great velocity directly toward me and when within but a few feet of me, turning and passing over my head at rather close quarters. Later in the summer I saw the young birds on the wing on numerous occasions, all of them resembling their mother more or less in their plumage of brown. The parents were seen all summer, hunting in the hills and in the river valley and the male was flushed

on one occasion from the carcass of a prairie-dog which I had left in the field after skinning it. This hawk was noticed by M. H. Swenk on October 28, 1910.

39. *Accipiter velox* (Wilson)—Sharp-shinned Hawk.

September 1, 1911, I secured a female hawk of this species which I had noted the day before for the first time in the region. September 1, 1912, exactly a year later, I saw a pair in almost the identical place. Probably the Sharp-shinned Hawk is a regular migrant at Halsey.

40. *Buteo swainsoni* Bonaparte—Swainson Hawk.

Very frequently during the summer of 1912 I noted a pair of Swainson Hawks near the Reserve, usually high in the air, circling about over the hills. On June 10 I discovered the nest in a hackberry tree which formed one of a group of such trees in a hollow about two miles back from the Loup river. The nest was a bulky structure about a yard in diameter and fully as much in height, two feet across the interior and about a foot in depth, and was constructed of sticks and lined with grass and rootlets. Its height from the ground was not over twelve feet. It contained three heavily incubated eggs, almost pure white in color but lightly tinged with pale green and faintly blotched with brown.

41. *Archibuteo ferrugineus* (Lichtenstein) — Ferruginous Rough-leg.

This hawk was noted in 1911 on several occasions from August 26 to September 21, but in 1912 I saw it only on May 19. Apparently there were no breeding birds near the Reserve during my observations, but R. H. Wolcott records a nest of the species from the region.

42. *Falco mexicanus* Schlegel—Prairie Falcon

On August 8, 1911, I saw a single Prairie Falcon in the valley near the Reserve station, the only time that I have seen the species in the sandhills. Without doubt it was a migrating bird.

43. *Falco columbarius* Linnæus—Pigeon Hawk.

A single Pigeon Hawk was seen between Halsey and the Reserve station on September 3, 1911. It was in company with several Sparrow Hawks but did not seem to be

44. *Falco sparverius* Linnaeus—Sparrow Hawk.

During August and September, 1911, Sparrow Hawks were quite common at Halsey, and, although I had seen none in June of that year, I supposed that the birds were breeding ones. I found this conclusion to be false the following year, for the hawks were not present in May and did not appear in the region until August 3, although from this time on they were plentiful, both in the river valley and for a short distance back in the hills. Frequently they would alight on the crest of a sandhill where they would remain in silent inspection of the country until on a sudden impulse they would rise into the air and circle about in all manner of aerial gyrations to the accompaniment of their rapid "killy-killy-killy----" On one occasion a beautifully plumaged male settled itself on a post two or three yards away from where I sat under a pine tree and perched there silently, bobbing its head as it surveyed me fearlessly, and when it finally flew away it did so deliberately and without undue haste and remained in the immediate vicinity for some little time afterward, not in the least alarmed at my presence. Very probably some of these birds were referable to the Desert Sparrow Hawk.

45. *Pandion haliaetus carolinensis* (Gmelin)—Osprey.

F. M. Chapman includes a fish hawk in his list of the birds seen at Halsey. I did not see the species at any time.

46. *Asio flammeus* (Pontoppidan)—Short-eared Owl.

The only record for this owl is one made by R. H. Wolcott in July, 1911.

47. *Otus asio* (Linnaeus)—Screech Owl.

Several Screech Owls haunted the underbrush along the river and at the base of the hills whence their quavering call was heard nightly. Occasionally when exploring the thickets I would flush these little gray birds—none of the red phase were apparent—but usually their unmistakable voice was the only clue to their whereabouts. They are undoubtedly residents and probably breeders here.

48. *Speotyto cunicularia hypogaea* (Bonaparte)—Burrowing Owl.

Burrowing Owls are very common in the neighborhood of prairie-dog towns in the sandhill region and could be found at any time in such places, either perched on a neighboring fence post, if such there happened to be, or standing on a mound or in the entrance to one of the burrows. When alarmed they would give their peculiar "cack- cack- cack- cack- cack- cack- cack----" and disappear down the burrow or take wing and fly off some distance and drop into the grass where they would remain motionless but on the alert until they deemed the danger too great, when they would again repeat the performance. Sometimes when standing in the entrance to their burrows they would gradually sink lower and lower, on being approached, until they had entirely disappeared underground. They did not become so easily alarmed when approached by a vehicle or by anyone riding on horseback, but would stand bowing sedately in a manner ludicrous in the extreme, only seeking safety, if at all, when at rather close quarters.

At times an owl could be seen going through a performance which was most amusing. The solemn little actor combined bowing and blinking with turning from side to side so that it appeared to be bowing and nodding first to one side and then to the other, the whole proceeding so comical that I never tired of watching it. Frequently at dusk the owls could be seen hunting. Their method consisted of a hovering with rapid wing beats followed by a swinging flight to another position or a sudden and swift drop to earth. Usually the birds remained in the valleys, but one was seen hunting in the hills, and on August 31, 1912, I found a bird at the entrance to its burrow a mile or two from the valley and the nearest dog town.

At night the song of the owls could be heard in the vicinity of their nests, a peculiar, weird, "euc-euc-euc-euc-euc-euc----" repeated in a monotone so rapidly as to seem to roll, quite a different note from the alarm cackle. This song has been compared to that of our native cuckoos, but to me there is little in the one to suggest the other; the performance of the owls has a distinct sound which is characteristic although the difference between it and the note of the cuckoos is difficult to write in mere syllables.

49. *Coccyzus americanus* (Linnaeus)—Yellow-billed Cuckoo.

Cuckoos were found in the thickets along both rivers

and at the base of the hills, but of the two forms present this was the less common one in the neighborhood of the Reserve station although I saw it at intervals throughout the summer. It no doubt breeds here as does the Black-billed Cuckoo but I found no nests.

50. *Coccyzus erythrophthalmus* (Wilson)—Black-billed Cuckoo.

This cuckoo is a moderately common summer resident and breeder at Halsey. On June 8, 1912, I found a nest with a set of three eggs and the full set of four was completed on the following day. June 10, I found another nest with a single egg and with two additional eggs added by the 13th. These nests were at the usual low elevation, one of them in a low bush on the hillside facing the river, the other in a marshy place bordering the stream, on the top of an old willow stump around which had grown up new shoots of the tree, forming a shaded retreat in the center with a sort of stockade around it. This latter nest was lined with sprays of willow seed-pods.

51. *Ceryle alcyon* (Linnaeus)—Belted Kingfisher.

A pair of Belted Kingfishers had their nest somewhere back in the hills where the hard-packed, perpendicular side of a blowout furnished the only sort of situation in the region where they could excavate the horizontal burrow in which their eggs are laid. Just which particular blowout had been chosen by the birds I could not discover but they were often seen a half mile or more from the Middle Loup river and may very likely have nested even farther from the stream than that. In the valley of the Dismal, where the river in its windings has cut steep banks in the side of the hills along its edge, the kingfishers have undoubtedly made use of these banks for nesting sites, but the absence of such cuts on the Loup river near the Reserve station and the level condition of the shores of that stream have made necessary the sort of procedure to which the birds there resort. The kingfisher was noted at Halsey October 28, 1910, by M. H. Swenk.

52. *Dryobates villosus* (Linnaeus)—Hairy Woodpecker.

A pair of Hairy Woodpeckers was noted September 22, 1911, among the trees at the base of the hills, and on August 27 the following year I saw a single individual in

the brush timber by the river. The Hairy Woodpecker, like most of the other woodpeckers which are found at Halsey, is a migrant there and does not breed.

53. *Dryobates pubescens medianus* (Swainson)—Downy Woodpecker.

A single Downy Woodpecker was observed across the river near the Reserve on August 29, 1912. R. H. Wolcott noted the species in July, 1908, but no other records are at hand of its occurrence at this locality, which is at about the western limit of distribution of the species in the state.

54. *Meelanerpes erythrocephalus* (Linnaeus)—Red-headed Woodpecker.

Red-headed Woodpeckers were present in moderate numbers and were noted up until May 30 when they disappeared not to be seen again until August 18, from which time on through September they were found as before. Usually they were among the trees along the river and at the base of the hills, or on telegraph poles and fence posts in the valley, but occasionally I would find them a mile or more out in the hills where they had followed a line of fence. On the first trip which I made to the colony of Great Blue Herons I saw this species among the trees which bore the heron nests and in another grove of larger hackberries about a half mile south of the heronry. Why the Red-headed Woodpeckers do not remain at Halsey and nest in the larger trees and telegraph poles it is hard to say since they are usually quick to adapt themselves to changed conditions, especially when such changes are in their favor.

55. *Colaptes auratus luteus* Bangs—Northern Flicker.

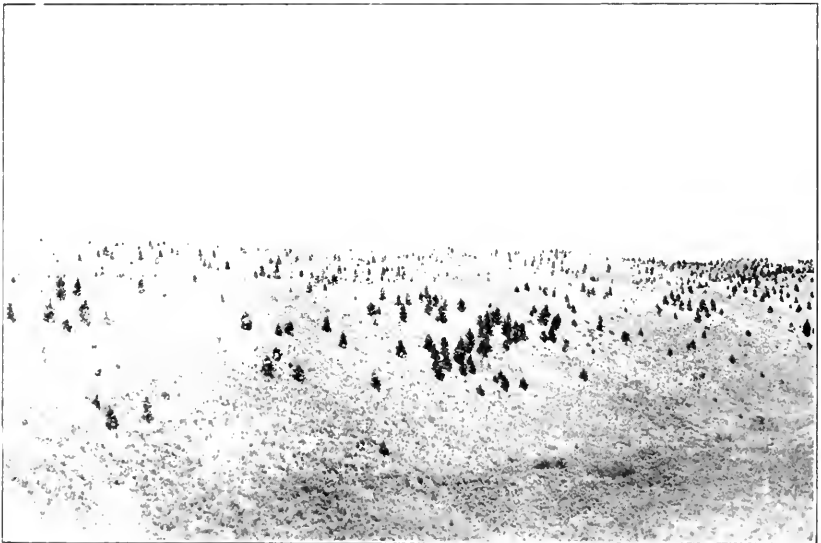
R. H. Wolcott reports the Northern Flicker as breeding at Halsey and gives records of its occurrence in June, 1906, July, 1908, and July, 1911. My own records date from August 29 from which time on I found the species rather commonly although I had seen none at all during the earlier part of the summer. During migration these birds are undoubtedly more abundant than at other times although they may possibly winter in numbers.

56. *Colaptes cafer collaris* Vigors—Red-shafted Flicker.

Red-shafted Flickers were seen from September 20 to 23,



Middle Loup Valley at Forest Reserve, showing the broad, flat stream margined with thickets, the grass-covered valley and woodland near the hill slope. Photo by R. J. Pool, 1912.



Sandhills back from the river valley, showing the covering of bunch-grass and the young planted groves of Jack Pine and Scotch Pine. Photo by R. J. Pool, 1912.

1911, and probably remained in the region still later, after I had left the locality. The species is not so common as the preceding one, although its numbers may increase during cold weather.

57. *Chordeiles virginianus virginianus* (Gmelin)—Nighthawk.

A single female of the typical eastern Nighthawk was taken September 3, 1912, a short distance out in the hills. Evidently here, as probably elsewhere in the state, the three native varieties of nighthawks overlap ranges during migration and all forms are of equally probable occurrence during that time.

58. *Chordeiles virginianus henryi* Cassin — Western Nighthawk.

On August 30 and 31, 1911, I saw several nighthawks which were so conspicuously rufous that I am inclined to think that they belonged to the form *henryi*, which breeds to the north and west of the Reserve in the Pine Ridge region and spreads eastward during migrations.

59. *Chordeiles virginianus sennetti* Coues—Sennett Nighthawk.

The Sennett Nighthawk is the common form of nighthawk breeding in the sandhills and is present throughout the summer from May until September. It nests on the hills, and there I have frequently flushed the birds from sandy places, bare or sparsely dotted with vegetation where I was certain that a nest, so called, was situated, but it was almost impossible to find a nest unless the spot from which the birds arose was accurately 'marked down.' A female Sennett Nighthawk collected as late as June 22 contained a fully developed egg in the ovary showing that nesting was still in progress.

In the evenings the nighthawks were common in the river valley and about the nursery beds, but in the daytime they were seldom to be seen except out in the hills. There their characteristic "peent" could be heard very frequently, often followed by the hollow, vibratory "who-oo-oo----" as a bird stopped itself suddenly in a headlong descent and began to mount upward again. The white patches on the wings rendered the birds moderately conspicuous even at dusk, when they accompanied the bats through the air in their insect hunting.

60. *Chaetura pelagica* (Linnaeus)—Chimney Swift.

On the evening of May 31, 1912, a lone Chimney Swift

was observed making its way up the Middle Loup valley. It was probably a belated migrant, since the species does not breed in this locality.

61. *Archilochus colubris* (Linnaeus)—Ruby-throated Hummingbird.

I secured a young male Ruby-throated Hummingbird on September 3, 1912, from the undergrowth along the Middle Loup river. This record extends the limit of distribution of this hummingbird in Nebraska for some distance westward. Previously the 98th meridian, lying about one hundred and fifteen miles east of Halsey, marked the supposed western boundary for this species. The Broad-tailed Hummer [*Selasphorus platycercus* (Swainson)] common west of here, has been found at Bassett, about thirty-seven miles east of the Reserve, so it might occur here also, although no records of its doing so are at hand.

62. *Tyrannus tyrannus* (Linnaeus)—Kingbird.

Kingbirds were quite common at Halsey up to the time of my departure on September 10, 1912, but had been absent on September 20 of the preceding year when I stopped at this locality again on my return from more western parts of the state. The intermediate period of September 10-20 probably includes the date of departure of the species. One nest with a set of four eggs was discovered on June 10 about eight feet from the ground in a willow overhanging the Middle Loup river, and numerous pairs of the birds were found along that stream, all of which were undoubtedly breeding. A single Kingbird was seen back in the hills on May 19, 1912, in the grove of large hackberries south of the heronry, but this was during migration and I do not suppose that the Kingbird will nest in that situation.

63. *Tyrannus verticalis* Say—Arkansas Kingbird.

The Arkansas Kingbird was not an abundant bird but was seen on several occasions throughout the summer of 1911 and 1912 and may have bred sparingly. It was noted in the undergrowth along both the Middle Loup and Dis-mal rivers, in the open valley, and in pockets back in the hills. One was seen several times about the little clump of hackberries that contained the nest of the Swainson Hawk, and I suspected the presence of its nest at that

place also, especially since this flycatcher frequently builds in close proximity to the nests of these hawks, but I could not discover the nest and only the single bird was seen. This species occurs on the Reserve more commonly in migration than at other seasons, and was noted from May to September.

64. *Sayornis sayus* (Bonaparte)—Say Phoebe.

F. M. Chapman reports Say Phoebes as present during early May migration in 1906, but his record is unique. The species breeds north of Halsey along the Niobrara and elsewhere in the state westward, but does not appear at this locality except as a migrant.

65. *Myiochanes richardsoni* (Swainson)—Western Wood Pewee.

I noted the Western Wood Pewee in 1911 in the shrubbery along the Middle Loup river, where I saw individuals on August 21 and 28. None were seen during 1912 although the birds observed the year before may have bred in the locality during the summer. One specimen, an adult male, was taken on August 21, 1911. This species has been seen along the Dismal river in the neighborhood of Thedford and is reported by L. Bruner.

66. *Empidonax trailli* (Audubon)—Traill Flycatcher.

Traill Flycatchers were seen from May 15 to June 10, 1912, and occurred irregularly in August of the preceding year from the 21st to the 31st. A male was taken August 21, 1911, and a pair was secured on the 31st of that month. The birds seen in 1911 might have bred in the region, but none were observed during midsummer in 1912. R. H. Woleott, however, records the breeding of the species in the locality and it may nest in places regularly. The habitat frequented by these flycatchers was the plum brush along the river and the undergrowth at the base of the hills, the latter less commonly.

67. *Otocoris alpestris leucolaema* (Coes) — Desert Horned Lark.

Desert Horned Larks were found to be common in certain situations on the Reserve and undoubtedly bred. A few were seen in the river valley in the plowed fields, but the majority kept to the hills and the largest number were observed at the stock windmills, where the constant tramp-

ling of the cattle clears a large area around the water tanks, destitute of vegetation but furnishing a good feeding ground for the birds. Often their cheery call would be noted from overhead, and occasionally their more protracted song as a bird would rise in spiral curves high into the air or poise itself on fluttering wings a short distance above the earth. The pale grayish brown and pink of these larks is by no means conspicuous against the light colored sand, and even when I knew that there were birds just ahead of me it required some effort, at times, to make them out, especially if they chose to remain motionless. F. M. Chapman refers the horned larks which he saw at Halsey to the prairie form, *O. a. praticola*, but I believe that the resident sandhill birds are nearer the present variety—at least a female and a male which I took on May 21 and June 1, 1912, respectively, easily referable to this subspecies. The Desert Horned Lark was noted at Halsey, October, 1910, by M. H. Swenk and probably occurs throughout the year.

68. *Pica pica hudsonia* (Sabine)—Magpie.

A flock of six birds was noted along the Loup east of the Reserve, October 28, 1910, by M. H. Swenk.

69. *Cyanocitta cristata* (Linnaeus)—Blue Jay.

Several Blue Jays were present in the thickets and scattered timber along the valley. R. H. Wolcott records the finding of Blue Jay nests in July, 1911, but I was not so fortunate, although I saw the birds frequently during the summer.

70. *Corvus brachyrhynchos* Brehm—Crow.

One or two Crows were noted in the Loup valley from the 26th to the 23rd of August, 1911, but none were seen the following year. The sandhills do not tempt these birds as do more heavily wooded and more cultivated parts of the country. In latter October, 1910, M. H. Swenk did not find the Crow present at Halsey, but at Hazard, about eighty miles southeast, a flock of over 100 birds was conspicuously in evidence.

71. *Molothrus ater* (Boddaert)—Cowbird.

I saw a few Cowbirds throughout the summer in the valley and hills, although I did not find any evidence of their parasitism in the nests of other birds. More of them were

seen in spring than at any other time, usually in the valley where they were following the cattle.

72. *Xanthocephalus xanthocephalus* (Bonaparte) — Yellow-headed Blackbird.

On September 3, 1911, I saw a flock of about sixty Yellow-headed Blackbirds in a cornfield in the Loup valley; May 17, 1912, I observed a single bird of the species, and September 10 of the latter year the last birds that I saw as my train left Halsey were these blackbirds—a flock of them down by the river. The Yellow-headed Blackbird breeds locally in the sandhill marshes of the state, but was not observed near the Reserve during the summer, probably because of the absence of any extensive tracts of suitable marsh land. It is reported as a common migrant by men on the Reserve, and was seen by F. M. Chapman in May, 1906.

73. *Agelaius phoeniceus* (Linnaeus)—Red-winged Blackbird.

Numerous Red-winged Blackbirds nested along the river at Halsey where I found their nests placed in various situations, from the ground up to six or eight feet above it. The birds frequented marshy parts of the river bank more commonly than other situations and were never seen farther away from the water than the open valley land. There is great probability that some or all of these birds should be referred to the western form *A. p. fortis* Ridgway but no specimens were taken to prove this supposition.

74. *Sturnella magna* (Linnaeus)—Meadowlark.

Chapman speaks of a single typical eastern Meadowlark which he both saw and heard at Halsey on the 5th of May, 1906. This record is unique for the locality but the bird was probably a member of a local colony of eastern Meadowlarks which breeds in the lake region of Cherry county, adjoining Thomas county on the north.

75. *Sturnella neglecta* Audubon—Western Meadowlark.

The Western Meadowlark is a very common summer resident and breeder in this region. On various occasions in May and early June I flushed the birds from their nests in the tufts of bunch-grass that dot the hills. So well are the nests placed and so alike are the various bunches of grass that a return to a given tuft and its occupants is decidedly uncertain unless the place has been marked by

some means or other. I found no nests in the valley or far back in the hills but all that I discovered were on the first slope facing the river or within a few ranges. Western Meadowlarks were seen on numerous occasions in other habitats, however, and may very possibly have bred there. In the late fall these birds tend to shift eastward to the edge of the sandhills, for on October 27-29, 1910, M. H. Sweek did not see or hear the species on the Reserve, but from Anselmo, twenty-five miles southeast of Halsey, eastward across the state it was common.

76. *Icterus spurius* (Linnaeus)—Orchard Oriole.

At least two pairs of Orchard Orioles bred in the underbrush along the Loup river near the Reserve station, and one nest with four eggs was found on the Dismal river on June 16, 1912. During 1911, I saw but a single bird, on June 8.

77. *Icterus galbula* (Linnaeus)—Baltimore Oriole.

A single male Baltimore Oriole was seen in the thickets along the river on June 7, 23, and 28, 1912. It may have bred in the vicinity but I saw only the male bird and did not discover any nests so its breeding here is in question.

78. *Euphagus carolinus* (Muller)—Rusty Blackbird.

I noted this blackbird on September 22 and 23, 1911, in small flocks in the valley of the Loup river. I did not see it the following year, probably because I left in the fall before its arrival.

79. *Euphagus cyanocephalus* (Wagler)—Brewer Blackbird.

Like the preceding species, the Brewer Blackbird was not seen in 1912, although it was noted in 1911. It appeared in small numbers from September 21-23, of that year. F. M. Chapman also lists the species as occurring in May, 1906.

80. *Quiscalus quiscula aeneus* Ridgway—Bronzed Grackle.

A very few Bronzed Grackles were noted at intervals during 1912 until the middle of July, but none were seen after that time and I do not think that those which remained up until then bred in the region. The timbered growth along the river seemed to be the habitat most frequented by the species.

81. *Astragalinus tristis pallidus* (Mearns)—Pale Goldfinch.

Goldfinches were plentiful in the thickets along the river and at the base of the hills, as well as in the planted groves in the valley, and occasionally I would meet with them out in the hills, especially in autumn when the sunflowers filled the hollows and covered the southern hill slopes in masses acres in extent. On the yellow heads of the sunflowers the birds were often found devouring the seeds, and so well did they harmonize with their surroundings when in such situations that it was often difficult to see them even when I heard their plaintive "swee-ee-eet" and knew that they were in the neighborhood. Several specimens which were taken all seem to belong to the pale western form which is the resident breeder in the Pine Ridge region, also. Two birds were noted near the Reserve buildings October 28, 1910, by M. H. Swenk.

