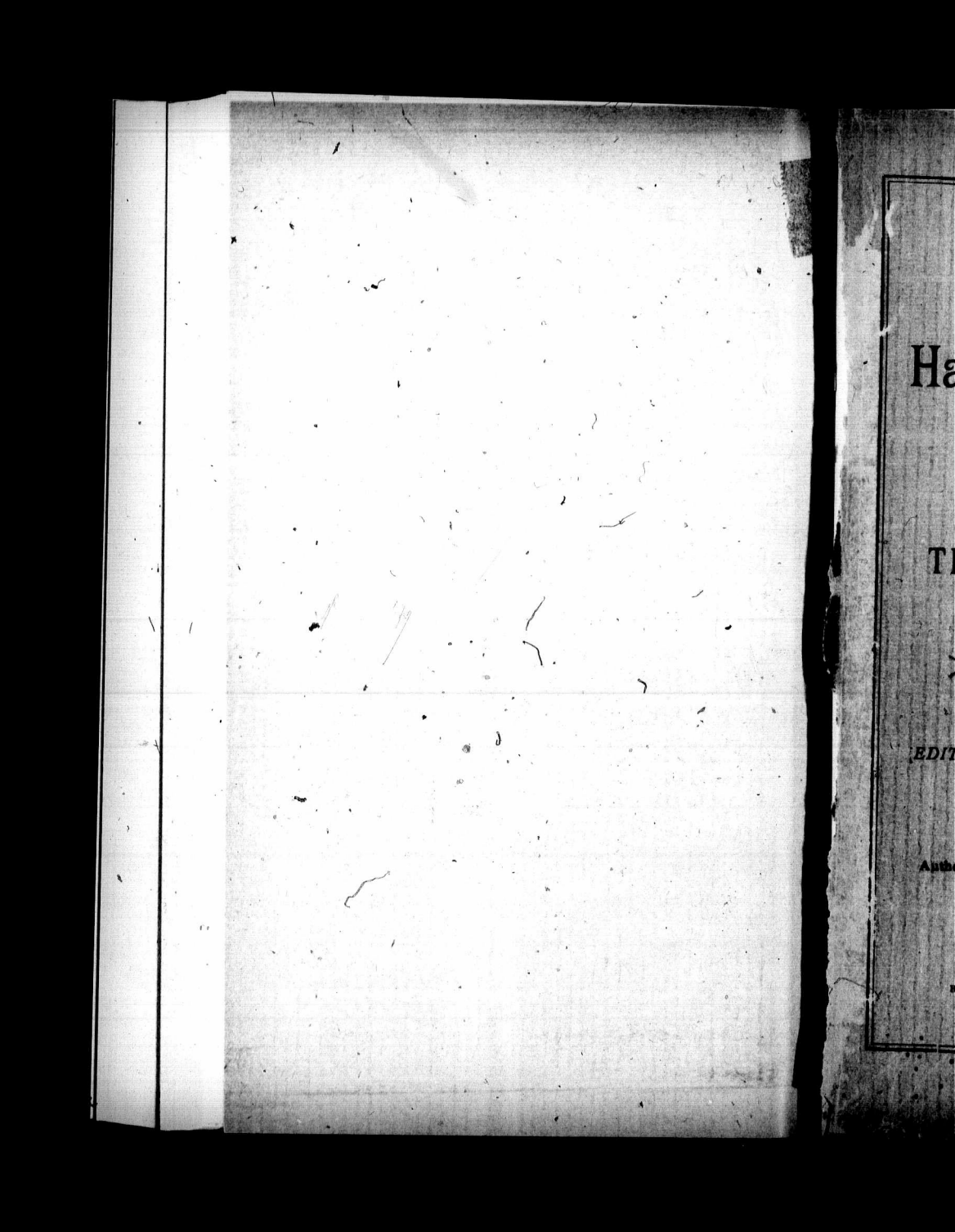

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JOURNAL AND PROCEEDINGS

—OF THE—

Hamilton Association,

1885–1886,

INCLUDING

THE BIRDS OF ONTARIO,

—BY—

T. McILWRAITH.

EDITED BY THE HONORARY SECRETARIES.

VOLUME 2.

Authors of Papers are alone responsible for the statements made and the opinions expressed therein.

PRINTED FOR THE HAMILTON ASSOCIATION
BY A. LAWSON & CO., PRINTERS, 10 YORK STREET, HAMILTON.

1886.

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HAMILTON ASSOCIATION.

(For the Cultivation of Literature, Science and Art.)

OFFICERS FOR 1885-6.

PRESIDENT.

REV. C. H. MOCKRIDGE, F.S. SC. LON.,ENG., M. A., D. D.

VICE-PRESIDENTS.

REV. SAMUEL LYLE, B. D., WILLIAM KENNEDY.

HONORARY SECRETARIES.

GEO. DICKSON, M.A. A. ALEXANDER. F.S.SC., LON., ENG.

HONORARY TREASURER.

RICHARD BULL.

HONORARY CURATOR AND LIBRARIAN.

ALEXANDER GAVILLER.

COUNCIL.

W. A. ROBINSON, A. F. FORBES, G. M. BARTON.
J. ALSTON MOFFAT, SAMUEL BRIGGS.

MUSEUM AND LIBRARY

ARCADE BUILDING JAMES ST. NORTH, HAMILTON.

NOTICE.

THE HAMILTON ASSOCIATION was instituted on 2nd November, 1857, and continued its regular meetings to the close of the year 1860. During the period between 1861 and 1871 the meetings were held at irregular intervals, the office bearers of 1860 holding office in the meantime. During the years 1871, 2, 3, 4, and 5 the Association was more active in its work, regular meetings being held. An interregnum of four years ensued from 1875 to 1880, during which time the Council met at stated intervals. From 1880 to the present time the Association has been in active operation, during which period, in addition to the regular monthly meetings, special meetings have been held under the direction of the Council, the Annual meeting held in May, 1886, being the one hundred and twentieth meeting of the Association.

The Association was incorporated in the year 1883.

OFFICE - BEARERS.

	PRESIDENT.	1st VICE-PRES.	2nd VICE PRES.	COR. SEC.	REC. SEC.	TREAS.	LIBR AND CUR.
1857	Rev. W. Ormiston, D. D.	John Rae, M. D....	J. B. Hurlburt, M. A., LL.D.	T. C. Keefer, C. E.	Dr. Craigie....	W. H. Park....	A. Harvey.
1858	John Rae, M. D....	Rev. W. Ormiston, D. D.	J. B. Hurlburt, M.	T. C. Keefer,	Dr. Craigie....	W. H. Park....	A. Harvey.

OFFICE - BEARERS.

	President.	1st Vice-Pres.	2nd Vice Pres.	Cor. Sec.	Rec. Sec.	Treas.	Libr and Cur.
1857	Rev. W Ormiston, D. D.	John Rae, M. D....	J. B. Hurlburt, M. A., LL.D.	T. C. Keefer, C. E.	Dr. Craigie....	W. H. Park...	A. Harvey.
1858	John Rae, M. D....	Rev. W. Ormiston, D.D.	J. B. Hurlburt, M. A. LL.D.	T. C. Keefer, C. E.	Dr. Craigie....	W. H. Park...	A. Harvey.
1859	Rev. W. Ormiston, D. D.	J. B. Hurlburt, M. A., LL.D.	Chas. Robb.....	T. C. Keefer, C. E.	Dr. Craigie....	W. H. Park...	A. Harvey.
1860	Rev. W. Inglis, D.D.	T. McIlwraith.....	Rev. W. Ormiston, D.D.	Dr. Craigie....	Wm. Craigie..	W. H. Park...	Chas. Robb.
1861	Rev. W. Ormiston, D. D.	J. B. Hurlburt, M. A., LL.D	Rev. W. Inglis, D. D.	Dr. Craigie....	Wm. Craigie..	W. H. Park...	T. McIlwraith,
1871	W. Proudfoot.....	Judge Logie.....	R. Bull.....	J. M. Buchan, M. A.	I.B.McQuesten M. A.	W.G. Crawford	T. McIlwraith.
1872	Judge Logie.....	H. B. Witton, M.P.	R. Bull.....	J. M. Buchan, M. A.	I.B.McQuesten M. A.	W.G. Crawford	T. McIlwraith.
1873	H. B. Witton, M.P.	J. M. Buchan, M.A.	A. T. Freed.....	Geo. Dickson, M. A	Geo. Dickson, M. A.	R. Bull.....	T. McIlwraith.
1874	H. B. Witton, M.P	J. M. Buchan, M.A.	A. T. Freed.....	Geo. Dickson, M. A.	Geo. Dickson, M. A.	R. Bull.....	T. McIlwraith.
1875	H. B. Witton.....	J. M. Buchan, M.A.	W. H. Mills.....	Geo. Dickson, M. A.	Geo. Dickson, M. A.	A. McCallum, M. A.	T. McIlwraith.
1880	T. McIlwraith.....	Rev. W. P. Wright, M. A.	H. B. Witton.....	R. B. Hare, Ph D.	Geo. Dickson, M. A.	R. Bull.....	A. T. Freed.
1881	J. D. McDonald, M.D.	R. B. Hare, Ph. D.	B. E. Charlton....	Geo. Dickson, M. A.	A.Robinson, M. A.	R. Bull.....	W. H. Ballard, M. A.
1882	J. D. McDonald, M.D.	B. E. Charlton....	J. A. Mullin, M. D.	Geo. Dickson, M. A.	Wm. Kennedy.	R. Bull.....	W. H. Ballard, M. A.
1883	J. D. McDonold, M.D.	B. E. Charlton....	H. B. Witton.....	Geo. Dickson, M. A.	Wm. Kennedy.	R. Bull.....	W. H. Ballard, M. A.
1884	J. D. McDonald, M.D.	H. B. Witton.....	Rev. C. H. Mockridge, D. D.	Geo. Dickson, M. A.	A. Alexander..	R. Bull.....	Wm. Turnbull,
1885	Rev. C. H. Mockridge, M.A., D.D.	Rev. S. Lyle, B. D.	W. Kennedy.....	Geo. Dickson, M. A.	A. Alexander..	R. Bull.....	A. Gaviller.

MEMBERS OF COUNCIL.

1857.—Judge Logie; Geo. Lowe Reid, C. E.; A. Baird; C. Freeland.

1858.—Judge Logie; C. Freeland; Rev. D. Inglis, D.D.; Adam Brown; C. Robb.

1859.—Rev. D. Inglis, D.D.; Adam Brown; Judge Logie; C. Freeland; R. Bull.

1860.—J. B. Hurlburt, M.A., LL.D.; C. Freeland; Judge Logie; R. Bull; Wm. Boultbee; Dr. Laing.

1871.—Geo. Lowe Reid, C.E.; Rev. W. P. Wright, M.A.; A. McCallum, M.A.; A. Strange, M.D.; Rev. A. B. Simpson.

1872.—Judge Proudfoot; Rev. W. P. Wright, M.A.; John Seath, M.A.; H. D. Cameron; A. T. Freed.

1873.—Judge Logie; T. McIlwraith; Rev. W. P. Wright, M. A.; A. Alexander; I. B. McQuesten, M.A.

1874.—Judge Logie; T. McIlwraith; Rev. W. P. Wright, M. A.; A. Alexander; I. B. McQuesten, M.A.

1875.—Judge Logie; T. McIlwraith; Rev. W. P. Wright, M. A.; A. Alexander; I. B. McQuesten, M.A.

1880.—M. Leggat; I. B. McQuesten, M. A.; A. Alexander; Rev. A. Burns, M.A., LL.D., D.D.

1881.—T. McIlwraith; H. B. Witton; A. T. Freed, Rev. W. P. Wright, M.A.; A. F. Forbes.

1882.—T. McIlwraith; H. B. Witton; A. T. Freed; A. F. Forbes; Rev. C. H. Mockridge, M.A., D.D.

1883.—A. Alexander; A. Gaviller; A. F. Forbes; T. McIlwraith; P. Hinchcliffe.

1884.—A. Gaviller; A. F. Forbes; T. McIlwraith; R. Hinchcliffe; W. A. Robinson.

1885.—W. A. Robinson; Samuel Briggs; G. M. Barton; J. Alston Moffat; A. F. Forbes.

LIST OF CORRESPONDING AND HONORARY MEMBERS.

CORRESPONDING MEMBERS.

Clark, Chas, K., M. D., Rockford Asylum, Kingston.
Van Wagner, P. S., J. P.; Stoney Creek.
Bull, Rev. George A., M. A., Barton.
Lawson, A., M. A., Geological Survey of Canada,
Spencer, J. W., Ba. Sc., Ph. D., F. G. S., Columbia, Mo., U. S.
Wright, Prof. W. P., M. A. California.
Seath, John, M. A., High School Inspector St. Catharines.
Frood, T Kincardine, Ont.
Chas, N. Bell, F. R. G. S. Winnipeg Man.

HONORARY MEMBERS.

Grant Lt.-Col., John St. South.
Macoun, John, M. A., Government Botanist and Naturalist, Geological Survey of Dominion of Canada.
Dawson, Sir J. William, F. R. S., F. G. S., F. R. S. C., Principal McGill College, Montreal.
Sanford, Fleming, C. E., C. M. G., Ottawa.
Wilson, D., L. L. D., Principal, University of Toronto.
Farmer, William, Engineer, New York.
Ormiston, Wm., D. D. New York.
Proudfoot, Vice Chancellor.
Rae, John. M. D. F. R. G. S. &c., London Eng.
Hurlburt, J. B., M. A., L. L. D., Ottawa.
Small, H. B. Ottawa.
Charlton, Mrs. B. E., Hamilton.

CONSTITUTION AND BY-LAWS.

NAME AND OBJECTS.

1. The main objects of the HAMILTON ASSOCIATION shall be the formation of a Library, Museum, and Art Gallery, the cultivation of Literature, Science and Art, and the illustration of the Natural History and Physical Characteristics of the country.

MEMBERS.

2. Honorary members must be men eminent for their literary and scientific attainments, and their election may be made at any regular meeting, their names being announced at a previous monthly meeting. They shall be exempt from payment of fees; they may attend the meetings of the society, and they shall be furnished with copies of transactions and proceedings when published, but shall not hold office.

3. Ordinary members are those who pay an annual contribution of two dollars; a payment of twenty dollars shall constitute an ordinary member for life.

4. Corresponding members are those who reside at a distance from the city, who are distinguished for Literary or Scientific attainments or who contribute to the objects of the Association. They shall have all the privileges of ordinary members, with the exception of being eligible for office.

5. Proposals for the admission of members may be made at any regular meeting, and decided by ballot at the next regular meeting.

6. A majority of votes cast shall determine every question.

7. Dissentients on any other point than the election of members, may have their reasons of dissent, if put in writing at the time, entered on the minutes—if given in afterwards, such reasons shall be read after the minutes, at the next meeting, and kept *in retentis*.

OFFICE-BEARERS.

8. The Officers shall be a President, two Vice-Presidents, a Corresponding Secretary, Recording Secretary, Treasurer, Librarian and Curator of the Museum—all of whom, together with a Committee of five, shall form the Council.

9. They shall be elected at the Annual General Meeting on the second Thursday in May, and continue in office for one year, or until their successors are appointed. They may be re-elected to the same, or any other office.

10. The President or Chairman of the meeting, shall have a casting vote, in addition to the ordinary vote.

MODE OF ELECTION.

11. The Office bearers and Committee shall be elected in the following manner, after *viva voce* nomination :—Each member shall write the name of the person he selects for the office, and put the paper, without signature, in the ballot box. The Secretaries, or two Scrutineers, specially appointed, shall report the number of votes for each nominee, and the person having the majority of votes shall be elected. In case there are more than two nominees for one office, and no one has a majority of the total number of votes, the one having the smallest number of votes shall be struck off the list, and a fresh ballot taken.

MEETINGS.

12. The Association shall meet on the second Thursday of every month, from November to May inclusive, at eight o'clock p. m., unless otherwise ordered by the Council—five members to constitute a quorum.

13. Special meetings may be held at any time, on the call of the President, in his own right, or on the requisition of three members—but no business shall be transacted except that for which the meeting is called.

SECTIONS.

14. To allow those members of the society, who devote attention to particular branches of science, fuller opportunities and facilities of meeting and working together with fewer formal

restrictions than are necessary at the general monthly meetings of the society, Sections of Committees may be established in the following branches of science:—

SECTION A.—Mathematics, Mechanics, Physics, Meteorology and Astronomy.

SECTION B. and C.—Chemistry and Mineralogy, and their application to the Arts, Agriculture and Horticulture, Geology and Palæontology.

SECTION D.—Biology, *i. e.* Botany, Zoology and Entomology.

SECTION E.—Medical and Sanitary Science.

SECTION F.—Geography, Ethnology and Archæology.

SECTION G.—Literature and the Fine Arts.

There shall be for each section a Chairman to preside at the meeting, and a Secretary who shall prepare for the Secretary of the Association for the last meeting in May in each year, a report of the proceedings of the section during the year.

Meetings of sections may be called at any time by the Chairman.

No person who is not a member of the society shall have the privilege of joining any of the sections.

CONSTITUTION AND BY-LAWS.

15. No alteration or addition to the Constitution and By-Laws of this Association shall be made unless carried by a two-thirds vote at two successive ordinary meetings.

16. No alteration in the Constitution can be considered, except on the written motion of three members.

17. Should the Association at any time become inactive, the Library and Museum shall be preserved entire and deposited with some Scientific or Educational Institution in the City.

PAYMENTS.

18. Members shall pay their entrance dues of two dollars within one month after being notified of their election, and subscribe their assent to the Constitution and By-Laws. The annual dues shall be payable at the first meeting in November.

19. No ordinary member, in arrears for one year, shall be entitled to vote, or be eligible for office, and if after two years, his annual dues remain unpaid, he shall, *ipso facto*, cease to be a member.

20. Corresponding members pay no dues—they may become ordinary members without a new election, by the payment of annual dues.

OFFICE-BEARERS.

PRESIDENT.

21. The President, when in the Chair, shall inform the Association of the proceedings of the Council since last report, receive and read motions and cause the sense of the meeting to be taken on them, preserve order, and direct the proceedings of the meeting in the regular course. An appeal may be made from any of his decisions to the meeting.

22. A Vice-President in the absence of the President, shall preside, perform his duties and have his privileges.

23. In the absence of the President and both Vice-Presidents a Chairman for the meeting shall be chosen by those present.

SECRETARIES.

24. The Corresponding Secretary shall conduct all the general correspondence, preserve letters received, and copies of letters written by him, announce the receipt of all letters and papers, and read such as the Council or Association may require.

25. The Recording Secretary shall take minutes of the proceedings at the meetings of the Association and Council, which, when read at the next meeting, and approved, shall be entered in separate minute books. He shall issue notices of the meetings of the Association and Council; in the former case, two days, in the latter, one day, before the meeting. He shall notify members of their election, see that they subscribe to the Constitution, and, with the other Secretary, conduct the ballot when required.

TREASURER.

26. The Treasurer shall have charge of the funds, under the direction of the Council. He shall collect annual dues and

fines, pay accounts approved of by the Council, make correct entries of income and expenditure, and submit a statement thereof to the Annual Meeting.

AUDITORS.

27. Two Auditors shall be appointed at the meeting, on the second Thursday in April, to examine the Treasurer's books, and vouchers, and report to the Annual Meeting.

LIBRARIAN.

28. The Librarian shall have charge of the Library, under the direction of the Council, and be accountable for the books. He shall make a catalogue of the books, distinguishing those for circulation from books of reference.

29. Any member wishing to take out a book, must apply to the Librarian, at the times fixed by the Council, and the Librarian shall enter, in a book kept for that purpose, the name of the borrower, the title of the book, and the dates of its being given out and returned. Any book (except periodical works) may be kept two weeks, and if not then returned, the member retaining the book shall be subject to a fine of 25 cts. for every succeeding week. Periodical works which have not been three months in the Library, can be retained only seven days, but those that have been in the Library for a longer time, shall be subject to the same rules as other books.

30. Books returned at the appointed time, may, if not wanted by another member, be re-issued to the same person for another fortnight.

31. No book shall be purchased for the Library, unless it treats of some subject connected with the objects of the Association; but donations of books on any subject may be received.

32. Members shall have access to the Library to consult books of reference, at such reasonable times as may be specified by the Council.

CURATOR OF MUSEUM.

33. The Curator shall have charge of the Museum, subject to the orders of the Council. The Museum shall contain seven departments, corresponding to the seven sections of the Associa-

tion, for each of which a separate catalogue shall be made of the specimens with their numbers. No specimens shall be taken out without the consent of the Council.

34. Duplicate specimens may be exchanged by order of the Council for an equivalent.

35. Donations to the Museum shall be entered on the catalogue of the department to which they belong, with the name of the donor.

36. Every member shall have access to the Museum, at the times specified by the Council, and any member may introduce visitors.

37. No case shall be opened without the sanction and in the presence of the Curator.

38. Special donations to the Library or Museum may be accepted on special conditions.

THE COUNCIL.

39. The Council shall have the management of the funds and property of the Association, and of the Library and Museum, and shall submit a monthly report of current expenses, beyond which no money will be expended without first being sanctioned by a general meeting. They may choose their own chairman and three members shall constitute a quorum for the transaction of business. They shall keep minutes of their proceedings, and report to the Association.

40. The Chairman, in his own right, or at the request of any two members, may call a meeting.

41. The Council shall arrange the order in which papers, or other subjects for consideration, may be brought before the meetings of the Association, and may receive papers from strangers.

42. Any paper read before the Association and deemed worthy of preservation or publication shall become the property of the Association.

43. The Council shall prepare an annual report.

44. All resident Past-Presidents of this Association shall be members of the Council Ex-officio.

MEETINGS.

At the ordinary meetings the President shall take the chair at the appointed hour, or as soon thereafter as five members are present, and the following order of business shall be observed ;

1. Reading, amending if necessary, and sanctioning the minutes of last meeting.

2. Transactions of any business arising out of the minutes or lying over from the last meeting.

3. Announcements by the Corresponding Secretary of letters, papers, or other documents received since last meeting—and reading such of them as may be desired.

4. Report by the Curator and Librarian of donations to the Library or Museum.

5. Giving notice of motions and general business.

6. Balloting for admission of new members.

7. Proposals of members.

8. Introduction of visitors (by any member.)

9. Reading and remarks on essays and papers.

10. Announcing, as far as practicable, the business of next meeting.

From No. 1.)

APPLICATION FOR MEMBERSHIP.

Hamilton,.....188

To the Secretary of "The Hamilton Association:"

SIR,—Being desirous of becoming a member of the above named Association, I would be obliged if you would submit my name for acceptance, as such, promising to observe its rules and promote its interests.

Recommended by .....Name.
.....Designation.
.....Residence.

APPLICATION
OF
.....
ELECTED
.....188

(From No. 2.)

Hamilton,.....188

DEAR SIR,—

I have the honor to inform you that you have this day been elected a member of the Hamilton Association, and I beg to forward to you a copy of the Constitution and By-Laws.

According to the Regulations of the Association you are required to pay your Admission Fee of $.....within one month after receipt of this notice.

I have, Etc.,

.....
Secretary.

ACT OF INCORPORATION.

To all whom it may concern;

The undersigned, John D. Macdonald of the City of Hamilton, in the County of Wentworth, Doctor of Medicine, President; Benjamin Ernest Charlton of the City of Hamilton, Manufacturer, First Vice-President; John Alexander Mullin of the City of Hamilton, Doctor of Medicine, Second Vice-President; George Dickson, M. A., of the City of Hamilton, Principal Collegiate Institute, Corresponding Secretary; William Kennedy of the City of Hamilton, Bank Clerk, Recording Secretary; Richard Bull of the said City of Hamilton, Insurance Agent, Treasurer; William H. Ballard, M. A., of the City of Hamilton, Curator and Librarian and Thomas McIlwrath of the said City of Hamilton, Forwarder; Anthony F. Forbes of the said City of Hamilton, Broker; A. T. Freed of the said City of Hamilton, Editor; Henry B. Witton, of the said City of Hamilton, Canal Inspector; and Charles H. Mockridge of the said City of Hamilton, Doctor of Divinity; Members of the Council of the Association hereinafter referred to

DO HEREBY DECLARE.

1st. That an association known as "The Hamilton Association" was duly established on or about and has been continuously in existence since the second day of November, A. D. one thousand eight hundred and fifty-seven, and that such Association doth still exist.

2nd. That the several persons whose names and descriptions are hereinbefore set forth are the Trustees and Office-Bearers for the time being of said Association, and they do hereby declare that it is the desire of such association to become incorporated according to the provisions of the Revised Statues of Ontario, Chapter one hundred and sixty-seven, entitled "An Act respecting Benevolent, Provident and other Societies."

3rd. That the intended corporate name of the said Association, is "The Hamilton Association.

4th That the purposes or objects of the said Association, are the formation of a Library, Museum, and Art Gallery, the cultivation of Literature, Science and Art, and the illustration of the Natural History and Physical Characteristics of the Country.

Annexed is a copy of the Constitution and By-Laws of the said Association.

IN TESTIMONY WHEREOF we have hereunto subscribed our names this twenty-ninth day of December one thousand eight hundred and eighty two.

Signed in the presence of

[SIGNED,]
KING BARTON.

J. D. Macdonald, *President*
B. E. Charlton, *1st Vice-President.*
John A. Mullin, *2nd Vice-President.*
Geo. Dickson, *Corresponding Secretary.*
Wm. Kennedy, *Secretary.*
Richard Bull, *Treasurer.*
W. H. Ballard, *Librarian and Curator.*
T. McIlwraith,
H. B. Witton,
A. F. Forbes,
A. T. Freed,
Chas. H. Mockridge,
Members of Council.

PROVINCE OF ONTARIO,
COUNTY OF WENTWORTH,
TO WIT;

I, the undersigned, Local Judge of the High Court of Justice, of Ontario, and Judge of the County Court, in and for the said County of Wentworth, certify that the within Declaration of the Hamilton Association within named, together with the hereunto annexed copy of the Constitution and By-Laws of the same, have been produced to me, and the same appear to me to be in conformity with section 5, and other provisions of Chapter 167 of the Revised Statutes of Ontario, entitled, "An Act re-

specting Benevolent Provident, and other Societies." Dated at my Chambers in the City of Hamilton, this 20th day of January, A. D., 1883.

(Signed) J. S. SINCLAIR,
L. J. High Court and County Court.

PROVINCE OF ONTARIO,
COUNTY OF WENTWORTH.
TO WIT;

I, John Crerar, af the said City of Hamilton, in the said County of Wentworth, Esquire, Clerk of the Peace in and for the said County, certify that the within is a true copy of an original Declaration of the Office-Bearers and Trustees of the Hamilton Association within named, which was together with a copy of the Constitution and By-Laws of the said Hamilton Association, duly filed with me as such Clerk of the Peace, at my office at Hamilton, aforesaid, on this 22nd day of January, A. D. 1883.

(Signed,) JOHN CRERAR,
Clerk of the Peace.

Per P. D. CRERAR,
Deputy.

PROCEEDINGS.

OF THE

Hamilton Association.

SEASON 1885-1886.

FIRST MEETING.

Twenty-eighth year, Thursday, 19th November, 1885.

Dr. Macdonald, the retiring President, in the chair.

The minutes of the annual meeting were read and approved.

Dr. Mockridge's motion, of which notice was given at the Annual Meeting, viz:—"That all resident Past-Presidents of the Association be ex-officio members of the Council of the Association," was passed.

The Secretary read a report of the proceedings for Session 1884-5 as follows :—

"The Session which closed with the Annual Meeting held on the 28th of May last, was on the whole, one of the most successful that ever the Society has held.

Never before in the history of the Association have such a number of meetings been held, or so many subjects brought before the members as during the last Session. No less than fourteen regular meetings of the Association being held, at which sixteen papers, on as many distinct subjects, were read.

The attendance at these meetings was invariably good, while at some of them it was large. A greater and more general

interest has been taken in the work and objects of the Association than for many years past ; while its membership was never larger or more influential. The following is a list of the papers read.

"Inaugural Address."—Dr. Macdonald.

"The Ancient Language and Literature of India".—H. T. Witton, Esq.

"Commercial Transactions in pre-historic times—Bronze Age."—W. Kennedy, Esq.

"The Early Greek Philosophy."—Rev. J. W. A. Stewart, M. A.

"Remarkable Landslide on the Grand River."—J.W. Spencer, B. A. Sc. ; Ph. D., F. G. S.

"The Germ Theory."—James Leslie, M. D.

"A Glance at Historical Medicine."—Edward S. Hillyer, M. D.

"The Early Home, Separation and Re-Union of the Ayran Family."—Rev. R. J. Laidlaw.

"The Waters of Burlington Bay and the City Sewage."—C. S. Chittenden, D. D. S.

"American Ornithology and the Birds of Ontario."—Thos. McIlwraith Sup. for Ontario of the O. S. N. America.

"The Physical Development of the Niagara Escarpment."—A. C. Lawson, M. A., of the Geological Survey of Canada.

"Is Language a Test of Race."—Geo Dickson, M. A.

"The Pioneer Traders of the North West."—B. E. Charlton, Esq.

"Psychology—Illusions, Apparitions Dreams."—Samuel Briggs, Esq.

"The Race Identity of the Old and New Worlds."—William Glyndon, Esq.

Interesting discussions followed the reading of nearly all these papers.

During the Session some of the principal reviews and Scientific Magazines were laid on the table for the use of the mem-

bers in harmony with the resolution come to early in the Session. Among others, The *Westminster*, *Contemporary* and *Edinburgh* Reviews. The Popular *Science Monthly*, *Chemical Journal*, the *Scientific American* and *Nature* were regularly supplied.

At the commencement of the Session we had 151 members, 142 of these being ordinary, 7 Corresponding and 2 Honorary members. At the close we have 157 on our list after deducting 19 who have withdrawn and 3 who have died since the last report was read." This Report was adopted. The Report of the Curator and Librarian and that of the Geological Section were read and adopted.

Dr. Macdonald then vacated the chair which was taken by the Rev. Dr. Mockridge.

The application of the Camera Club for the use of the dark room and also for the occasional use of the large room, and space for a table upon which to place their periodicals was granted in terms of their letter to the Association. The following names were proposed for membership: Harry B. Witton, Archdale Wilson, John Dickson, Geo. S. Papps, Mrs. Geo. S. Papps, Mrs. J. Stewart, Hugh C. Baker, C. S. Scott, James R. Moodie, Francis H. Mills, William Bruce and Judge Smart.

Dr. Mockridge then delivered his inaugural address which will be found in the proceedings.

It was announced that the subject of the next paper would be "The Mound Builders' Remains of Manitoba" by Charles N. Bell, F. R. G. S., of Winnipeg.

The meeting then adjourned.

SECOND MEETING.

Thursday, 17th December, 1885.

The President, Dr. Mockridge in the chair.

The minutes of the previous meeting were read and approved.

It was moved by Mr. Witton, seconded by Mr. Bull and carried. "That the thanks of this Association are due, and are

hereby cordially tendered to J. D. Macdonald, Esq., M. D., on his retirement from the Presidency of our Association, and we desire to acknowledge our indebtedness to him, realising that the increased prosperity of this Association is largely due to his exertions during the four years of his term of office."

Mr. Witton then made some very interesting remarks on the recently published letters, correspondence and journals of John Wilson Croker.

The names proposed for membershlp at the last meeting were unanimously elected members of the Association and the following new names were proposed viz:—George McKeand, A. W. Ambrose, Allan Land, Rev. Robert Ward, F. S. Sc. Lon. Eng. M. D. M. A., Rev. A. E. Miller, and William Goering.

It was proposed that Chas. N. Bell, Esq F. R. G. S., be a corresponding member.

In the absence of the author, Chas. N. Bell, Esq., the Secretary read a paper on "The Mound Builders Remains in Manitoba."

The Meeting then adjourned.

THIRD MEETING.

28th January, 1886.

The President in the chair.

Minutes read and approved.

The Gentlemen proposed at the previous meeting were duly elected, and the names of E. E. Kitson, Edward Martin, Edward A. Geiger and Maria L. Rattray proposed for election at next meeting.

Charles N. Bell, Esq., F. R.G. S. was elected a Correspondent Member.

A. Gaviller, Esq. the Curator, then gave a very interesting and instructive lesson to the members present on the Pressure and Elasticity of the Atmosphere illustrated by a series of very

successful experiments with his very complete and costly apparatus.

The meeting then adjourned.

FOURTH MEETING.

12th March, 1886.

In the absence of Dr. Mockridge, the Rev. Samuel Lyle, B. D. Vice-President, occupied the chair.

The minutes of the previous meeting were read and approved.

A donation of Serpentine from the Lizard Point, Cornwall, England, and specimens of Tin and Tin Ore were reported from Mr. M. S. Simmons.

There was also reported as having been received the following:—

"The Proceedings of the Royal Society of England."

"The Scottish Geographical Magazine."

"Transactions of The South Africa Philosophical Society for 1885."

"American Geological Report 1884."

"Proceedings of the Academy of Science, Kansas."

"Transactions of Manchester Geological Society 1885."

"Transactions of Edinburgh Geological Society 1885."

"Transactions of the Mining Association and Institute of Cornwall"

"The Bulletin of the Museum of the State of Missouri."

The four names proposed at the previous meeting were duly elected viz:

E. E. Kitson, Barrister; Edward Martin, Q. C.; Edward A. Geiger, Secretary Hamilton Business College; Maria L. Rattray, Principal of Hamilton Business College.

Mr. Witton called attention to a small tribe of Indians recently found in Southern India, called the Toda Tribe. He gave a very interesting sketch of their manners and habits.

Mr. McIlwraith then followed with a lesson on Ornithology, illustrated by many hundreds of beautiful specimens of birds from all parts of the world. The attendance at this meeting was large and all were delighted with the snbject as presented by Mr. McIlwraith and with the examination of the birds.

It was announced that Mr. Lyle would read a paper on "Pessimism" at the next meeting.

The meeting then adjourned.

FIFTH MEETING.

Thursday, 25th March, 1886.

Dr. Mockridge, the President, in the chair.

The minutes of previous meeting were read and approved.

The Rev. Samuel Lyle, B. D. read a paper on "Pessimism."

The Essayist said that "Pessimism" looks upon the world as an evil, human life as essentially sad, and non-existence in every respect to be preferred to existence. The opinions of Schopenhauer, Leibintz, Kant, Hartman and others were reviewed. At the close Messrs. Forbes, Witton, Rev. Dr. Burns and others with the chairman, spoke to the subject of the paper.

The meeting then adjourned.

SIXTH MEETING.

Thursday, 15th April, 1886.

The President in the chair.

The minutes of the previous meeting were read and approved.

A paper on the Phosphate Trade of Canada, by H.B. Small Esq., of the Department of Agriculture, Ottawa, was read by Mr. Witton. The paper which was an able one and full of valuable information on the phosphate deposits, the mode of working them, and the volume of production and value of this mineral. An interesting discussion followed the reading of the paper, Messrs Chittenden, Witton, Charlton, Colonel Grant and others taking part therein.

H. B. Small, Esq., was elected an Honorary Member of the Association.

It was announced that the next meeting would be held on the 29th April, when George Black, Esq., of the Great N. W. Telegraph Company, would read a paper on "Telegraphic Communication with a moving train."

The meeting then adjourned.

SEVENTH MEETING.

Thursday, 29th April, 1886.

The President in the chair.

The minutes of the previous meeting were read and approved.

A letter from Mrs. Charlton was read, conveying to the Association a handsome collection of Natural History specimens.

A letter from Mr. Bourinot, Secretary of the Royal Society of Canada, asking for a delegate and a report to be sent to the Annual Meeting to be held in Ottawa on the 25th May next.

The Council was instructed to arrange the matter.

Mr. Black then read his paper on "Telegraphic Communication with Moving Trains." The subject was presented in a very clear and interesting manner. The members present asking many questions relating to the subject which Mr. Black answered to the satisfaction of all present.

It was announced that Mr. J. Alston Moffat would read a paper at the next meeting entitled, "Life in Nature and Evolution in Life."

The meeting then adjourned.

EIGHTH MEETING.

ANNUAL MEETING.

Thursday, 20th May, 1886.

Dr. Mockridge presiding.

The minutes of the previous meeting were read and approved.

Mrs. B. E. Charlton was unanimously elected an Honorary Member of the Association and H. A. Mackelcan, Barrister, an Ordinary Member.

Mr. Moffat, read a paper on "Life in Nature and Evolution in Life."

The paper called forth warm commendations from those present.

The Secretary read a report of the year's work, which will be found elsewhere in these proceedings.

Mr. Bull, the Treasurer, read a Financial Statement, showing a balance in the bank of $200.

The election of Officers for the ensuing year was then proceeded with resulting as follows:—

President—Rev. C. H. Mockridge, D. D.

1st Vice-President—Rev. Samuel Lyle, B. D.

2nd Vice-President—Matthew Leggat.

Corresponding Secretary—Harry B. Witton.

Recording Secretary—A. Alexander.

Treasurer—Richard Bull.

Librarian and Curator—Alexander Gaviller.

Council—J. Alston Moffat, Samuel Slater, C. S. Chittenden, James Leslie, M. D. and William Milne.

Auditors—A. T. Neill and W. A. Childs.

The meeting then adjourned.

HAMILTON ASSOCIATION,

1885.

INAUGURAL ADDRESS,

OF THE PRESIDENT REV. C. H. MOCKRIDGE, D.D.

INTRODUCTORY.

At this our opening meeting of the present season, I desire to tender to the members of the Hamilton Association my sincere thanks for the distinguished honor they have done me in electing me as their President. I fear I can lay no claim to such a position, except on the grounds, that I have always felt deeply interested in anything which has a tendency to improve and therefore refine the intellect of mankind; but as far as I may be able to do so, I will endeavour to promote the interests of the Association, and fill as worthily as possible the high position in which its members have placed me.

Some changes have taken place in the active membership of our Association, the chief being the removal by death of Mr. David McCulloch, late collector of customs, and the removal from the City, (owing to promotion in his profession), of Mr. George Dickson, who so ably filled the duties of Corresponding Secretary. In Mr. Dickson, the Association loses not only an indefatigable worker but also, from an intellectual and educational point of view, a most useful member.

I can not refrain, also from noticing in this connection, the comparatively recent death in the neighbouring City of Guelph, of Dr. Hare, whom many will remember as having been, when a resident in this City, an active and valuable member of this Association.

Other points of a kindred nature to what I have already said were mentioned by the Secretary. It remains for me to proceed with what is called an "Inaugural Address," which is usually an Address without a subject. But on the present occasion I have thought it best to choose, as I notice is often done now on similar occasions, some definite subject for a treatise or lecture. I have therefore chosen simply the general subject of Education, with reference chiefly to the young.

Before proceeding with this, however, I may be permitted perhaps to express the hope that members of this Association will avail themselves of the privileges accorded to them in it. Apart from the Library and Museum, there are a number of useful and interesting periodicals taken by the Association, and which may be read at any time in this room. The Magazines and Reviews taken reflect some of the best thoughts of the day on all subjects. This reading room should be used by the members as a place of intellectual enjoyment and improvement, and abundant material for that purpose is afforded here and might well be more extensively used than it seems to be.

I might also be allowed to express the hope that members will read up a little on subjects that are to be presented here from time to time by papers appointed to be read, or at least think over them with a view to offering some remarks upon them. In this way one of the most enjoyable features of our monthly gatherings, I mean the *viva voce* discussions of the subjects brought before us, will be not only secured but greatly enhanced.

Without further delay I shall now proceed to offer a few thoughts on the wide and general subject of

EDUCATION.

No higher aim can man set before him than the improvement of his own species by Education. He should avail himself of every possible opportunity in the way of the development of all powers, whether bodily or mental, inherent in the race In point of fact, a human being is always learning; if he is in any sense thoughtful he can't help regarding life as a profound mystery; it is a thought which begins to dawn upon him as his own life

unfolds itself, and increasing years offer no explanation of the mystery; they only indeed make it appear deeper as new and successive phases of existence present themselves to his observation. Life may be said to be a series of experiences, and we know little or nothing of the different periods of it till such experiences have been realized. A boy knows nothing of the sensations, hopes and disappointments of early manhood; a young man is in similar ignorance of the responsibilities which come with more mature years; a man of middle age will find, as he moves on towards the end, that even in the years of advanced life there were many things which the experience of that period alone could teach him.

Life itself then may be said to be a process of Education. It begins in the cradle. As the tiny occupant of that structure lies in it kicking his feet and sucking his thumb he is actually learning the A B C's of life. How soon he learns to discriminate between persons, a lesson we may say which he will never learn perfectly however long his life may be. It is a great part of the practical education of life to feel our way carefully among our fellow creatures, to find out those we can trust and confide in them, and to discover those who are false and avoid them. It is a lesson often bought by many a dear experience, and however well guarded on this point we shall often find ourselves bitterly disappointed in it. To trust everyone is not only foolish, but it is wrong. It is wrong to the transgressors, it is wrong to society in general. We must learn to discriminate between persons and persons, and this is one of the first among the lessons which dawn upon the infant mind; he soon learns to trust familiar faces and to avoid those of strangers; to his little mind it is a matter of proof, the voice and form of his mother or nurse are familiar to him as having a soothing power upon him, and it is the absence of that form and voice which produces a directly opposite effect upon him. And so, in point of fact, the child begins very early to learn one of the most important lessons of life.