82. *Spinus pinus* (Wilson)—Pine Siskin.

A specimen was taken by M. H. Swenk October 28, 1910, and was the only individual noted. Probably it occurs regularly if not commonly at the Reserve.

83. *Poocetes gramineus confinis* Baird—Western Vesper Sparrow.

One of the common, although not abundant, birds to be seen on the Reserve was the Western Vesper Sparrow. It was met with during early summer in the open valley and in the hills, on the grassland or among the planted pines and thickets whether of choke-cherry and plum or the lower-growing *Symphoricarpos* and *Ceanothus*. As the summer advanced it was seen more frequently in the open hills and less in the other habitats. I hunted through the whole of May and June for nests of the species but without success and had given up thoughts of finding any by the end of the latter month, but on July 8 I was surprised to discover two nests, one with three eggs, the other with four. These eggs were elongate-oval, in color a pale greenish white, splotched, very heavily in one set and less so in the other, with reddish-brown and lilac and marked sparingly with black lines and dots. Both sets were heavily incubated at this time. The nests were built of grasses and lined with rootlets and horse-hair and were placed in similar situations—a tuft of bunch-grass in the hills—with the opening to the cavity so inconspicuous that I never would

have suspected the real nature of either place had not the sitting birds fluttered away to avoid being stepped upon.

84. *Ammodramus savannarum bimaculatus* Swainson.

Western Grasshopper Sparrow.

The little Western Grasshopper Sparrows are a familiar companion of your travels in this region and are frequently met with in the river valley although they are much more numerous back in the hills, where they outnumber the other birds found there. When traversing the grass-covered slopes it is a frequent occurrence to flush from underfoot a little grayish-brown shape which skims the tops of the grasses for a short distance with wavering flight, drops suddenly out of sight and skulks rapidly under cover of the vegetation to another position. When you approach the place where you saw it disappear nothing is to be seen of it, but, as you move about in an attempt to flush it again, the elusive bird comes up on one side and you turn your head only in time to see it dropping from sight again. When flushed from the nest the parent birds frequently travel some distance, skulking behind clumps of grass and weeds or even under cover of vegetation so sparse that you wonder it can shield any moving thing, and the first indication that you have of the presence of a bird is the sight of one rising from a little patch of grasses which, as you may afterward discover, is some distance from where the bird started to run and quite destitute of any nest. Sometimes, especially when young are in the nest, the mother sits close and flies only when discovery is imminent, and at such times the usual procedure is for her to try to lead you away by feigning a broken wing and therefore appearing easy of capture. On June 18, 1912, I found a nest which contained four young birds. This nest was on the slope of the hills facing the river, the only one so discovered since all the others that I found were back in the hills. On June 6, I found a single egg of the species lying by itself in the open prairie with no nest of any kind near. June 24, I discovered a nest with a single egg, and on June 27, R. J. Pool showed me a nest which he had found which contained a full set of five. On July 11, I discovered still another nest, this time with four fully-feathered young which more than filled the nest. The little birds remained perfectly quiet after the parent had fluttered off, until I touched one of them when they broke

forth from the place like an exploding bomb-shell and scattered in four different directions, leaving behind them a single infertile egg.

The nests of these sparrows are usually placed on the ground in the shelter of a tuft of bunch-grass and are built of grasses and lined with finer plant fibers and rootlets. One of the nests I found was so arranged that the bare ground formed part of the lining, so thin was the inner construction. The eggs are short-oval and rounded, white in color, frequently tinged with pale blue, and are spotted more or less generally all over with reddish-brown.

The song of the Western Grasshopper Sparrow, heard most frequently during the nesting season, is a cheery "pittuck-zee-ee-ee----" which is given from some elevated perch. A yucca pod on its slender stalk is a favorite position and thence may come the little insect-like trill with more or less steady persistence through the heat of the day, often when all the other birds are silent and seeking the cooler shades of the plant growth. The call note is a weak reiterated "pit" and is heard frequently as an expression of anxiety concerning the nest. It is also heard commonly in the late summer when often the only times you see the birds are when you flush them from under foot.

85. *Chondestes grammacus strigatus* Swainson—Western Lark Sparrow.

The prettily marked Western Lark Sparrows were, with the exception of the Western Field Sparrows, the commonest birds of the region. They occurred everywhere from the open hills to the river bottoms, nesting on the ground in the valley and on the hillsides facing it, and on one occasion even in the hay filling of a wind-break in the nursery beds on the Reserve, four feet from the earth. Sometimes the nests were in the protection of a low bush or plant but often they were in the open, a little hollow in the ground lined with grasses, rootlets and hair from the cattle and horses on the range. The eggs, four in number in most cases, were laid in the latter part of May and June. May 31, 1912, I found a nest which was without eggs at that time; several days later it contained three eggs, but still later it was empty and the nest partly torn up although there was nothing to indicate how the eggs had disap-

peared. The old birds remained near the nest but they did not build again nor did the female lay again in the old nest.

The trusting and fearless nature of these sparrows was always in evidence. Often they would merely hop a few steps out of the way of an approaching observer and go about their business of picking up seeds from the prairie roadside as though no one was within their horizon. If sufficiently startled they might fly, but it was rarely for any great distance. When flushed in this manner the conspicuous white border of the tail became very noticeable as the birds spread that member in flight.

The call note of these Western Lark Sparrows is not particularly distinctive although it is easy to recognize when heard, but their song an exceedingly rich and varied mixture of whistled notes, quite sustained and with a distinct underecurrent of a peculiar buzzing or purring nature, hard to describe but quite unmistakable and characteristic. The birds could be heard singing throughout the day at the Reserve, and frequently even at night their song was noted when the Screech Owls and the Long-tailed Chats led the nocturnal choir.

86. *Zonotrichia querula* (Nuttall)—Harris Sparrow.

When I reached Halsey in 1912 there was a single belated Harris Sparrow in the neighborhood of the Reserve. I saw it on May 15 in a thicket at the base of the hills and May 17 I found probably the same bird in the brush along the river. The species is very likely in this region both a migrant and a winter resident during mild seasons, since it was noted commonly by M. H. Swenk October 27-29, 1910.

87. *Zonotrichia leucophrys gambeli* (Nuttall)—Gambel Sparrow.

I saw a dozen or more Gambel Sparrows on September 21 and 22, 1911, in the plum brush along the river. F. M. Chapman lists the species in May, 1906 and it is very likely of common occurrence during migrations early in the spring and late in the fall.

88. *Spizella monticola ochracea* Brewster—Western Tree Sparrow.

“The most abundant bird in the locality, October 27-29, 1910.” (M. H. Swenk).

89. *Spizella passerina* (Beechstein)—Chipping Sparrow.

On August 20 and September 23, 1911, I noted Chipping Sparrows in the brush along the Middle Loup river. In the spring of 1912 I saw a very few individuals at intervals from May 15 to May 24, in situations ranging from the open hills to the river underbrush, and usually in company with the more plentiful Clay-colored Sparrows. It was found breeding among the pines on the hillside back of the Reserve by R. H. Wolcott, but I saw it only during migration.

90. *Spizella pallida* (Swainson)—Clay-colored Sparrow.

Present at Halsey when I arrived on August 21, 1911, this sparrow was noted from that time on through September. It was again present when I reached the locality in May, 1912, and remained until May 24, disappearing then but reappearing about August 23, and remaining at least until I left the region on September 10. It is found in all possible situations during migration, but frequents the brush in greatest numbers, especially that in the river valley, either along the stream or back at the base of the hills.

91. *Spizella pusilla arenacea* Chadbourne — Western Field Sparrow.

The Western Field Sparrow was one of the most abundant and generally distributed birds at Halsey during the summer, and was found from the earliest to the latest dates that I was at the Reserve, May 15 to September 24, while F. M. Chapman records it still earlier, May 3-6, 1906. Every pocket in the hills, every little hollow with a clump of shrubs in one corner, as well as the brush along the river and against the first slope of the hills contained a pair or more of these little sparrows, whose simple but musical song, with its rising inflection ending in a trill, was a pleasing part of the general chorus, although frequently heard in company with only the Western Grasshopper Sparrows and Western Blue Grosbeaks.

The nests of the Western Field Sparrows were constructed of grasses and soft weed stems and lined with fine rootlets. They were placed at low elevations in wild rose bushes, plum trees, low shrubs like *Symphoricarpos* and *Ceanothus* or other such situations, sometimes almost on the ground. One nest that I found was a beautiful structure, the outer part of it a slaty gray in color while the

rootlets which formed the lining were a deep yellow and served to set off by contrast the five pale bluish-white eggs, spotted and scrawled with brown and gray.

92. *Junco aikenii* Ridgway—White winged Junco.

On October 27, 1910, two White-winged Juncos were seen in a flock of the following species about the seed beds, by M. H. Swenk.

93. *Junco hyemalis connectens* Coues—Shufeldt Junco.

“Abundant everywhere but especially about the seed beds, October 27-29, 1910. On the 27th a specimen was taken” (M. H. Swenk).

94. *Melospiza melodia melodia* (Wilson)—Song Sparrow.

Song Sparrows were noted only in the fall and had probably left the region before my arrival in the spring, since I saw none at that time. They were present when I reached Halsey on August 21, 1911, but the following year did not appear until the 27th of that month. They remained at least until the 23rd of September in 1911 and were noted commonly by M. H. Swenk on October 27 and 28, 1910, so they may, under favorable conditions, stay throughout the winter in the brush along the river.

95. *Melospiza melodia juddi* Bishop—Dakota Song Sparrow.

On September 21, 1911, I saw one song sparrow which was apparently distinctly referable to this form. The Dakota Song Sparrow is not uncommon over the whole of Nebraska during migrations and even occurs during winter in the southern part of the state.

96. *Melospiza lincolni* (Audubon)—Lincoln Sparrow.

On September 21, 1911, I saw two Lincoln Sparrows in the brush by the river and the same number, very likely the same birds, the following day. August 28 and September 6, 1912, I saw single birds in the same general locality as during the preceding fall. The species probably migrate through the region in moderate numbers.

97. *Pipilo maculatus arcticus* (Swainson)—Arctic Towhee.

Although not so common as the Western Lark and Western Field Sparrows, the Arctic Towhees were rather numerous in the undergrowth throughout the valley, particularly that at the foot of the first range of hills. I found no nests or eggs, but I discovered the young from the nest on

several occasions—little mottled and streaked fellows which usually remained quiet until picked up, when they would set up a cry which brought the parents in anxious haste. F. M. Chapman lists the Arctic Towhee as present in great numbers early in May, 1906.

98. *Zonotrichia melanocephala* (Swainson)—Black-headed Grosbeak.

A pair of Black-headed Grosbeaks bred in the thicket along the river during the summer of 1912 but I was never able to discover the nest. Both birds were seen quite regularly up until the 10th of June, but after that time they were noted only at long intervals—possibly the cares of nesting kept them busy near the nest. During 1911 I had seen the species only on June 9 and August 20. On May 19, 1912, I saw a single individual far back in the hills in a pocket of hackberries which was situated south of the colony of Great Blue Herons. During the summer, however, the birds confined themselves to the thickets along the river and at the foot of the hills where their grosbeak call-note, which always reminds me of the sound of a pair of rusted shears, could often be heard and frequently served to indicate that the birds were near. They did not sing much at any time, but occasionally in the spring and the earlier part of the summer I would catch the notes of the true song from across the river, although the singer remained hidden near the tops of some of the taller trees.

99. *Guiraca caerulea lazula* (Lesson)—Western Blue Grosbeak.

Quite regularly all summer up until August 29 in 1911, and August 30 in 1912, I found Western Blue Grosbeaks at home from the thickets at the base of the hills to the pockets far back from the river. One nest was discovered on July 10 which contained a single pale blue egg that had disappeared when I returned to the place a few days later. This nest was situated about three feet from the ground in a choke-cherry bush in the same pocket that contained the hackberries with the nest of the Swainson Hawk.

The male of this pretty sparrow, the only bird of its color to be found in the depths of the hills, is a conspicuous object as he flies nervously about or perches on a weed stalk, uttering his sharp "quit." The female is not so conspicuous in her dress of more sober brown. I rarely heard the full song of this grosbeak, but although it is a

creditable performance it is inferior to that of the Black-headed species.

100. *Passercina amoena* (Say)—Lazuli Bunting.

R. H. Wolcott records the Lazuli Bunting from Halsey. I have no other records of its occurrence here, although it may migrate regularly, probably not commonly, through the region. It has been noted repeatedly as far east as Lincoln.

101. *Spiza americana* (Gmelin)—Dickeissel.

I found Dickeissels throughout the summer of 1912, from May 29 to August 13, and had seen them on June 8 and 9 and August 22 of the preceding year. Apparently the birds breed in the river bottom, for it was there that I saw them most commonly. Rarely they extended their wanderings over the first row of hills, and I have a female which I secured in a pocket growth in such a situation on August 22, 1911.

102. *Calamospiza melanocorys* Stejneger—Lark Bunting.

I have relatively few dates for the occurrence of the Lark Bunting at Halsey. On June 9, August 20, and September 2 and 3, 1911, and irregularly from May 15 to June 10, 1912, I saw the species. The 1911 records are of flocks, some of them of rather large extent; May 19, 1912, one flock was seen but the other records for that year refer to individual or paired birds. I do not think that the species nests commonly in this particular region although it may breed at no great distance, as is evidenced by the numbers of mated pairs that I saw. R. H. Wolcott has found the bird breeding here, however, and records it in July, 1908 and 1911.

The call note of the Lark Buntings, a gentle "who-ee-ee," with gradually rising inflection, was heard frequently, and when given by a flock in chorus as the birds rose from the ground before you or settled again a short distance away was most pleasing. The true song, which is given by the males, as I have heard it here and on the high plains where the buntings breed abundantly, is, to me, strongly suggestive of the notes of the Long-tailed Chat. In addition to the similarity of the notes the singing bird frequently performs in a manner that also calls to mind the same other feathered clown, and if the proceed-

ing be seen at a distance and in such a light that the colors and markings of the bird are obscured, the illusion is all the more complete except that wonder may arise as to what a Chat is doing in the open hills. The song is composed of syllables or repetitions of syllables pieced together in a more or less regular fashion. Some of the notes may be expressed as, "cheerp' -cheerp' -cheerp' cheerp' -chee-ee-ee-ee-ee-bir' -ta-hir' ta-hir' ta-who-oo-oo oo-oo-yor' da-yor' da-hurt' -hurt' -hurt' -ee-ee-ee-ee-ee-ee--" This is delivered most frequently by a bird on the wing, but it may be given from a perch on a fence post or weed stalk. When the bird sings thus in flight it rises regularly and directly into the air with rapid wing-beats until, at the summit of its ascent, it pauses and begins to descend by a series of awkward, jerky motions of its set, extended wings, the motion being more like that of a butterfly than of a bird. The performance is peculiar, and the song, from the representation I have given it, may seem to be anything but musical but in reality it is very pleasing. River valley and hills are the habitats by preference of the species: the main requirement is open country.

103. *Petrochelidon lunifrons* (Say)—Cliff Swallow.

I saw one or two migrating Cliff Swallows on June 1, 2 and 7, 1912, in the valley of the Loup river.

104. *Hirundo erythrogastra* Boddaert—Barn Swallow.

Barn Swallows nested at suitable places along the river valley and frequently came past the Reserve on their foraging expeditions, although none nested near the station. F. M. Chapman found them present on May 3-6, 1906.

105. *Iridoprocne bicolor* (Vieillot)—Tree Swallow.

Two Tree Swallows were among the migrants at the Reserve on May 23, 1912, evidently on their way to breeding grounds to the northward, possibly along the Niobrara river in the county adjoining on the north, where they are known to nest. This swallow was found here by F. M. Chapman also, May 3-6, 1906.

106. *Riparia riparia* (Linnaeus)—Bank Swallow.

On the Dismal river the present species was equally common with the following form, breeding in the banks formed by the stream in cutting down the adjoining hills. On the Middle Loup river these swallows were present

only during migrations and none were seen after the first week in June in that valley. Evidently the lack of suitable nesting sites in immediate proximity to the Loup river has deterred the birds from breeding there and they do not seem to have adapted themselves to conditions as perfectly as have the Rough-winged Swallows.

107. *Stelgidopteryx serripennis* (Audubon)—Rough-winged Swallow.

This swallow was moderately common along the Loup and Dismal rivers, breeding in cut banks along the latter stream but forced by the nature of the country along the Loup, near the Reserve station, to retire back into the hills, where the action of the wind in forming the numerous blowouts has packed the sand on one side of the hollows enough to permit the excavation of a burrow there. So far as I know the swallows do not go very far back from the river, but usually select a suitable site on the first range of hills or on one not far from it. They were commonly seen coursing above the river as well as circling the hills in the neighborhood of their nests.

108. *Bombycilla garrula* (Linnaeus)—Bohemian Waxwing.

On October 17, 1906, three specimens of the Bohemian Waxwing were shot from out a flock at the Reserve by one of the men and two of them forwarded to the University for naming. (See M. H. Swenk, Auk, xxiv, p. 223).

109. *Lanius borealis* Vieillot—Northern Shrike.

Individuals of the present species were noted on October 27 and 29, 1910, by M. H. Swenk.

110. *Lanius ludovicianus excubitorides* Swainson—White rumped Shrike.

From August 20 to September 3, 1911, I noted this Shrike irregularly and supposed that the birds I saw were the members of a family raised somewhere in the neighboring plum brush along the river. In 1912 I noted this Shrike on August 18, but as it was the only one seen throughout the entire summer I doubted my conclusions regarding the birds of the preceding year. It is possible, however, that the species breeds at certain places along the river, although the fact is yet unproved.

111. *Vireosylva olivacea* (Linnaeus)—Red-eyed Vireo.

On May 21, 24 and 30, 1912, I saw several Red-eyed Vireos in the trees along the bank of the Middle Loup and at the base of the first range of hills. On August 28 and 30, the species was noted again, as it had been from August 22 to September 3, in 1911. The breeding of the species is probable, but, in the absence of definite records, uncertain.

112. *Vireosylva gilva* (Vieillot)—Warbling Vireo.

On August 22, 1911, I saw a lone Warbling Vireo in a thicket near the river and on May 25 the following spring, in the same bit of undergrowth, I secured a female, also a solitary bird. No indications were present during the summer of the breeding of the species at this locality, although R. H. Wolcott noted the bird in June, 1906, and July, 1908.

113. *Vireo belli* Audubon—Bell Vireo.

The Bell Vireo is the commonest of the vireos which occur at Halsey, and breeds commonly in the dense thickets of plum brush, haw, willow and dogwood that line the river bank in places. Only one nest was discovered. This one was about a foot and a half from the ground in a haw and was first found on June 1, uncompleted, and later, on June 7, with the complement of four eggs. It was hung in the usual semipensile manner and was constructed of grasses, bits of corn husk and a few odd scraps of paper, the whole stuccoed with filaments of spider web and lined with fine plant fibers.

These little inconspicuous vireos confine themselves to the scrub thicket in the river valley whence their harsh "cheeow" is often heard, especially when the birds resent your invasion of their provinces. Their song is a hurried sequence of notes for which I have never found adequate representation in syllables, but it harmonizes well with the active, restless disposition of the creatures, which seem never to be still for a moment but move continually about through the network of brush, now appearing on one side of the observer, now on the other, and frequently reviling you with their queer explosive calls.

114. *Mniotilta varia* (Linnaeus)—Black-and-White Warbler.

The "wee'zy-wee'zy-wee'zy-wee'zy-wee'zy - -" of the

Black-and-White Warbler was a familiar sound in the timber along the base of the hills at the station, and was sometimes heard nearer the river as well. There were several pairs of the warblers in the vicinity of the Reserve station and all of them probably nested along the base of the hills.

On June 4, 1912, I was working on the hillside just back of the Reserve station when I heard one of these warblers singing nearby. I looked around for the bird in the hopes of discovering it in some place which might shelter its nest for I had heard the warbler in the same part of the grove for a number of mornings previously. I did not see the bird this time but my eyes fell on a clump of small trees farther up the slope where the grassy hillside was shaded and where it seemed probable that a search for a nest would be rewarded. I started up the hill and entered the small group of trees, and had barely passed through it when I found myself looking into the entrance of a little hollow in the grass, through which I could see the black and white striped head and watchful eyes of the sitting bird. At my nearer approach she flew from the tuft of grass, disclosing a nest built of grasses and lined loosely with horse-hair, and placed squarely on the ground in the shelter of a little bank. The nest contained five eggs.

115. *Vermivora cclata* (Say)—Orange-crowned Warbler.

One or two Orange-crowned Warblers were noted in the thickets of the Loup river on May 15, August 28 and 30, and September 6, 1912. None were seen the preceding year.

116. *Vermivora peregrina* (Wilson)—Tennessee Warbler.

During the spring migration in 1912, Tennessee Warblers were not uncommon in the trees at the base of the hills and along the river, where I noted them from my arrival on May 15, until May 25. No individuals were noted during the fall migration up to the time of my departure on September 10, although they may have come in later.

117. *Comsothlypis americana usneae* Brewster — Northern Parula Warbler.

On September 7, 1912, when I was exploring the shrubbery along the river in a place where the growth was so

dense that I was obliged to stoop and crawl along in order to make any progress, I came at last to a little open place where I could stand erect. Hardly had I straightened up when I caught sight of a Northern Parula Warbler only a few feet away, where it was flitting about in a low plum tree. Since Northern Parula Warblers are by no means of common occurrence in Nebraska, especially in the sandhill region, I secured this one, which proved to be an adult male.

118. *Dendroica aestiva* (Gmelin)—Yellow Warbler.

Yellow Warblers were common in the spring and fall migrations and a few were observed from time to time along the river throughout the summer. Possibly the species breeds sparingly in the region although I cannot be sure of this in the absence of the definite discovery of a nest.

119. *Dendroica coronata* (Linnaeus)—Myrtle Warbler.

I saw and watched a Myrtle Warbler on May 15, 1912, as it hunted insects among the willows on a little sandbar island in the loop. The species cannot be considered as very common here, although it may be more or less regular. F. M. Chapman reports it earlier in May than my own notes record it.

120. *Dendroica auduboni* (J. K. Townsend)—Audubon Warbler.

On May 15, 1912, I saw what I at first took to be another Myrtle Warbler, among the taller trees growing against the first range of hills. A second glance proved my error, for the bird had a yellow throat, and I knew it then to be an Audubon. I secured it and it proved to be a male. The occurrence of the Audubon Warbler here is not entirely accidental, for it breeds not far to the westward and spreads eastward during migrations, at which time it has been recorded from Lincoln. Occasionally the species wanders far from its normal range, and has been found even as far east as Massachusetts and Pennsylvania.