Any one at all interested in children must have noticed with profound wonder the gradual process of education that is continually going on within them, and also the pride with which each new lesson as it is learned is accepted by them. When, for instance

a child first learns to walk how proud he is of it! How he struts about from place to place, thumping his little feet down with an air of profound self-conceit almost as if he had been the first one who had discovered the art of walking, and then how much he has to learn! He has to learn that fire is hot and ice is cold, that some things will hurt him and that others will give him pleasure, that somethings are right and others wrong. He has to learn to use his judgment, upon which he little knows what a heavy draw there will be through the whole of his life. He must first judge of heights and distances and of the hundreds of causes and effects by which we are surrounded. If a person blind from birth, should have his sight restored he would find himself in utter confusion on all these matters. For sometime he would not be able to distinguish between objects that were close to him and those more remote. He might reach out his hand to touch an object which in reality was a long distance from him, and he might be surprised at coming immediately upon that which to him appeared to be at the other side of the room. Indeed it is doubtful whether he might not fancy at first sight that he could lay his hand upon the moon. This, and numerous other things of a like kind, shows us that nature is not idle in what seems to be the long process of infantile growth. Many of the most useful properties and qualities of life are being developed by means of a steady and patient process.

Nor, as I have already intimated, does it stop here. Every phase of life brings something new to us. Life is a big school and we are all attending it. It is full of lessons, rewards and punishments ; it is full of successes and failures, of hope and despair, yet on the whole it is leading us all onwards and upwards, pointing to something higher which yet has to be encountered and learned.

What more important subject conld there be than for us to consider, whether religiously or scientifically, than education ? The very word science is derived from a Latin word which means "I know." It opens up a vast thought before us, indeed an endless field. Nothing makes a man realize more keenly the brevity of his life than a mere glimpse at the world of science. If nature has smiled upon him and given him means and leisure

to prosecute investigation, without being hampered with professional or bread winning duties, he may accomplish much in scientific knowledge, but even he, in old age, must feel but a child in the great matter of final research. Even if he takes but one department of scientific investigation his life will appear but all too short to exhaust it. It reminds us of the old song:—

> Could a man be secure
> That his days would endure
> As of old, for a thousand long years,
> What things might he know!
> What deeds might he do!
> And all without hurry or care.

But we do not live for a thousand years or anything like it. Moreover in this young country especially, where bread winning and work are all important, where nature bestows time and leisure upon but a few, we can not hope for much learning and research. It is possible indeed for the commercial spirit to be carried too far. As yet Canada has produced very little in the way of literature. No great poet, novelist or artist has yet made known her name, and but few authors of any description have appeared in our midst. Nor can we say very much for the prospects for the future. The age seems to be shaping in a practical direction somewhat to the exclusion of literature. In the mother land such names as Charles Dickens, Bulwer Lytton, Geo. Elliot, Anthony Trollope, Wm. Makepeace Thackeray have passed away with but little prospects of successors in any way worthy of them; and in the United States men like Longfellow, Prescott, Bryant, Irving and Fenimore Cooper seem not to have thrown their mantle upon others. The loss to the present age of a Victor Hugo, to whom I shall make some further references presently, is great.

It would seem then that there is room for authors among the higher circles of literature all the world over. How far Canada dare hope to yield a supply in that direction it is impossible to say. But there are other directions in which, with a suitable training of the young, hopes might yet be confidently entertained for our own country. If this country from the very nature of the case, must be a practical country, why may not some distinguished point be gained in that direction? But

whether in this direction or not, whether as men of letters or men of practical engineering or building, the strongest grounds that we have for hope in any degree of excellency lies, as I have hinted, in the education of the young.

Not that it is claimed that education can produce genius. This is far from being the case. Genius is born not made, and has often snapped its very fingers at education. Nevertheless it is claimed that education may bring out dormant or unsuspected powers, and certainly it is a most powerful adjunct to genius of any kind. There are many men who would never have made their mark upon the world but for their education; and the great hope of this or any other country lies in the proper and judicious training of the young. To this subject I invite your attention to-night. If I have called my subject education, it is done more with a view to soliciting proper attention to children than anything else; and this may well come within the scope of a Literary and Scientific Association. The object of all science is to elevate the human race as well as to improve the species of inferior animals, and throw light upon and develop the hidden powers of nature. Are there not sufficient grounds for saying that in the search for such knowledge and to attain such ends, in the search for developing the hidden powers of nature and improving the species of dumb animals, not enough care has been spent upon developing the powers of our own race or upon improving humanity in general? And the question may very well arise, what is the true starting point in this great matter? To say that if we had good, judicious parents we would have good children is no doubt true, but to begin with the parents is to begin at the wrong end. It may sound like a paradox to say that if we are to have good parents we must first have good children, and yet it is true. We should train children to make good parents instead of attempting to train parents to make good children. It may be known to many of you that this is a favorite theory of Mr. Herbert Spencer's, whose powerful pen has been actively engaged for years in advocating almost every species of education. His theory is that part of the curriculum of our common school system should be the training of children to fulfil the duties of parents. At first this seems

somewhat startling, but it is a thought which grows upon one as he studies it. The idea is that school should be the place where children should be prepared for the active and practical problems of life with which they are almost sure to come in contact, and that is a thought surely worthy of grave consideration.

Are not many years that would be precious to education and therefore of inestimable benefit to the children (having in view their after life of men and women) wasted upon things which they find of little or no actual value to them, while numerous practical subjects are left for them to discover or gain experience upon in the best way they can? In the Royal Navy boys are put upon training ships and made "to know the ropes." Whether destined for officers or men, they are made to gain the whole experience of the intricate workings of a ship for themselves. It is doubtful whether England would have ever been "the mistress of the sea," if it had not been for this thorough training from childhood of those who were to man her ships. Now why should not there be made the same thorough preparation for the rudimentary duties of life for our children even in the public schools? In the case of women, what would those rudimentary duties of life be? We might say, the management of children, the proper superintendence or practical rendering of household duties, including all needlework, making of garments, cooking, washing, baking,—in fact everything that would tend to the well ordering of domestic life. The economy of a household is quite an art. It should not be left to the innate genius of woman (which is often, by the way, somewhat deficient in that direction,) but should be made a matter of regular and systematic training among girls. It is but a poor argument against this that there are many young ladies who may not reasonably expect to have to perform these duties, because even so, they may be called upon to superintend them, and a superintendent who himself understands all the details of work connected with his business is always valuable. Besides reverses may come when not expected, and for the practical management of a home on a small allowance, music, painting and German exercises are but a poor preparation. It is not by any means

that there is any desire to underrate the importance of what are called accomplishments for ladies. Far from it; but they should not be the sole curriculum of their schools. If their education begins at 8 years old, and lasts till 18 there is abundance of time to train them in all necessary things, whether practical or ornamental, and if the sons of noblemen and the highest in the land have commenced the work of lowest drudgery on a ship, that they might become efficient officers, and have worked in blacksmiths shops that they might become practical engineers, why should not young ladies be taught the practical sides of life with which, in some form or other, they are almost sure to come into contact? Would it not be well for parents, and all those interested in the welfare of young people, to investigate carefully the importance of this subject? Some of the subjects mentioned it is true, could not well be taught in schools, without at least greatly changing their character from what they are now, but in many ways, knowledge regarding them could easily be acquired and might prove to be of the greatest advantage even in cases least anticipated.

Much might be said, in the same line of thought, regarding the education of boys, and this brings us at once to the vexed question of Classics and Mathematics. Is it wise to consume many years of a boy's life in studying dead languages, when the same time could be occupied, with equal general training to the mind, in subjects of a more useful nature? This is a question which is not so eaily answered as some seem to think. Ruthlessly to sweep away our dear old Latin and Greek, however we may have groaned over them in days gone by, would seem an innovation too serious to contemplate, nor would it, indeed, seem advisable to do so. Granted that they are subjects which do not enter much into practical life; granted that they are often forgotten, in many cases with a hearty good bye for ever, as soon as school and college are left behind, yet there is an influence upon the mind given by them which is not so easily shaken of. Besides, the general science of language is never so clearly comprehended as when there is a good knowledge of Latin and Greek. It is a true saying that no man knows well his own language till he has learned another, and nearly all the

modern tongues are based upon the classics. It would be a pity then that they should ever drop out of the curriculum of of our colleges and schools. Yet there is great force in the objections urged against the prominent part that they have been make to take in the education of boys. Many boys have been known to be able to read Horace and Homer and Cicero and Thucydides, and write Latin verse and Greek Iambics who could not draw a promissory note or even add up a column of figures. In this of course, there is a serious defect and it does force upon us the thought that for the actual battles of life the classics are not a necessity. The same, however, it is generally thought, can not be said of the study of Mathematics, for they enter largely into almost all the practical departments of life. To paper a room, to lay down a carpet, to manage finances, to build houses, to construct bridges, to survey lands, to sail ships on the ocean, in fact to carry on the commerce of the world all require a knowledge of Mathematics. So that in point of practical work there is much to be said in favor of Mathematics as compared with Classics, and yet the latter have had, or at least can be made to have, as great an influence for good upon the individual as the former. Because, in point of fact, the amount of Mathematics needed in practical life is, after all, comparatively insignificant. A man of very limited education will calculate in a short time the quantity of material needed to paper a room, or carpet a floor; a builder acquires in a short time all the Mathematics needed for his work, and so does the navigator and surveyor. So that in reality the schoolboy, on entering practical life says good bye and good bye for ever to a vast amount of Mathematics that he waded through in school,—his Quadratic Equations, Arithmetical Problems, Propositions of Euclid, Solutions of Triangles,—what have they been to him, after all, but a sort of irksome and burdensome training of the mind?

The real state of the case seems to be that too much time is given to both Classics and Mathematics, while a whole host of other subjects which would be of practical use in almost every department of life are ignored.

The principle laid down in educating a child should be how to make him a useful member of society. What can he be

taught which will make him of some benefit to his fellow creatures? While it may be admitted that every well educated person should have a knowledge of Classics and Mathematics, should he be turned out from our schools a useless drone, trying to eke out an existence upon the proud satisfaction that he could write Greek Iambics or work problems in Conic Sections? No, our schools should throw around him more protection than that.

The physical training of boys should be attended to in our schools as well as the mental. A boy should know how to take his part against ruffians that might assail him. He should know how to swim and should be taught how to rescue the drowning, so that in the hour of need he might not have the mortification of being unable to render that manly assistance which he would like to render, and which he might attempt to the loss, from shere ignorance, of his own life. This knowledge our boys are left to pick up for themselves as best they may, or never acquire at all, as the case may be. Boys should be taught biology or the science of life. It should be faithfully unfolded before them so that they might know at least, in a proper scientific way such of the mysteries of life as their elders are able to impart to them. Many a boy for want of this knowledge has gone through untold misery and has learned through an unhealthy channel, from shere curiosity, what might have been imparted to him as a matter of course in his school training. They should be taught the first and leading principles of hygiene, or the science of health. They should know scientifically what is injurious to the human frame and what is beneficial to it. Everything connected with ventilation and the right use of food. The study of pneumatics or the properties and laws of the atmosphere; an accurate knowledge of their own frame, or anatomy, so that bones might be set when the surgeon could not be reached, and bleeding stopped till at least a physician could be secured. Knowledge of practical every day subjects which would make useful men and women, useful for every emergency that might arise in the distresses of humanity, should be attainable in the training places of the young. It would be better than knowing the signs of the zodiac or the names of the moons of Jupiter, though knowledge

of that kind might as well be picked up perhaps by the way, as one hurrying on his path of duty might pluck a flower by the way.

There are many live subjects which could be taught in our schools at great advantage, subjects like Chemistry, Botany, Natural History. The object in all teaching should be to make subjects entertaining or at least agreeable to the pupils. In olden days it was the reverse of this. Teachers as a rule (there were always some noble exceptions) did not seem to think it right for children to be happy. Shakspheare spoke the true sentiment of school going in his own day when he described the school boy "with shining morning face, slipping like a snail unwillingly to school." Poor child, he had no doubt much to make him feel unhappy there. Children are often grossly misunderstood. They are often punished when, in point of fact, the rod ought to be applied to the backs of those who punish them for their owlish stupidity and want of ordinary feelings of humanity; but children are being better understood; the world is at least learning wisdom on that point. As far as my experience goes children go willingly to the public schools of our city. Four of my own children go there and they are certainly never made unhappy; they are always indeed eager for the school hour to arrive. This shows of itself that it is quite possible to make children happy in their education. And live subjects, such as those I have mentioned, would greatly assist in this. To be pegging away at a dead language is certainly uninteresting, and a child can scarcely be brought to see the utility of it. He is apt to say, "What is the use of this Greek, any way?" And yet he can be encouraged to learn it by giving him a little at a time and always keeping him back rather than forcing him onwards. I would not advocate giving up Latin and Greek. On the contrary I think it should be begun much earlier than it is in our Public Schools, say at the VI. or VII. Grade. By short, spirited lessons pupils could then be taught much of the science of language which they can scarcely learn in any other way. But living, interesting subjects should form the principal part of instruction. Take Chemistry for instance. By means of experiments it can be made a most delightful and attractive

study. I only mention a particular subject of that nature to convey the idea that children should be kept in good heart and interested in their education. For instance, a spelling match is a grand thing for children. It is to them like a game. Their minds are kept continually on the *qui vive*, and they find their school a place which they may love and not hate. Oh! the awful pictures given us of the schools of olden days! Charles Dickens did much for the children when, in his own humorous yet cutting way, he represented the tyrant school master of the past, and Charlotte Bronte did the same for boarding schools for girls. Unfortunate girls were kept cold and hungry under the idea that it was a useful training for them! Few departments of humanity have suffered more than children. And yet we are not to suppose that the kindness and humanity and consideration with which children are usually treated now was unknown in the past. Wolfgang Ratke, for instance in the year 1571 gave several rules regarding the education of children, which are all full of wisdom. Among them these: "Often repeat the same thing;" "Teach without compulsion;" "Do not beat children to make them learn;" "Pupils must love their masters, not hate them." Rousseau in 1762 threw Europe into anstonishment with his ideas on education. He was opposed to using books. Children should be taught from nature. Though many of his ideas were wild and unreasonable yet they contained much that was useful. One Basedow, imbude with the ideas of Rousseau, established a school where knowledge was to be imparted by means of games. This suited the children well. Eight or ten are drawn in a line like soldiers, their teacher is their officer, he gives word of command in Latin and they obey him, he says "*Claudite oculos*" and they shut their eyes; "*Circumspicite*," and they look around them; "*Imitamini sutorem*" and they draw the waxed thread like cobblers. So, at his command, always given in Latin, they roared like lions, crowed like cocks, mewed like cats, till the spectators were convulsed with laughter. He had many games, all conducted in the same humorous style, which certainly must have conveyed a good deal of knowledge to the pupils.

Pestalozzi whose name is well known to those interested in the education of children, gathered a number of homeless *little*

ones together in Switzerland, about the year 1798, about whom he speaks as follows:—

"I was from morning till evening almost alone in their midst. Every thing that was done for their body or soul proceeded from my hand; my hand lay in their hand, my eye rested on their eye, my tears flowed with theirs, and my laughter accompanied theirs; their soup was mine, their drink was mine; I had nothing; I had no house keeping, no friends, no servants around me; I had them alone; were they well, I stood in their midst; were they ill, I was at their side; I slept in the middle of them; I was the last who went to bed at night, the first who rose in the morning; even in bed I prayed and taught with them until they were asleep; they wished it to be so."

Based somewhat on this idea of Pestalozzi, Fredrick Froebel instituted, in 1837, what he called a *Kinder-garten* or children-garden, an institution which, as we see it in our midst, has much to recommend itself to that portion of humanity which recognizes the importance of studying the habits and wants of children.

And, even on scientific grounds, why should not this be recognized? If men bring science to bear upon improving breeds of cattle, horses and dogs; if treatises are written inquiring into their habits and giving recommendations as to their proper care and training; if colleges are established where matters in connection with them are minutely discussed, lectures given, experiments made,—and all to produce fine breeds of dumb brutes, why should not similar labor be expended upon improvements which might be wrought upon the human race itself. It seems then in a high degree reasonable that this science of dealing properly with children for the purpose o elevating and improving humanity, should be instilled into the minds of children themselves. Absurd as it may seem that children should be trained to bring up children (a point for which, as I have mentioned, Herbert Spencer pleads) it is after all beginning at the right end to work a useful and needful reform.

The child, "the father of the man" as Wordsworth well puts it, should be taught how to be a good and proper father. All

too soon the child becomes the man and forgets the troubles and difficulties of the child. Let education teach him not to forget, but let it train him to deal with those who are to make the future generation. The child has been forgotten to a great extent in the general scope of literature; but not altogether forgotten. Charles Dickens, as already noticed, and Charlotte Bronte, have done much for them, but he who has touched the tenderest cord in this respect is that great hearted Frenchman, Victor Hugo, lately departed this life. His works have a charm about them, though they are terrible in the extreme. Who that has read *Les Miserables* can ever forget the miseries of little Cossette and the care bestowed upon her by that extraordinary man Jean Val Jean? The picture would open the eyes of anyone to the miseries which some children have to endure. But Cossette is not the only child in that thrilling book. Wretched little creatures, lost in the streets of Paris, are known by their continued moan "I want something to eat;" and the brave little *gamin* Gavroche, made to climb almost impossible heights and brave unheard of dangers to suit the wicked plans of men, are thrown out in the boldest colors. Who too that has read Victor Hugo's *Quatre-vingt-trieze*, or '93, will forget the three little children who might be called the heroes of the book? It is not the warrior leading his troops up to the cannon's mouth, or the sea captain facing the wildest storm, that seizes our chief attention, but the three little sufferers who are made the point on which the plot of the whole story hinges. Who that has read Victor Hugo's poetry can forget the story of the little child, deserted and taken by his grandfather, an old man of eighty. He in second childhood, plays from morning till night with the child whose life is as happy as the day is long. What strange play fellows and yet so happy, the octogenarian and the child! Presently the old man dies, and the child is taken to a very different home. He is treated harshly, scolded, beaten, he has no one to play with and his little life is blighted. Suddenly he is missed. Search is made for him throughout the town. In the morning his little body is found lying on his grandfathers grave, with his hand on the railing showing that he had tried to find his old playmate in the place where at the funeral he

had seen them bury him. Told in Victor Hugo's vigorous poetry the story is exqusite. However strong his mind, however dreadful his books (and dreadful in most cases, because they are only too true,) the children have lost a friend in Victor Hugo.

If Science could be made to bear upon this point it would be worthy of the human race; I speak not of it here as a religious movement, I speak of it as a matter of common sense and education. If children were taught the science of bringing up their own race, educating their own species and caring for them, the little ones would suffer less than they do. To make children keep still is cruel. They are naturally restless. To make them work in factories and other dull places is more than cruel. On this point the children have had another friend, our own Mrs. Browning; who can forget her words?