121. *Dendroica striata* (J. R. Forster)—Black-poll Warbler.

Migrating individuals of this warbler were seen on May 16, 22, and 25, 1912, in the "woodland" at the base of the hills and along the river. I saw no birds in the fall, nor had I found it during the preceding year. F. M. Chapman noted the species in early May, 1906.

122. *Sciurus aurocapillus* (Linnaeus)—Ovenbird.

The Ovenbird is apparently a regular migrant on the Reserve. On August 21 and 22, 1911, May 17, 21, and 23, August 29, 30, and 31, and September 3, 1912, I noted the species in the region. The thickets in the valley, both against the hills and along the river, were the customary habitats and there I often had the pleasure of watching these little walking warblers and of hearing their ringing "teacher-teacher-teacher-teacher - -." Usually the birds came to me as I sat quietly on the ground in the shelter of the dense undergrowth; frequently I have come upon them in my wanderings, sometimes unexpectedly, at other times led by the sound of their call to search them out. At all times they were quite fearless and promenaded along the branches of a low tree or over the ground either in silent inspection of me or going about their business as though I were nowhere near. Even when alarmed they departed without undue haste but nevertheless disappeared so completely that no amount of searching revealed the little hermits.

123. *Sciurus noveboracensis notabilis* Ridgway — Grinnell Water Thrush.

August 29, 1911, and May 22, 1912, are the only dates which I have for this migrant. On the former occasion I secured a fine male from the shrubbery along the river, where I had heard its familiar note for some time before I was able to find the bird. It was finally discovered in a willow overhanging the stream, but I was forced to get out into the water before I could see the creature, so closely did it keep to the shelter of the bank.

124. *Geothlypis trichas* (Linnaeus)—Maryland Yellowthroat.

Maryland Yellowthroats were present all summer in the valley, breeding in suitable places along the river and voicing their cheery "wree-chi-ty-wree'chi-ty-wree-chi-ty - -" from the shrubbery and weed patches that lined the margin of the stream. Common enough during the breed-season, they were still more abundant during migration and could be heard then, as indeed at other times, more often than they were seen.

125. *Icteria virens longicauda* Lawrence—Long-tailed Chat.

The self-assertive chat was a prominent inhabitant of

the thickets in the river valleys, where it bred commonly. One nest, discovered on June 9, 1911, was placed in a willow five or six feet from the ground. It was composed of grass and plant fibres and contained four eggs.

During the nesting season the voice of the chats could be heard on every hand in the valley region but the singers themselves were not so much in evidence. At rare intervals you could catch a glimpse of brilliant yellow through the vines and tangle of interlaced branches, but it was only for a moment. Attempts to stalk the singer usually failed and were you not acquainted with the bird and its ways you might have been led to believe in the existence of a disembodied voice, so persistently did the creature elude you. Occasionally you might see a chat rising from the brush into the air but pausing suddenly to turn and descend again, resembling a bird less than an awkward, loose-jointed assortment of legs, wings and tail, all the time keeping up the jumbled variety of catcalls and whistles which you heard from the thicket before the performance started. One of the birds in the vicinity of the Reserve had a "cack'-cack'-cack' - -'" so like that of a Magpie that I almost allowed myself to be deluded several times with the idea that a bird of the latter kind was in the neighborhood.

On June 18, 1912, one of my mammal traps in the brush along the river was robbed, the thief leaving only the mangled head of the mouse which had been caught. I reset the trap, using the remains of the carcass as bait, and the next morning found a female chat in it. Whether the bird had been the thief of the preceding night, or was merely making a curious investigation or perhaps was caught entirely accidentally, I cannot say.

126. *Wilsonia pusilla pusilla* (Wilson)—Wilson Warbler.

On August 21, 1911, I collected a specimen of true eastern *W. p. pusilla* in the undergrowth near the river and I saw others on September 22, both there and at the base of the hills. On August 29 and 30, 1912, a single individual was present in the first-mentioned habitat. F. M. Chapman lists the species in May, 1906. It and the following variety are probably both regular migrants at this locality although I do not think the present form extends

its wanderings much farther west in Nebraska than this point.

127. *Wilsonia pusilla pileolata* (Pallas)—Pileolated Warbler.

On September 21 and 23, 1911, I saw several warblers, distinctly referable to this variety of the species, among the willows and dogwoods near the river. Like the Wilson Warblers their characteristic "chib" often identified them as far as the species was concerned, before the birds themselves were seen, and then the distinctly orange hue of the forehead and a trace of the same color about the chin and throat revealed the variety. These warblers are among the most confiding of their family, and often come as close to the observer as they can, flitting through the bushes and talking all the while in a conversational tone, although their remarks are restricted to a single syllable. If alarmed they take to the tree-tops in many instances, and there move with such rapidity that it is almost impossible to keep them in sight among the leaves.

128. *Scotophaga ruticilla* (Linnaeus)—Redstart.

Redstarts were common in the valley during May, disappearing about the 27th of that month not to reappear until the last week in August, but remaining then at least until the 10th of September. They do not remain to breed in the sandhills but pass through as migrants. Where they are abundant, their song can be heard above the general chorus, so persistently do they give their "su-i'-su-i'-sui'-sui'-sui'-sui' - -."

129. *Dumetella carolinensis* (Linnaeus)—Catbird.

Sometimes during the spring and summer the Catbird's voice was heard from the thickets but the singers were rather retiring and were seen less often than heard. They probably bred in small numbers along the river. On August 25, 1911, I caught one by the foot in a trap which I had set for rodents in the brush by the river, but I think that this capture was entirely accidental.

130. *Toxostoma rufum* (Linnaeus)—Brown Thrasher.

Brown Thrashers were numerous in the river valleys at all times from the earliest to the latest dates that I made observations in the region and are recorded still earlier by F. M. Chapman. On May 19, 1912, there was a single thrasher in the hackberry grove which sheltered

the nests of the Great Blue Herons, several miles back in the depths of the hills. This bird was undoubtedly migrating through this particular situation and probably did not breed there.

131. *Salpinctes obsoletus* (Say)—Rock Wren.

F. M. Chapman found the Rock Wren migrating through Halsey in May, 1906. I failed to find any of the birds during my observations, probably because I reached the locality somewhat too late to catch the earlier spring migrants, among which the present species is to be considered.

132. *Troglodytes aedon parkmani* Audubon—Western House Wren.

The Western House Wren migrates through this region during May and in August and September, although in relatively small numbers. Their bubbling song was a welcome surprise, when I occasionally heard it in the valley thickets, as was also the sight of their little, barred, gray forms whisking through the underbrush or clambering about the shrubbery overhauling the river where they always gave a singularly homelike aspect to the place. The dates which I have for the species are August 31, 1911, and May 17, 18, 20 and 21 and September 6, 1912.

133. *Telmatodytes palustris iliacus* Ridgway—Prairie Marsh Wren.

I saw this marsh wren only on August 28 and 29, 1911, a single bird which was in evidence about a brush heap on a sandbar in the Middle Loup river. The presence of cat-tail swamps and reedy marshes would no doubt favor the presence of this bird in greater abundance than that with which it now occurs here.

134. *Penthestes atricapillus septentrionalis* (Harris)—Long-tailed Chickadee.

From August 22 to September 23, 1911, Long-tailed Chickadees were present sparingly in the Loup valley. R. H. Wolcott recorded their occurrence in July, 1908, and it is possible that the species breeds on the Reserve, although no nests have been found.

135. *Regulus calendula* (Linnaeus)—Ruby-crowned Kinglet.

I noted a Ruby-crowned Kinglet on August 22, 1911, in

the trees along the Middle Loup river. This is a rather early date for the appearance of this bird in Nebraska although it occurs commonly a week or two later in the more northwestern part of the state.

136. *Myadestes townsendi* (Audubon)—Townsend Solitaire.
 Several pairs were noted about the seed-beds, October 27-29, 1910 by M. H. Swenk. "They were industriously catching insects with all the skill of a flycatcher, at intervals giving their peculiar wild call note. According to the men on the Reserve this bird passes through regularly each spring and fall. A specimen was taken on October 27."
137. *Hylocichla mustelina* (Gmelin)—Wood Thrush.
 The only record for the Wood Thrush at hand is one made by R. H. Wolcott in July, 1908.
138. *Hylocichla fuscescens salicicola* Ridgway — Willow Thrush.
 When I reached Halsey in May, 1912, there were Willow Thrushes present among the trees in the Loup valley and others were found also on May 26 in the valley of the Dismal. May 27 I saw the last one near the Reserve, although a few of the Olive-backed Thrushes, with which the present species was associated, remained about the neighborhood for a few days longer.
 These thrushes were exceedingly wary, and would not allow the least approach, but at the first advance in their direction would slip away through the undergrowth and disappear, and it was often difficult to find them again so perfectly did they elude pursuit. Their rather dull plumage was none too conspicuous in the shadows, and the quietness of the wearers did not add to its prominence. The rather brighter coloration of the back of this species served to separate it from the Olive-backed in the field, as did the brighter hue of the breast, although the latter character was less often apparent, owing to the position that the birds usually took with their back toward the observer, watching him over their shoulder and ready to disappear at the slightest provocation.
139. *Hylocichla ustulata swainsoni*—(Tschudi)—Olive-backed Thrush.

Like their companions the Willow Thrushes, these thrushes were shy and retiring. Not once do I remember to have heard them utter a sound of any description. They

were somewhat more numerous than the other species and were seen regularly from May 15 to June 1 in 1912, as well as on August 31 and September 2 in the preceding fall.

140. *Planesticus migratorius* (Linnaeus)—Robin.

The only time I saw the Robin at Halsey was on May 29, 1912. R. H. Wolcott saw it in July, 1908 and on October 27-29, 1910. M. H. Swenk found it abundant about the Reserve. Probably it does not breed in this locality.

141. *Sialia sialis* (Linnaeus)—Bluebird.

The Bluebird is recorded by F. M. Chapman from this locality, and it was noted near the Reserve buildings by M. H. Swenk, October 28, 1910. I failed to find the species present. Like the Robin, the Bluebird is apparently only a migrant at this point.

142. *Sialia currucoides* (Bechstein)—Mountain Bluebird.

On May 26, 1912, as I rode slowly along the valley of the Dismal river, resting my horse after the tiresome succession of hills and hollows which we had crossed since early morning on our way from the Loup river, I saw a lone wanderer in the form of a Mountain Bluebird, perched on a weed stalk some distance ahead of me. It rose at my approach and flew to a position a short distance beyond, displaying as it did so the beautiful coloration of the back, wings and tail, which is so different from the blue of the eastern Bluebird—to my mind much more delicate and more handsome in every particular. This bird repeated its maneuver several times but finally flew to the timber along the river, where I lost sight of it. We must consider the species as a straggler here, although it is common and breeds in the pine-covered region along the western edge of the state.

UNVERIFIED RECORDS.

The following birds have been reported on various occasions by different observers, but the records are not entirely without question, and it has been thought best to list the species separately:

[*Cyanocephalus cyanocephalus* (Weid)—Pinion Jay.

The Pinion Jay has been reported as occurring during migration at the Reserve and may probably be a regular visitor to the region.]

[*Cardinalis cardinalis* (Linnaeus)—Cardinal.

I am informed by men at the Reserve that the Cardinal is present along the Loup in small numbers and winters there.]

[*Mimus polyglottos leucopterus* (Vigors) — Western Mocking Bird.

During the summer of 1912 a pair of mocking birds were reported to me as occurring on the Reserve, a few miles down the river from the station. I was never able to discover the birds, but the occurrence of the species at this point is quite probable, and the variety would undoubtedly be that under which I have placed this note.]

End of Volume V

PROCEEDINGS
OF THE
NEBRASKA ORNITHOLOGISTS' UNION
AT ITS
TWELFTH, THIRTEENTH, FOURTEENTH AND
FIFTEENTH ANNUAL MEETINGS

Lincoln, Nebr., May 5 and 6, 1911
Lincoln, Nebr., May 10 and 11, 1912
Lincoln, Nebr., May 9 and 10, 1913
Lincoln, Nebr., May 15 and 16, 1914

EDITED BY
MYRON H. SWENK

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PROCEEDINGS OF THE
NEBRASKA ORNITHOLOGISTS' UNION

OFFICERS

1910-11. President.....	L. Sessions, Norfolk
Vice-President.....	Mrs. A. E. Sheldon, Lincoln
Secretary-Treasurer.....	Myron H. Swenk, Lincoln
1911-12. President.....	H. B. Lowry, Lincoln
Vice-President.....	Mrs. Lowrie Childs, South Omaha
Secretary-Treasurer.....	Myron H. Swenk, Lincoln
1912-13. President.....	D. C. Hilton, Lincoln
Vice-President.....	Miss Edith Tobitt, Omaha
Secretary-Treasurer.....	J. T. Zimmer, Lincoln
1913-14. President.....	Lawrence Bruner, Lincoln
Vice-President.....	Miss Joy Higgins, Omaha
Secretary-Treasurer.....	J. T. Zimmer, Lincoln

ABSTRACT OF MINUTES

TWELFTH ANNUAL MEETING

The twelfth annual meeting of the Nebraska Ornithologists' Union was held at Lincoln, Nebraska, Friday and Saturday, May 5 and 6, 1911. The members of the Union assembled in the banquet room of the Lindell Hotel, Thirteenth and M Streets, at 7:00 Friday evening, where a six-course dinner was served. Immediately after the dinner, at 8:30, President Sessions called

the meeting to order. Fifteen members were present, Messrs. Duncanson, Eiche, Hilton, Horsky, Lowry, Pinneo, Sessions, Shoemaker, Swenk, Tout, Towne, Wolcott and Zimmer, and Misses Higgins, VanSant and Wood. Three candidates for membership and six guests of members of the Union were also present.

After the call to order the President reported briefly for himself and called for the report of the Vice-President. In her absence extracts from a letter from her, regretting the necessity for her absence and wishing the Union a successful meeting were read by the Secretary-Treasurer, who then proceeded to report upon the activities of his own office. A statement of the financial condition of the Union was rendered and the status of the membership explained, while as Editor and Custodian the publications and property of the Union were reported upon in detail. President Sessions appointed Messrs. Wolcott, Eiche and Zimmer an Auditing Committee to examine the financial statement and report back their findings. R. H. Wolcott then reported briefly for the Record Committee and Wilson Tout for the Educational Committee, both being chairmen of their respective committees. The latter report was detailed and showed clearly the activities of the Educational Committee and the successful results of its work.

The proposal of new names for membership in the Union was next taken up and the names of Mr. R. W. Dawson of Lincoln, and Miss Maud Shipherd of Omaha were proposed. Miss Isaacson also asked for reinstatement, following resignation of 1908. All were voted upon favorably, and declared members of the Society. On motion of the Secretary-Treasurer a Resolutions Committee was appointed to prepare resolutions relative to the loss to the Society by the death of Miss Agnes M. Dawson of Omaha, these to be entered into the Proceedings of the Union and copies sent to the family of the deceased. Misses Wood and Higgins and S. R. Towne were appointed upon this committee. Upon motion of R. H. Wolcott, the Secretary-Treasurer was directed to send a telegram of greetings to Prof. Lawrence Bruner, who was out of the state and thereby forced to be

absent from the meeting, the first he had missed since the organization of the Union. A motion was also unanimously passed extending the thanks of the Union to Mr. Eiche for the splendid table decorations of cut flowers which had been furnished by him.

The election of officers for 1911-12 was then taken up, the ballot resulting as follows:

President, H. B. Lowry, Lincoln.

Vice-President, Mrs. Lowrie Childs, South Omaha.

Secretary-Treasurer, Myron H. Swenk, Lincoln.

The President then appointed a committee to escort the newly-elected President to the chair. This was done amid applause and the President-elect responded gracefully with a speech. The arrangements for the Ninth Annual Field Day were then discussed and a detailed plan agreed upon. R. H. Wolcott for the Auditing Committee stated that it had gone over the financial statement of the Secretary-Treasurer and found it to be correct and moved the acceptance of the report. The motion was carried.

The remainder of the evening was given over to informal talks and discussions, R. H. Wolcott acting as toastmaster. Mr. Duncanson described some interesting observations he had made upon the feeding habits of the White Pelican. Mr. Zimmer explained the status of our Nebraska Juncos and illustrated his remarks with specimens. Mr. Sessions spoke entertainingly on the changes in the bird life about Norfolk during the past forty years. Other remarks and discussions were made upon various ornithological topics by Messrs. Eiche, Tout, Swenk, Towne and Wolcott and Misses VanSant and Wood. At 10:45 P. M. the meeting adjourned.

MYRON H. SWENK, *Secretary-Treasurer.*

NINTH ANNUAL FIELD DAY.—The field party of the N. O. U. left the Government Square, Tenth and O Streets at 7:00 A. M. Saturday, May 6, 1911, and proceeded in a body to the north shore of the lake west of Lincoln (Capital Beach), investigating the outlying salt flats on the way. The northern and eastern shores of the lake were then followed. Return was made to Lincoln at noon. At 12:30 P. M. the train was taken to Roca, twelve miles south of Lincoln, and the afternoon given

over to a study of the woodland birds, the party returning to Lincoln at 5:45 p. m. The composite list of the day included one hundred and three species, only one less than the record list of May 9, 1903. The list follows:

Bluebird, Robin, Wood Thrush, Long-tailed Chickadee, White-breasted Nuthatch, Long-billed Marsh Wren, Western House Wren, Brown Thrasher, Catbird, Maryland Yellowthroat, Louisiana Water-Thrush, Grinnell Water-Thrush, Black-poll Warbler, Myrtle Warbler, Yellow Warbler, Black-and-White Warbler, Yellow-throated Vireo, Warbling Vireo, Red-eyed Vireo, Rough-winged Swallow, Bank Swallow, Tree Swallow, Barn Swallow, Cliff Swallow, Purple Martin, Dickcissel, Rose-breasted Grosbeak, Cardinal, Arctic Towhee, Towhee, Lincoln Sparrow, Song Sparrow, Western Field Sparrow, Clay-colored Sparrow, Chipping Sparrow, White-throated Sparrow, White-crowned Sparrow, Harris Sparrow, Lark Sparrow, Leconte Sparrow, Western Grasshopper Sparrow, Savanna Sparrow, Pine Siskin, Goldfinch, Red Crossbill, Bronzed Grackle, Baltimore Oriole, Western Meadowlark, Red-winged Blackbird, Yellow-headed Blackbird, Cowbird, Crow, Blue Jay, Prairie Horned Lark, Least Flycatcher, Phoebe, Great-crested Flycatcher, Kingbird, Arkansas Kingbird, Chimney Swift, Red-shafted Flicker, Northern Flicker, Red-headed Woodpecker, Downy Woodpecker, Hairy Woodpecker, Belted Kingfisher, Screech Owl, Barred Owl, Short-eared Owl, Red-tailed Hawk, Cooper Hawk, Sharp-shinned Hawk, Mourning Dove, Bobwhite, Piping Plover, Semipalmated Plover, Killdeer, Golden Plover, Spotted Sandpiper, Solitary Sandpiper, Yellow-legs, Greater Yellow-legs, Hudsonian Godwit, Semipalmated Sandpiper, Red-backed Sandpiper, Least Sandpiper, Baird Sandpiper, White-rumped Sandpiper, Pectoral Sandpiper, Long-billed Dowitcher, Wilson Phalarope, Coot, Hutchins Goose, Ruddy Duck, Ring-necked Duck, Lesser Bluebill, Pintail, Shoveller, Blue-winged Teal, Gadwall, Franklin Gull, Ring-billed Gull, Eared Grebe.

A nest of the Pine Siskin, a bird not previously known to nest in Nebraska, was found during the day; nests of the Robin, Western Meadowlark, Screech Owl and Crow were also found by the field party.

THIRTEENTH ANNUAL MEETING

The thirteenth annual meeting of the Nebraska Ornithologists' Union was held at Lincoln, Nebraska, Friday evening, May 10, 1912. At 7:00 p. m. the members sat down to a banquet in the Lindell Hotel. Following the banquet President H. B. Lowry called the meeting to order. Thirteen members were present, Messrs. Bruner, Dawson, Eiche, French, Hilton, Lowry, Shoemaker, Stephens, Swenk, Wolcott and Zimmer and Misses Barbour and Higgins. Three guests of members of the Union were also present.

The minutes of the twelfth annual meeting were read, and, on motion, approved. The President reported briefly for himself and called for the report of the Secretary-Treasurer. This officer presented the usual financial statement and gave an account of the membership and general status of the affairs of the Society. President Lowry appointed R. H. Wolcott and Miss Joy Higgins an Auditing Committee to examine the financial report of the Secretary-Treasurer, and Messrs. Swenk, Shoemaker and Eiche as a Nominating Committee.

R. H. Wolcott reported for the Record Committee. The name of Mr. Chas. S. Ludlow of Red Cloud was proposed for membership and on motion of the Secretary-Treasurer was duly elected.

In order to give the committees an opportunity to work, the order of business was changed somewhat and the first paper of the program was taken up. Mr. J. T. Zimmer gave a very clear account of the relationship, variation and distribution of the White-crowned and Intermediate Sparrows in Nebraska. At the close of Mr. Zimmer's paper the Nominating Committee reported the following nominations for officers during the next year, 1912:

President, Dr. D. C. Hilton, Lincoln.

Vice-President, Miss Edith Tobitt, Omaha.

Secretary-Treasurer, Mr. J. T. Zimmer, Lincoln.

Upon motion of R. H. Wolcott the Secretary was instructed to cast the unanimous ballot of the Society for these officers. The Auditing Committee through R. H. Wolcott reported the financial statement of the Secretary-Treasurer to be correct and moved its acceptance. Carried.

The program was then resumed. T. C. Stephens briefly discussed the woodpeckers of northeastern Nebraska. R. H. Wolcott summarized the ornithological results of the summer of 1911 which was spent in the field in western Nebraska, in Sioux, Banner, Thomas and Cherry counties. F. H. Shoemaker gave a very interesting account of the nesting of the Poorwill and White-throated Rock Swift in western Nebraska during the past summer. The Secretary-Treasurer read excerpts from letters from various members who were prevented from being present, expressing their good wishes for the success of the meeting, and reporting various bird observations of the year.

The President then appointed Messrs. Wolcott and Eiche as a committee to escort the newly-elected President to the chair. Under the head of new business a project of keeping co-operative migration notes was discussed by R. H. Wolcott and T. C. Stephens. The Secretary was instructed to ask the members as to their willingness to serve as a committee to arrange and consolidate migration data. The arrangements for the field day were discussed and decided upon. The meeting then adjourned at 10:30 P. M.

MYRON H. SWENK, *Secretary-Treasurer.*

TENTH ANNUAL FIELD DAY.—Saturday, May 11, 1912, was exceedingly cold and rainy, so that it was decided not to attempt to hold the usual Field Day with the birds. Instead the party spent the day studying the mounted bird collection belonging to August Eiche.

FOURTEENTH ANNUAL MEETING

The fourteenth annual meeting of the Nebraska Ornithologists' Union was held at Lincoln, Nebraska, Friday evening, May 9, 1913. The members gathered at the Lindell Hotel, where, at 7:00 P. M., they sat down to a banquet. Eleven members were present, Messrs. Bruner, Dawson, Eiche, Hilton, Lowry, Shoemaker, Swenk, Tout, Wolcott and Zimmer and Miss Higgins

Three guests of the Society, Mrs. and Miss Hilton and Miss Bruner, and one candidate for membership, Mr. Gates, were also present.

Following the banquet, President Hilton called the meeting to order. No reports were given by the President or Vice-President. Mr. J. T. Zimmer reported for the office of Secretary-Treasurer, the report being approved and the financial statement referred to an Auditing and Nominating Committee appointed by the chair and consisting of Messrs. Lowry, Eiche and Bruner, the committee to examine the accounts and report on their findings. M. H. Swenk reported for the office of Editor and the report was accepted. Wilson Tout gave a brief report for the Educational Committee and R. H. Wolcott for the Record Committee, both reports being accepted as read.

Election of new members was held, and the names of Messrs. L. M. Gates of University Place, and W. A. Luke and W. R. Skinner of Lincoln were proposed and all were unanimously elected.

H. B. Lowry as chairman of the Auditing Committee reported finding the financial statement of the Secretary-Treasurer correct, and on motion to that effect the report was accepted. As chairman of the Nominating Committee Dr. Lowry presented the following list of candidates for offices for the ensuing year:

President, Professor Lawrence Bruner, Lincoln.

Vice-President, Miss Joy Higgins, Omaha.

Secretary-Treasurer, Mr. J. T. Zimmer, Lincoln.

In presenting the name of the candidate for President it was stated that Professor Bruner was the first President of the Society at its organization and although no other President of the Society had ever held that office twice, it was thought eminently proper and fitting to elect Professor Bruner again, since next year would be the fifteenth anniversary of the Union. H. B. Lowry moved to suspend the rules and have the President cast the unanimous ballot of the Society for Professor Bruner as President. M. H. Swenk repeated the motion with reference to Miss Higgins as Vice-President and R. H. Wolcott with reference to J. T. Zimmer as Secretary-Treasurer. These motions

were all seconded and carried and the unanimous ballot of the Society was cast for these officers.

Plans for the field day on Saturday, May 10, were next taken up. It was decided to have one party assemble at Ninth and O Sts. at 7:00 A. M. to start for Capital Beach, a second party to assemble and leave for the same place at 8:00 A. M., later plans to be formulated there for the afternoon trip

Messrs. H. B. Lowry and R. H. Wolcott were appointed a committee to escort the President-elect to the chair, where after the applause had subsided he gave a few words of acceptance.

The Secretary-Treasurer read the minutes of the last meeting, which were then approved, on motion to that effect.

Retiring President Hilton gave a very interesting paper consisting of some "Notes on the Birds of the Gulf Strip of Texas," in which he treated very clearly of a large number of species which he had observed in the region mentioned on several trips to Texas.

After the conclusion of Dr. Hilton's paper, new business was taken up. The matter of the Feather Proviso in "Schedule N" of the Tariff Act, then before Congress, was discussed. On motion to that effect, a committee composed of M. H. Sweek and the Secretary was empowered to draft resolutions expressing approval of the portion in question of the Tariff Act, copies of the resolution to be forwarded to the Nebraska Senators and Representatives at Washington. On second motion, Miss Higgins was added to the personnel of the committee.

The matter of a biological survey of Nebraska was brought up and discussed. It was moved, seconded and carried that the Secretary be empowered to express to the Bureau of Biological Survey at Washington, the willingness of the Nebraska Ornithologists' Union to co-operate with the Bureau in getting out such a survey.

The committee on resolutions concerning the Tariff Act proviso reported the following resolution:

"Resolved, that the Nebraska Ornithologists' Union, assembled at the Fourteenth Annual Meeting at Lincoln, May 9, 1913, express their unqualified approval of the Feather Proviso in "Schedule N," of the Tariff

Act, and urge upon the Senators and Representatives of the State of Nebraska to give this provision of the Tariff Act their support.

(Signed) "M. H. SWENK,

"JOY HIGGINS,

"JOHN T. ZIMMER,

"Committee."

The resolution was adopted by the society.

The next question to be taken up was that of the non-issuance of scientific permits for collecting specimens this year, Governor Morehead having refused to issue such permits owing to past abuse of the privilege by non-scientific collectors. A motion was carried to the effect that a committee composed of Messrs. Bruner, Eiche and Wolcott be appointed to confer with the governor regarding the issuance of a limited number of permits to authorized parties connected with scientific institutions.

At 10:00 P. M. the motion was put to adjourn.

JOHN T. ZIMMER, *Secretary-Treasurer.*

ELEVENTH ANNUAL FIELD DAY.—Saturday, May 10, was rainy and stormy and only a few members made the field trip to Capital Beach. In the afternoon, some members visited Wyuka cemetery where several woodland birds, not seen in the morning, were added to the list. Numerous species usually common were not in evidence, but notwithstanding this fact and the inclement weather, a total of ninety-one species was secured. The composite list is as follows:

Robin, Olive-backed Thrush, Gray-checked Thrush, Willow Thrush, Wood Thrush, Ruby-crowned Kinglet, Long-tailed Chickadee, Western House Wren, Brown Thrasher, Catbird, Pipit, Redstart, Maryland Yellowthroat, Louisiana Water-Thrush, Grinnell Water-Thrush, Ovenbird, Black-throated Green Warbler, Black-poll Warbler, Magnolia Warbler, Myrtle Warbler, Yellow Warbler, Tennessee Warbler, Orange-crowned Warbler, Black-and-White Warbler, Bell Vireo, Blue-headed Vireo, Warbling Vireo, Rough-winged Swallow, Bank Swallow, Tree Swallow, Barn Swallow, Cliff Swallow, Dickcissel, Rose-breasted Grosbeak, Cardinal, Towhee, Lincoln Sparrow, Song Sparrow, Clay-colored Sparrow, Chipping Sparrow, White-crowned Spar-

row, Intermediate Sparrow, Harris Sparrow, Leconte Sparrow, Western Grasshopper Sparrow, Savanna Sparrow, Goldfinch, Bronzed Grackle, Baltimore Oriole, Orchard Oriole, Western Meadowlark, Red-winged Blackbird, Yellow-headed Blackbird, Cowbird, Crow, Blue Jay, Least Flycatcher, Traill Flycatcher, Kingbird, Chimney Swift, Northern Flicker, Red-headed Woodpecker, Downy Woodpecker, Yellow-billed Cuckoo, Sparrow Hawk, Mourning Dove, Bobwhite, Semipalmated Plover, Killdeer, Spotted Sandpiper, Western Willet, Solitary Sandpiper, Yellow-legs, Greater Yellow-legs, Hudsonian Godwit, Semipalmated Sandpiper, Least Sandpiper, Baird Sandpiper, White-rumped Sandpiper, Pectoral Sandpiper, Coot, Ruddy Duck, Lesser Bluebill, Pintail, Shoveller, Blue-winged Teal, Mallard, Red-breasted Merganser, Black Tern, Franklin Gull, Ring-billed Gull.

FIFTEENTH ANNUAL MEETING

The fifteenth annual meeting of the Nebraska Ornithologists' Union was held at Lincoln, Nebraska, Friday evening, May 15, 1914. At 7:00 p. m. the members met in the ordinary of the Lincoln Hotel. Ten members were present, Messrs. Bruner, Dawson, Eiche, Gates, Hilton, Lowry, Shoemaker, Swenk and Wolcott and Mrs. A. E. Sheldon. Six guests of the Society, Mrs. and Miss Hilton, Mr. and Mrs. Loveland and Mr. Childs of Lincoln, and Miss Laura Evans of Blue Springs, were also present.

After the banquet the Society was called to order with President Bruner in the chair. The minutes of the fourteenth annual meeting were read by the acting Secretary, and on motion by R. H. Wolcott they were approved and accepted. After briefly reporting for his office, in the absence of the Vice-President the report of the Treasurer was next called for and read, and on motion by H. B. Lowry an Auditing Committee was appointed. Messrs. Eiche, Dawson and Shoemaker were appointed as the Auditing Committee. At the same time a Nominating Commit-

tee, consisting of Messrs. Lowry and Swenk, was appointed by the chair.

R. H. Wolcott reported briefly for the Record Committee. In the absence of the chairman of the Educational Committee no report of this work was received.

Election of new members being in order, the names of Miss Laura Evans of Blue Springs and Mrs. Catherine Foley of Gothenburg were proposed by R. H. Wolcott and S. R. Towne, respectively, and duly elected to membership. On her personal request, Mrs. G. A. Loveland, who joined the N. O. U. in 1901 but resigned in 1904, was reinstated by an affirmative expression of the Society.

August Eiche reported for the Auditing Committee that the reports of the Treasurer for 1913-14 had been examined and found correct, and, on his motion, the report was accepted. H. B. Lowry read the report of the Nominating Committee for officers for 1914-15, as follows:

President, Prof. T. C. Stephens, Sioux City.

Vice-President, Mrs. G. A. Loveland, Lincoln.

Secretary-Treasurer, Mr. R. W. Dawson, Lincoln.

Upon motion of H. B. Lowry that the rules be suspended and that the Secretary be instructed to cast the unanimous ballot of the Society for T. C. Stephens as President, the motion was put and unanimously carried. The motion was repeated for Mrs. Loveland as Vice-President by Mrs. Sheldon, and for R. W. Dawson as Secretary-Treasurer by M. H. Swenk, and in each case the nominee was unanimously elected.

New business being in order, the Secretary-Treasurer proposed the following three amendments to the constitution: (1) That in Article II, Section 1, the words "or adjacent states" be inserted after "Nebraska," and (2) that in Article V, Section 4, the words "and to nominate three persons for each of the several offices that are to be filled annually" be stricken out, and (3) that in Article VI, Section 1, the words "and the Secretary-Treasurer shall send a list of the nominees of the Executive Committee to each member one month before the date of the annual meeting" be stricken out. After explanations by the Secretary-Treas-

urer these amendments to the constitution were unanimously carried on motions by H. B. Lowry and August Eiche

No further new business being proposed, the program was taken up. Retiring President Bruner gave a very instructive address on "A Comparison of the Bird Faunas of the Pampas of Argentina and the Plains of Nebraska," a subject with which he was especially competent to deal because of his extensive travels in Argentina in 1897 and his long experience with the birds of our plains.

Following the President's address, the Secretary read a highly entertaining letter from Mr. J. T. Zimmer, a member of the Society now engaged in scientific work near Manila, P. I., giving his impressions of Philippine birds. R. H. Wolcott then exhibited a remarkable specimen, obviously the abdominal fat layer of a duck turned to soap, which had recently been found floating on a Cherry county lake by a ranchman. This specimen, though showing plainly the feather tracts, etc., of the bird is simply two-thirds calcium soap, and its formation is attributed by Dr. Wolcott to the bird dying or falling into the lake during a warm period when the fat rapidly united with the alkali of the water to form the soap. M. H. Swenk then exhibited a series of Nebraska nighthawks, and explained the distribution of the various subspecies in this state, so far as it is at present understood.

Plans for the Twelfth Annual Field Day were then taken up and discussed, and it was decided to visit the beach west of Lincoln in the morning, leaving the city on the electric cars in two parties, at 5:00 A. M. and 6:40 A. M., respectively, and to spend the afternoon on the Salt Creek bluff's near Havelock, leaving the city at 1:20 P. M.

At 10:30 the meeting adjourned.

MYRON H. SWENK, *Acting Secretary-Treasurer.*

TWELFTH ANNUAL FIELD DAY.—On Saturday, May 16, the field party of the N. O. U. visited Capital Beach from early morning until noon, and in the afternoon, from 2:00 to 6:00 P. M., the birds seen on the trip to the "Havelock Bluff" northeast of Lincoln were listed. The composite list for the day was rather small,

owing to the fact that the migration was largely over. Eighty-five species were observed, as follows:

Bluebird, Robin, Wood Thrush, Long-tailed Chickadee, Western House Wren, Brown Thrasher, Catbird, Maryland Yellowthroat, Ovenbird, Black-poll Warbler, Yellow Warbler, Orange-crowned Warbler, Bell Vireo, Warbling Vireo, Red-eyed Vireo, Migrant Shrike, Rough-winged Swallow, Bank Swallow, Barn Swallow, Purple Martin, Dickcissel, Indigo Bunting, Rose-breasted Grosbeak, Cardinal, Towhee, Lincoln Sparrow, Clay-colored Sparrow, Chipping Sparrow, Harris Sparrow, Lark Sparrow, Western Grasshopper Sparrow, Savanna Sparrow, Pine Siskin, Goldfinch, Bronzed Grackle, Baltimore Oriole, Orchard Oriole, Western Meadowlark, Red-winged Blackbird, Cowbird, Blue Jay, Prairie Horned Lark, Phoebe, Great-crested Flycatcher, Kingbird, Chimney Swift, Northern Flicker, Red-headed Woodpecker, Downy Woodpecker, Hairy Woodpecker, Belted Kingfisher, Yellow-billed Cuckoo, Swainson Hawk, Sharp-shinned Hawk, Marsh Hawk, Mourning Dove, Bobwhite, Turnstone, Piping Plover, Semipalmated Plover, Killdeer, Black-bellied Plover, Spotted Sandpiper, Yellow-legs, Semipalmated Sandpiper, Least Sandpiper, Baird Sandpiper, White-rumped Sandpiper, Stilt Sandpiper, Wilson Phalarope, Coot, Black-crowned Night Heron, Green Heron, Ruddy Duck, Lesser Bluebill, Redhead, Shoveller, Blue-winged Teal, Green-winged Teal, Gadwall, Mallard, Black Tern, Franklin Gull, Eared Grebe.

REPORT OF TREASURER, 1910-1911

RECEIPTS

Cash received from previous Treasurer, April 30, 1910.	\$ 53.78
1 Annual dues for 1905—Active.	2.00
2 Annual dues for 1906—Active.	4.00
2 Annual dues for 1907.	4.00
2 Annual dues for 1908.	4.00
6 Annual dues for 1909.	12.00
18 Annual dues for 1910.	36.00

1 Annual dues for 1911.....	2.00
Sale of Proceedings and Checklists.....	3.75
	\$121.53

EXPENDITURES

Jacob North & Co., printing Vol. V, Part 1 and 500 receipts	\$ 31.45
McVey Printing Co., printing Vol. V, Part 2.....	16.20
McVey Printing Co., printing Vol. V, Part 3.....	13.30
McVey Printing Co., printing 1,000 letter heads for use of Secretary-Treasurer	3.50
Postage, office of Secretary-Treasurer.....	1.45
Stenography, office of Secretary-Treasurer.....	2.20
Balance on hand, May 5, 1911.....	53.43
	\$121.53

Respectfully submitted,
MYRON H. SWENK, *Secretary-Treasurer.*

REPORT OF TREASURER, 1911-12

RECEIPTS

Cash on hand, May 5, 1911.....	\$ 53.43
2 Annual dues for 1906—Active.....	4.00
2 Annual dues for 1907.....	4.00
3 Annual dues for 1908.....	6.00
5 Annual dues for 1909.....	10.00
10 Annual dues for 1910.....	20.00
14 Annual dues for 1911.....	28.00
3 Annual dues for 1912.....	6.00
Sale of Proceedings.....	2.10
	\$133.53

EXPENDITURES

Boyd Printing Co., printing Vol. V, Part 4.....	\$ 18.20
State Journal Co., making two halftones for Vol. V, Part 4	3.60
Postage, office of Secretary-Treasurer.....	2.90

Telegram50
Return of balance from banquet of May 14, 1909.....	1.00
Balance on hand, May 10, 1912.....	107.33
	\$133.53

Respectfully submitted,
MYRON H. SWENK, *Secretary-Treasurer.*

REPORT OF TREASURER, 1912-13

RECEIPTS

Cash received from previous Treasurer, May 10, 1912...	\$107.33
2 Annual dues for 1909.....	4.00
3 Annual dues for 1910.....	6.00
11 Annual dues for 1911.....	22.00
14 Annual dues for 1912.....	28.00
Sale of Checklists.....	.20
Excess on banquet fund.....	1.50
	\$169.03

EXPENDITURES

Boyd Printing Co., printing Vol. V, Part 5.....	\$ 88.45
Postage, office of Secretary-Treasurer.....	2.00
Balance on hand, May 9, 1913.....	78.58
	\$169.03

Respectfully submitted,
JOHN T. ZIMMER, *Secretary-Treasurer.*

REPORT OF TREASURER, 1913-14

RECEIPTS

Cash on hand, May 9, 1913.....	\$ 78.58
1 Annual dues for 1911.....	2.00
3 Annual dues for 1912.....	6.00
4 Annual dues for 1913.....	8.00

1 Annual dues for 1914.....	2.00
Sale of Proceedings	5.95
Sale of Checklists.....	.25
	<hr/>
	\$102.78

EXPENDITURES

Postage, office of Secretary-Treasurer	\$ 1.90
Materials for preserving N. O. U. collections.....	.30
Balance on hand, May 15, 1914.....	100.58
	<hr/>
	\$102.78

Respectfully submitted,

JOHN T. ZIMMER, *Secretary-Treasurer.*MYRON H. SWENK, *Acting Secretary-Treasurer.*

CONSTITUTION AND BY-LAWS

ARTICLE I

NAME AND OBJECT

Section 1. This Association shall be known as The Nebraska Ornithologists' Union.

Sec. 2. Its aims shall be to promote the study of ornithology by more closely uniting the students of this branch of natural history, and to encourage the study of birds in the state of Nebraska.

ARTICLE II

MEMBERS

Section 1. Any student of ornithology resident in Nebraska or adjacent states, not less than sixteen years of age, may become a member on receiving a majority vote of the members present at any meeting. All members in good standing shall have the right to vote and hold office.

Sec. 2. Honorary members shall be elected for their eminence in ornithology or for distinguished services in furthering the aims for which this Union is established.

Sec. 3. Application for membership in the interim between meetings may be considered by the Executive Committee, and the application granted by a unanimous vote of the committee.

ARTICLE III

QUORUM

Section 1. A quorum for the transaction of business shall be the active members present at any annual meeting, provided the number is not less than nine.

ARTICLE IV

OFFICERS AND COMMITTEES

Section 1. The officers of this Union shall be: a President, a Vice-President and a Secretary-Treasurer.

Sec. 2. There shall be an Executive Committee consisting of the officers.

Sec. 3. Standing committee shall be appointed by the President with the concurrence of the Executive Committee.

ARTICLE V

DUTIES OF OFFICERS AND COMMITTEES

Section 1. Duties of the President—It shall be the duty of the President to preside at all the meetings of the Union, to appoint the standing committees, and to perform such other duties as may properly pertain to the office.

Sec. 2. Duties of the Vice-President.—It shall be the duty of the Vice-President to act in the absence or incapacity of the President.

Sec. 3. Duties of the Secretary-Treasurer.—It shall be the duty of the Secretary-Treasurer to keep a record of all the meetings of the Union, to countersign all orders and documents issued by the President, to conduct the general correspondence of the Union, to prepare the program of the meetings, to send out the call for such meetings, to superintend the publication of the Proceedings of the Union, to have charge of all property of the Union, to receive and have charge of all moneys of the Union and to pay such bills as are endorsed by the President and to perform such other duties as properly pertain to this office.

Sec. 4. Duties of the Executive Committee. It shall be the duty of the Executive Committee to fix the date and place of the annual meeting, to act on applications for membership as provided in Article II, section 3, to concur in the appointment of standing committees as provided in Article IV, section 3, and to fill by temporary appointment offices which shall become vacant.

ARTICLE VI

ELECTION OF OFFICERS AND COMMITTEES

Section 1. The election of all officers shall be by ballot, a majority of those voting being required to elect.

Sec. 2. The term of office shall extend from the end of one annual meeting to the end of the next one.

ARTICLE VII

MEETINGS

Section 1. The annual meeting of the Union shall be held at such place and time as the Executive Committee shall decide.

ARTICLE VIII

DUES AND ASSESSMENTS

Section 1. The annual dues of the members shall be two dollars (\$2), due at the time of election to membership and on the date of each annual meeting thereafter.

Sec. 2. In case of failure to pay dues before the close of the year, a member shall forfeit his right to the publications of the Union.

Sec. 3. In case of failure to pay dues for two years a member shall be dropped from the roll of the Union.

ARTICLE IX

AMENDMENTS

Section 1. An amendment to this constitution may be adopted by an affirmative vote of two-thirds of the members present at any annual meeting, one month notice of the proposed amendment having been given all members.

BY-LAWS

Section 1. The actual amount expended by the officers in carrying on their official duties shall be refunded to them.

Sec. 2. All members in good standing shall receive gratis one copy of the publications of the Union. Other copies of the publications may be distributed under sanction of the Executive Committee.

Sec. 3. All papers presented at the meetings shall be the property of the Union and shall be filed with the Secretary-Treasurer.

Sec. 4. The order of business at the annual meeting shall be as follows: 1, Reports of Officers; 2, Reports of Committees; 3, Proposal of Names and Election of Members; 4, New Business; 5, Announcement of Election of Officers and Committees; 6, Presentation and Discussion of Papers and Remarks; 7, Installation of Officers; 8, Reading of Minutes; 9, Adjournment.

Sec. 5. Application for membership must be made to the Executive Committee, and such application must have the indorsement of at least one member in good standing, which shall be expected to be a proper recommendation of the candidate.

Sec. 6. Any of the By-Laws may be amended or repealed by vote of a majority of the members.

LIST OF MEMBERS

Corrected to January 1, 1915. Names of Charter Members indicated by an asterisk.