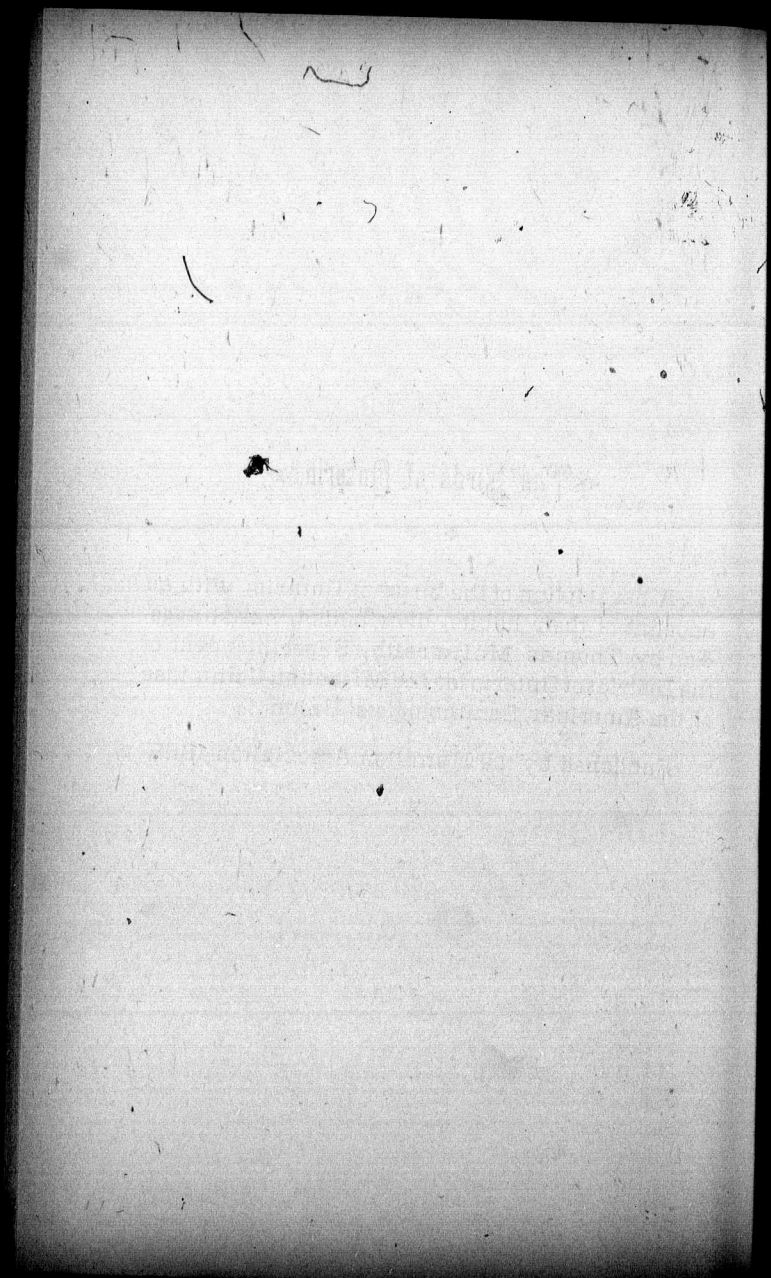
"Do ye hear the children weeping, O my brothers,
Ere the sorrow comes with years.
They are leaning their young heads against their mothers,
And that cannot stop their tears."
The young lambs are bleating in the meadows,
The young birds are chirping in the nest;
The young fawns are playing with the shadows,
The young flowers are blooming towards the West.
But the young, young children, O my brothers,
They are weeping bitterly;
They are weeping in the playtime of the others,
In the country of the free.

In connection with this it may be well to note here the exertions made by that noble Earl, so lately gone to his rest, Lord Shaftsbury. He saw what has in it the elements of pure science, that to prevent crime human beings must be rescued from their surroundings when children, and therefore he established his homes (some of which are in this country) for educating, refining and improving boys, who would be otherwise tossed upon the seething mass of crimnal life in the great cities. Now let Governments take that enlightened view; let men who are cultivating good breeds of horses, cattle and dogs take that view of it; let them cultivate the human race, and in a few generations crime will be greatly diminished and the race itself improved on the principle that the man of science, Herbert Spencer, advocates, and which the poet Wordsworth has expressed in one sentence, "The child is father of the man."

The Birds of Ontario.

A description of the birds of Ontario, with an account of their habits, distribution, nests, eggs, &c., by Thomas McIlwraith, Superintendent of the District of Ontario for the Migration Committee of the American Ornithologists' Union.

Published by the Hamilton Association 1886.



A DESCRIPTION OF

—:THE:—

BIRDS OF ONTARIO,

—BY—

THOMAS McILWRAITH.

ORDER PYGOPODES. DIVING BIRDS.

SUBORDER PODICIPEDES. GREBES AND LOONS.

FAMILY PODICIPIDÆ. GREBES.

GENUS COLYMBUS LINN.

SUBGENUS COLYMBUS.

1 COLYMBUS HOLBOELLII (REINH). 2

Holboell's Grebe.

Tarsus about four-fifths the middle toe and claw; bill little shorter than tarsus; crests and ruff moderately developed. Length, about 18; wings, 7--8, bill, 1⅞ to nearly 2; tarsus, 3; middle toe and claw, 2⅝. *Adult*:—Front and sides of neck rich brownish-red; throat and sides of head ashy, whitening where it joins the dark color of the crown, the feathers *slightly* ruffed; top of head with its *slight* occipital crest, upper-parts generally, and wings dark-brown the feathers of the back paler edged; primaries brown; part of inner quills white; lower parts pale silvery-ash, the sides watered or obscurely mottled, sometimes obviously speckled with dusky; bill black, more or less yellow at base. The young will be recognized by these last characters, joined with the peculiar dimensions and proportions.

HAB. North America at large, including Greenland. Also Eastern Siberia, and southward to Japan. Breeds in high latitudes, migrating south in winter.

The eggs are said to be dull white, clouded with buff or pale green.

This species raises its young in high latitudes, and in winter goes south as far as Pennsylvania. In spring and fall it is seen on most of the waters of Ontario, though it is not as numerous as other two representatives of the family; it is a regular visitor at Hamilton Bay, but only remains for a few days, and being somewhat difficult of approach is not often obtained; during the summer or winter it has not been observed. For many years the young of this species was described as the *Crested Grebe*, owing to the close resemblance it bears to the British bird of that name, Dr. Brewer was the first to point out the error which is now corrected in all modern works on American Ornithology.

SUBGENUS DYTES KAUP.

2 COLYMBUS AURITUS LINN. 3

Horned Grebe.

Tarsus about equal to the middle toe without its claw; bill much shorter than the head, little more than half the tarsus, *compressed*, higher than wide at the nostrils, rather obtuse; crests and ruffs highly developed. Small, length, about 14; extent, 24; wing, 6 or less; bill, about $\frac{3}{4}$; tarsus, $1\frac{1}{4}$. *Adult*:—Above, dark-brown, the feathers paler edged; below, silvery-white, the sides mixed dusky and reddish; most of the secondaries white; fore neck and upper breast brownish-red; head glossy black, including the ruff; a broad band over the eye, to and including occipital crests, brownish-yellow; bill black, yellow-tipped. The young differ as in other species, but always recognizable by the above measurements and proportions.

HAB. Northern hemisphere. Breeds from the Northern United States northward.

Eggs two, whitish shaded with green.

Generally distributed, breeding in all suitable places throughout the country, notably at St. Clair flats; little if any attempt is made to build a nest, the eggs being simply deposited close together on a clump of bog which is usually afloat, so that the young when hatched may be said to tumble out of the shell into the water. Arrives in spring as soon as the ice begins to break up and remains quite late in the fall, individuals being occasionally seen on Lake Ontario during the winter.

3 COLYMBUS NIGRICOLLIS CALIFORNICUS (HEERM.). 4

American Eared Grebe.

Adult male :—Long ear tufts of rich, yellowish-brown ; head and neck all round, black ; upper parts greyish-black; sides, chestnut ; lower parts, silvery grey; primaries, dark chestnut ; secondaries, white, dusky at the base ; length 13 inches. Young similar, the ear tufts wanting, and the colors generally duller.

The eggs cannot be distinguished from those of the preceding species.

HAB. Northern and Western North America, from the Mississippi valley westward.

I mention this as an Ontario species on the authority of Dr. Garnier of Lucknow, Bruce Co., who informs me that a specimen was sent to him in the flesh from Colpoys Bay, as being something different from those usually seen at that point; it was too far gone for preservation when received, but the Dr., who has long been an ardent collector, assures me that he is quite satisfied of the correctness of his identification.

This species is comparatively a new acquaintance to American Ornithologists, for although described by Audubon, it was not found by him. It is now known to breed in Texas, Kansas, Illinois, Dakota and Colorado, so that we need not be surprised if a straggler is now and then wafted this far out of its ordinary course.

GENUS PODILYMBUS LESSON.

4 PODILYMBUS PODICEPS (LINN.). 6

Pied-billed Grebe.

Length 12 to 14 ; wing, about 5 ; bill, 1 or less ; tarsus, 1¼. *Adult* :—bill bluish, dusky on the ridge, encircled with a black bar ; throat with a long black patch ; upper-parts blackish-brown ; primaries ashy-brown, secondaries, ashy and white ; lower-parts silky-white, more or less mottled or obscured with dusky ; the lower neck in front, fore breast and sides, washed with rusty. Young lacking the throat-patch and peculiar marks of the bill, otherwise not particularly different ; in a very early plumage with the head curiously striped.

HAB. British Provinces southward to Brazil, Buenos Ayres, and Chili, including West Indies and the Bermudas, breeding nearly throughout its range.

Nest a few matted rushes on the bog. Eggs usually whitish, clouded with brown.

The Dab Chick is not quite as numerous as the Horned Grebe, neither is it as hardy, being a little later in arriving in spring, and disappearing in the fall at the first touch of frost. It is generally distributed, and is the only one of the family which breeds in Hamilton Bay, where it may often be seen in the inlets in summer accompanied by its young with their curiously striped necks. From its small size and confiding manners it is not much disturbed, but if alarmed has a convenient habit of sinking quietly under water, the point of the bill being the last part to disappear.

Family URINATORIDÆ. Loons.

Genus URINATOR Cuvier.

5 URINATOR IMBER (Gunn.). 7

Loon

Black; below from the breast white, with dark touches on the sides and vent; back with numerous square white spots; head and neck iridescent with violet and green, having a patch of sharp white streaks on each side of the neck and another on the throat; bill black. *Young*:—Dark gray above, the feathers with paler edges; below, white from the bill, the sides dusky; bill yellowish-green and dusky. Length, 2½–3 feet; extent, about 4; wing, about 14 inches; tarsus, 3 or more; longest toe and claw, 4 or more; bill, 3 or less, at base 1 deep and ½ wide, the culmen, commissure and gonys all gently curved.

Hab. Northern part of Northern hemisphere. In North America breeds from the northern tier of States northward; ranges in winter south to the Gulf of Mexico.

Nest among the flags near the water's edge. Eggs dull greenish yellow with numerous spots of brown.

The Loon, on account of its large size, is conspicious wherever it appears, and its loud and melancholy cry is often heard at night during rough weather when the bird itself is invisible. Many pairs raise their young by the remote lakes and ponds throughout the country but they all retire further south to spend the winter; as soon as the ice disappears they return, mostly in

pairs, and by the end of May have made choice of their summer residence. The Loon, in common with some other waterfowl, has a curious habit when its curiosity is excited by any thing it does not understand, of pointing its bill straight upwards, and turning its head rapidly round in every direction as if trying thus to solve the mystery under consideration. Once, when in my shooting skiff, behind the rushes, drifting down the Bay before a light wind, I came upon a pair of these birds feeding about 20 yards apart; they did not take much notice of what must have seemed to them to be a clump of floating rushes, and being close enough to one of them I thought to secure it, but the cap snapped, when the birds hearing the noise, and still seeing nothing living, rushed together and got their bills up as described for a consultation, and so close did they keep to each other that I shot them both dead at forty yards with the second barrel.

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6 URINATOR ARCTICUS (LINN). 9

Black-throated Loon.

Back and under-parts much as in the last species; upper part of head and hind neck, *bluish-ash* or hoary-gray; fore neck purplish-black. The young resemble those of that species but will be known by their inferior size. Length, under 2½ feet; extent, about 3; wing, 13 or less; tarsus, 3; bill, about 2½.

HAB. Northern part of the Northern hemisphere. In North America migrating south in winter to the Northern United States.

This is a much more northern bird than the preceding, it being very seldom met with in the United States, and then mostly in winter in immature plumage. In its migratory course it no doubt visits the waters of Ontario, and should be looked for by those who have opportunities of doing so. A pair of these birds which were found in the neighbourhood of Toronto, were included in a collection which was sent to the Paris Exhibition in 1866, and I once saw another in Hamilton Bay under circumstances which prevented me from shooting it though I was quite close enough, and satisfied of its identity. It was on a still, dull day in the early part of April, the ice on the Bay was broken up and floating about in loose flakes. Waterfowl of different

kinds were coming rapidly in and pitching down in the open water. I was out in my shooting skiff in search of specimens when it suddenly blew up from the East and I was caught among the the drifting ice; everything in the skiff got soaking wet; I broke both paddles trying to force a passage, and for a time was at the mercy of the elements. While drifting along in this condition I came close to a Black-throated Diver in similiar trouble, it being caught among the ice unable to rise, and evidently afraid to dive not knowing where it might come up. We looked sympathizingly at each other, it uttered a low whining cry, and we drifted apart; I got safe to land, and it is to be hoped the rare bird reached the open water and got off in safety; we did not meet again. From not having seen the species recently or heard of its capture by others it may be considered a very rare visitor to these inland waters. In Dr. Wheaton's exhaustive report on the birds of Ohio, mention is made of an individual being shot in Sandusky Bay in the fall of 1880; but the line of its migratory course is probably more along the sea coast.

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7 URINATOR LUMME (GUNN). 11

Red-throated Loon.

Blackish; below white, dark along the sides and on the vent and crissum; most of head and fore-neck bluish-gray, the throat with a large *chestnut* patch; hind neck sharply streaked with white on a blackish ground, bill black. Young have not these marks on the head and neck, but a profusion of small, sharp, circular or oval white spots on the back. Size of the last, or rather less.

HAB. Northern part of Northern hemisphere, migrating southward in winter nearly across the United States.

Breeds in high latitude. Eggs, two in number, pale green.

Audubon found this species breeding at Labrador, and in the *Fauna Boreali-Americana* it is spoken of as "frequenting the shores of Hudson Bay up to the extremity of Melville Peninsula."

Large numbers of these birds visit the waters of Southern Ontario in March and April, about the time of the breaking up of the ice; yet an adult with the red throat patch is scarcely ever seen; the one in my collection was procured out on Lake Ontario at midsummer, having for some reason failed to follow the flocks to the far north. In the fall very few are seen, their route to the south being in some other direction.

All the birds of this class have a most ungainly gait on land, and when surprised away from the water are often taken by the hand before they can get up to fly; *on the water* or *under its surface* their motions are exceedingly graceful.

Dr. Coues when speaking in his "Birds of the North-west" of the familiarity of the Pacific Black-throated Diver in the harbour of San Pedro, in Southern California, says: "They even came up to the wharves, and played about as unconcerned as domestic ducks; they constantly swam around the vessels lying at anchor in the harbour, and all their motions both *on*, and *under*, the clear water could be studied to as much advantage as if the birds had been placed in artificial tanks for the purpose. Now two or three would ride lightly over the surface, with the neck gracefully curved, propelled with idle strokes of their broad paddles to this side or to that, one leg after the other stretched at ease almost horizontally backwards, while their flashing eyes first directed upwards with curious sidelong glances, then peering into the depths below, sought for some attractive morsel. In an instant, with the peculiar motion impossible to describe, they would disappear beneath the surface, leaving a little foam and bubbles to mark where they went down, and I could follow their course under water; see them shoot with marvelous swiftness through the limpid element, as, urged by powerful strokes of the webbed feet and beats of the half open wings, they *flew* rather than *swam*; see them dart out the arrow-like bill, transfix an unlucky fish and lightly rise to the surface again. While under water the bubbles of air carried down with them cling to the feathers, and they seem be-spangled with glittering jewels, borrowed for the time from their native element, and lightly parted with when they leave it, when they arrange their feathers with a shiver, shaking off the

last sparkling drop, the feathers look as dry as if the bird had never been under the water; the fish is swallowed headforemost with a peculiar jerking motion, and the bird again swims at ease with the same graceful curve of the neck."

Family ALCIDÆ. Auks, Murres, and Puffins.

Subfamily FRATERCULINÆ. Puffins.

Genus FRATERCULA Brisson.

8 FRATERCULA ARCTICA (Linn.). 13

Common Puffin.

Adult male:—Entire upper parts, and a collar passing round the fore neck, black; sides of the head and throat greyish-white; lower parts white; a horny protuberance on the upper eyelid. In the young the white of the plumage is shaded with dusky, and the curiously shaped bill is less fully developed. Length 13 inches.

Hab. Coasts and islands of the North Atlantic, breeding from France and the Bay of Fundy northward, South in winter to Long Island and occasionally farther.

Nest in a burrow underground, or in a hole among the rocks, one egg, brownish white.

The Puffin is essentially a bird of the sea coast, which it seldom leaves except under stress of weather. They breed in immense numbers in Labrador, Newfoundland, and sparingly in the Bay of Fundy. In winter they scatter along the sea coast and are found as far South as Long Island. In the report of The Ottawa Field Naturalists Club for 1882 and 1883, it is stated that "A young bird of this species was shot on the Ottawa, towards the end of October, 1881. It had probably been blown inland by a severe storm which took place some days previous." This is the only Ontario record we have of its occurrence so far from the sea.

Subfamily PHALERINÆ.

Genus CEPPHUS Pallas.

9 CEPPHUS GRYLLE (Linn). 27

Black Guillemot

Adult male :—In full plumage, black, shaded with dull green; a white patch on the wings. In all other stages, a marbled mixture of black and white. Length 13 inches.

Hab. Coasts of Northern Europe, south to Denmark and British Islands. Coast of Maine, south in winter to Philadelphia ; Newfoundland (?)

Eggs laid on the rocks near the sea, 3 in number, sea-green blotched with brown.

There is an old record of an individual of this and the succeeding species being found in the Bay in a state of extreme exhaustion about twenty-five years ago. I did not see the birds but enquired into the circumstance at the time and considered the report correct. As none of this family has been observed since that time, these two can only be regarded as waifs carried away against their wishes by the force of the wind.

Subfamily ALCINÆ.

Genus URIA Brisson.

10 URIA LOMVIA (Linn). 31

Brunnich's Murre

Adult male :—Head and neck brown, upper-parts, greyish-brown, secondaries tipped with white, lower-parts white from the throat downwards. Length 17 inches.

Hab. Coasts and islands of the North Atlantic and Arctic Oceans; south on the Atlantic coast of North America to New Jersey, breeding from the Gulf of St. Lawrence northward.

Eggs on the cliffs near the sea—pale green.

Found on the Bay under circumstances similar to the preceeding.

ORDER LONGIPENNES. LONG-WINGED SWIMMERS.

FAMILY STERCORARIIDÆ. SKUAS AND JAEGERS.

11 STERCORARIUS POMARINUS (TEMM.). 36

Pomarine Jaeger.

Middle tail feathers finally projecting about four inches, *broad to the tip*. Length, about 20 inches; wing, 14; bill, $1\frac{1}{2}$--$1\frac{3}{4}$; tarsus about 2. *Adult:*—Back, wings, tail, crissum and lower belly brownish-black; below from bill to belly, and neck all round, pure white, excepting accuminate feathers of sides of neck, which are pale yellow; quills whitish basally, their shafts largely white; tarsi above blue, below, with the toes and webs black. *Not quite adult:*—As before, but breast with dark spots, sides of the body with dark bars, blackish of lower belly interrupted; feet black. *Younger:*—Whole under parts, with upper wings and tail-coverts variously marked with white and dark; feet blotched with yellow. *Young:*—Whole plumage transversely barred with dark-brown and rufous: feet mostly yellow. *Dusky stage* (coming next after the barred plumage just given?); fuliginous, unicolor; blackish-brown all over, quite black on the head, rather sooty-brown on the belly; sides of the neck slightly shaded with yellow.

HAB. Seas and inland waters of northern portion of the Northern hemisphere; chiefly maritime. South in North America to the Great Lakes and New Jersey.

Eggs two or three, grayish-olive with black spots.

The Pomarine Skua is occasionally seen in company with the large gulls which spend a short time during the severity of winter around the west end of Lake Ontario, following the fishing boats and picking up such loose fish as are shaken out of the nets. It is spoken of by the Fishermen as a bird of a most overbearing, tyranical disposition, one which they would gladly punish, but on these trying trips all hands are occupied with matters of too much importance, to think of shooting gulls.

FAMILY LARIDÆ. GULLS AND TERNS.

SUBFAMILY LARINÆ. GULLS.

GENUS GAVIA BOIE.

12 GAVIA ALBA (GUNN). 39

Ivory Gull.

Adult male:—Pure white all over; quills of the primaries yellow, feet and legs black, bill dull greenish; yellow at the tip. *Young*, plumage clouded

with dusky. Primaries and tail feathers, spotted with dusky. Length 20 inches.

HAB. Arctic Seas, south in winter on the Atlantic coast of North America to Labrador and Newfoundland. Not yet found on the coast of the Pacific.

Receiving interesting accounts from the Fishermen of pure white gulls which follow their boats out on the Lake, I tried in vain for two seasons to persuade them to take my large single gun, and bring me a specimen. Finally I got them to attach a long line to the stern of one of the boats, with a hook at the end, bated with a ciscoe; in this way they succeeded in getting me a fine adult male of the Ivory Gull the only one I ever obtained.

GENUS RISSA LEACH.

13 RISSA TRIDACTYLA (LINN.). 40

Kittiwake.

Hind toe only appearing as a minute knob, its claw abortive. Mantle rather dark grayish-blue; first primary with the whole outer web, and the entire end for about two inches, black; next one, with the end black about as far, but outer web elsewhere light, and a white speck at extreme tip; on the rest of the primaries that have black, this color decreases in extent proportionally to the shortening of the quills, so that the base of the black on all is in the same line when the wings are closed (a pattern peculiar to the species of *Rissa*); and these all have white apex. Bill yellow, usually clouded with olivaceous; feet dusky olivaceous. Rather small; 16-18; wing, 12; bill, 1¼-1½; tarsus about the same; middle toe and claw longer; tail usually slightly emarginate. In winter, nape and hind neck shaded with the color of the mantle. *Young*:—Bill black; a black bar on the tail, another across the neck behind; wings and tail variously patched with black; dark spots before and behind the eyes; quills mostly black.

HAB. Arctic Regions, south on the Atlantic coast in winter to the Great Lakes and the Middle States.

Eggs on cliffs overhanging the water.

This species breeds in suitable places from the Gulf of St. Lawrence north to the shores of the Arctic Seas. It is quite common on Lake Ontario, making its appearance early in the fall and remaining over the winter. Even in summer should it blow up for a day or two from the east a few Kittiwakes may be seen soaring aloft as if seeking a sheltered resting place; as soon as the weather moderates they again disappear.

14 LARUS GLAUCUS (Brunn). 42

Glaucous Gull.

Adult:—Plumage pure white except the mantle which is grayish-blue. Bill gamboge yellow with a carmine patch toward the end of the lower mandible; feet flesh colour. In the young the upper-parts are yellowish-white, mottled with pale brown; breast and lower-parts grey; tail white mottled with brown, length 27 inches.

Hab. Arctic Regions, south in winter in North America to the Great Lakes and Long Island. North Pacific.

During the winter months the "Burgomaster," as this species is usually named, may be seen roaming around the shores of Lake Ontario, seeking what it may devour, and is not very scrupulous either as regards quantity or quality. In the *Fauna Bereali-Americana*, it is described as being "notoriously greedy and voracious, preying not only on fish and birds but on carrion of every kind; one which was killed in Capt. Ross's expedition, disgorged an auk when it was struck, and on dissection was found to have another in its stomach."

In March when the days begin to lengthen and the ice begins to soften these large gulls rise from Lake Ontario, and soaring around in wide circles at a great height pass away toward the north.

In the spring of 1884 a specimen was shot near Toronto, by Mr. George Guest of that city.

Genus LARUS Linnæus.

15 LARUS MARINUS (Linn). 47

Great Black-backed Gull.

Feet flesh-colored; bill yellow with red spot. Mantle blackish slate-color; first primary with the end white for 2-3 inches; second primary with a white sub-apical spot, and like the remaining ones that are crossed with black, having the tip white (when not quite mature, the first, with small white tip and sub-apical spot, the second with white tip alone). In winter, head and neck streaked with dusky. *Young*:—Whitish, variously washed, mottled and patched with brown or dusky; quills and tail black, with or without white tips; bill black, Very large; length 30 inches; wing, 18½; bill above 2½.

HAB. Coast of the North Atlantic ; south in winter to Long Island and Italy.

Nest on the ground, eggs, three, drab, blotched with brownish black.

This large and powerful gull is often seen by the Lake Ontario fishermen following the boats, but always at a safe distance. It greedily devours such dead or dying fish as may be shaken clear of the nets, and furiously drives off any of the smaller gulls which would seek to share the spoil. It has evidently a wholesome dread of man, but is not acquainted with all his ways, the specimen in my collection having been poisoned by swallowing a bait which was intended for a Bald Eagle.

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16 LARUS ARGENTATUS SMITHSONIANUS COUES. 51

American Herring Gull.

Feet flesh-color : bill yellow with red spot ; mantle pale dull blue (darker than in *leucopterus*, but nothing like the deep slate of *marinus*, much the same as in all the rest of the species); primaries marked as in *marinus* (but the great majority of specimens will be found to have the not quite mature or final condition); length, 22-27 ; wings 15-18 ; tarsus, 2¼-2¾ ; bill, about 2½ long, about ⅝--¾ deep a base, and about the same at the protuberance. In winter ; head and hind neck streaked with dusky. *Young*:—At first almost entirely fuscous or sooty-brown, the feathers of the back, white-tipped or not ; size at the minimum above given. As its grows old, it gradually lightens ; the head, neck and under parts are usually quite whitish, before the markings of the quills are apparent, and before the blue begins to show, as it does in patches, mixed with brown ; the black on the tail narrows to a bar, at the same time the primaries are assuming their characters, but this bar disappears before the primaries gain their perfect pattern. At one time the bill is flesh-color or yellowish, black-tipped

HAB. North America generally, breeding on the Atlantic coast from Maine northward ; in winter south to Cuba and Lower California.

Eggs, three, greenish-gray, blotched with dark brown.

This is the most abundant bird of its class on the inland lakes, it may be seen at nearly all seasons of the year either soaring in wide circles overhead or passing along in front of the wharves always on the alert to examine any offal which may be thrown overboard from the vessels. It breeds abundantly along the sea coast and also in suitable places inland, as shown by

the following which occurs in the transactions of the Ottawa Field Naturalist Club for 1881. "On this excursion, which was held about the 21st of May, we succeeded in discovering on one of the many small lakes near the Cave, a nest of the common Gull *(Larus argentatus)* but we were unfortunately too late, as not only were the eggs hatched, but the young had already left the nest; from this fact it is probable that, with this species, the period of incubation is very early in the season. The nest, which was very shallow, was built almost altogether of dried moss, and was placed on the top of a small rock which stood about a foot and a half out of the water towards one end of the lake."

Franklin's Gull.

Adult male:—Eyelids, neck, rump, tail and lower parts white, the latter with the under-part of the wings, deeply tinged with rich rosy red; hood, black, descending downwards on the nape and throat; mantle and wings, bluish-grey; a band of black crosses the five outer primaries near the end, all the quills feathers are tipped with white. *Young*, changing with age as in other birds of this class. Length 15 inches.

HAB. Interior of North America, breeding chiefly north of the United States; south in winter to South America.

Eggs, four, greenish-gray with numerous brown markings, heaviest at the larger end.

When questioning that indefatigable sportsman, John Dynes, about the rare birds he had seen on his many excursions round the bay, he told me of a gull with a pink breast, which he had sometimes seen in the fall, and finally in October, 1865, he brought me one of the birds thus referred to, which proved to be of this species; subsequently I shot another in the month of April, about the time the ice was breaking up; the latter was in a more advanced stage of plumage, but neither was mature.

These are the only individuals I have heard of occurring here, their line of migration being probably more toward the Missisippi, as, according to Dr. Coues, they are not found on the Atlantic coast. Professor Macoun found them at Gull Lake in various stages of plumage.

18. LARUS DELAWARENSIS Ord. 54.

Ring-billed Gull.

Adult plumage precisely like that of the Herring Gull, and its changes substantially the same; bill *greenish*-yellow, encircled with a *black band* near the end, usually complete, sometimes defective, the tip and most of the cutting edges of the bill yellow; in high condition, the angle of the mouth and and a small spot beside the black, red; *feet olivaceous*, obscured with dusky or bluish, and partly yellow; the webs bright chrome. Notably smaller than *argentatus*; length usually 18-20 inches; extent, about 48; wing, about 15; bill, *under* 2, and only about ½ deep at the protuberance; tarsus, about 2, obviously longer than the middle toe.

Hab. North America at large; south in winter to Cuba and Mexico.

Eggs 4; dark cream color, blotched with purple, umber, and black.

This is one of the common Gulls which frequent Lake Ontario during the winter, whose numbers help to make up the vast crowd which is frequently seen assembled on the edge of the ice at the western extremity of the Lake, or in Hamilton Bay, near the canal.

In all stages of plumage it bears a strong resemblance to the Herring Gull, but the ring round the bill and its smaller size serve as distinguishing marks.

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19. LARUS PHILADELPHIA (Ord). 60.

Bonaparte's Gull.

Tarsus about equal to middle toe and claw. Small; 12-14; wing, 9½-10½; tarsus, 1⅓; bill, 1⅛-1¼, very slender, like a Tern's. *Adult in summer*: – Bill black; mantle pearly blue, much paler than in *atricilla*; hood slaty-plumbeous with white touches on the eyelids; many wing-coverts white; feet chrome-yellow, tinged with coral red; webs vermilion. Primaries finally:—The first 5-6 with the shafts white except at tip; first white, white outer web and extreme tip black; second white, more broadly crossed with black; 3d to 6th-8th with the black successively decreasing. In winter no hood, but a dark auricular spot. *Young*:—Mottled and patched above with brown or grey, and usually a dusky bar on the wing; the tail with a black bar, the primaries with more black, the bill dusky, much of the lower mandible flesh colored or yellowish, as are the feet.

Hab. Whole of North America, breeding mostly north of the United States; south in winter to Mexico and Central America.

Eggs scarcely known.

About the middle of May this dainty little Gull arrives in small flocks, and for a week or two enlivens the shores of the Bay with its airy gambols, but soon passes on farther north to its breeding grounds. In the fall it returns, subdued in dress and manners, remains till the weather begins to get cold, and then retires to the South to spend the winter.

It has a wide distribution, being found at some period of the year at almost every point on the continent. Speaking of this species in the "Birds of the Northwest," Dr. Coues says; "This little Gull holds its own, from the Labrador crags, against which the waves of an angered ocean ceaselessly beat, to the low, sandy shores of the Gulf, caressed by the soothing billows of a tropical sea."

Subfamily STERNINÆ Terns.

Genus STERNA Linnæus.

Surgenus THALASSEUS Boie.

20. STERNA TSCHEGRAVA Lepech. 64.

Caspian Tern.

Adult male; Crown, sides of the head, and hind head, black, glossed with green, back and wings, light bluish-gray, the outer primaries dark bluish-gray on the inner webs, upper tail coverts and tail grayish-white, neck and lower parts pure white, bill rich vermilion, legs and feet black, tail slightly forked. Young mottled and barred with dull brown. Length 20 inches.

Hab. Nearly cosmopolitan; in North America breeding southward to Virginia, Lake Michigan, Nevada, and California.

Eggs, two, laid in a hollow in the sand; pale olive buff, marked with spots of dark brown.

The harsh cry, long pointed wings, and coral red bill of this species, at once attract the attention of any one who may happen to be close enough for observation. In spring, when at liberty to move about, they visit Hamilton Bay in small numbers, and are seen fishing, about the mouths of the inlets or more frequently basking in the sun on a sandy point which runs out into the

bay opposite Dynes' place. In the fall they pay a similar visit, but at this season they are less attractive in appearance, the bill having lost much of its brilliancy, and the plumage being comparatively dull.

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21. STERNA SANDVICENSIS ACUFLAVIDA (CABOT.). 67.

Cabot's Tern.

Bill rather longer than the head, slender, black, with the tip yellow, mouth inside, deep blue; feet, black; wings longer than the tail, which is deeply forked; upper part of the head and hind neck, bluish-black; sides of the head, neck all round, and rest of the lower parts, white; the sides and breast tinged with pink; fore part of the back, scapulars and upper surface of the wings pale bluish-gray, the tips and greater part of the inner web of the scapulars and quills, white, as are the rump and tail; the four outer quills blackish, but covered with light gray down on the *outer* webs, and over a considerable portion of the *inner*, their shafts white. Length, 15-16; wing, 12-50.

Eggs, two to three, dropped on the dry sand, rather pointed, yellowish drab, spotted with dark and reddish brown.

The usual habitat of this species is so far to the south of us that I would hesitate to include it in this list, but for the conclusive evidence we have of its being taken within our limits.

In the spring of 1882, Dr. Garnier noticed three terns of this species coursing around a mill-pond not far from his residence at Lucknow. The Dr. attended to them at once, the result was that one went clear off toward Lake Huron, another wriggled with difficulty after it, and the third fell dead on the pond. I afterward saw this specimen mounted, and satisfied myself of its identity. It is difficult to account for birds wandering away at times beyond their usual limit, yet we might with as much truth say that it is difficult to account for birds so regularly keeping within certain limits, but when those of this class find themselves farther from home than they intended, it does not cost them much labour to correct the mistake.

SUBGENUS STERNA.

22. STERNA FORSTERI NUTT. 69.

Forster's Tern.

Like the next; larger, tail longer than wings. Wing of adult, 9½--10½; tail, 6½--8, thus often beyond the extreme of *hirundo*, and nearly as in

paradisaea; bill, 1⅜ (1⅛--1⅝), and about 2-5 deep at base (in *hirundo* rarely if ever so deep); tarsus seldom down to ½; whole foot, about 2. Little or no plumbeous wash below; *inner* web of the outer tail feather darker than outer web of the same. Young and winter birds may be distinguished from *hirundo* at gunshot range; the black cap is almost entirely wanting, and in its place is a broad black band an each side of the head through the eye; several lateral tail feathers are largely dusky on the *inner* webs; their outer webs are white.

HAB. North America generally, breeding from Manitoba southward, in the United States to Virginia, Illinois, Texas, and California; in winter southward to Brazil.

Eggs, two to three, drab, blotched and spotted with brown of different shades.

Said to breed in suitable places from Texas to the Fur countries; on Lake Ontario it is only a casual visitor in spring and fall, but it breeds abundantly in the marshes along the River St. Clair. In general appearance it bears a close resemblance to the next species, but the difference is readily seen by referring to the peculiar markings of the tail feathers.

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23. STERNA HIRUNDO LINN. 70.

Common Tern.

Bill red, blackening on the terminal third, the very point usually light, feet coral red. Mantle pearly grayish-blue; primary shafts white except at the end; below white, washed with pale pearly plumbeous blanching on throat and lower belly. Tail mostly white, the *outer* web of the outer feather darker than inner web of the same. Length of male, 14½ (13--16); extent, 31 (29--32); wing, 10½ (9⅝--11⅝); tail, 6 (5--7); tarsus, ⅝ (½--¾); bill, 1½--1¾; whole foot, averaging 1⅜; female rather less; averaging toward these minima; young birds may show a little smaller, in length of tail particularly, and so of total length; length, 12 or more; wing, 9 or more; tail, 4 or more; bill, 1⅛ or more In winter this species does not appear to lose the black-cap, contrary to a nearly universal rule. *Young:*—Bill mostly dusky, but much of the under mandible yellowish; feet simply yellowish; cap more or less defective; back and wings patched and barred with grey and light brown, the bluish showing imperfectly if at all, but this color shading much of the tail; usually a blackish bar along the lesser coverts, and several tail feathers dusky on the *outer* web; below, pure white, or with very little plumbeous shade.

HAB. Greater part of Northern hemisphere and Africa. In North America chiefly confined to the Eastern Province, breeding from the Arctic coast, somewhat irregularly, to Florida and Texas, and wintering northward to Virginia.

Eggs, two or three deposited in a hollow in the sand, light brown, tinged with green and blotched with dark brown.

The Sea Swallow, as this species has often been called, is common to both continents, and has been found breeding as far north as Greenland and Spitzbergen; its return to its summer haunts is hailed as a sure indication that winter is really gone, and for a time many a quiet bay and inlet is enlivened by its presence.

"Swift by the window skims the Tern,
On light and glancing wing,
And every sound which rises up
Gives token of the Spring."

At Hamilton Bay it makes its appearance about the 10th of May, and in company with the black-headed Gulls, in merry groups go careering around the shores, or settle on the sand bars to rest and plume their feathers in the sun. By the end of the month they have all gone to the St. Clair marshes or some such place to raise their young; again paying us a short visit in the Fall on their way South.

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24. STERNA PARADISÆA Brunn. 71.

Arctic Tern.

Bill, carmine; Feet, vermillion; plumage, like that of *Hirundo*, but much darker below, the plumbeous wash so heavy that these parts are scarcely paler than the mantle; crissum, pure white; throat and sides of the neck, white or tinged with gray. In winter, cap defective; in young the same, upper parts patched with gray, brown or rufus; under parts paler or white; a dark bar on the wing; outer webs of several tail feathers, dusky; bill blackish or dusky red with yellow on the under mandible; feet, dull orange, smaller than *hirundo*, but tail much longer. Length, 14-17; wing, 10-12; tail 5-8; bill, 1.20-1.40.

Hab. Northern hemisphere; in North America breeding from Massachussetts to the Arctic Regions, and wintering southward to Virginia and California.

Eggs 2 to 3; laid on the bare rock; drab, spotted and dashed with brown of different shades.

For several reasons the Terns which visit Ontario are less known than birds belonging to other classes; they are not sought after by sportsmen, and at present the number of collect-

ors is so few, that the Sea Swallows (as they are here called,) are little molested; then there are several species such as the Common Tern, Forster's Tern, and the one we are now considering, which resemble each other so closely, that the difference can only be made out on careful examination by one who is familiar with the subject. As compared with the Common Tern, the present species is a bird of more slender make, the tail feathers are usually much longer, and the under parts of a much darker shade..

In the spring and fall, flocks of Terns resembling each other in general appearance are seen frequenting Hamilton Bay, and the inlets along the shores of Lake Ontario, considering the range of this species it is likely that it is here with the others, but among the few which I have killed, I have not found any.

In the collection of birds got together under direction of the late Prof. Hincks, and sent to the Paris Exhibition in 1867, a pair of Arctic Terns was included which were said to have been procured near Toronto.

Subgenus STERNULA Boie.

25. STERNA ANTILLARUM (Less.). 74.

Least Tern.

Bill yellow, usually tipped with black. Mantle pale pearly grayish-blue, unchanged on the rump and tail; *a white frontal crescent*, separating the black from the bill, bounded below by a black loral stripe reaching the bill; shafts of two or more outer primaries *black* on the upper surface, white underneath; feet orange. *Young*:—Cap too defective to show the crescent; bill dark, much of the under mandible pale; feet obscured. Very small, only 8-9; wing, 6-6½; tail, 2-3½; bill, 1-1¼; tarsus, ⅝.

Hab. Northern South America, Northward to California and New England, and casually to Labrador, breeding nearly throughout its range.

Eggs, 2 to 3; variable in color; usually drab, speckled with lilac and brown; left in a slight depression in the dry beach sand beyond the reach of water,

This is a refined minature of the Common Tern, and a very handsome, active little bird; it is common along the sea coast to the south of us but probably does not often come as far north

as Lake Ontario. Dr. Wheaton mentions it as of irregular occurrence on Lake Erie, and Dr. Brodie reports it as being found near Toronto. In the month of october, several years ago, I shot an immature specimen as it rose from a piece of drift wood in Hamilton Bay, during a southerly blow of several days duration, which is the only time I have ever seen the species here.

Genus HYDROCHELIDON Boie.

HYDROCHELIDON NIGRA SURINAMENSIS (Gmel.).

26. **Black Tern.** 77.

Adult in breeding plumage; head, neck and under parts, uniform jet-black; back, wings and tail plumbeous; primaries unstriped; crissum pure white; bill black. In winter and young birds, the black is mostly replaced by white on the forehead, sides of head and under parts, the crown, occiput and neck behind, with the sides under the wings, being dusky-gray; a dark auricular patch and another before the eye; in a very early stage, the upper-parts are varied with dull brown. Small; wing, 8--9, little less than the whole length of the bird; tail, 3½, simply forked; bill, 1--1⅛; tarsus, ⅝; middle toe and claw, 1⅛.

Hab. Temperate and tropical America. From Alaska and the Fur countries to Chili, breeding from the middle United States northward.

No nest. Eggs, on the bog, two or three, brownish olive, splashed and spotted with brown.

Common to both Continents, extending its migrations far north; it has been found in Iceland, and according to Richardson is known to breed in the fur countries. It enters Southern Ontario early in May and often visits the various feeding resorts along the route, in company with the smaller Gulls, and retires to the marshes to raise its young. At St. Clair flats it breeds abundantly, its eggs being often seen apparently neglected, yet they are said to be covered by the female at night and in rough weather.

In the fall it is again seen moving about with its young, but seems rather tender as it is one of the first to retire to the South

Family SULIDÆ. Gannets.

Genus SULA BRISSON.

Subgenus DYSPORUS Illiger.

27. SULA BASSANA (Linn.). 117.

Gannet.

Adult male: White, the head and hind neck, tinged with yellowish brown, primaries black. Young dark-brown spotted with white, lower parts grayish white, Length, 30 inches.

Hab. Coasts of the North Atlantic, south in winter to the Gulf of Mexico and Africa: breeds from Maine and the British Islands northward.

Breeds in communities on rocks near the sea. One egg, pale greenish blue.