MEMBERS

*Bates, Rev. J. M., Red Cloud.....	1900
Bruner, H. F., Kola.....	1901
*Bruner, Prof. Lawrence, University Farm, Lincoln.....	1900
Dawson, R. W., University Farm, Lincoln.....	1911
Duncanson, H. B., Peru.....	1901
*Eiche, August, 1133 O St., Lincoln.....	1900
Evans, Miss Laura, Blue Springs.....	1914
Foley, Mrs. Catherine, Gothenburg.....	1914
Gates, L. M., University Farm, Lincoln.....	1913
Higgins, Miss Joy, 527 Park Avenue, Omaha.....	1908
Hilton, Dr. D. C., 1238 O St., Lincoln.....	1909
Horsky, L. O., Mailing Division, Post Office, Omaha.....	1910
Loveland, Mrs. G. A., Lincoln.....	1901
Lowry, Dr. H. B., 843 S. 10th St., Lincoln.....	1901
Ludlow, C. S., Red Cloud.....	1912
Luke, W. A., Secretary City Y. M. C. A., Lincoln.....	1913
McDonald, Miss Jeanette, 318 So. 26th St., Omaha.....	1905
Payne, Mrs. Geo. H., West Dodge St., Omaha.....	1901
Pollard, Hon. Isaac, Nehawka.....	1903
Salter, G. B., Norfolk.....	1908
*Sessions, L., Norfolk.....	1900
Sheldon, Mrs. A. E., 1319 So. 23d St., Lincoln.....	1904
Shipherd, Miss Maude, 4811 Davenport St., Omaha.....	1911
Stephens, Prof. T. C., Morningside College, Sioux City, Ia.....	1911
Skinner, W. R., 3161 Kleckner Court, Lincoln.....	1913
*Swenk, Prof. M. H., University Farm, Lincoln.....	1900
Tobitt, Miss Edith, Omaha Public Library, Omaha.....	1907
*Tout, Wilson, Supt. Schools, North Platte.....	1900
*VanSant, Miss Elizabeth, 2960 Dewey Avenue, Omaha....	1900
*Wolcott, Dr. R. H., University of Nebraska, Department of Zoology, Lincoln	1900
Zimmer, J. T., Department of Agriculture, P. I.....	1907

PROCEEDINGS OF THE
NEBRASKA ORNITHOLOGISTS' UNION

THE ESKIMO CURLEW AND ITS DISAPPEARANCE

BY MYRON H. SWENK

It is now the consensus of opinion of all informed ornithologists that the Eskimo Curlew (*Numenius borealis*) is at the verge of extinction, and by many the belief is entertained that the few, scattered birds which may still exist will never enable the species to recoup its numbers, but that it is even now practically a bird of the past. And, judging from all analogous cases, it must be confessed that this hopeless belief would seem to be justified, and the history of the Eskimo Curlew, like that of the Passenger Pigeon, may simply be another of those ornithological tragedies enacted during the last half of the nineteenth century, when, because of a wholly unreasonable and uncontrolled slaughter of our North American bird life, several species passed from an abundance manifested by flocks of enormous size to a state of practical or complete annihilation. In this deadly work the people of Nebraska, as well as those of our neighboring states, to our lasting discredit played a conspicuous and all too effective part each spring, while in the fall the equally profligate gunners of New England and the Atlantic states poured leaden death into south-bound flocks of these unfortunate birds whenever an opportunity presented itself.

Nothing was known concerning this interesting bird until after the middle of the eighteenth century. It was originally described by Forster¹ in 1772, as *Scolopax borealis*, from a specimen taken

¹Forster, J. R. Phil. Trans. Royal Soc. London, 1xii, pp. 411 and 431, 1772.

at Albany Fort, Hudson Bay. Pennant² in 1785 and Hearne³ in 1795 both erroneously referred to the larger congener of this bird, the Hudsonian Curlew (*Numenius hudsonicus*), as the "Es-kimaux Curlew," though the latter author recognized two species of curlew as abundant about Hudson Bay from 1769 to 1772, the smaller of which was undoubtedly the present species. In 1790 Latham⁴ formally described the Hudsonian Curlew and referred the Eskimo Curlew to the same genus, but confusion between the two species continued up to the earlier years of the nineteenth century, and the bird described by Wilson⁵ in 1813 as the "Esqui-maux Curlew" was in reality the Hudsonian, the species rightfully entitled to the name he used being unknown to him. The Hudsonian Curlew is a large bird, about seventeen inches long, with a bill about four inches long, a whitish stripe in the middle of the top of the head and the long flight feathers of the wing barred with buffy; the Eskimo Curlew is two to five inches shorter, with a bill only slightly over two inches long, the crown unstriped and the flight feathers of the wing unbarred.

In the spring migration this curlew passed through the interior of the United States, in the Mississippi valley, rarely if ever occurring on the Atlantic ocean or its coasts. It first appeared in the United States in Texas and Louisiana during early to middle March. In central Texas Brown⁶ noted it at Boerne, Kendall county, March 9, 1880, as a rather common migrant, while in northern Texas at Gainesville, Cooke county, it arrived on the average March 17, according to Ragsdale, while its earliest date was March 7, 1884⁷. In the adjacent county, Wise, it was noted as late as April 2, 1884, while at Caddo, Oklahoma, a short distance across the Red River from Gainesville, in 1884 it was noted March 25 and was abundant on April 28⁸. In Louisiana, where it was a common migrant⁹, the last records are for March 17 and

²Pennant, T. Arctic Zoology, ii, 1785.

³Hearne, S. A journey from Prince of Wales' Fort in Hudson's Bay to the Northern Ocean, 1795.

⁴Latham, J. Index Ornithologicus, ii, p. 712, 1790.

⁵Wilson, A. American Ornithology, vii, 1813.

⁶Brown, N. C. Bull. Nuttall Ornith. Club, vii, p. 42, 1882.

⁷Cooke, W. W. Bull. 35, Bureau of Biological Survey, pp. 74-76, 1910.

⁸Cooke, W. W. Bull. 2, Division of Economic Ornithology, p. 98, 1888.

⁹Beyer, G. E., Allison, A., and Kopman, H. H. Auk, xxv, p. 179, 1908.

23, 1889¹⁰, while for Arkansas the last record is from Fayetteville, March 31, 1883, on the authority of Prof. F. L. Harvey¹¹.

The quadrangle of states to the north—Kansas, Missouri, Iowa, and Nebraska—saw the passing through of these curlews during the last few days in March and during April. By the last of March the vanguard of the birds had reached central Missouri, (St. Louis, March 25, 1884)⁸ and southern Nebraska, (Waco, March 31, 1911)¹². Curlews were on the St. Louis market April 6, 1885⁹, a flock of a hundred birds was seen in Vernon county southwestern Missouri, April 16, 1894, and a flock of ten was noted in the neighboring county of Jasper as late as May 2, 1902¹³. In central Kansas, according to the observations of Kellogg, they reached Emporia April 14, 1884, and April 13, 1885⁷. In Iowa, the last recorded specimen was taken at Burlington in the extreme southeastern part of the state, April 5, 1893, by Paul Bartsch¹⁴. The bulk of the birds reached southern Nebraska about April 2 to 25 and remained until the 15 to 25 of May; in northern Nebraska they were apparently most numerous in early May. The van reached Heron Lake, Jackson county, in southwestern Minnesota, April 3, 1884, and the next year, 1885, were noted at this place on April 24⁸. In southeastern South Dakota, the bulk arrived at Vermilion, Clay county, May 3, 1884⁸, while Coues reported them present in large flocks between Fort Randall and Yankton during the second week in May, 1873¹⁵.

By latter May the curlews had reached their breeding range in the far north, on the Barren Grounds of Mackenzie within the shadow of the Arctic Circle or even within the Circle itself. They reached Fort Resolution, near the south shore of Great Slave Lake, May 26, 1860, Kennicott mentioning in his journal the taking of a specimen there on that date.¹⁶ At Fort Anderson, Mackenzie, near the Arctic coast, they were noted May 27, 1865, by

¹⁰Forbush, E. H. Game Birds, Wildfowl and Shorebirds, pp. 416-432, 1912.

¹¹Howell, A. H. Bull. 38, Bureau of Biological Survey, p. 32, 1911.

¹²Eiche, A. *Antea*, v, p. 31, 1911.

¹³Widmann, O. Trans. Acad. Science St. Louis, p. 75, 1907.

¹⁴Anderson, R. M. Proc. Davenport Acad. Sciences, xi, p. 221, 1907.

¹⁵Coues, E. Birds of the Northwest, pp. 510-512, 1874.

¹⁶Biography of Robert Kennicott; Committee, Chicago Acad. Sciences, in: Trans Chicago Acad. Sciences, i, p. 172, 1869.

MacFarlane¹⁷. In this latter locality the birds bred abundantly. MacFarlane collecting some thirty sets of eggs on the Barren Grounds east of Fort Anderson on June 13, 1863, June 16, 1864, and June 16, 1865¹⁸. Previously Richardson had found "one of these curlews hatching on three eggs on the shore of Point Lake," Mackenzie, on June 13, 1822¹⁹. He also found these birds at Fort Franklin, on the west shore of Great Bear Lake, Mackenzie, late in May, 1849, but this was probably too early for nests²⁰. The breeding range probably extended from Alaska to Labrador as these curlews penetrated even as far to the northwest as Point Barrow, at the apex of the north Alaskan coast, where though "rare and irregular" it was first seen by Murdock May 20, 1882, and last seen July 6 of that year, thus probably being present through the breeding season²¹. Also, eastwardly it was recorded by Kumlien as passing in small flocks northward in June, 1878, at Cumberland Bay, and a specimen was taken²². It was not known, however, to have actually nested either west or east of the Mackenzie Barren Grounds.

The nest of the Eskimo Curlew was a mere hole in the ground on the open plain lined with a few decayed leaves with a thin sprinkling of dried grass in the center. The eggs were laid by the third week in June. As the setting bird would glide off before the nest was closely approached it was a very difficult thing to find. After leaving the nest the female usually soon ascended into the air in a straight line. The eggs, usually four in number, were oblong oval, slightly pear-shaped, varying in size from 1.90x1.40 to 2.12x1.33, and also exceedingly variable in color, a pale green or greenish gray to clay colored or olivaceous drab heavily marked on the larger end with shades of sepia to umber

¹⁷Preble, *North American Fauna*, No. 27, p. 332, 1908.

¹⁸MacFarlane, R. *Proc. U. S. Nat. Museum*, xiv, p. 429, 1891.

¹⁹Swainson, W. and Richardson, J. *Fauna Boreali-Americana*. London, ii, p. 378, 1831.

²⁰Richardson, J. *Arctic Searching Expedition: A Journal of a Boat-Voyage through Rupert's Land and the Arctic Sea, in search of the Discovery Ships under command of Sir John Franklin*, London, ii, p. 108, 1851.

²¹Murdock, J. *Auk*, ii, p. 63 and p. 201, 1885.

²²Kumlien, L. *Bull. 15, U. S. Nat. Museum*, p. 88, 1879.

brown. The young began hatching about July 12, leaving the nest as soon as hatched and hiding away in the grass if alarmed^{15 23}.

Late in July and early in August the curlews had completed their domestic duties, and began congregating in flocks preparatory for their long southward migration. Their first movement was from the Barren Grounds southeastward to the eastern shores of Labrador, where they massed in immense swarms. July 29, 1833, while Audubon was near the harbor of Bras d'Or, Labrador, he found these curlews coming in from the north in such dense flocks as to remind him of the flights of the Passenger Pigeon²⁴. In 1838 Tucker recorded these birds as exceedingly abundant, occurring in vast flocks on the Labrador coast²⁵. In 1860 Dr. Packard noted a flock which was perhaps a mile long and nearly as broad, and the sum total of their distant notes resembled the wind whistling through the rigging of a ship, or at times sounding like the jingling of many sleigh bells¹⁰. Dr. Coues in the same year noted their arrival at Indian Tickle Harbor, Labrador, August 16, 1860⁷. Norton recorded their arrival at Houlton Harbor, Labrador, August 20, 1891⁷. Here they found an abundance of food and gorged themselves until they became extremely fat. During latter August the bulk of the curlews crossed the Gulf of St. Lawrence to Newfoundland and Nova Scotia, and from there struck out to sea, heading toward their South American winter home. The records at Cartwright, Labrador, cover the period from July 28 to October 24²⁶.

During this long flight, if the weather was fair and fine, little was seen of the curlews from the time they left the Newfoundland and Nova Scotia shores until they reached the Lesser Antilles, nearly 2,000 miles away. A few flocks would land for a few days on the Bermuda Islands, according to Jardine⁷, and if southerly storms prevailed great numbers of them would land.

²³Baird, S. F., Brewer, T. and Ridgway, R. *Water Birds of North America*, i. p. 318, 1884.

²⁴Audubon, J. J. *Birds of America*, vi. p. 45, 1843; *Orn. Biog.*, iii. p. 69 and v. p. 590, 1835.

²⁵Tucker, E. W. *Five months in Labrador and Newfoundland in 1838*, p. 110, 1839.

²⁶Townsend, C. W. and Allen, G. M. *Proc. Boston Soc. Nat. Hist.*, xxxiii, pp. 356-357, 1906-1907.

but usually the bulk passed on, and, flying both day and night, probably without landing, did not land until the Lesser Antilles had been reached. Passing through these islands, they continued along the eastern portion of Brazil to Argentina, their winter home⁷. Barrows reports them arriving at Conception del Uruguay, in large flocks, Sept. 9, 1880, and remaining until the middle of October. At Bahia Blanca they were seen every day until late in February, but after March they had disappeared⁷. Most of the birds arrived in Argentina about the middle of September and wintered in the campos region of that country, mostly south of Buenos Aires⁷. They occurred south to the Chabut valley, Patagonia, according to Durnford, and according to Abbott a specimen was taken on the Falkland Islands⁷. On the west coast they were rare, but occurred in Chile south to Chiloe⁷.

But if easterly storms occurred, the birds would be driven out of their line of flight, and great flocks would occur on the coast of New England, and, less commonly, the shores of the middle and southern states. Or, if westerly storms prevailed, they might be driven far out to sea or even across the Atlantic, as there are several records of the occurrence of the species on the British Isles in the fall. On September 6, 1855, one was recorded from Cairn Moncaru, near Stonehaven, Kincardineshire²⁸, two others were also taken on unknown dates on the Alde at Aldeburgh, and at Woodbridge, both in Suffolk²⁹, a fourth was purchased in Dublin, in the flesh, October 21, 1870³⁰, another individual at Slains, Aberdeenshire, September 28, 1873³¹, and a sixth bird, a male, at Forest of Birse, Kincardineshire, September 21, 1880³². On May 26, 1906, an Eskimo Curlew came on shipboard about halfway between Ireland and Newfoundland (Lat. 49° 06' N., Long. 27° 28' W.) in a fatigued condition³³.

²⁸Barrows, W. B. *Auk*, i, p. 316, 1884.

²⁹Longmuir, *Naturalist*, p. 265, 1855, and Yarrell, *British Birds*, ii, p. 620.

³⁰Hele, *Notes about Aldeburgh*, p. 177, and Harting, *Handbook of British Birds*, p. 145.

³¹Blake Knox, *Zoologist*, p. 2408, 1870.

³²Sim, *Scottish Naturalist*, p. 36, 1879.

³³Harvie-Brown, *Zoologist*, p. 485, 1880.

³⁴Barbour, R. *Auk*, xxiii, p. 459, 1906.

On the Pacific coast south of Alaska this bird was always very rare. A lone specimen was shot over decoys at San Diego, California, September, 1883, and was the only one seen³⁴. Mr. P. I. Hoagland, who is well acquainted with this bird in Nebraska, states that a number of years ago he saw a flock of about a dozen birds at Coronado Beach, near Tia Juana, California, and that he shot a few birds from this bunch.

In Labrador the Eskimo Curlews were abundant until about 1876, according to observations reported to Townsend and Allen²⁶, but there was a great and sudden falling off in numbers about 1886. Other observers place the sudden decline in 1891¹⁹ or 1892³⁵. Bigelow states that after 1892 the birds appeared no more in numbers, and while in Labrador in September, 1900, he heard of only about a dozen being seen on the coast, and of these he personally saw five³⁵. According to Dr. W. T. Grenfell the birds became scarce in the 80's in Labrador, and in 1892 he saw only two flocks of any size. In 1906 he heard of a few dozen being killed, but did not see one²⁶. During the years 1908-1911 the birds were not noted in Labrador¹⁹, but in August and September, 1912, eight Eskimo Curlews were seen on the beach at West Bay, north of Cartwright, Labrador, and seven of these were shot, while the skins of five were saved and sent to Cambridge, Massachusetts, by Dr. Grenfell, where they were seen and identified by Mr. William Brewster³⁶.

During the period of abundance in Labrador these birds were continually and heavily slaughtered. One hunter states that the fishermen killed them by thousands, and he had personally shot a hundred before breakfast²⁶. Another hunter, quoted by Carroll³⁷, said that he did not remember having secured less than thirty or forty brace in a two hours' shoot, and in a day's shooting by twenty-five or thirty men as many as two thousand birds would be killed for the Hudson Bay Company's store at Cartwright.

³⁴Holterhoff, G. *Auk*, i, p. 393, 1884.

³⁵Bigelow, H. B. *Auk*, xix, p. 29, 1902.

³⁶Townsend, C. W. *Auk*, xxx, p. 10, 1913.

³⁷Carroll, W. J. *Forest and Stream*, lxxiv, p. 372 (1910).

Concerning the shooting in Labrador, Coues³⁸ says: "The most successful method of obtaining them is to take such a position as they will probably fly over in passing from one feeding ground to another. They may then be shot with ease, as they rarely fly high at such times. The pertinacity with which they cling to certain feeding grounds, even when much molested, I saw strikingly illustrated on one occasion. The tide was rising and about to flood a muddy flat, of perhaps an acre in extent, where their favorite snails were in great quantities. Although six or eight gunners were stationed upon the spot, and kept up a continual round of firing upon the poor birds, they continued to fly distractedly about over our heads, notwithstanding the numbers that every moment fell. They seemed in terror lest they should lose their accustomed fare of snails that day. On another occasion, when the birds had been so harrassed for several hours as to deprive them of all opportunity of feeding, great numbers of them retired to a very small island, or rather a large pile of rocks, a few hundred yards from the shore, covered with sea-weed and, of course, with snails. Flock after flock alighted on it, till it was completely covered with the birds, which there, in perfect safety, obtained their morning meal."

In Newfoundland and on the Magdalen Islands in the Gulf of St. Lawrence, for many years after the middle of the nineteenth century, the Eskimo Curlews arrived in August and September in millions that darkened the sky³⁹. As late as 1890 a "cloud" of these birds was seen on the Magdalen Islands, perhaps the last large flocking of these birds that was seen anywhere in the east⁴⁰. In 1900 one was killed on an island in the Gulf of St. Lawrence, in 1901 one was killed on Prince Edward Island, in 1902 it is believed one was taken on Sable Island and in 1906 a male was killed, September 6, on the Madgalen Islands⁴¹. In Nova Scotia, since 1888, there is but one record of this bird, a specimen in the Halifax market, September 11, 1897⁴².

The fishermen of Newfoundland, as well as those of Labrador, made a practice of salting down these birds in barrels. At night when the birds were roosting in large masses on the high beach,

³⁸Coues, E. Proc. Philadelphia Acad. Nat. Sciences, p. 236, 1861.

a man armed with a lantern to dazzle and confuse the birds could approach them in the darkness and kill them in enormous numbers by striking them down with a stick³⁹.

In New England, and especially in Massachusetts, the Eskimo Curlew was known as the "Dough-bird" or "Doe-bird," and the existing accounts would indicate that these birds occurred on Cape Cod, Nantucket and other points on the coast in tremendous numbers in August and September during northeast storms in the early part of the nineteenth century. During these storms the birds sometimes landed in a state of great exhaustion, and they could be chased and easily knocked down with clubs when they attempted to fly. These immense flights continued to appear on the Massachusetts coast up to the middle of the nineteenth century or even later. In the 30's and 40's these birds alighted on Nantucket in such numbers that the shot supply of the island would become exhausted and the slaughter would have to stop until more could be secured from the mainland⁴⁰. By 1858 Sumner⁴¹ wrote for the vicinity of Boston: "None are now to be seen where once they were so abundant, and even the market offers but few at fifty cents apiece." In other less frequented parts of the coast, however, the bird continued common for twenty-five years or more. Up to 1861 there were some birds each year on the Massachusetts coast, but there were none in 1862⁴². A great flight occurred there August 29, 1863. A few days later, on September 3, 1863, on Cape Cod several gunners killed 28! Eskimo Curlew and Golden Plover in one day³⁹.

A few birds occurred on the Massachusetts coast in 1866, 1867, 1868, 1869 and 1870, but none in 1864, 1865 and 1871⁴². In 1872 there were two flights, and the birds were killed in such numbers that two market gunners sold three hundred dollars' worth and boys offered the birds for sale at six cents apiece⁴⁰. There were some birds in 1873, 1875 and 1876, but none in 1874, while

³⁹Haggood, W. Forest and Stream series No. 1, Shore Birds, pp. 17 and 22-23, 1885.

⁴⁰Sanford, L. C., Bishop, L. B. and Van Dyke, T. S. The Water-fowl Family, pp. 445-446, 1903.

⁴¹Sumner, W. H. History of East Boston, p. 53, 1858.

⁴²Mackay, G. H. Auk, ix, pp. 16-21, 1892; x, p. 79, 1893; xi, pp. 75-76, 1894; xiv, p. 214, 1897; xv, pp. 52-53, 1898; and xvi, p. 180, 1899.

in 1877 there was a flight and in 1878 a smaller flight⁴². In 1879 there were no birds, but the next three years there were some; in 1882 two hunters on Nantucket shot 87 Eskimo Curlew in one morning, while at about the same time another hunter on Martha's Vineyard killed about 70 of them¹⁰. In 1883 there was a large flight August 26⁴², while on August 30 of that year the last great flight of Eskimo Curlew and Golden Plover occurred on Cape Cod⁴³. There were a few birds in 1884, 1885, 1886 and 1887, a number in 1888 and 1889, again a few birds in 1890, 1891 and 1892, while in 1893 a single bird was shot⁴² and another seen⁴⁴. One bird was seen in the Boston market in 1894⁴², two were killed at Chatham in 1895¹⁰, none were seen in 1896, eight in 1897, and two in 1898⁴². At Chatham Beach one was killed in 1897, four in 1899 and the last one on September 13, 1900¹⁰. In 1898 one was seen at Dennis, in 1900 one was killed at Eastham¹⁰ and in 1901 birds were killed at Ipswich⁴⁴ and on Prince Edward Island¹⁰. In October, 1902, two were obtained in the Boston market and one of them came from Massachusetts¹⁰. In 1908 two were shot at Newburyport, Massachusetts, August 27, and one of them was saved¹⁵.