Although a bird of powerful flight, the Solan Goose seldom wanders far from the sea. The only record we have of its occurrence in Southern Ontario is that of a single individual which was found in Hamilton Bay, in a state of extreme exhaustion, after a severe "north-easter."

It has many favorite breeding places along the coast from Maine northward, one of the most extensive of which is "Gannet Rock" in the Gulf of St. Lawrence, where the birds sit on the ledges in such numbers as to give the rock, when viewed from a distance the appearance of being covered with snow.

Family PHALACROCORACIDÆ. Cormorants.

Genus PHALACROCORAX Brisson.

Subgenus PHALACROCORAX.

28. PHALACROCORAX CARBO (Linn.). 119.

Cormorant

General plumage, black, glossed with blue, a white patch on the throat and another on the sides of the body; in summer the head is crested with long narrow feathers which fall off when the breeding season is over, the white patch on the throat and sides also disappear about the same time. Length, 36 inches.

Hab. Coasts of the North Atlantic, south in winter on the coast of the United States, casually to the Carolinas; breeding (formerly) from Massachusetts northward.

Nest on precipitous rocks, built of sticks and sea-weed, kept in a filthy condition from the refuse of the larder, etc. Eggs, three to four, pale bluish green.

Although the Cormorants are generally birds of the sea-coast, yet when not specially engaged at home, they make periodical excursions to the lakes, where no doubt they find the change of food and scenery very agreeable; in spring and fall they are occasionally seen on Hamilton Bay, following their usual avocation of fishing. Not long since I looked at one through a powerful glass as he sat on the buoy out off the wharves, and could not but admire the graceful motions of his long, lithe neck, as he preened his plumage in conscious safety; perhaps at that distance the inspection was more pleasant than it might have been closer by, as these birds, though apparently cleanly, carry with them a most unsavory odor.

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29. PHALACROCORAX DILOPHUS (Sw. & Rich.). 120.

Double-crested Cormorant.

Tail of twelve feathers; gular sac convex or nearly straight-edged behind. Glossy greenish-black; feathers of the back and wings coppery-gray, black-shafted, black-edged; adult with curly black *lateral* crests, and in the breeding season other filamentous white ones over the eyes and along the sides of the neck; white flank-patch, not observed in the specimens examined, but probably occurring; gular sac and lores orange. Eyes green. Length, 30-33 inches; wing, 12 or more; tail, 6 or more; bill along gape, 3½; tarsus a little over 2. Young, plain dark-brown, paler or grayish (even white on the breast) below, without head plumes.

Hab. Eastern coast of North America, breeding from the Bay of Fundy northward; southward in the interior to the Great Lakes and Wisconsin.

Eggs, two to three, bluish green.

This, like the preceding species, occasionally visits the inland lakes, and is distinguished by its smaller size and richer plumage. The specimen in my collection I shot off Huckleberry Point, as it rose from a partially submerged stump, which it had used for a short time as a fishing station. All the Cormorants have the reputation of being voracious feeders, and they certainly have a very nimble way of catching and swallowing their prey, yet it is not likely that they consume more than other birds of similar size.

FAMILY PELECANIDÆ.

SUBGENUS CYRTOPELICANUS REICHENBACH.

30. PELECANUS ERYTHRORHYNCHOS GMEL. 125.

American White Pelican.

White; occiput and breast yellow; primaries, their coverts, bastard quills and many secondaries black; bill, sac, lores and feet yellow. Length, about 4 feet; expanse, 7-9: wing, 2; bill, 1 or more; tail, $\frac{1}{2}$; normally 24-feathered.

HAB. Temperate North America, north in the interior to about Lat. 61, south to Central America: now rare or accidental in the Northeastern States; abundant in the Middle Province and along the Gulf coast; common on the coast of California and Western Mexico.

Nest on the ground or in a low bush near the water. Eggs, one to three, dull white.

Early in the month of May, 1864, five of these large, odd-looking birds were observed on Hamilton Bay, and were accorded such attention as is usually given to visitors of this description. John Dynes was the first to give them a salute, and captured two of their number, one of which came into my possession, the other three remained for a day or two, but were much disturbed, and finally got away. On the 13th March, 1884, a similar visit was made by a like number, about the time the ice was breaking up. Mr. Smith, who was in charge of the Ocean House at the time, saw them flying heavily up the lake. They seemed much exhausted, and, on alighting on the ice near the edge of the water, at once squatted flat, with the head resting between the shoulders. On two or three rifle bullets being landed uncomfortably near them, they again got up reluctantly, and went off east down the lake, hugging the shore for shelter from the wind, which was blowing fresh at the time.

I have heard of specimens being captured at other points in Ontario, but as we are a long way east of their line of migration, all of these can only be regarded as stragglers driven from their course by high winds or bewildered by foggy weather.

Professor Macoun found them breeding at Old Wives, Gull and Long Lakes in the Northwest.

ORDER ANSERES. LAMELLIROSTRAL SWIMMERS.

FAMILY ANATIDÆ. DUCKS, GEESE, AND SWANS.

SUBFAMILY MERGINÆ. MERGANSERS.

GENUS MERGANSER BRISSON.

31. MERGANSER AMERICANUS (CASS.). 129

American Merganser.

Nostrils nearly median; frontal feathers reaching beyond those on sides of bill; male with the head scarcely crested, glossy green; back and wings black and white, latter crossed by one black bar: under parts salmon-colored; length, about 24; wing, 11, female smaller, occipital crest better developed, but still flimsy; head and neck reddish-brown; back parts of the male ashy gray; less white on the wing; under parts less tinted with salmon.

HAB. North America generally, breeding south to the Northern United States.

Nest on the ground, built of weeds and moss, and lined with down. Eggs six to eight, buff or dark cream.

This is the largest, and by many considered the handsomest of the three Saw-bills which visit us; it is never plentiful, being more a bird of the sea-coast, but is usually seen singly or in pairs among the flocks of waterfowl which crowd up from the South as soon as the ice begins to move in the lakes and rivers in spring.

In the fall they are again observed in company with their young, which at this stage all resemble the female in plumage. The flesh of the Saw-bills being fishy, the gunners often allow them to pass when a Blue-bill or a Red-head would not get so easily off.

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32. MERGANSER SERRATOR (LINN.). 130.

Red-breasted Merganser.

Nostrils sub-basal; frontal feathers not reaching beyond those on sides of bill; a long, thin, pointed crest in both sexes. Smaller than the last; wing, 8-9; general coloration, sexual difference the same, but the male with the jugulum rich reddish-brown, black-streaked, the sides conspicuously finely waved with black, a white, black-bordered mark in front of the wing, and the wing crossed by two black bars.

HAB. Northern portions of Northern hemisphere; south, in winter, throughout the United States.

Nest among the weeds, built of grass, and warmly lined with down. Eggs, nine to ten, creamy buff.

Rather more numerous than the preceding, being often seen in spring and fall in flocks of six or eight, fishing about the mouths of the inlets in Hamilton Bay.

This species is common to both continents, and breeds on the rocky islets on many of the inland lochs in the north of Scotland. All the young birds appear for the first season in the plumage of the female, but the male can readily be distinguished by a peculiar bony enlargement in the windpipe, which does not occur in the opposite sex.

It is said that in this and the preceding species, as soon as the female has completed her set of eggs, the male has the ungallant habit of ignoring all family responsibilities, and leaves the entire care of the youngsters to their mother, who leads them carefully to the water, and gives them their first lesson at a very early age.

GENUS LOPHODYTES REICHENBACH.

33. LOPHODYTES CUCULLATUS (LINN.). 131.

Hooded Merganser.

Nostrils sub-basal; frontal feathers reaching beyond those on sides of bill; a compact erect, semicircular, laterally compressed crest in the male, smaller and less rounded in the female; male, black, including two crescents in front of wing, and bar across speculum; under parts, centre of crest, speculum and stripes on tertials white; sides chestnut, black-barred; length, 18-19; wing, 8; female smaller; head and neck brown; chin whitish; back and sides dark-brown, the feathers with paler edges; white on the wing less, bill reddish at base below.

HAB. North America generally, south to Mexico and Cuba, breeding nearly throughout its range.

Nest in a hole in a tree or stump. Eggs, six to eight, buff or dark cream color.

This beautiful little Saw-bill is a regular visitor at Hamilton

Bay where it spends a short time in the beginning of Apr[illegible] before retiring to its more remote breeding grounds.

The habit of raising its young in a hole in a tree seems rather a singular one for a bird of this class, but in this retired position the female spends the anxious hours of incubation, beyond the reach of danger, to which she might elsewhere be exposed. As soon as the young are old enough to bear transportation, she takes them one after another by the nape of the neck and drops them gently into the water. Like the other Saw-bills, this species feeds on fish, on account of which its flesh is not considered a delicacy.

Subfamily ANATINÆ. River Ducks,

Genus ANAS Linnæus.

34. ANAS BOSCHAS Linn. 132.

Mallard.

Male with the head and upper neck, glossy green, succeeded by a white ring; breast, purplish-chesnut; tail feathers mostly whitish; greater wing-coverts tipped with black and white, the speculum violet; feet orange red; female with the wing as in the male; head, neck and under-parts pale ochrey speckled and streaked with dusky. Length, about 24; wing, 10-12.

Hab. Northern parts of Northern Hemisphere; in America south to Panama and Cuba, breeding southward to the northern border of the United States.

Nest on the ground, built of dry grass, lined with feathers. Eggs, eight to ten, dull drab color.

This, the parent of the domestic duck, is an abundant species and widely distributed, but is found in greatest numbers at certain points where its food abounds. At Hamilton Bay it occurs sparingly during the migratory season, but at Rond Eau, at Long Point on Lake Erie, and at the flats along the river St. Clair it assembles in vast flocks in the fall to feed on the wild rice. At the latter place a few pairs remain during summer and rear their young, but the greater body pass farther north.

A few years since Mr. John Bates, whose farm is on the shore of Hamilton Bay near the Waterworks, noticed a female of the species late in the fall, associating with his tame ducks; it was shy, and kept away from the house for a time, but as the season

advanced, and the water got frozen over, it came into the sheds and remained permanently with the others. In the spring it built a nest in an out of the way place, and in due time came forth followed by a brood of young ones, which in time grew up and bred with domestic species. Mr. Bates pointed out to me some of the stock which he always could recognize by their sitting deeper in the water, by their comparatively long slim neck, and by a certain wild look of suspicion and mistrust which clung to them through several generations. Mr. Bates thought the individual referred to had been wounded in the wing, and thus incapacitated for performing the usual journey south.

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35. ANAS OBSCURA GMEL. 133.

Black Duck.

Size of the Mallard, and resembling the female of that species, but darker and without decided white anywhere except under the wings. Tail 16-18, feathered.

HAB. Eastern North America, west to Utah and Texas, north to Labrador, breeding southward to the Northern United States.

Nest on the ground, built of grass, weeds and feathers. Eggs, eight to ten yellowish drab.

Although there are several other ducks darker in color than this species, yet it is still the "Black Duck" of the gunners all over the continent, and is excelled by no other in the excellence of its flesh. It is not as plentiful throughout Ontario as the Mallard, being more a bird of the sea-coast, frequenting the salt marshes along the coast of Maine, where it breeds abundantly; a few pairs have also been found mating in the marsh along the River St. Clair, but such occurrences are by no means common.

We are told that long ago the Black Duck was a regular visitor to the marshy inlets around Hamilton Bay, but now there is so much to disturb, and so little to attract them, that their visits are few and far between.

Subgenus CHAULELASMUS Bonaparte.

36. ANAS STREPERA Linn. 135.

Gadwall.

Male with most of the plumage barred or half-ringed with black and white or whitish; middle coverts *chestnut*, greater coverts *black*, *speculum white*; female known by these wing marks. Length, 19-22; wing, 10-11.

Hab. Nearly cosmopolitan. In North America breeds chiefly within the United States.

Nest usually on the ground, sometimes in trees. Eggs, buff or dull cream color.

The Gadwall is rare throughout Ontario; when a large mixed lot of ducks is sent down in the fall from any of the shooting stations in the west, one pair or two may sometimes be picked out, but that is all.

The pair in my collection were shot in Hamilton Bay many years ago, since that time I have not heard of any being obtained there. It seems rather a tender species, and does not go as far north as some others. It is common to both continents, but it is nowhere abundant.

Subgenus MARECA Stephens,

37. ANAS AMERICANA Gmel. 137.

Baldpate.

Bill and feet grayish-blue, top of head white, or nearly so, plain or speckled, its sides and the neck more or less speckled; a broad green patch on sides of head; fore breast light-brownish; belly pure white; crissum abruptly black, middle and greater coverts white, the latter black-tipped; speculum green, black bordered; length, 20-22; wing, 11; tail, 5; tarsus, 2; bill, 1⅛-1¼; female known by the wing markings.

Hab. North America, from the Arctic Ocean south to Guatemala and Cuba.

Eggs, eight to twelve, pale buff.

Resembles the preceding in appearance, but can always be distinguished by the creamy white crown which has suggested for the species the familiar name of "Baldpate." It is also more abundant, being often seen in flocks of fifty to one hundred during

the season of migration. It has a wide breeding range throughout the United States and British America. At the St. Clair flats it has often been seen at midsummer, but so far I have no record of its nest or eggs having been found there. It seems rather tender, and is one of the first to retire to the south in the fall.

Subgenus NETTION Kaup.

38. ANAS CAROLINENSIS Gmelin. 139.

Green-winged Teal.

Head and upper neck chesnut, with a broad glossy green band on each side, uniting and blackening on the nape; under parts white or whitish, the fore-breast with circular black spots; upper parts and flanks closely waved with blackish and white; a white crescent in front of the wing; crissum black, varied with white or creamy; speculum rich green bordered in front with buffy tips of the greater coverts, behind with light tips of secondaries; no blue on the wing; bill black; feet gray. Female differs in the head markings, but those of the wing are the same. Small; length, 14-15; wing, 7½; tail 3; bill, 1½; tarsus, 1¼.

Hab. North America, chiefly breeding north of the United States, and migrating south to Honduras and Cuba.

Nest on the ground, built of dried grass, and lined with feathers. Eggs, usually eight, pale dull green.

This dainty little duck visits us in considerable numbers in April; and in September is again seen while on its way south.

It was found by Professor Macoun breeding in Grand Valley near the Assinaboine, and most likely does so in intermediate districts, though to what extent is not at present known. It is one of the first to return from the north, and is eagerly sought for at the shooting stations on account of the delicacy of its flesh.

Subgenus QUERQUEDULA Stehhens.

39. ANAS DISCORS Linn. 140.

Blue-winged Teal.

Head and neck of the male blackish plumbeous, darkest on the crown, usually with purplish iridescence, a white crescent in front of the eye; under parts thickly dark spotted; wing coverts sky-blue, the greater white-tipped

speculum green, white-tipped; axillars and most under wing coverts white; scapulars striped with tawny and blue, or dark green; fore-back barred; rump and tail dark, plain; crissum black; bill black, feet dusky yellow; female with head and neck altogether different; under parts much paler and obscurely spotted, but known by the wing marks.

HAB. North America in general, but chiefly the Eastern Province; north to Alaska, and south to the West Indies and Northern South America; breeds from the Northern United States northward.

Nest composed of dry grass and weeds, lined with feathers. Eggs, eight, dull green.

At Hamilton very few of this species are seen in spring, but in the fall they often appear in flocks of considerable size, and during their short stay afford good sport to the gunners, who lay in wait for them in the evening near their feeding ground.

At St. Clair I have seen them in June, evidently mated, and was told that a few pairs still breed there, though the number of summer residents is small as compared with former years.

In Grand Valley, along the banks of the Assinaboine, Prof. Macoun found them extremely abundant, and breeding in suitable places throughout the district.

GENUS SPATULA BOIE.

40. SPATULA CLYPEATA (LINN.). 142.

Shoveller.

Bill as above with very numerous and prominent laminæ. Head and neck of male, green; fore-breast white, belly purplish-chesnut; wing coverts, blue; speculum green bordered with black and white; some scapulars blue, others green, all white-striped; bill blackish; feet red. Female known by bill and wings.

HAB. Northern Hemisphere. In North America breeding from Alaska to Texas; not abundant on the Atlantic coast.

Nest on the ground. Eggs, eight, greenish gray.

An adult male Shoveller procured in the month of May makes a handsome specimen for the cabinet, as there are few of our waterfowl as gaily attired; the large spoonbill somewhat spoils his beauty of proportion, but it serves as a distinguishing mark for individuals of the species, of any age or sex.

It is not common in Ontario, but is occasionally found by the gunners steering up some sluggish creek, or sifting the mud along its shores; as its flesh is held in high estimation for the table, it is never allowed to get away when it can be stopped.

It breeds in the Northwest, and was observed by Prof. Macoun in great numbers in the creeks and pools near the Assinaboine in September and October.

GENUS DAFILA STEPHENS.

41. DAFILA ACUTA (LINN.). 143.

Pintail.

Tail cuneate, when fully developed the central feathers projecting and nearly equalling the wing; much shorter and not so narrow in the female and young, four to nine inches long; wing, 11, total length about 24. Bill, black and blue, feet grayish blue, head and upper neck dark brown, with green and purple gloss, sides of neck with a long white stripe, lower neck and under parts white, dorsal line of neck black, passing into the gray of the back, which, like the sides, is vermiculated with black; speculum greenish-purple, anteriorly bordered by buff tips of the greater coverts, elsewhere by black and white; tertials and scapulars black and silvery; female and young with the whole head and neck speckled or finely streaked with dark brown, and grayish or yellowish-brown; below dusky freckled; above blackish, all the feathers pale-edged; only a trace of the speculum between the white or whitish tips of the greater coverts and secondaries.

HAB. Northern hemisphere. In North America breeds from the northern parts of the United States northward, and migrates south to Panama and Cuba.

Nest on the ground. Eggs, eight to twelve, dull grayish olive.

An abundant migrant in spring and fall, and one of the most graceful in its movements, either on land or water. At Hamilton its visits are of short duration, as it seems to prefer running streams. According to Mr. Saunders, a few pairs breed at St. Clair, but the great body pass the summer much farther north.

GENUS AIX BOIE.

42. AIX SPONSA (LINN.). 144.

Wood Duck.

Male: Head crested, metalic green and purple; line above and behind the eye, white; throat white; above, coppery black with a gloss of green and purple; beneath white, upper part of the breast, chestnut; sides buffy, very

finely variegated with black ; the shoulder bordered also with black ; covert and quills with mere a fewer tips and shades of white and purple. *Female :* chestnut of the neck detached and dull ; sides not striped ; head and neck dull. Bill reddish, edges dusky. Legs and feet yellowish, iris red. Length, 19 ; extent, 27-50 ; wing, 9.

HAB. Temperate North America, breeding throughout its range.

Nest in a hole in a tree. Eggs about twelve in number, pale buff slightly tinged with green.

This, the most beautiful of all our waterfowl, is very generally distributed throughout the country, arriving from the south about the time the ice disappears from our lakes and rivers, and again retiring early in the fall. Owing to the great beauty of the male these birds are much sought after by all classes of sportsmen, and are now seldom seen except near the retired ponds and marshes where they breed. Twenty-five years ago I have seen them leading out their young from one of the inlets of the Dundas marsh ; they were also known at that time to breed near Gage's inlet, but of late years they have been observed only as passing migrants in spring and fall. The Wood Duck has frequently been domesticated, and adds greatly to the interest and beauty of an artificial pond in a pleasure ground.

GENUS AYTHYA BOIE.

43. AYTHYA AMERICANA (EYT.). 146.

Redhead.

Bill dull blue with a black belt at end, broad and depressed, shorter than head (2 or less) the nostrils within its basal half ; color of head rich, pure chestnut, with bronzy or red reflections, in the female, plain brown ; body anteriorly, rump and tail coverts black, in the female dark brown, back, scapulars and sides plumbeous-white, finely waved with unbroken black lines, less distinct in the female ; speculum, bluish-ash. Length, about 20 ; wing 9-10 ; tarsus, 1⅜-1¾.

HAB. North America, breeding from California and Maine northward.

Nest like that of a Coot, composed of broken bits of rushes on a clump of bog, often afloat. Eggs, seven to eight, dull buff.

The Redhead is one of the most abundant species which visits Lake Ontario, and, judging by the numbers which are sent down from the shooting stations farther west, it seems to be equally so at other points. They are strong, hardy birds, and a heavy charge skilfully aimed, is necessary to stop them when on the

wing. During the past two seasons a flock of 100 to 150 remained in Lake Ontario all winter, about half a mile from the shore, opposite the village of Burlington; the birds spent most of their time at one particular place, sometimes diving, or again sitting at rest on the water, and, always close together, as if for greater warmth. When the weather moderated in March they shifted about for a few days and then went off to the northwest, the course taken by most waterfowl when leaving this point in spring. Great numbers are said to spend the summer in Manitoba.

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44. AYTHYA VALLISNERIA (WILS.). 147.

Canvas-back.

Similar to the preceding, but bill blackish, high at the base and narrow throughout, not shorter than head (two and a half or more), the nostrils at its middle; head much obscured with dusky; black waved lines of the back sparse and broken up into dots, the whitish thus predominating.

HAB. Nearly all of North America, breeding from the Northwestern States northward to Alaska.

Breeds in the Northwest. Nest and eggs similar to those of the Redhead.

The Canvas-back occurs with us occasionally in limited numbers; it resembles the Redhead in many ways, but can readily be distinguished by its low forehead and by the sooty color of the head and upper part of the neck. Its mode of diving is also peculiar, as before going under the water it throws itself upward and forward, thus describing a curve as if seeking to gain impetus in the descent, just as boys sometimes do when taking a header off a point not much above the water level.

Its reputation as a table duck is very high, but the excellence is attained only when the birds have for some time been feeding on wild celery, of which they are very fond; when that is not available they are no better for the table than Redheads or Bluebills.

Subgenus FULIGULA Stephens.

45. AYTHYA MARILA NEARCTICA Stejn. 147.

American Scaup Duck.

Male with the head, neck and body anteriorly black, the former with a green gloss; back and sides whitish, finely waved in zig-zag with black; below, and speculum of wing white; bill dull blue with black nail; legs plumbeous. *Female* with the head and anterior parts brown, and other black parts of the male, rather brown; face pure white. Length, about 20; wing, 9.

Hab. North America, breeding far north.

Nest of weeds and dry grass, lined with down, placed on the ground. Eggs, dull drab.

This and the next species, which are nearly allied, are the ducks most frequently met with in Southern Ontario, where they are known as Blue-bills. In the fall they remain in Hamilton Bay till they are frozen out, and in spring, even before the bay is open, they appear outside on Lake Ontario and make frequent excursions inward to watch for the moving of ice. In spring many remain in the bay till about the first of May, by which time they seem all to be paired, but I have no record of their having been found breeding, and think it likely that nearly all spend the summer to the north of the Province.

46. AYTHYA AFFINIS (Eyt.). 149.

Lesser Scaup Duck.

Extremely similar to the preceding, but smaller, about 16; wing 8; gloss of head chiefly purple; flanks and scapulars less closely waved with black (?) It is very difficult to define this bird specifically, and it may be simply a small southern form; but it appears to preserve its characters though constantly associated with the last.

Hab. North America in general, breeding chiefly north of the United States, migrating south to Guatemala and the West Indies.

Closely resembles the preceding except in being considerably less in size.

According to Dr. Coues, it is a more southerly bird, not breeding so far north, and going farther south in winter.

In Southern Ontario it is about equal in abundance with the preceding, with which it is often associated, but it does not leave Hamilton Bay till about the middle of May which would lead us to suppose that it does not go so far north to breed as some of the others.

In the fall it arrives before the preceding species and does not remain so late.

47. AYTHYA COLLARIS (DONOV.). 150.

Ring-necked Duck.

Similar to the foregoing, but an orange-brown ring round the neck; speculum gray; back nearly uniform blackish; bill black, pale at base and near tip; female with head and neck brown, and no collar, but loral space and chin whitish, as is a ring around eye; bill plain dusky. In size between the foregoing.

HAB. North America, breeding far north, and migrating south to Guatemala and the West Indies.

Nest on the ground, composed of grass and moss. Eggs, eight to ten, pale green.

This handsome little Duck is not as common as either of the preceding; while here it resembles the Teal in its habits, being partial to the marsh, rather than the open water, on account of which the gunners have given it the name of Pond Blue-bill.

As compared with the Blue-bills, it seems more tender, the feathers are of a softer texture, and it neither comes as early in spring nor remains as late in the fall.

GENUS GLAUCIONETTA STEJNEGER.

GLAUCIONETTA CLANGULA AMERICANA (BONAP.).

48. American Golden-eye. 151

Male with the head and upper neck glossy green, and a white oval or rounded loral spot, not touching the base of the bill throughout; lower neck all round, lower parts, including sides, most of the scapulars, wing coverts and secondaries, white; the white of outer surface of wings continuous; lining of wings and axillars dark; most of upper parts black; no waving on the back or sides; bill black with pale or yellow end, with nostrils in anterior half; feet orange, webs dusky; eyes yellow; head uniformly puffy. *Female* with head snuff-brown, and no white patch in front of the eye, and white of wings not always continuous. Length, 16-19; wing, 8-9.

HAB. North America, breeding from Maine and the British Provinces northward; in winter south to Cuba.

Said to nest in trees.

A regular visitor at Hamilton Bay during the spring and fall migrations. While here they do not keep by themselves, but

seek the society of whatever species may be at hand; they are very watchful and difficult of approach. If any of my readers have ever tried to scull up behind the rushes towards a bunch of Blue-bills, among which were one or two Golden-eyes, and succeeded in getting a shot, they have had much better luck than I have had; more frequently before getting within 100 yards I would hear the whistling of the Golden-eye's wings, and looking up see them going off with the others following. Like many others which are known in Southern Ontario only as visitors in spring and fall, the Golden-eyes breed in suitable places throughout the North-West Territory.

In Ontario it is not an abundant species, though a few are seen every season.

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49. GLAUCIONETTA ISLANDICA (Gm.). 152.

Barrow's Golden-eye.

Very similar to the preceding, differing chiefly in being larger in size; gloss of the head purple and violet; loral spot larger; white on the wing divided by a dark bar; feathers on the hind head lengthened into a crest: bill blotched with red. Length 19-22; wing, 9-10. The female can probably not be distinguished from the preceding.

Hab. Northern North America, south in winter to New York, Illinois, and Utah; breeding from the Gulf of St. Lawrence northward, and south in the Rocky Mountains to Colorado.

Dr. Garnier, who resides at Lucknow, near the south end of Lake Huron, reports having found this species occasionally in winter in the inlets along the lake shore. The Dr. is not in harmony in all things with the modern school of Ornithologists, and thinks this a case of unnecessary sub-division, at all events he claims having found both forms, which is likely correct, as the present species is found on Lake Michigan, which is within easy reach of the point which the Dr. refers to. It has also been taken at Toronto, and at Hamilton I am aware of three being obtained, one of which came into my possession; they may, however, be more common than we are aware of, as the Hunters do not trouble the Whistlewings if anything more suitable for the table is in view.

Genus CHARITONETTA Stejneger.

50. CHARITONETTA ALBEOLA (Linn.). 153.

Buffle-headed Duck.

Somewhat similar to the foregoing in color, but *male* with the head particularly puffy, of varied rich iridescence, with a large white auricular patch confluent with its fellow on the nape; small; length, 14-16; wing, 6-7; bill, 1, with nostrils in its basal half; *female* still smaller, an insignificant looking duck, with head scarcely puffy, dark gray with traces of the white auricular patch.

Hab. North America; south in winter to Cuba and Mexico. Breeds from Maine northward, through the fur countries and Alaska.

Dr. Coues (Birds N. W., 575) describes the nest of this duck as placed in the hollow of a dead tree, and composed of feathers. The eggs are described as varying from buff to a creamy-white or grayish-olive color.

The Buffle-heads are common at all the shooting stations in Southern Ontario in spring and fall, though owing to their small size they are not much sought after. The male in full spring dress is a very handsome little fellow, and, like many other animals of diminutive proportions, seems to feel himself as big as any of those about him. I have in my collection a young male of this species of a uniform cream color, which was shot in the bay a few years since. In the fall they do not remain as late as the Blue-bills or Redheads, but move south at the first indication of cold weather.

Genus CLANGULA Leach.

51. CLANGULA HYEMALIS (Linn.). 154.

Old Squaw; Long-tailed Duck.

Tail of fourteen narrow pointed feathers, in the male in summer the central ones very slender and much elongated, nearly or quite equalling the wing, nail of bill occupying the whole tip; seasonal changes remarkable. *Male in summer* with the back and the long narrowly lanceolate scapulars varied with reddish-brown, wanting in winter, when this color is exchanged for pearly-gray or white; general color blackish or very dark brown, below from the breast abruptly white; no white on the wing; sides of head plumbeous-gray, in winter the head, neck, and body anteriorly white, but the gray cheek-patch, persistent, and a large dark patch below this; bill at all seasons black, broadly

orange barred. *Female* without lengthened scapulars or tail feathers, the bill dusky greenish, and otherwise different; but recognized by presence of head and neck patches, and absence of white on the wing. Length, 15-20 or more, according to tail; wing, 8-9.

HAB. Northern hemisphere; in North America south to the Potomac and the Ohio; breeds far northward.

Nest on the ground. Eggs six to seven, drab color,

Vast numbers of "cowheens" (as these birds are called here) spend the winter in Lake Ontario, out on the deep water away from the shore. Even there they are not free from danger, as great numbers get entangled in the gill nets. Passing along the beach in winter, strings of drowned, draggled cowheens may be seen dangling from the clothes lines about the fisherman's out-houses, where I have frequently heard the fishermen, when trying to force a sale, declare positively, that if buried in the earth for twenty-four hours before being prepared for the table, that these birds are excellent eating, notwithstanding all of which the supply keeps still ahead of the demand, and numbers are turned over to the pigs, a sorrowful end for the beautiful, lively *Clangula hyemalis*.

GENUS HISTRIONICS LESSON.

52. HISTRIONICUS HISTRIONICUS, (LINN.). 155.

Harlequin Duck.

Bill very small and short, tapering to the tip, which is wholly occupied by the nail, and with a membraneous lobe at its base, tertiaries curly; plumage singularly patched with different colors. *Male*, deep bluish lead color, browner below, sides of the head and of the body posteriorly chestnut, coronal stripe and tail, black; a white patch at the base of the bill, and another on the side of the occiput, of breast and of tail, two transverse ones on side of neck forming a nearly complete ring, and several on the wings; a white jugular collar; speculum violet and purple. *Female*, dark brown, paler below, a white patch on auriculars and before the eye; length 15-18 inches; wing 8.

HAB. Northern North America, breeding from Newfoundland, the Rocky Mountains, and the Sierra Nevada northward; south in winter to the middle states and California.

Nest composed of weeds and grass lined with down from the breast of the owner, it is usually placed in a hollow tree or stump not far from the water; eggs, 6 to 8, pale green.

The Harlequin is found on the northern shores of Europe, Asia, and North America. In the latter country it breeds sparingly in Maine, and in the north-west to Alaska. It has also been found in the northern Rocky Mountains and the Sierra Nevada; in winter it descends to the Middle States and California.

With these facts before us we might naturally expect to hear of the species being seen occasionally in Ontario, but of such occurrences the records are very few.

William Loane, of Toronto, reports having killed a pair near that city in the spring of 1865 and in the fall of 1881 he killed another, a female, which is now in the rooms of the Toronto Gun Club.

One of the residents on the Beach, near Hamilton, told me some years ago of having seen a pair there in spring, the male in full plumage was correctly described by my informant, and spoken of as the most "dapper little drake" he had ever seen. The name Harlequin is suggested by the peculiar markings on the head of the male which are supposed to resemble those often assumed by the clown in a circus.

Genus SOMATERIA Leach.

Subgenus SOMATERIA.

53. SOMATERIA DRESSERI Sharpe. 160.

American Eider.

Bill with long club-shaped frontal processes extending in a line with the culmen upon the sides of the forehead, divided by a broad feathered interspace. *Male* in breeding attire, white, creamy-tinted on breast and washed with green on the head; under-parts from the breast, lower back, rump, tail, quills, and large forked patch on the crown, black. *Female* with the bill less developed. general plumage an extremely variable shade of reddish-brown or ochrey-brown, speckled, mottled and barred with darker; male in certain stages resembling female. Length, about 2 feet; wing, 11-12 inches.

Hab. Atlantic coast of North America, from Maine to Northern Labrador, south in winter to the Delaware.

Nest on the ground, composed of dry grass, moss and sea weed, lined with down and feathers; eggs, 6 to 10, drab, tinged with green.

The Eider-Duck is essentially a bird of the sea coast, breeding abundantly along the shores of Newfoundland and Labrador. Its visits to these inland waters are made during the season of migration, when the movements of all migratory birds are considerably affected by the prevailing winds. On Lake Ontario it is only a casual visitor in winter, and seldom if ever seen there in mature plumage.

The one in my collection is a young male in the garb of the female; I shot it from the pier of the canal at the entrance to the bay a few years since, they were seen more or less all that winter, but they were known to be "fishy" and there being nothing attractive in their dress, very few were killed, though they allowed a nearer approach than other waterfowl are disposed to do.

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54 SOMATERIA SPECTABILIS (LINN.). 162.

King Eider.

Bill with broad squarish, nearly vertical frontal processes bulging angularly out of line with culmen. *Male* in breeding attire, black, including a forked chin-patch, a frontal band, and small space round eye; and the neck and fore-parts of the body, part of inter-scapulars, of wing coverts and of lining of wings, and a flank patch, white, creamy on the jugulum, greenish on sides of head; crown and nape, fine bluish-ash. *Female* resembling that of the Common Eider, but bill different. Size of the last or rather less.

HAB. Northern part of Northern Hemisphere, breeding in the Arctic regions; in North America, south casually in winter to New Jersey and the Great Lakes.

I mention this species more as a bird to be looked for, than one which has actually been taken in Ontario, as I have no positive record of its occurrence within the province: that it has been here and passed unnoticed may fairly be presumed, when we consider that it was taken by Giraud at Long Island, and Mr. Allen mentions in his notes that as many as eighteen were taken in Lake Erie near Buffalo in Nov., 1879. A pair were in the collection sent from Toronto to Paris in 1867, but I am not

certain of their being taken in Ontario. It is of circumpolar distribution, breeding abundantly around the shores of the Arctic sea; when coming south in winter the line of migration is mostly along the Pacific coast, where it is observed in great numbers as far south as the Aleutian Islands.

The peculiarities of its bill serve readily to distinguish it from the other Eiders.

Genus OIDEMIA Fleming.

Subgenus OIDEMIA.

55. OIDEMIA AMERICANA (Sw. & Rich.). 163.

American Scoter.

Plumage of male entirely black; bill black, the gibbosity orange. Female sooty-brown, paler below, becoming grayish-white on the belly, there dusky-speckled, on the sides and flanks dusky-waved; throat and sides of head mostly continuous whitish; bill all black; feet livid olivaceous, with black webs. *Male*, nearly 2 feet; wing, about 10 inches; *female*, 18-19 inches.

Hab. Coasts and larger lakes of Northern North America; breeds in Labrador and the northern interior; south in winter to New Jersey, the Great Lakes and California.

Nest on the ground. Eggs, 6 to 8; buff color.

This is another of the Sea-Ducks which breeds in large numbers at Labrador and elsewhere along the coast, visiting the larger lakes in the interior occasionally during the season of migration. On Hamilton Bay it is sometimes observed in company with others of its class, but there being nothing in its appearance or history to commend it to popular favor, it is generally allowed to pass unmolested.

Subgenus MELANITTA Boie.

56. OIDEMIA DEGLANDI Bonap. 165.

White-winged Scoter.

Male: Black, with a large white wing-patch, and another under the eye; feet, orange-red, with dusky webs. Bill, black, broadly orange-tipped; size of the last or rather larger; *female*, smaller, sooty-brown, pale-grayish below, with much whitish about head, but showing white speculum; bill all black.

Hab. Northern North America, breeding in Labrador and the Fur Countries; south in winter to the Middle States, Southern Illinois, and Southern California.

Unlike the preceding, the Velvet Ducks visit Lake Ontario in large flocks in the spring, and usually remain two or three weeks before retiring to their breeding places. They are large, heavy birds, and their jet black color makes them look at a distance larger than they really are.

While moving about from one part of the bay to another, they fly heavily at no great height above the water, but they have not the restless habits of some other ducks, and if not disturbed will remain for days together feeding near the same spot.

For the past five years during their visits a good many are found dead along the shore. Whether they bring the cause of their death with them when they come here, or whether the emptying of the city sewage and the refuse of the oil refineries into the bay is in anyway connected with the mortality referred to has not yet been determined.

They arrive about the end of April, and by the 20th of May are all gone.

Subgenus PELIONETTA Kaup.

57. OIDEMIA PERSPICILLATA (Linn.). 166.

Surf Scoter.

Bill narrowly encroached upon by the frontal feathers, on the culmen, nearly or quite to the nostrils, but not at all upon its sides, about as long as the head, with the nail narrowed auteriorly, the swelling lateral as well as superior; nostrils beyond its middle; bill of male orange-red, whitish on the sides; with a large circular black base. Plumage of the *Male*:—Black, with

a patch of white on the forehead and another on the nape, none on the wing. About the size of a Scoter. *Female* :—Smaller ; bill black ; feet, dark, tinged with reddish, webs black ; plumage, sooty-brown, below silvery-gray, two whitish patches on each side of the head.

HAB. Coasts and larger inland waters of Northern North America ; in winter south to the Carolinas, the Ohio River, and Lower California.

According to Audubon this species breeds on the coast of Labrador, making a nest of grass lined with feathers. The eggs, 4 to 6 in number, are whitish, and are hatched in July.

The Surf Scoter is found on Lake Ontario mostly in spring in company with the preceding which it resembles in habits, the clear white patches in marked contrast to the deep black of the plumage, serving even at a distance to mark its presence in a flock. It is never numerous, though more frequently seen than the Scoter.

GENUS ERISMATURA BONAPARTE.

58. ERISMATURA RUBIDA (WILS.). 167.

Ruddy Duck.

The *male* in perfect plumage with neck all round, and the upper-parts brownish-red, the lower-parts silky-white watered with dusky, the chin and sides of the head dead-white, the crown and nape black, but not often seen in this condition in the United States ; as generally observed, and the female at all times, brown above, finely dotted and waved with dusky, paler and duller below with undulations and sometimes a slight tawny tinge, as also occurs on the side of head ; crown and nape dark-brown ; crissum always white. Length, 14-17 ; wing, 5-6 ; tarsus, 1¼.

HAB. North America in general, south to Cuba, Guatemala and Northern South America, breeding throughout most of its North American range.

I once saw a waggon load of Ruddy Ducks exposed for sale in the Hamilton market ; it was in the month of May, and a large flock had got entangled in the nets in Lake Ontario, where they had tarried for rest and refreshment while on their way to their summer haunts farther north. The fishermen, regardless of grammar and other considerations, still maintain that "all is fish that comes in the net," and they tried hard to make the

most of their haul, but although the birds attracted a good deal of attention from their bright blue bills and rich brown plumage, they did not meet with a ready sale. A few pairs visit us regularly in the spring and fall: I have seen them at St. Clair in June, evidently mated, and was told that they breed sparingly throughout the marsh there.

Subfamily ANSERINÆ. Geese.

Genus CHEN Boie.

59. CHEN HYPERBOREA NIVALIS (Forst.). 169 a.

Greater Snow Goose

Bill with laminæ very prominent, owing to arching of the the edges of the bill. *Adult* plumage pure white, but in most specimens the head washed with rusty-red; primaries broadly black-tipped; bill, lake-red with white nail; feet the same with dark claws. "Young, dull bluish or pale lead colored on the head and upper part of the body" (Cassin). Length, about 30; wing, 17-19; tail, 5½-6; bill, 2½: tarsus, 3½.

Hab. North America, breeding far north, and migrating south in winter, chiefly along the Atlantic coast, reaching Cuba.

The Snow Goose is widely distributed throughout the continent, raising its young in high latitudes, and retiring to the south at the approach of winter. During the latter season vast flocks are found along the shores of the Gulf of Mexico, and sparingly along the Atlantic sea-board. In Ontario it can only be regarded as a casual visitor during the season of migration, and, as it is seldom that more than two or three are seen together, they are looked upon as stragglers from the main body, whose line of migration is chiefly along the Mississippi or the Pacific coast. The specimen in my collection was killed at the Beach in the month of December a few years since, while making its way toward the open water in Lake Ontario.

Genus ANSER Brisson.

60. ANSER ALBIFRONS GAMBELI (Hartl.). 171 a.

American White-fronted Goose.

Laminæ of bill moderately exposed; tail normally of sixteen feathers. Under-parts white or gray, extensively blotched with black; back dark-gray;

with paler or brownish edging of the feathers; upper tail-coverts white; head and neck grayish-brown, the forehead conspicuously pure white (in the adult; dark in some states); bill pale-lake; feet orange, with pale claws. Length, about 27 inches; wing, 16-18; tail, 5-6; tarsus, 2¾-3; middle toe and claw about the same. Only differs from the European in an average longer bill (1¾-2 instead of 1½-1¾.