In New York State the Eskimo Curlew was seen or taken every year, except 1888, from 1885 to 1891; the last record for that state being about 1896¹⁶. In early days there were flights of many thousands of these birds on Long Island, where they were known as "Futes," at long intervals during heavy easterly storms, but not in recent years⁴⁷. In twelve years this bird was met with only four times by N. T. Lawrence, viz.: September 12, 1875, September 10, 1876, and September 26, 1884, two on the latter date¹⁸. In Maine, a female was shot at Pine Point, September 23, 1901, and two were shot at Hog Island, Hancock County, in September, 1909, one on the 2d and one on the 14th, both specimens being preserved^{10 19}.

⁴Job, H. K. *Wild Wings*, pp. 207-208, 1905.

¹⁰Townsend, C. W. *Birds of Essex County*.

¹⁵Mayer, J. E. *Auk*, xxvi, p. 77, 1909.

¹⁶Eaton, E. H. *Birds of New York*, i, 1910.

¹⁹Braislin, W. C. *Proc. Linnaean Soc. New York*, p. 64, 1907.

¹⁸Lawrence, N. T. *Auk*, ii, p. 273, 1885.

⁴⁷Knight, O. W. *Auk*, xxvii, p. 79, 1910.

As to the destruction in Massachusetts, Forbush¹⁰ says: The decrease of the Dough-birds in Massachusetts during the last century may be explained in part by the continual persecution they suffered here. The arrival of these birds was the signal for every gunner and market hunter on the coast to get to work. The birds were rarely given any rest. Nearly all that remained on our shores were shot, and only those that kept moving had any chance for their lives. As a consequence of this continual persecution, the birds probably learned to avoid the New England coast; and most of those that were driven to land by storms left the moment the weather was favorable for a continuance of their flight. Often they came in at night and went in the morning."

In Texas the Eskimo Curlew came in immense flocks on the prairies from 1856 to 1875, after which year the large flocks disappeared¹¹. Small flocks were seen in 1886 and 1890¹². The last records of the species for Texas were 1902 and 1905, one and three individuals respectively¹³. The species was first definitely recorded for Kansas from Russell county in 1874¹⁴. In that state these curlews were abundant as late as 1878, but in 1879 their numbers were much reduced and the birds decreased rapidly¹⁵. There were still a few in the Kansas markets in the early 90's. The last record is for 1902¹⁶.

Eastwardly in the interior the birds were always uncommon and disappeared early. The last Michigan record is in 1883¹⁷. The last Ohio record is in 1878¹⁸. The last Wisconsin records are April 27, 1899¹⁹, and September 10, 1912, the latter specimens a male taken at Fox Lake, Dodge County, Wisconsin²⁰. The last Indiana record is, with some doubt, April 19, 1890²¹.

We have no definite records of the Eskimo Curlew in Nebraska during the territorial days, aside from the recollections of the few survivors among our earliest settlers of enormous flights of "Prairie Pigeons" which passed through the territory each spring. As to the abundance of these birds in Nebraska during

¹⁰Benson, F. S. *Forest and Stream*, ii, p. 341, 1874.

¹¹Barrows, W. B. *Birds of Michigan*.

¹²Schoenbeck, A. J. *Birds of Oconto County*, pp. 1-51, 1902.

¹³Snyder, W. E. *Auk*, xxx, pp. 269-270, 1913.

¹⁴Butler, A. W. *Auk*, xxiii, p. 274, 1906.

the early years of its statehood, the observations of Professor Lawrence Bruner, who distinctly remembers the flights which occurred in the vicinity of Omaha during the years 1866-1868, when he was a boy ten or twelve years old, are indicative. The birds would arrive about the time the later willows began to bloom (latter April), being present in force for a week or ten days only, for by the time all of the wild plum blossoms had fallen (middle May) the birds were gone. Usually the heaviest flights occurred coincident with the beginning of corn planting time, and enormous flocks of these birds would settle on the newly plowed fields and on the dry burnt-off prairies, where they searched industriously for insects.

These flocks reminded the settlers of the flights of Passenger Pigeons and the curlews were given the name of "Prairie Pigeons." They contained thousands of individuals, and would often form dense masses of birds extending for a quarter to a half mile in length and a hundred yards or more in width. When the flock would alight the birds would cover forty or fifty acres of ground. During such flights the slaughter of these poor birds was appalling and almost unbelievable. Hunters would drive out from Omaha and shoot the birds without mercy until they had literally slaughtered a wagon load of them; the wagons being actually filled and often with the sideboards on at that. Sometimes when the flight was unusually heavy and the hunters were well supplied with ammunition their wagons were too quickly and easily filled, so whole loads of the birds would be dumped on the prairie, their bodies forming piles as large as a couple of tons of coal, where they would be allowed to rot while the hunters proceeded to refill their wagons with fresh victims and thus further gratify their lust of killing. The compact flocks and tameness of the birds made this slaughter possible, and at each shot usually dozens of the birds would fall. In one specific instance a single shot from an old muzzle-loading shotgun into a flock of these curlews as they veered by the hunter brought down twenty-eight birds at once, while for the next half mile every now and then a fatally wounded bird would drop to the ground dead. So dense were the flocks when the birds were turning in



One of seven Eskimo Curlews shot from a flock of eight at Clarks, Merrick county, Nebraska, April 20, 1911, by Mr. P. I. Hoagland of Omaha. Specimen in N. O. U. collection. The last known taking of the bird in Nebraska, and one of the last records from anywhere.

their flight that one could scarcely throw a brick or other missile into it without striking a bird.

The decade 1870-1880 witnessed the beginning of the diminution of these great flocks of Eskimo Curlew. In addition to the numerous gunners who shot these birds for local consumption or simply for the love of killing, there developed a class of professional market hunters who made it a business to follow the "flight birds" as they made their annual journey across the state each spring. Mr. Wheeler, living near Norfolk, pursued this business during the latter '70's, and his observations, transmitted to me by Mr. L. Sessions of that place, describe graphically the status of the bird at this period and also the typical methods of the market hunter in securing these birds.

The chief feeding grounds of these curlews at the time Mr. Wheeler came to Nebraska (1877) was in York, Fillmore and Hamilton counties, and their heaviest lines of northward migration across the state was between the 97th and 98th meridians. The birds were much less numerous north of the Platte river than on the South Platte feeding grounds, although they were noted there, but not in large flocks. One spring, about 1879, while working on the Marshall Field ranch in Madison county, following a heavy south wind, birds which seemed to have been driven past their feeding grounds by the wind were seen flying southwardly, very close to the ground, apparently going back to this South Platte feeding ground. The birds used to come in about the 18th to the 25th of April, all arriving between these dates, and would remain until about the 15th to the 25th of May. Early in the season, when they first arrived, they would frequent the burnt-over prairies, where they would occur in flocks of from a dozen to three or four hundred. As the season advanced the different smaller flocks would bunch up until as many as a thousand birds had assembled, but this assemblage was obviously made up of many small flocks. In later years when these prairies commenced to be extensively broken up and farmed, the curlews used to feed a great deal in the open wheat fields, and toward the last they were found very frequently in tame meadows.

In hunting these curlew, the field glass was used by the hunters to follow their flights. The fields where they were prone to gather were patrolled many times during the day, and carefully scanned with the glass to discover the flocks on the ground. When the birds came in they would be up quite high, perhaps from two or three hundred yards to a quarter of a mile, and in preparing to alight they would turn and wheel, towering in the air while they whistled softly, would hover a while, and then all drop and come down, flying along over the ground for a short distance before alighting. The birds would always alight all at once and very close together, and if the day were warm they would sit down very close together on the ground, forming bunches, when they could be readily discovered with the field glass and approached close enough to get a shot.

There was no difficulty in getting quite close to the sitting birds, perhaps within twenty-five or thirty-five yards, and when at about this distance the hunters would wait for them to arise on their feet, which was the signal for the first volley of shots. The startled birds would rise and circle about the field a few times, affording ample opportunity for farther murderous discharge of the guns, and sometimes would realight on the same field, when the attack would be repeated. Mr. Wheeler has killed as many as thirty-seven birds with a pump gun at one rise. They weighed just about one pound each when they were fat. Sometimes the bunch would be seen with the glass alighting in a field two or three miles away, when the hunters would at once drive to that field with a horse and buggy as rapidly as they could, relocate the birds, get out and resume the fusillade and slaughter. On rainy days the birds would fly restlessly from one field to another, moving about in this way most of the day and seeming unusually plentiful because of being so much in the air.

Other observers in the North Platte country corroborate the observations of Mr. Wheeler as to the comparative infrequency of this bird north of the Platte river during these flights of the '70's as compared with the enormous flocks found in the South Platte region. Removing from Omaha to West Point in 1869, Professor Bruner recalls that though he noted the birds each spring the

flocks were usually much smaller than the enormous flights seen at Omaha, usually consisting of 50 to 100 birds, though occasionally of considerable size. Year by year the birds decreased in numbers, until by 1878, in which year Professor Bruner entered the services of the Government, they were seen only in small flocks or individually here and there. During these eight or nine years he mounted several of these curlews, three or four for the University Museum (all of which have since disappeared), a pair for the Omaha Deaf and Dumb Institute and a pair for the Union Pacific Railroad company.

Mr. L. Sessions moved to Madison county in May, 1871, and his acquaintance with the Eskimo Curlew began at that time. The birds were then very abundant and could be found moving about over the burnt prairies or an occasional plowed field, in search of food. The flocks were not large, about thirty or forty birds in a flock, on the average, and the banding together of numerous flocks such as occurred in the South Platte feeding grounds was not observed in Madison county, which furnished no special attraction as to feeding grounds. During these days food was somewhat scarce in Nebraska, and many of the settlers were led to look forward to this spring flight of the curlews as a helpful source of food supply. Mr. Sessions possesses a specimen of this curlew which was secured in these early days, for he has not seen a living bird for many years now, nor has he had any sent him to be mounted.

Mr. W. A. Elwood, who as a boy hunter in the '70's shot quite a number of these birds in Antelope county, states that they were numerous in flocks of thirty or forty birds, appearing about the first week in May and remaining only a very short time, just long enough to feed. He has not seen the bird for the past twenty years or more. Mr. A. J. Leach of Oakdale remembers these birds passing northward in the spring during the '70's while he was plowing for corn, probably from the middle to the last of April. These flocks consisted of from twenty to forty birds, and they used to alight on the plowed ground and stubble lands to feed. He also has not seen an Eskimo Curlew for a quarter of a century past. Mr. Sanders, a guide and old hunter of Clarks,

who lived at Silver Creek up to the early '90's, told Mr. P. I. Hoagland that in the early days the birds were very abundant there, as much so as the Passenger Pigeon in the east, and that hundreds would be shot in a single day.

In the '80's the Eskimo Curlew began decreasing rapidly. Apparently many of the birds moved their line of migration to the westward. Gunners reported flights passing through Grand Island, Kearney and North Platte after they had practically disappeared from eastern Nebraska, but no specimens are extant to verify these reports. April 2, 1884, the species was reported from Alda, Nebraska⁸. Rev. J. M. Bates informs me that Warden D. A. Piercy of All Saints' church at Kennedy, Cherry county, states that during the first years of his residence there, 1885-1887, the Eskimo Curlew was as common as its congener, the Long-billed Curlew. In 1889 Rev. Bates saw a mounted specimen of this bird in a store near Wood Lake, Cherry county, which had been taken near that place. In 1889 Mr. Charles E. Holmes, now of Providence, R. I., reported the Eskimo Curlew as common locally in the hills about forty miles south of Ainsworth, Brown county, though they were decreasing and many were killed by cowboys¹⁰.

By the '90's the Eskimo Curlew was so reduced in numbers that hunters rarely met with it and there are no records of specimens taken during the next twenty years, though it was repeatedly reported as seen by competent observers. In 1896 Mr. I. S. Trostler reported the Eskimo Curlew as still a "common" migrant at Omaha, giving its dates as April 1 to 20 in the spring and October 1 to 15 in the fall. On April 12, 1896, Mr. J. S. Hunter saw a pair of Eskimo Curlew near Stevens creek, several miles east of Lincoln. It might also be mentioned here that about 1897, Mr. P. I. Hoagland saw a flock of these birds near Laramie, Wyoming, so late in the spring that he wondered if the birds could be expecting to nest there.

About the middle of April, 1900, Mr. Paul I. Hoagland and his father, of Omaha, were hunting near Clarks, Nebraska, when a large flock containing seventy or seventy-five birds flew across the road and disappeared over the hill. Mr. Hoagland, Sr., rec-

recognized the birds as the Eskimo Curlew and both men started toward the place where the birds were last seen. They saw a newly plowed field and made toward it and found the entire flock on the freshly plowed land busily engaged in picking up grubs and insects turned up by the plow. The birds were entirely unsuspecting and permitted the hunters to approach as close as desired. The flock was flushed and each hunter made four shots, obtaining in all about thirty-four of the birds. None of them were saved as specimens. This was written up by Mr. Sandy Griswold in the "Omaha World-Herald" at the time, but he called the birds "Golden Plover," which they were not.

Mr. C. W. Tinker, a hardware merchant of Waco, who used to hunt these birds with Mr. Wheeler in the '70's, saw his last Eskimo Curlews in 1904 or 1905 on the old York county feeding grounds. Mr. Wheeler himself saw his last birds in the spring of 1909 or 1910, when nine of these birds were seen near Norfolk, Madison county. He was very close to them and positively identified the birds.

The last records of collected birds for Nebraska were made in the spring of 1911. On March 22, 1911, while Mr. Fred Geiger was shooting ducks near Waco, York county, two of these birds came flying by within gun range and both were shot by him. The birds were identified by an old-time hunter and were then brought to Lincoln and mounted by Mr. August Eiche, in whose collection they are at present. Both birds were females, with well developed ovaries.

On April 20, 1911, while hunting at Clarks, within a mile of the field where the large flock had been seen eleven years before, Mr. Hoagland saw a flock of eight Eskimo Curlews. With little difficulty the entire flock was killed except one bird which made its escape. The birds were brought to Omaha, and Mr. Hoagland, remembering that in spite of almost continual hunting during the open season he had not seen the bird since the large flock eleven years before, or even heard of its being seen, took one of the birds to Mr. Allabaugh, a taxidermist of Omaha, for mounting. Mr. Fred Goodrich, also of Omaha, saw the birds, and when he noted that Mr. Hoagland was about to have one of them mounted

said he would like one mounted also. Two birds were put aside for this purpose. Later, on considering the matter, Mr. Hoagland decided to save all of the birds and gave orders to that effect, but they had already been picked by the cook. Both birds were mounted by Mr. Allabaugh, April 24, 1911, and one is now in the possession of Mr. Fred Goodrich of Omaha, the other in the N. O. U. collection, a gift of Mr. Hoagland through the writer.

Even in these latter captures and observations, when the birds were nearing extinction from incessant persecutions, they were very unsuspecting and apparently fearless. They flew away leisurely in close, compact flocks so that they could scarcely be missed when shot at, and a single discharge would bring down many of the birds.

The most recent records for the Eskimo Curlew would indicate that it is probably not yet wholly extinct. The occurrence of eight and the killing of seven of these birds near Cartwright, Labrador, in August and September, 1912, and the collecting of a male specimen on September 10 of that same autumn while flying alone over decoys along the shore of Fox Lake, Dodge county, Wisconsin, have already been mentioned. A specimen was observed on the Bermuda Islands, according to Kennedy, on January 20, 1913⁵⁵. Mr. L. Sessions writes me that a small flock of these birds was seen near Norfolk, Nebraska, in the spring of 1913. On September 5, 1913, a specimen was collected at East Orleans, Massachusetts, it being alone when taken⁵⁶. No records for 1914 are at hand.

In the spring flight these curlews arrived at the same time as the Golden Plover, though they did not always frequent the same localities. The Eskimo Curlew was always uncommon in the fall migration in Nebraska. Most of the observers who have furnished me data on this bird (Messrs. Bruner, Wheeler, Hoagland) have never seen it at that season, but Mr. Elwood thinks he remembers having seen the birds sometime in October, and Mr. A. J. Leach thinks he remembers their passing through south-

⁵⁵Kennedy, J. N. *Ibis*, ser. x, ii, 1914.

⁵⁶Lamb, C. R. *Auk*, xxx, p. 581, 1913.

wardly about October 1. Aughey⁵⁷ records a specimen sent him from Bellevue for identification in October, 1874, and states that he had observed the species in northeastern Nebraska in that month.

The Eskimo Curlew had several notes. During flight they uttered a fluttering "tr-tr-tr" note which was given by many individuals at once, and described by Coues as a "low conversational chatter" and by Mackay as "a soft, melodious whistle, *bee, bee.*" Mr. W. A. Elwood describes this note as "a short low whistle," continually repeated by many of the birds simultaneously while in flight. Mr. A. J. Leach recalls the notes as resembling quite closely the note of the bluebird when in flight, only perhaps shorter and more of a twittering whistle, and as it was given by a large number, perhaps all, of the flock as they took wing and while flying, it was difficult to catch the individual note. This note was constantly uttered while the birds were flying and was often audible before the birds could be seen. Before alighting, as they descended and sailed, they gave a soft whistle, somewhat like the note of the Upland Plover, according to Professor Bruner, while as they walked over the ground when feeding they uttered a chiriping whistle as if calling to each other.

The Eskimo Curlew was a bird of such food habits that it is a distinct loss to our agriculture that it should have disappeared. During the invasion of the Rocky Mountain Grasshopper (*Melanoplus spretus*) it did splendid work in the destruction of grasshoppers and their eggs. Mr. Wheeler states that in the latter '70's these birds would congregate on pieces of land which had not been plowed and where the grasshopper eggs were laid, reach down into the soil with their long bills and drag out the egg capsules which they would then devour with their contents of eggs or young 'hoppers, until the land had been cleared of the pests. A specimen examined by Aughey in 1874 had thirty-one grasshoppers in its stomach together with a large number of small berries of some kind⁵⁷. The bird in its migrations often alighted on plowed ground to feed on the white grubs and cutworms

⁵⁷Aughey, S. 1st Rept. U. S. Entomological Comm., Appendix, p. 55, 1878.

turned up by the plow, or in meadow lands, probably feeding on ants in the latter situation. Richardson records finding them feeding on large ants at Fort Franklin in late May 1849³⁰. The curlews were rarely seen near water, but were upland birds almost exclusively during their spring migration over the Great Plains region.

The flesh of the Eskimo Curlew is said by all who have eaten it to have been exceedingly well flavored, and, according to Mr Hoagland, the equal if not the superior of any of our large shore birds.

Although the Eskimo Curlew is reduced to the point of extinction, it is probably not yet absolutely extinct, and if the pitiful remnant of the species could be absolutely protected there is still a chance that it might be enabled to recover and be saved. A campaign of education as to the present desperate status of this bird, by all ornithologists and true sportsmen, together with absolute legal protection under high penalties everywhere, and a complete cessation of killing these birds even for specimens, might actually accomplish this result. The recently enacted federal law giving the control of migratory birds to the General Government should be a large help in such a campaign.

MISCELLANEOUS NOTES

SOME BIRD NOTES FROM LINCOLN AND VICINITY

Two Herring Gulls (*Larus argentatus*) were observed flying back and forth over the lake at Capital Beach on April 7, 1912. Dr. H. B. Lowry also reported this species in early April, 1912, at the same locality.

During the past two years the Northern Phalarope (*Lobipes lobatus*) has been present at Capital Beach during the fall migration, the writer having observed small flocks of three to a dozen birds on the following dates: August 24, August 31, and September 7, 1913; September 13 and 20, 1914.

The Buff-breasted Sandpiper (*Tryngites subruficollis*) was noted at the Beach on August 24, 30 and September 13, 1914. On August 24 three birds were seen feeding on the sand, and

were so tame that they permitted the writer and a companion to approach within ten feet, while they continued to feed in seeming indifference. The Buff-breasted Sandpiper seems to prefer the firmer sand of the beach a little back from the water's edge, in which situation the general buff tone of its plumage renders it very inconspicuous.

A single specimen of the Western Sandpiper (*Ereunetes mauri*), which had been crippled by hunters at the Beach, was taken by the writer on August 31, 1913, and is now preserved in the collection of the State Entomologist. Mr. J. E. Wallace reported this bird to be present in rather large numbers at about this date, or a little earlier, when he took several specimens. These constitute the first definite records of the Western Sandpiper in Nebraska.

Two Marbled Godwits (*Limosa fedoa*) were seen at the Beach on May 9, 1914. A single specimen was seen on August 2, and again on August 9, 1914.

A Pigeon Hawk (*Falco columbarius columbarius*) was clearly seen, and definitely identified by the writer on November 5, 1911.

While the Burrowing Owl (*Speotyto cunicularia hypogaea*) is an abundant breeder in the sandhill region of Nebraska, it is not very common in the eastern part of the state, and the finding of a colony of these owls near Lincoln seems worthy of note. On April 12, 1914, Mr. E. A. Markham discovered a colony of about a dozen pairs of Burrowing Owls one-half mile north of the "O" street road and a mile west of Stevens' creek. The colony was later visited by the writer on April 19 and 25 and again on May 17 and 24, 1914. The colony appeared to be deserted on October 28, 1914, when it was visited in the hope of getting some photographs.

An unusually early date for the Yellow-billed Cuckoo (*Coccyzus americanus americanus*) seems worthy of note. On April 22, 1914, the writer and a companion approached to within fifteen feet of a Yellow-billed Cuckoo as it sat in a small leafless tree in Wyuka Cemetery.

The Red-bellied Woodpecker (*Centurus carolinus*) is occasionally seen at Lincoln, as is indicated by the following dates

taken from the writer's migration notes: October 23 and 31, 1909; November 6, December 18, and March 6, 1910; May 3, 1914.

Three female Purple Finches (*Carpodacus purpureus purpureus*) were noted in Wyrka Cemetery on April 24, 1914. They were feeding on ash seeds, and remained in the same tree for at least an hour.

A male Lazuli Bunting (*Passcrinia amoena*) was seen in the woods along Stevens' creek on May 12, 1912.

A single Lark Bunting (*Calamospiza melanocorys*) was observed on August 17, 1913. Possibly the exceedingly hot and dry weather of that summer caused the Lark Bunting to drift eastwardly further than usual. Messrs. M. H. Swenk and L. M. Gates saw a male Lark Bunting near the University Farm campus on May 11, 1914.

A male Yellow-throated Vireo (*Laniivireo flavifrons*) was seen on May 25, 1913.

On the morning of May 3, 1911, Dr. H. B. Lowry telephoned Mr. M. H. Swenk that he had just seen the Palm Warbler (*Dendroica palmarum palmarum*) in Wyrka Cemetery, so in the afternoon Messrs. Swenk, Zimmer and the writer visited the cemetery in the hope of also seeing the bird. We had the good fortune to definitely identify a male of this rather uncommon warbler. On May 11, 1913, the writer in company with Mr. E. A. Markham had an excellent opportunity to observe one of these warblers in the woodlands north of Capital Beach. Another specimen was seen May 2, 1914, at Capital Beach.

A male of the Wilson Warbler (*Wilsonia pusilla pusilla*) was observed in the Cemetery on May 3, 1914.

A Red-breasted Nuthatch (*Sitta canadensis*) was seen at the same locality on April 15, 1914, and the Gray-checked Thrush (*Hylocichla aliciae aliciae*) on May 10, 1914.

R. W. DAWSON, Lincoln.

THREE RECORDS FROM THE NEBRASKA EXPERIMENTAL SUBSTATION AT NORTH PLATTE.—On June 26, 1914, I had a pair of Western Blue Grosbeaks (*Guiraca caerulea lazula*) under observation for half an hour or more. They were in the tree planta-

tions on the bench land, and often flew to a wire fence which bounds the road on the east side. I made quite a search for a nest, but was unsuccessful. The birds were in bright plumage, and, according to the farm attendants, had been there for some time.

On July 2, 1914, while my family and I were picnicking in the forest plantations on the table we found a nest of the Western Lark Sparrow (*Chondestes grammacus strigatus*). The nest was in some second growth mulberry, and was placed about two feet from the ground. It contained four birds about half grown, and was identified by the behavior of the parent birds, both of which flew excitedly about us. At least a dozen adults were seen among the dead trees of the black locust plat, just east of the mulberry plat. Another nest, similarly placed and in the same plat, contained four newly hatched birds, but we were unable to identify this nest because of its proximity to the first one and the consequent uncertainty as to whether the excited Lark Sparrows might not be the same we saw at the first nest.

On the same date we saw and heard two Mockingbirds (*Mimus polyglottos leucopterus*). Our familiarity with the bird in the eastern part of the state left no question of its specific identity and the song also made it certain. We could not find a nest. In conversation with Superintendent Snyder of the Sub-station, at a later date, he informed me that the boys had found a dead Mockingbird on the farm, a few weeks before. This is my first record of the Mockingbird at North Platte during the seven years of my residence here.

WILSON TOUT, *North Platte.*

PROCEEDINGS OF THE
NEBRASKA ORNITHOLOGISTS' UNION

SIXTEENTH ANNUAL MEETING

OFFICERS

1914-15. President.....T. C. Stephens, Sioux City, Iowa
 Vice-President.....Mrs. G. A. Loveland, Lincoln
 Secretary-Treasurer.....R. W. Dawson, Lincoln

ABSTRACT OF MINUTES

The sixteenth annual meeting of the Nebraska Ornithologists' Union was held at Omaha, Nebraska, Friday and Saturday, May 7 and 8, 1915. The members gathered at the Castle Hotel, Sixteenth and Jones Streets, at 6:00 p. m., for the annual banquet. Ten members and twelve guests of members were present, the members being Messrs. Bruner, Dawson, Stephens, Swenk and Wolcott, and Mesdames Button, Evans, Loveland, McDonald and VanSant. The guests were Mr. and Mrs. H. D. Neely, Misses Damon, Duffy, Graves, Patrick, Stenger and Stringer, and Messrs. P. J. Hoagland, J. W. Miller and S. R. Towne, all of Omaha, and Mr. W. B. Johns, of York.

Following the dinner, at 7:15, President T. C. Stephens called the meeting to order. The report of the Secretary-Treasurer was received, and R. H. Wolcott and Mrs. G. A. Loveland appointed as an Auditing Committee. L. Bruner and Miss McDonald were also appointed as a Nominating Committee. The Secretary then read a telegram from Wilson Tout, expressing his

regret at not being able to be present and wishing the Society a successful meeting. The interim election of Mrs. Lily R. Button to membership in the Union was formally approved, and the following nine new members elected to the Union: Prof. W. B. Johns, of York; Mr. B. J. Olson, of Kearney; Mr. Thos. R. Hill, Mrs. H. D. Neely, Mrs. W. F. Baxter, Miss Ione C. Duffy and Miss Elizabeth Rooney, of Omaha, and Mrs. W. E. Barkley and Miss Anne Stuart, of Lincoln. Miss Caroline Stringer, a former member who resigned in 1907, was, at her request, reinstated to membership in the Society.

The question of affiliation with the Wilson Club was then taken up. The proposed plan was outlined and explained by M. H. Swenk, who read the following articles of agreement as the proposed basis of affiliation:

ARTICLES OF AGREEMENT

The following Articles of Agreement, looking toward an affiliation between the Nebraska Ornithologists' Union and the Wilson Ornithological Club, are to be presented to the N. O. U. at its Annual Meeting at Omaha, May 7, 1915, and to the W. O. C. at its Annual Meeting at Chicago, in December, 1915.

In the event of their constitutional adoption by both Societies, these Articles of Agreement are to go into effect at the time of the Seventeenth Annual Meeting of the N. O. U. in May, 1916.

These Articles of Agreement are to be made in duplicate, and one properly signed copy is to remain in the archives of each Society concerned.

ARTICLE I.

The Nebraska Ornithologists' Union shall continue as an autonomous organization, with the same local meetings and field days and the same membership limitations as in the past, but it shall in the future be regarded in addition as an auxiliary of the Wilson Ornithological Club, in the sense that the Wilson Bulletin shall become its official organ and that every member of the N. O. U. becomes automatically an active member, with voting privileges, of the W. O. C.

ARTICLE II.

An appropriate statement of the relation of the Wilson Bulletin to the N. O. U. shall appear on the title page and the editorial page of the Wilson Bulletin, so long as such relationship exists. The publication of

the "Proceedings" of the N. O. U. shall be discontinued at the close of Volume 6, before May 1, 1916, after which the *Wilson Bulletin* shall print brief proceedings of the Annual Meetings of the N. O. U.

ARTICLE III.

A clear and detailed statement of the affiliation of the N. O. U. with the W. O. C., together with a brief historical sketch of the N. O. U. and its "Proceedings," shall be published in the first issue of the *Wilson Bulletin* after the affiliation is consummated.

ARTICLE IV.

The Secretary-Treasurer of the N. O. U. shall collect from the members of that organization \$2.00 annual dues, and shall pay to the Treasurer of the W. O. C., at the beginning of the fiscal year of the N. O. U., \$1.50 as dues in the W. O. C. for each member of the N. O. U. in good standing, at the same time transmitting to the Treasurer, or other proper officer, of the W. O. C., a corresponding list of the members of the N. O. U. in good standing. The 50 cents collected by the N. O. U. above its obligation to the W. O. C. shall be used for the general expenses of the N. O. U. and to assist in the publication of independent (not serial) monographic papers on the birds of Nebraska, and such publications shall bear the imprint of both the N. O. U. and the W. O. C. Such papers shall be sold by the N. O. U. to its members and to members of the W. O. C. who may desire them at cost.

ARTICLE V.

It shall be agreed between the N. O. U. and the W. O. C. that the former organization shall be under no financial, or other, obligation to the W. O. C. beyond the payment of the \$1.50 annual dues of its members, and that the W. O. C. shall not be responsible for any debts incurred by the N. O. U.

ARTICLE VI.

If the affiliation be effected, then such persons as are, at the time, members both of the N. O. U. and W. O. C., may continue to hold both such memberships by the payment of regular annual dues to the N. O. U.

At the conclusion of his remarks, in order to put the question before the Union, M. H. Swenk moved the adoption by the N. O. U. of the Articles of Agreement, as read. The motion was promptly seconded. It was then discussed by R. H. Wolcott, Miss VanSant, L. Bruner and T. C. Stephens. The motion was put and unanimously carried.

M. H. Swenk then moved the adoption of the following amendments to the Constitution and By-Laws of the N. O. U., as

printed on pp. 19-22 of this Volume, made necessary by the adoption of the above Articles of Agreement, *contingent upon* the adoption of these Articles of Agreement by the Wilson Ornithological Club at their next Annual Meeting:

Article I, Section 1. Add to line 2, "and is an affiliation of the Wilson Ornithological Club."

Article I, Section 2. Insert the word "local" before "students" in line 2.

Article V, Section 3. Replace the phrase "to superintend the publication of the Proceedings of the Union," in lines 6 and 7, with the phrase "to superintend the printing of any publications of the Union," and immediately thereafter insert "to co-operate with the proper officers of the Wilson Club on all matters relative to the affiliation."

Article VIII, Section 1. Insert the words "in advance" after "due" in line 2, and add: "These dues shall also entitle the members to active membership in the Wilson Ornithological Club."

Article VIII, Section 2. Replace the phrase "before the close of the year" in lines 2 and 3, with "before the end of the annual meeting beginning the new fiscal year," and the phrase "publications of the Union" to "the official organ of the Union, the Wilson Bulletin."

By-Laws, Section 2. Replace "one copy of the publications of the Union" with "the Wilson Bulletin for the current year," and omit the last sentence.

The motion was seconded and unanimously carried.

The report of the Nominating Committee was then received and the following officers were elected for 1915-16:

President, R. W. Dawson, Lincoln.

Vice-President, Mrs. Lily Ruegg Button, Fremont.

Secretary-Treasurer, M. H. Swenk, Lincoln.

At 8:00 p. m. the business meeting adjourned, allowing the members to meet a few minutes later in the lecture room of the Omaha Public Library for the public program. Mrs. Button, of Fremont, first gave a very enjoyable talk on "Bird Songs," analyzing the songs of about thirty of our birds by way of illustration. M. H. Swenk, of Lincoln, gave an account of "The Nesting of the Brewer Sparrow in Western Nebraska," illustrating his remarks with photographs and specimens of the bird, its nest and eggs. Retiring President T. C. Stephens of Sioux City, then concluded the program with a resume of the "Breeding Habits of Birds, with Particular Reference to the Feeding of the Young," which was exceedingly interesting to the hearers.

At 10:00 p. m. the meeting adjourned.

RALPH W. DAWSON,
Secretary-Treasurer.

THIRTEENTH ANNUAL FIELD DAY.—On Saturday, May 8, 1915, about forty members and guests of the N. O. U. spent the day in the woods at Child's Point south of Omaha. The day was cool and clear, with a strong northwest wind. The composite list numbered seventy-six species, as follows:

Bluebird, Robin, Wood Thrush, Blue-gray Gnatcatcher, Long-tailed Chickadee, Red-breasted Nuthatch, White-breasted Nuthatch, Western House Wren, Brown Thrasher, Catbird, Redstart, Yellow-breasted Chat, Maryland Yellow-throat, Grinnell Water-Thrush, Ovenbird, Myrtle Warbler, Yellow Warbler, Palm Warbler, Tennessee Warbler, Blue-winged Warbler, Prothonotary Warbler, Black and White Warbler, White-eyed Vireo, Yellow-throated Vireo, Warbling Vireo, Red-eyed Vireo, Migrant Shrike, Bank Swallow, Tree Swallow, Barn Swallow, Scarlet Tanager, Dickcissel, Indigo Bunting, Rose-breasted Grosbeak, Cardinal, Towhee, Fox Sparrow, Swamp Sparrow, Lincoln Sparrow, Song Sparrow, Western Field Sparrow, Clay-colored Sparrow, Chipping Sparrow, Gambel Sparrow, Harris Sparrow, Lark Sparrow, Savannah Sparrow, Pine Siskin, Goldfinch, Rusty Blackbird, Baltimore Oriole, Western Meadowlark, Red-winged Blackbird, Cowbird, Crow, Blue Jay, Prairie Horned Lark, Least Flycatcher, Wood Pewee, Phoebe, Crested Flycatcher, Arkansas Kingbird, Chimney Swift, Northern Flicker, Red-headed Woodpecker, Downy Woodpecker, Hairy Woodpecker, Belted Kingfisher, Black-billed Cuckoo, Red-shouldered Hawk, Cooper Hawk, Mourning Dove, Bittern, Shoveller, Blue-winged Teal.

REPORT OF TREASURER, 1914-15.

RECEIPTS

Cash received from previous Treasurer, May 15, 1914....	\$100.58
3 Annual dues for 1912.....	6.00
13 Annual dues for 1913.....	26.00
12 Annual dues for 1914.....	24.00
4 Annual dues for 1915.....	8.00
Sale of Proceedings and Checklists.....	1.05
	<hr/>
	\$165.63

EXPENITURES

State Printing Co., printing Vol. VI, Parts 1 and 2.....	\$ 56.70
Baker Bros. Engraving Co., making halftone for Vol. VI, Part 2.....	3.75
Postage, Office of Secretary-Treasurer.....	3.75
Expenses of Secretary-Treasurer in making arrangements for meeting.....	3.00
Deficit on guarantee for banquet at Omaha.....	3.00
Balance on hand, May 7, 1915.....	95.43
	\$165.63

Respectfully submitted,
RALPH W. DAWSON, *Secretary-Treasurer.*

LIST OF MEMBERS

Additions and Corrections only, to May 7, 1915.

ADDITIONS

Barkley, Mrs. W. E., 1827 E Street, Lincoln.....	1915
Baxter, Mrs. W. F., 139 No. 32nd Avenue, Omaha.....	1915
Button, Mrs. Lily Ruegg, 616 West 8th Street, Fremont....	1915
Duffy, Miss Ione C., 2219 Dodge Street, Omaha.....	1915
Hill, Thomas R., 552 Bee Bldg., Omaha.....	1915
Johas, Prof. W. B., York, Nebraska.....	1915
Neely, Mrs. H. D., 4371 Hamilton Street, Omaha.....	1915
Olson, Mr. B. J., Armitage-Olson Drug Co., Kearney.....	1915
Rooney, Miss Elizabeth, 2802 Dodge Street, Omaha.....	1915
Stringer, Miss Caroline, Omaha High School, Omaha.....	1915
Stuart, Miss Anne, 1906 D Street, Lincoln.....	1915

ELIMINATIONS

Duncanson, H. B., Peru.....	1901
Luke, W. A., Secretary City Y. M. C. A., Lincoln.....	1913
Shipherd, Miss Maude, 4811 Davenport Street, Omaha....	1911
Skinner, W. R., 3161 Kleckner Court, Lincoln.....	1904

BIRD MIGRATION AT LINCOLN, NEBRASKA, SPRING
OF 1913. (JANUARY 1—JUNE 1.)†

- Pied-billed Grebe—April 29 at Arbor (Z); May 11 (L).
 Loon—April 13 (D).
 Herring Gull—May 11 (W); 20 (S and Z).
 Ring-billed Gull—April 11 (D and S); 13 (D); May 4 (L);
 10 (S and Z); 17 (D and S); 18 (Z); 21 (*D, S and Z).
 Franklin Gull—April 11 (D and S); 12 (B and S); 13 (L);
 27 (Z); May 4 (D and Z); 10 (Z); 11 (D); 17, large
 flock (D and S); 18 (D); 20 (S and Z); 21 (D, S and Z).
 Bonaparte Gull—May 18, four (Z); 20 (S and Z).
 Caspian Tern—May 11 (L); 18, one (D); 20 (Z).
 Forster Tern—May 11 (L); 20 (S and Z).
 Least Tern—May 18, two (Z).
 Black Tern—May 10 (S and Z); 11 (D); 17 (D and S); 18
 (D and Z); 20 (S and Z); 21 (D, S and Z); 22 (Z);
 25 (D and S).
 White Pelican—April 9, flk 15 (S).
 American Merganser—May 11 (L).
 Red-breasted Merganser—May 10 (Z).
 Hooded Merganser—March 21 at Greenwood (*E).
 Mallard—Feb. 16 (W); March 24 at Greenwood (*C. H. Frey);
 April 1 (L); 2 at Greenwood (*Geo. Dayton); 11 (D and
 S); 12 (B and S); May 10 (S).
 Gadwall—April 6 (L); 12 (B and S); 27 (Z); May 20 (Z).
 Widgeon—Feb. 18 (W); April 11 (D and S); 12 (*B and S);
 27 (Z).
 Green-winged Teal—Feb. 16 (W); March 23 (D); 30 (D);
 April 2 at Greenwood (*Geo. Dayton); 12 (B and S).
 Blue-winged Teal—March 24 at Greenwood (*C. H. Frey);
 April 1 (L); 11 (D and S); 12 (B and S); 13 (D); 27
 (D and Z); 29 (D and S); May 4 (D and Z); 7 (E);
 10 (S and Z); 11 (D); 17 (D and S); 18 (D and Z);
 21 (D, S and Z).

†Compiled from the notes of members of the "Lincoln Bird Club";
 E—L. Bruner; D—R. W. Dawson; E—A. Eiche; L—H. B. Lowry; S—M.
 H. Swenk; W—R. H. Wolcott; Z—J. T. Zimmer.

*—Specimen taken.

- Cinnamon Teal—April 12, 3 pairs seen (B and S).
- Shoveller—April 1 (L); 2 at Greenwood (*Geo. Dayton); 5 (S); 11 (D and S); 12 (B and S); 13 (D); 27 (Z); 29 (D and S); May 7 (E); 10 (S and Z); 11 (D); 17 (D and S); 18 (D and Z); 20 (S and Z); 21 (D, S and Z).
- Pintail—Jan. 29 (W); Feb. 16 (L and W); March 24 at Greenwood (*C. H. Frey); April 2 at Greenwood (*Geo. Dayton); 11 (D and S); 12 (B and S); 13 (D); May 10 (S); 18, one (Z).
- Canvasback—March 24 at Greenwood (C. H. Frey); 25 at Greenwood (E).
- Lesser Bluebill—March 24 at Greenwood (C. H. Frey); April 1 (L); 2 (D); 2, at Greenwood (Geo. Dayton); 5, flocks of 200-300 at Lake (S); 11, large flocks (*D and S); 12 (B and S); 13 (S); 27 (D and Z); 29 (D and S); May 7 (E); May 10 (Z); 11 (D); 20 (Z).
- Ring-necked Duck—Mar. 15 (W); May 11 (L).
- Ruddy Duck—May 10 (Z); 11 (L); 21 (D, S and Z).
- Greater Snow Goose—April 12 (B, S and W).
- Lesser Snow Goose—April 1 (L); 11 (D and S); 13 (D); May 4 (Z).
- Blue Goose—March 25 at Greenwood (*E).
- Canada Goose—January 25 (Z); Feb. 16 (W); March 30 (D); April 1 (L); 2 (S); 11 (D and S); 27 (Z).
- Hutchins Goose—April 12, flock of 200 or more (B and S); 13 (L).
- Bittern—May 11 (D); 15 (Z); June 1 (Z).
- Green Heron—May 4 (D); 11 (D); 18 (Z); 20 (Z).
- Black-crowned Night Heron—May 11 (L); 18 (Z).
- Whooping Crane—March 29 at Greenwood, 5 in flock of 8 (John Armstrong).
- Sand-hill Crane—March 29 at Greenwood, 3 in flock of 8 (John Armstrong).
- Virginia Rail—May 18 (Z); June 1 (Z).
- Coot—April 1 (L); 2, one bird (D); 11, hundreds (D and S); 12 (B and S); 13 (D); 27 (Z); 29 (D and S); May 10 (S and Z); 11 (D); 17 (D and S); 18 (D and Z); 20 (S and Z); 21 (D, S and Z); 27 (Z); 30 (Z).

- Northern Phalarope—May 11 (L); 20 (Z).
- Wilson Phalarope—April 20 (L); 27 (*Z); 29 (D and S);
May 4 (Z); 7 (E); 11 (D); 17 (D and S); 18 (D);
20 (Z).
- Wilson Snipe—April 2 at Ceresco (Geo. Dayton); 13 (D);
30 (Z).
- Long-billed Dowitcher—May 11 (L).
- Stilt Sandpiper—May 11 (L); 15 (E); 17 (D and S); 18 (D
and Z); 20 (S and Z); 21 (*D, S and Z); June 2 (*Wal-
lace).
- Pectoral Sandpiper—April 12 (B and S); 29 (D and S); May
4 (L); 10 (Z); 11 (D); 17 (D and S); 18 (D and Z);
20 (S and Z); 21 (Z).
- White-rumped Sandpiper—May 4 (L); 7 (E); 10 (S and Z);
11 (D); 15 (Z); 17 (D and S); May 18 (D and Z); 20
(S and Z); 21 (D, S and Z); 28 (Z).
- Baird Sandpiper—April 12 (B and S); 13 (D and L); 27 (Z);
May 7 (E); 11 (L); 10 (S and Z); 11 (D); 15 (Z);
18 (Z); 20 (S and Z); 21 (S and Z); 28 (Z).
- Least Sandpiper—April 12 (B and S); 13 (D); 29 (D and S);
May 4 (L); 10 (S and Z); 11 (D and L); 17 (D and S);
20 (S and Z); 21 (S and Z).
- Red-backed Sandpiper—May 11 (L); 17 (S); 18 (D and Z);
21 (D).
- Semipalmated Sandpiper—April 27 (Z); 29 (D and S); May
4 (L); 7 (E); 10 (S and Z); 11 (D and L); 17 (D and
S); 18 (D and Z); 20 (*S and Z); 21 (*D, S and Z);
28 (Z).
- Sanderling—May 11 (L); 17 (D and S); 20 (S and Z); 21
(*S and Z).
- Hudsonian Godwit—May 10 (Z); 18 (D).
- Greater Yellowlegs—April 2 at Greenwood, 2 shot (*E); 28
(Z); 29 (Z); May 4 (Z); 10 (S and Z); 11 (L).
- Yellowlegs—April 12 (B and S); 13 (D); 27 (*Z); 29, hun-
dreds (D and S); May 4 (D and Z); 10 (S and Z); 11
(D and L); 15 (Z); 17 (D and S); 18 (D and Z); 20
(S and Z); 21 (S and Z); 28 (Z).
- Solitary Sandpiper—May 4 (D and Z); 10 (S and Z); 11 (L).

- Western Willet—April 27 (L); May 10 (Z); 11 (D and L);
15 (E); 17 (D and S); 20 (Z).
- Upland Plover—April 13 (L); 29 at Davey (Z); 30 (Z); May
4 (Z).
- Spotted Sandpiper—April 27 (L and Z); 29 (S); May 4 (Z),
10 (S and Z); 11 (D); 17 (D and S); 18 (D and Z);
20 (S and Z); 21 (D, S and Z); 28 (Z).
- Black-bellied Plover—May 11 (D and L); 18 (D).
- Killdeer—March 9 (D); 30 (D); April 2 (D); 5 (S); 6 (L);
11 (D and S); 12 (B and S); 13 (D and S); 27 (Z); 29
(D and Z); 30 (Z); May 10 (Z); 11 (D); 17 (D and S);
18 (Z); 20 (S and Z); 21 (D).
- Semipalmated Plover—April 27 (L); May 7 (E); 10 (S);
11 (D); 17 (D); 18 (D and Z); 20 (*S and Z); 21 (*S
and Z).
- Piping Plover—May 7 (E); 11 (L); 18 (D and Z).
- Turnstone—May 11 (D and L); 15 (E); 17 (D and S); 20
(S and Z); 21 (S and Z); June 2 (*Wallace).
- Bobwhite—April 13 (L); May 10 (Z); 11 (D); 17 (D and
S); 18 (Z); 20 (S and Z); 21 (Z).
- Mourning Dove—April 11 (D); 12 (B and S); 13 (D and L);
15 (Z); 17 (D); 20 (D); 27 (D and Z); 29 (D and S);
30 (Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z);
10 (S and Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z);
15 (Z); 16 (Z); 17 (D, S and Z); 18 (D, S and Z); 19
(Z); 20 (S and Z); 21, nesting (D, S and Z); 22 (Z);
23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z);
June 1 (D and Z).
- Marsh Hawk—April 11 (D and S); 12 (B and S); 20 (D);
May 11 (L).
- Sharp-shinned Hawk—March 9 (D).
- Cooper Hawk—April 20 (L); May 2 (Z).
- Red-tailed Hawk—March 30 (D); April 20 (D and L); 27
(Z); May 4 (D); 18 (S).
- Swainson Hawk—April 27 (D).
- Broad-winged Hawk—May 11 (Z); 13 (Z); 24 (Z).
- American Rough-leg—May 18 (Z).

- Ferruginous Rough-leg—January 25 (Z); March 30 (D); April 20 (D); May 4 (D).
- Prairie Falcon—April 27 (Z).
- Sparrow Hawk—March 13 (D and L); May 10 (Z); 11 (Z).
- Osprey—May 11 (W).
- Long-eared Owl—Jan. 25 (L).
- Short-eared Owl—(W).
- Barred Owl—(W).
- Screech Owl—Jan. 25 (L); March 2 (D); April 2 (D); 20, nesting (D); 27, nesting (D).
- Yellow-billed Cuckoo—May 10 (S); 11 (L and Z); 13 (Z); 14 (Z); 15 (Z); 18 (Z); 25 (D and Z); 26 (Z).
- Black-billed Cuckoo—May 13 (Z).
- Belted Kingfisher—April 2 (W); 13 (D and L); 15 (Z); 27 (D); May 4 (D); 18 (Z).
- Hairy Woodpecker—January 26 (D); February 9 (D); 18 (D); Mar. 9 (L); April 8 (D); 20 (D); May 4 (D); 11 (D); 25 (Z); June 1 (Z).
- Downy Woodpecker—January 25 (L and Z); 26 (D); February 9 (D); 18 (D); March 9 (D); 23 (D); 30 (D); April 2 (D); 6 (D); 12 (B and S); 20 (D); 27 (D and Z); 30 (Z); May 2 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D and Z); 20 (Z); 21 (Z); 25 (D and Z); 26 (Z); June 1 (Z).
- Red-headed Woodpecker—April 30 (L); May 2 (Z); 4 (Z and S); 7 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D and Z); 19 (S and Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D and Z).
- Northern Flicker—January 26 (D); February 9 (D); Mar. 9 (D and L); 23 (D); 30 (D); Apr. 2 (S); 6 (D); 11 (D and S); 12 (B and S); 13 (D and S); 17 (D); 20 (D); 27 (D and Z); 28 (Z); 29 (D and S); 30 (Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D, S and Z); 20 (Z); 21 (D

- and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D and Z).
- Red-shafted Flicker—January 26 (D); February 9 (D); April 5 (S); 6 (L); 13 (D).
- Nighthawk—May 8 (S); 14 (Z); 17 (S); 18 (S); 21 (Z); 25 (D and Z); 26 (Z).
- Chimney Swift—April 30 (L and W); May 1 (S and Z); 2 (Z); 4 (D); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z); 12 (S and Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D, S and Z); 18 (Z); 20 (Z); 21 (D and Z); 22 (Z); 24 (Z); 25 (Z); 26 (Z); 27 (Z); 28 (Z); 30 (Z).
- White-throated Rock Swift—April 30 (Z).†
- Ruby-throated Hummingbird—May 12 (D); 25 (*Z).
- Kingbird—April 27 (L and Z); 29 (D and S); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D, S and Z); 18 (D, S and Z); 19 (Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 28 (Z); June 1 (D and Z).
- Arkansas Kingbird—April 30 (Z); May 4 (D); 11 (D and L); 21 (D); 23 (Z).
- Great-crested Flycatcher—May 4 (D and Z); 7 (Z); 8 (Z); 11 (L and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 18 (Z); 25 (*D and Z).
- Phoebe—March 23 (D); 30 (D); April 2 (D); 6 (D and L); 20 (D); 27 (D and Z); 30, nesting (Z); May 4 (D); 11 (D); 18 (Z); 25 (D); 28 (Z).
- Wood Peewee—May 25 (D).
- Acadian Flycatcher—May 20 (*Z); 25 (Z).
- Traill Flycatcher—May 2 (Z); 4 (D); 10 (Z); 11 (*D, L and Z); 12 (*Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 18 (D and Z); 20 (Z); 21 (D and Z); 22 (Z); 25 (D and Z).
- Least Flycatcher—May 8 (Z); 10 (Z); 11 (L); 13 (Z); 14 (Z); 18 (Z); 20 (Z); 21 (Z); 28 (Z).
- Prairie Horned Lark—Jan. 25 (Z); 26 (D); Febr. 9 (D); Mar. 9 (D and L); 23 (D); 30 (D); April 2 (D); 6 (D);

†First record for Lincoln (Editor).

- 11 (D and S); 12 (B and S); 13 (D); 20 (D); 27 (D and Z); 30 (Z); May 2 (Z); 4 (D and Z); 7 (Z); 15 (Z); 18 (Z); 20 (Z); 21 (D and Z); 25 (D); 28 (Z).
- Hoyt Horned Lark—Jan. 25 (L).
- Blue Jay—Jan. 25 (L and Z); 26 (D); Feb. 18 (D); April 1, migrants (S); 11 (S); 13 (D and S); 27 (D and Z); 29 (D and S); 30 (Z); May 2 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 19 (S and Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 28 (Z); June 1 (D).
- Crow—January 11 (Z); 25 (L and Z); 26 (D); Feb. 9 (D); 18 (D); Mar. 9 (D); 23 (D); 30 (D); Apr. 2 (D); 6 (D); 13 (D and S); 17 (D); 20 (D); 27 (D and Z); 30, nesting (Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D and Z); 19 (Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D and Z).
- Bobolink—May 4 (Z); 11 (L); 15 (Z); 17 (*D and S); 18 (D and Z); 27 (Z); 30 (Z); June 1 (Z).
- Cowbird—Apr. 4 (S); 6 (D and L); 11 (D and S); 12 (B and S); 13 (D); 17 (D); 20 (D); 27 (D and Z); 29 (D and S); 30 (Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D and Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D and Z).
- Yellow-headed Blackbird—Apr. 13 (L); 27 (Z); 29 (D, S and Z); 30 (Z); May 10 (Z); 11 (D); 17 (D and S); 18 (D and Z); 20 (Z); 21 (D and Z).
- Red-winged Blackbird—Mar. 9 (L); 23 (D); 30 (D); Apr. 2 (D and W); 11 (D and S); 12 (B and S); 13 (D); 17 (D); 20 (D); 27 (D and Z); 29 (D and S); 30 (Z); May 2 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z); 12 (Z); 13 (Z); 15 (Z); 17 (D, S and

- Z); 18 (*D and Z); 20, nesting (Z); 21 (D and Z); 23 (Z); 27 (Z); 28 (Z); June 1 (Z).
- Western Meadowlark—Jan. 25 (L); 26 (D); Feb. 18 (D); Mar. 9 (D); 23 (D); 30 (D); Apr. 2 (D and S); 6 (D); 12 (B and S); 13 (D and S); 17 (D); 20 (D); 27 (D and Z); 28, nesting (Z); 29 (D and S); 30 (Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D, S and Z); 19 (Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D and Z).
- Orchard Oriole—May 4 (D and L); 10 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D and Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D).
- Baltimore Oriole—April 23 (L); May 2 (D and Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (Z); 11 (D and Z); 12 (S and Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (*D and Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D).
- Rusty Blackbird—March 23 (D); April 13 (L).
- Brewer Blackbird—April 6 (L).
- Bronzed Grackle—April 1 (S); 4 (S); 5 (S); 6 (D); 11 (S); 12 (B and S); 13 (D); 20 (D); 27 (D and Z); 30 (Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D and Z); 19 (Z); 20, nesting (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D and Z).
- Purple Finch—May 4 (Z).
- Goldfinch—January 25 (L); April 6 (D); 12 (B and S); 20 (D); 27 (D and Z); May 2 (Z); 4 (D); 7 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 17 (D and S); 18 (D and Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 25 (Z); June 1 (D).
- Lapland Longspur—January 25 (Z).
- Vesper Sparrow—April 12 (B and S).
- Savannah Sparrow—April 2 (D and W); 6 (L); 11 (D and S);

12 (B and S); 13 (D); 20 (D); 27 (Z); 29 (D and S);
30 (Z); May 4 (D and Z); 10 (S and Z); 11 (D and S);
12 (B and S); 13 (D); 20 (D); 27 (Z); 29 (D and S);
30 (Z); May 4 (D and Z); 10 (S and Z); 11 (D and Z);
17 (D and S); 21 (D and Z).

Western Grasshopper Sparrow—April 20 (D); 27 (D); 30 (Z);
May 4 (*D and Z); 10 (Z); 11 (D and L); 18 (S).

Leconte Sparrow—April 12 (B and S); May 4 (D and Z); 10
(Z); 17 (D and S).

Lark Sparrow—April 17 (D); 27 (D); May 4 (D).

Harris Sparrow—January 25 (L); 26 (D); March 9 (D); 23
(D); 30 (D); April 2 (D and W); 4 (S); 5 (S); 6 (D);
11 (S); 12 (B and S); 13 (D and S); 17 (D); 20 (D);
25 (S); 27 (D); 29 (D and S); 30 (Z); May 2 (Z); 3 (Z);
4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z);
12 (S and Z); 13 (Z); 15 (Z); 16 (Z); 17 (D and S); 18
(D and Z); 21 (D, S and Z).

Gambel Sparrow—April 29 (D); 30 (L); May 2 (D); 3
(*Z); 4 (D and Z); 10 (Z); 11 (D).

White-crowned Sparrow—April 30 (L); May 2 (D); 3 (*Z);
4 (D and Z); 10 (Z); 11 (D).

White-throated Sparrow—April 20 (D); May 4 (D and Z); 11
(D and L).

Tree Sparrow—January 11 (Z); 25 (L and Z); 26 (D); Febru-
ary 9 (D); 18 (D); March 9 (D); 23 (D); 30 (D); April
2 (D and W); 6 (D); 13 (D); May 2 (Z).

Western Tree Sparrow—January 25 (Z).

Chipping Sparrow—April 1 (S); 11 (S and W); 13 (L and S);
14 (S); 16 (Z); 17 (D); 27 (D and Z); May 2 (Z); 3 (Z);
4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z);
12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (Z); 18 (Z);
20 (Z); 21 (Z); 22 (Z); 23 (Z); 24 (Z); 25 (Z); 26 (Z);
28 (Z).

Clay-colored Sparrow—April 20 (D and L); May 2 (Z); 3 (Z);
4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D, L and
Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 17 (D, S and Z);
18 (Z); 20 (Z); 21 (Z); 23 (Z).

- Western Field Sparrow—April 2 (W); 6 (D); 13 (L); 20 (D); 27 (D); May 4 (D).
- Slate-colored Junco—January 25 (L and Z); 26 (D); February 18 (D); March 9 (D); 23 (D); 30 (D); April 2 (D and W); 4 (S); 5 (S); 6 (D); 11 (S); 13 (S); 17 (D); 18 (S); May 3 (Z).
- Song Sparrow—March 30 (D); April 2 (D and W); 6 (D); 11 (D and S); 12 (B and S); 13 (D); 20 (D); 27 (D); May 2 (Z); 3 (Z); 4 (Z); 10 (Z).
- Lincoln Sparrow—April 5 (W); 13 (L); 20 (D); May 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 18 (Z).
- Fox Sparrow—April 6 (D); 12 (B and S).
- Towhee—March 30 (D); April 1 (L); 2 (W); 6 (D); 11 (D and S); 17 (D); 20 (D); 27 (D); May 4 (D); 10 (Z); 14 (Z); 15 (Z); 18 (Z).
- Arctic Towhee—April 30 (L); May 3 (Z); 4 (D and Z); 7 (Z); 11 (D and Z); 13 (Z); 15 (Z).
- Cardinal—February 18 (D); March 9 (D); 23 (D); 30 (D); April 6 (D); 17 (D); 20 (D); 27 (D and Z); May 4 (D and Z); 10 (Z); 11 (L); 18 (D and Z); June 1 (D).
- Rose-breasted Grosbeak—April 30 (L); May 1 (S); 2 (D and Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D, S and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D and Z); 20 (Z); 21 (D and Z); 23 (Z); June 1 (D).
- Indigo Bunting—(W).
- Dickcissel—April 30 (Z); May 4 (D and Z); 10 (Z); 11 (D, L and Z); 14 (Z); 17 (D, S and Z); 18 (D, S and Z); 19 (Z); 20 (Z); 21 (D); 22 (Z); 24 (Z); 25 (Z); 26 (Z); 28 (Z); June 1 (D and Z).
- Scarlet Tanager—May 18 (Z); 25 (D).
- Purple Martin—April 1 (W); 11 (D and S); 12 (B and S); 13 (D and L); 29 (D and S); May 11 (D); 18 (D).
- Cliff Swallow—May 4 (L); 10, flock of hundreds (*S and Z); 11 (D); 18 (*Z); 20 (Z); 21 (D and Z).
- Barn Swallow—April 20 (L); 29 (D and S); May 1 (Z); 2 (Z); 4 (D and Z); 7 (Z); 10 (S and Z); 11 (D); 13 (Z);

- 14 (Z); 15 (Z); 17 (D and S); 18 (S); 20 (Z); 21 (D and Z); 22 (Z); 24 (Z); 25 (D and Z); 28 (Z); June 1 (D).
- Tree Swallow—April 27 (L); May 10 (S and Z); 11 (D); 20 (Z); 21 (Z).
- Bank Swallow—April 27 (L); May 10 (*Z); 18 (Z); 20 (Z); 21 (D and Z).
- Rough-winged Swallow—April 27 (L); 29 (D and S); May 4 (D and Z); 10 (S and Z); 11 (D); 17 (D and S); 18 (D and Z); 20 (Z); 21 (D and Z); 25 (D).
- Northern Shrike—January 25 (L).
- Migrant Shrike—March 23 (D); 30 (D); April 16 (Z); 27 (Z); 30, nesting (*Z); (paired with *excubitorides* male); May 4 (D).
- White-rumped Shrike—April 27 (L); 30, nesting (*Z) (paired with *migrans* female).
- Red-eyed Vireo—April 30 (L); May 12 (Z); 15 (Z); 16 (Z); 18 (Z); 20 (Z); 21 (Z); 22 (Z); 25 (D and Z); June 1 (D).
- Warbling Vireo—April 20 (D and L); May 2 (Z); 4 (D and Z); 8 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 18 (Z); 20 (Z); 21 (Z); 22 (Z); 24 (Z); 25 (D and Z); 26 (Z); 28 (Z); June 1 (D).
- Yellow-throated Vireo—May 25 (D).
- Blue-headed Vireo—May 10 (*Z); 11 (*D and Z).
- Bell Vireo—May 4 (D); 10 (S and Z); 11 (L); 13 (*Z); 17 (D and S); 18 (D and Z); 19 (D); 20 (Z); 21 (D and Z); 25 (D); 28 (Z); June 1 (D).
- Black and White Warbler—May 10 (Z); 11 (D, L and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 18 (Z); 22 (Z); 25 (Z).
- Blue-winged Warbler—May 8 at Havelock (Edward Wallace).
- Nashville Warbler—May 11 (Z).
- Orange-crowned Warbler—May 3 (Z); 4 (Z); 8 (Z); 10 (Z); 11 (D, L and Z); 12 (D and Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z).
- Tennessee Warbler—May 2 (Z); 10 (*Z); 11 (Z); 12 (D, S and Z); 13 (Z); 14 (Z); 15 (Z); 18 (Z); 19 (Z); 20 (Z); 22 (Z); 25 (D and Z); June 1 (D).

Yellow Warbler—April 27 (Z); 29 (D and S); 30 (L); May 2 (Z); 4 (D and Z); 10 (S and Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and S); 18 (D and S); 19 (Z); 21 (D and Z); 22 (Z); 23 (Z); 25 (Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D and Z).

(Z); 4 (D and Z); 10 (Z); 11 (D); 12 (Z); 13 (Z); 14 (Z); 18 (D).

Magnolia Warbler—May 10, one (Z); 11, several (D); 25, one (Z).

Chestnut-sided Warbler—May 14, one male (*Z).

Bay-breasted Warbler—May 14, one male (*Z).

Black-poll Warbler—May 10 (Z); 11 (D and Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 18 (Z); 20 (S and Z); 21 (D, S and Z); 25 (D and Z).

Palm Warbler—May 11, one (D).

Black-throated Green Warbler—May 10 (Z); 14, one male (*Z).

Ovenbird—May 10 (Z); 11 (D and Z); 12 (D and Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 18 (Z); 20 (Z); 21 (Z); 22 (Z); 25 (Z).

Grinnell Water Thrush—May 10 (Z); 11 (L); 20 (Z).

Louisiana Water Thrush—May 10 (Z); 11 (L).

Connecticut Warbler—May 18, a male (Z).†

Mourning Warbler—May 13, male (*Z); 14 (Z); 20, pair (Z); 25, one (Z); 28, one male (Z).

Maryland Yellowthroat—May 4 (D, L and Z); May 10 (S and Z); 11 (D and Z); 12 (S and Z); 13 (Z); 14 (Z); 15 (Z); 17 (D and S); 18 (D, S and Z); 20 (Z); 21 (D and Z); 22 (Z); 25 (D and Z); 28 (Z); June 1 (D).

Wilson Warbler—May 8 (Z).

Redstart—May 8 (Z); 10 (Z); 11 (L); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 18 (Z); 22 (Z); 25 (D and Z).

Pipit—April 13 (D); May 10 (Z); 11 (L).

Mockingbird—May 4 (L); 24 (Z); 25 (Z); 26 (Z); 27 (Z); 28 (Z); 30 (Z).

Catbird—May 3 (Z); 4 (D and L); 8 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (D and

†First report of this bird for the State (Editor).

- S); 18 (D, S and Z); 19 (Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 25 (D and Z); 26 (Z); 28 (Z).
- Brown Thrasher—April 20 (D, L and W); 24 (S); 27 (D and Z); 29 (D and S); 30 (L and Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15, nesting (Z); 16 (Z); 17 (Z); 18 (Z); 19 (Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25, nesting (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D and Z).
- Western House Wren—April 17 (W); 20 (D); 27 (D, L and Z); 29 (D and S); 30 (Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15, nesting (Z); 18 (Z); 19 (Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25, nesting (D and Z); 26 (Z); 27 (Z); June 1 (D and Z).
- Short-billed Marsh Wren—May 11 (L).
- Brown Creeper—January 26 (D); March 9 (L); 23 (D).
- White-bellied Nuthatch—January 26 (D); February 9 (D); 18 (D); March 9 (D and L); 23 (D); 30 (D); April 6 (D); 20 (D); May 4 (D).
- Red-bellied Nuthatch—April 13 (S).
- Long-tailed Chickadee—January 11 (Z); 25 (L); 26 (D); February 9 (D); 18 (D); March 9 (D); 23 (D); 30 (D); April 2 (D); 6 (D); 13 (D); 20 (D); 27 (D and Z); 30 (Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (Z); 18 (Z); 19 (Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D).
- Golden-crowned Kinglet—April 5 (W); 13 (L).
- Ruby-crowned Kinglet—April 17 (D); 28 (S); May 10 (S and Z).
- Wood Thrush—May 2 (D and Z); 3 (Z); 4 (D, L and Z); 7 (Z); 8 (Z); 10 (S and Z); 11 (D and Z); 12 (Z); 14, nest building (Z); 16 (Z); 17 (Z); 18 (Z); 19 (Z); 20 (Z); 21 (D and Z); 22 (Z); 25, nesting (D and Z); 26 (Z); 27 (Z); 28, nesting (Z); June 1 (D and Z).
- Willow Thrush—May 2 (Z); 8 (Z); 10 (Z); 11 (Z); 12 (Z).

Gray-checked Thrush—May 4 (Z); 8 (Z); 10 (Z); 11 (S and Z); 12 (Z); 21 (Z).

Olive-backed Thrush—April 30 (L); May 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 18 (Z); 20 (Z); 21 (Z); 22 (Z); 23 (Z); 25 (D and Z); 26 (Z).

Hermit Thrush—(W).

Robin—January 26 (D); February 12 (W); 16 (L); March 9 (D); 23 (D); 30 (D); April 2 (D); 6 (D); 11 (D and S); 12 (B and S); 13 (D and S); 17 (D); 20 (D); 27 (D and Z); 29 (D and S); 30 (Z); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8, nesting (Z); 10 (Z); 11 (D and Z); 12 (Z); 13 (Z); 14 (Z); 15 (Z); 16 (Z); 17 (Z); 18 (Z); 19 (Z); 20 (Z); 21 (D and Z); 22 (Z); 23 (Z); 24 (Z); 25 (D and Z); 26 (Z); 27 (Z); 28 (Z); June 1 (D and Z).

Bluebird—March 9 (D and L); 23 (D); 24 (W); 30 (D); April 2, abundant (W); 6 (D); 11 (D and S); 13 (D); 16 (Z); 17 (D); 20 (D); 27 (D); May 2 (Z); 3 (Z); 4 (D and Z); 7 (Z); 8 (Z); 11 (Z); 12 (Z); 14 (Z); 23 (Z); 24 (Z); 25 (D and Z); 27 (Z); 28 (Z).

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