HAB. North America, breeding far northward; in winter south to Mexico and Cuba,

The eggs of this species are dull greenish yellow with obscure darker tints. They measure 3.00 by 2 00.

Like the preceding, this species is only a casual visitor to Ontario, the vast flocks which annually leave their breeding grounds in the north at the approach of winter, apparently preferring to make their southern journey along the western coast rather than by the Atlantic or the interior; stragglers have been observed at the different shooting stations, where they are looked upon as rare. The specimen in my collection was killed at St. Clair flats; it is an immature male.

GENUS BRANTA SCOPOLI.

61. BRANTA CANADENSIS (LINN.). 172.

Canada Goose.

Tail normally eighteen feathers. Grayish-brown, below paler or whitish gray, bleaching on the crissum, all the feathers with lighter edges; head and neck black, with a broad white patch on the throat mounting each side of the head; tail black with white upper coverts. Length, about 36; wing, 18-20; tail, 6½-7½; bill, 1¾-2; tarsus, usually over 3.

HAB. Temperate North America, breeding in the Northern United States and British Provinces; south in winter to Mexico.

Nest usually on the ground, sometimes in trees. Eggs 5 to 6; pale dull green.

This is *the* wild goose of Canada, the bird we see in April passing to the northwest in V-shaped columns, whose hoarse honking we listen to with pleasure as a sure indication that brighter skies and warmer weather are close at hand.

A few are seen every season at the shooting stations at St. Clair and along the north shore of Lake Erie, but if the weather

is favorable, the flocks usually pass over us without stopping. The Canada Goose is less boreal in its range than some of the others of its class. Individual pairs have been found nesting at different points in the Middle States; Professor Macoun found them breeding abundantly in the Northwest, and Dr. Coues mentions the singular fact of their being observed in the "Upper Missouri and Yellowstone regions breeding *in trees*."

I have known instances of their being domesticated, but they always retained the wild habit of skulking off to conceal their eggs in some out of the way place.

BRANTA CANADENSIS HUTCHINSII (Sw.& Rich.).

62. Hutchins's Goose. 172 a.

Tail sixteen-feathered. Colors exactly as in the Canada Goose, but size less. Length, about 2½ feet; wing, 15-17; tail, 5-6; bill, 1½-1⅝; tarsus rather under 3.

Hab. North America, breeding in the Arctic regions, and migrating south in winter, chiefly through the Western United States and Mississippi Valley.

Apparently a small race of the preceding, which has been raised to the rank of a separate sub-species, in which position it is as easily considered as in any other. Where the Canada Goose ends and the Hutchins's begins is at times difficult to determine. Small geese are occasionally seen with the last groups of the others which pass in spring; but they are fewer in number and less frequently obtained. I once saw a fine pair of these birds in the hands of a local taxidermist where they had been left to be "*stuffed*," and with such vigor had the operation been performed that when finished it would have been a hard matter for any one to have told to which species the birds originally belonged.

The Hutchins's Goose has not been found nesting within the limits of the United States, being apparently more northern in its range than the preceding.

63. BRANTA BERNICLA (LINN.). 173.

Brant.

Head, neck, body anteriorly, quills and tail black; a small patch of white streaks on the middle of the neck, and usually white touches on the under eyelid and chin; upper tail-coverts white; back brownish-gray, under parts the same but paler, and fading into white on lower belly and crissum; black of jugulum well-defined against the color of the breast; length 2 feet; wing, 13; tail, 5; bill, 1 1-3; tarsus, 2½.

HAB. Northern parts of Northern hemisphere; in North America chiefly the Atlantic coast; rare in the interior, or away from salt water.

Breeds in high latitudes.

Another casual visitor to the waters of Ontario, where it is less frequently seen than either of the other geese. It is by no means a scarce species, but seems partial to the sea coast. In the list of the birds of Western Ontario it is mentioned as a "rather rare migrant." I have only seen it once, flying past, out of reach.

SUBFAMILY CYGNINÆ. SWANS.

GENUS OLOR WAGLER.

64. OLOR COLUMBIANUS (ORD.). 180.

Whistling Swan.

Size and color of the next species except a yellow spot on bill near base. Bill not longer than the head; nostrils median. Tail (normally) of twenty feathers.

HAB. The whole of North America, breeding far north.

Eggs 2 to 5; dull white stained with brown.

These beautiful birds, never at any time abundant, are now very seldom seen in Ontario. I once saw four in full adult plumage come up Lake Ontario on a very stormy afternoon toward the end of March; they evidently expected to find rest

and shelter in the bay, but there being only a small patch of open water near the canal they wheeled round and went off east again. On another occasion a family of four visited the bay in the fall; they were not allowed to remain long undisturbed, and one young bird was so disabled by a pellet of shot in the wing as to prevent it leaving with the others, it could still take care of itself, however, and remained till the bay froze over, when it walked ashore and was captured in an exhausted condition by one of the fishermen.

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65. OLOR BUCCINATOR (RICH.). 181.

Trumpeter Swan.

Adult plumage entirely white; younger the head and neck washed with a rusty-brown; still younger, gray or ashy. Bill and feet black. Length 4-5 feet. Tail (normally) of twenty-four feathers. No yellow spots on bill which is rather longer than the head, the nostrils fairly in its basal half.

HAB. Chiefly the interior of North America, from the Gulf coast to the Fur Countries, breeding from Iowa and Dakota northward; west to the Pacific coast, but rare or casual on the Atlantic.

Eggs 2 to 5; dull white stained with brown, shell rough.

Swans are seen nearly every spring and fall at one or other of the shooting stations in Western Ontario, but the points of specific distinction are so inconspicuous that unless the birds are secured it is difficult to tell to which species they belong. Dr. Ganrier reports having taken one at Mitchell's bay. There was one in the collection sent from Toronto to Paris in 1867 and I have seen two which were killed at Long Point in Lake Erie.

The highway of this species from North to South is evidently by the Mississippi Valley, where it is quite common during the period of migration, those we see here being stragglers off the route.

ORDER HERODIONES. HERONS, STORKS, IBISES, ETC.

SUBORDER IBIDES. SPOONBILLS AND IBISES.

FAMILY IBIDIDÆ. IBISES.

GENUS PLEGADIS KAUP.

66. PLEGADIS AUTUMNALIS (HASSELQ.). 186.

Glossy Ibis.

Plumage rich dark-chestnut, changing to glossy dark-green with purplish reflections on the head, wings and elsewhere ; bill dark ; *young* similar, much duller, or grayish brown, especially on the head and neck which are white streaked. Claws slender, nearly straight ; head bare only about the eyes and between the forks of the jaw. Length, about 2 feet ; wing, 10-11 ; tail, 4 ; bill, 4½ ; tarsus, 3 1-3 ; middle toe and claw, 3.

HAB. Northern Old World, West Indies, and Eastern United States. Only locally abundant, and of irregular distribution in America.

The eggs of the Glossy Ibis measure from 1-90 by 1-45 to 2-10 by 1-50, and are of a dull greenish-blue color, without markings. The number usually deposited is believed to be three.

About the end of May, 1857, Mr. John Bates, whose farm adjoins the creek near the Hamilton waterworks, saw two tired looking birds which he took to be Curlews, circling round with the evident intention of alighting near the creek. Mr. Bates's gun was always in order, and none in the neighborhood at that time knew better how to use it. In a few minutes he picked up a pair of Glossy Ibises, the only birds of the kind which have been observed in Ontario. This pair, which subsequently came into my possession, were male and female in fine adult plumage ; they are not common anywhere on the American continent. Wilson knew nothing of the species nor was it known to naturalists till after his death.

SUBORDER HERODII. HERONS, EGRETS, BITTERNS, ETC.

FAMILY ARDEIDÆ. HERONS, BITTERNS, ETC.

SUBFAMILY BOTAURINÆ. BITTERNS.

GENUS BOTAURUS HERMANN.

SUBGENUS BOTAURUS.

67. BOTAURUS LENTIGINOSUS (MONTAG.). 190.

American Bittern.

Plumage of upper part singularly freckled with brown of various shades, blackish, tawny and whitish ; neck and under-parts ochrey or tawny-white.

Each feather marked with a brown dark-edged stripe, the throat line white, with brown streaks ; a velvety-black patch on each side of the neck above ; crown dull-brown, with buff superciliary stripe ; tail brown ; quills greenish-black, with a glaucous shade, brown tipped ; bill black and yellowish, legs greenish, soles, yellow ; length, 23-28 ; wing, 10-13 ; tail, 4½ ; bill, about 3 ; tarsus, about 3½.

HAB. Temperate North America, south to Guatemala, and the West Indies.

The nest of the Bittern is placed on the ground ; the eggs, three to five in number, are brownish-drab, measuring about 2-00 by 1-50.

A common summer resident, found in all suitable places throughout the country, where during the early summer may be heard the peculiar clunking sound which has gained for the species the not inappropriate name of " Stake Driver." It seldom leaves the marsh where it makes its home and finds its favorite fare of fish, frogs and lizards. It drops readily to a light charge of shot, but when wounded makes a fierce resistance, raising the feathers of the head and neck and striking straight at the eye of a dog with its sharp-pointed bill. It arrives as soon as the flags begin to show green, about the end of April, and leaves again for the south toward the end of September, or later, according to the weather.

SUBGENUS ARDETTA GRAY.

68. BOTAURUS EXILIS (GMEL.). 191.

Least Bittern.

No peculiar feathers, but those of the lower neck, long and loose, as in the Bittern ; size very small ; 11-14 inches long ; wing, 4-5 ; tail, 2 or less ; bill, 2 or less ; tarsus, about 1⅝. *Male* with the slightly crested crown, back and tail, glossy greenish-black ; neck behind, most of the wing-coverts, and outer edges of inner quills, rich chestnut, other wing-coverts, brownish-yellow ; front and sides of neck and under-parts, brownish-yellow varied with white along the throat line, the sides of the breast with a blackish-brown patch ; bill and lores mostly pale yellow, the culmen blackish ; eyes and soles yellow ; legs greenish-yellow ; *female* with the black of the back entirely, that of the crown mostly or wholly replaced by rich purplish-chestnut ; the edges of the scapulars forming a brownish-white stripe on either side.

HAB. Temperate North America, from the British Provinces to the West Indies and Brazil.

Nest among the rushes.

Eggs, 3 to 5 ; white with a bluish tinge.

This diminutive Bittern, though seemingly slender, and tender, is not only generally distributed in Southern Ontario, but has been reported by Professor Macoun as "common throughout the country" in the North West. At Hamilton Bay it is a regular summer resident, raising its young in the most retired parts of the marsh. The nest is large for the size of the bird, a platform being made for its support by bending down the flags till they cross each other a foot or more above the water level. The whole affair is very loose and readily falls asunder at the close of the season. The Little Bittern is not supposed to be as plentiful as its big brother, but from its retiring habits may be more so than we are aware of. It is seldom seen except by those who invade its favorite haunts ; when disturbed it rises without note or noise of any kind, and with a wavering uncertain flight passes off for a short distance and again drops among the rushes. It arrives about the end of May and leaves early in September.

Subfamily ARDEINÆ. Herons and Egrets.

Genus ARDEA Linn.

Subgenus ARDEA.

69. ARDEA HERODIAS Linn. 194

Great Blue Heron.

Back without peculiar plumes at any season, but scapulars lengthened and lanceolate ; an occipital crest, two feathers of which are long and filamentous ; long loose feathers on the lower neck. Length, about four feet ; extent, 6 ; bill, 5½ inches ; tarsus, 6½ ; middle toe and claw, 5 ; wing, 18-20 ; tail, 7. *Female* much smaller than male. Adult of both sexes grayish-blue above, the neck pale purplish-brown with a white throat-line, the head black with a white frontal patch ; the under-parts mostly black, streaked with white ; tibia, edge of wing and some of the lower neck feathers orange-brown ; bill and eyes yellow, culmen dusky, lores and legs greenish. The young differ considerably but are never white and cannot be confounded with any of the succeeding.

HAB. North America, from the Arctic regions southward to the West Indies and Northern South America.

Nests usually in trees, sometimes in rocks.

Eggs 2 or 3 ; elliptical light, dull greenish-blue.

As the Great Blue Heron breeds in communities it is not often seen during the summer except in the vicinity of the Heronry. In the fall when the young birds are able to shift for themselves they disperse over the country; their tall gaunt figures being often seen standing motionless watching for eels by the shore of some muddy creek. In the report of the ornithological branch of the Ottawa Field Naturalists' Club, for 1883, is a most interesting account of a visit paid by a number of members of the club to a Heronry situated on the bank of the river about 25 miles from the city ; limited space will admit only of a short extract, as follows : " The Heronry is located in the centre of a thick swamp which, on the occasion of our first visit was so deeply submerged as to bar all ingress. On the 19th of July, however, the water was but knee deep. After proceeding about half a mile into the swamp our attention was arrested by a peculiar sound which we at first thought proceeded from some distant saw-mill or steamer on the river. As we advanced, however, the sound resolved itself into the most extraordinary noises, some of which resembled the yelping of dogs or foxes. On penetrating still deeper into the swamp, we discovered that the noises proceeded from immense numbers of Herons, some perched on branches of trees, some sitting on the nests and others flying overhead. The uproar was almost deafening and the odor arising from the filth with which the trees and ground was covered was extremely disagreeable. We tramped all through the Heronry and calculated that it must extend about half a mile in each direction. The nests were all of the same pattern, great cumbersome piles of sticks, about a foot thick, with but a very shallow cavity and no lining.

" The birds were very tame, making no attempt to fly until we began to climb the trees on which they were ; and even then they moved lazily off and manifested little or no alarm at our near approach to their young."

The adult Heron is an exceedingly wary bird and is seldom obtained except when it happens to fly above some hunter who is concealed among the rushes watching for ducks.

When thus brought down from above with neck, wings and legs getting all mixed up it presents a most ragged appearance, but when seen alive at shooting distance the graceful movements of the long, lithe neck, with its pointed plumes present a sight we all like to look upon.

Subgenus HERODIAS Boie.

70. ARDEA EGRETTA Gmel. 196.

American Egret.

Adult with a long occipital crest of decomposed feathers and similar dorsal plumes, latter *recurved* when perfect; similar, but not recurved plumes on the lower neck, which is bare behind: lores, eyes and toes yellow; bill and legs black, former yellow at base, latter yellow at lower part behind. Plumage always entirely white. Length, 24; wing, 11-12; bill, 3; tarsus, 3½-4.

Hab. Temperate and tropical America, from New Jersey, Minnesota, and Oregon south to Patagonia; casually on the Atlantic coast to Nova Scotia.

I have only one record of the occurrence of this species in Ontario; it is from Dr. Garnier, and I give it in his own words, as follows:

"Garzetta Candidissima, Little White Heron, is also sometimes seen here, but I think rarely. I never saw it myself. One was shot by a Frenchman named David Leguis, in 1870, at Mitchell's Bay, at least so he declared to me positively, and I have no reason to dispute him, as in these matters he was reliable enough."

This is a Southern bird but I think it will yet be found as an occasional straggler along our Southern border.

Subgenus GARZETTA Kaup.

71. ARDEA CANDIDISSIMA Gmel. 197.

Snowy Heron.

No obviously lengthened feathers on the head at any time; in the breeding season, back with very long plumes of decomposed feathers drooping far

beyond the tail ; neck closely feathered ; plumage entirely white at all seasons ; legs and feet black. Length, 36-42 inches (not including the dorsal train) ; wing, 16-17 ; bill, nearly 5 ; tarsus, nearly 6.

HAB. Temperate and tropical America, from Long Island and Oregon south to Buenos Ayres ; casual on the Atlantic coast to Nova Scotia.

Nest in trees.

Eggs, 3 to 4 ; pale greenish-blue.

Although this species has been frequently taken in Ontario. I have no record of it being found nesting within our limits. Several specimens sent to me from Rond Eau and other points on the north shore of Lake Erie were all immature. Dr. Wheaton, in his report on the birds of Ohio remarks that only young birds had been seen there, which rather confirms Dr. Coues' remarks in the " Birds of the Northwest," to the effect that " a certain *northward* migration takes place in summer among some southerly birds of this class which on leaving the nest seem for a time to wander away in the wrong direction." There is, however, a record in the *Auk*, vol. II, page 110, January 1885, of a pair having been observed at Rockcliffe, on the Ottawa river, in the spring of 1883. The male was shot by Mr. S. H. McIntyre, and is now in the Museum of the Geological Survey at Ottawa. After being deprived of her mate the female was seen about the place for a day or two and then she went away. The record states that these were the only two birds of the kind ever seen at that point.

SUBGENUS BUTORIDES BLYTH.

72. ARDEA VIRESCENS LINN. 201.

Green Heron.

Adult in the breeding season with the crown, long soft occipital crest, and lengthened narrow feathers of the back, lustrous dark-green, sometimes with a bronzy iridescence, and on the back often with a glaucous cast ; wing-coverts green, with conspicuous tawny edgings ; neck purplish-chestnut, the throat-line variegated with dusky or whitish ; under-parts mostly dark brownish-ash, belly variegated with white ; quills and tail greenish-dusky with a glaucous shade, edge of the wing white ; some of the quills usually white-tipped ; bill greenish-black, much under mandible yellow ; lores and iris yellow ; legs greenish-yellow ; lower neck with lengthened

feathers in front, a bare space behind. *Young* with the head less crested, the back without long plumes, but glossy-greenish, neck merely reddish-brown, and whole under-parts white, variegated with tawny and dark-brown. Length, 16-18; wing, about 7; bill, 2½; tarsus, 2; middle toe and claw about the same; tibia bare 1 or less.

HAB. Canada and Oregon southward to Northern South America and West Indies; rare or absent in the Middle Province.

Nest composed of twigs, placed in a bush or low tree in a swamp or by the bank of a stream. Eggs 3 to 6; pale greenish-blue.

This handsome little Heron finds its northern limit along the Southern border of Ontario. According to Dr. Macallum it breeds regularly on the banks of the Grand River near Dunnville, and has also been observed occasionally at Hamilton, and at the St. Clair flats. Like the others of its class the Green Heron feeds mostly at night, and is seldom seen abroad by day except by those who have occasion to invade its marshy haunts; on this account it may be more numerous than it is supposed to be. It arrives about the end of April and leaves for the south again in September.

GENUS NYCTICORAX STEPHENS.

SUBGENUS NYCTICORAX.

73. NYCTICORAX NYCTICORAX NÆVIUS (BODD.). 202.

Black-crowned Night Heron

No peculiar feathers excepting two or three very long filamentous plumes springing from the occiput, generally imbricated in one bundle; bill very stout; tarsi reticulate below in front; length, about 2 feet; wing, 12-14 inches; bill, tarsus and middle toe, about 3. Crown, scapulars and interscapulars very dark glossy-green; general plumage bluish-gray, more or less tinged with lilac; forehead, throat-line and most under-parts whitish; occipital plumes white; bill black; lores greenish; eyes red; feet yellow. *Young* very different; lacking the plumes; grayish-brown, paler below, extensively speckled with white; quills chocolate-brown, white-tipped.

HAB. America, from the British Possessions southward to the Falkland Islands, including part of the West Indies.

Breeds in communities, returning to the same place year after year.

Nest, a large loose platform of twigs, placed well up in a tall tree.

Eggs 4 to 6; pale greenish-blue.

In Ontario the Night Heron or "Quawk," as it is commonly called, is not generally distributed; though stragglers are occasionally seen at different points throughout the Province, yet their breeding places are by no means common, the vicinity of the sea being evidently preferred to the interior.

Along the banks of the lower St. Lawrence they breed in immense numbers, every tree in certain districts having several nests among its boughs; when viewed from a distance the trees have the appearance of being heavily coated with dirty white-wash, and the entire vegetation underneath them is killed by the accumulated droppings of the birds.

Though somewhat untidy in their surroundings at home the birds themselves when seen in spring plumage are very handsome, the fiery red eye and long flowing plumes giving them quite an interesting appearance.

ORDER PALUDICOLÆ. CRANES, RAILS, ETC.

SUBORDER GRUES. CRANES.

FAMILY GRUIDÆ. CRANES.

GENUS GRUS PALLAS.

74. GRUS MEXICANA (MULL.). 206.

Sandhill Crane.

Adult with the bare part of head forking behind to receive a pointed extension of the occipital feathers, not reaching on the sides below the eyes, and sparsely hairy. Bill moderately stout, with nearly straight and scarcely ascending gonys, that part of the under mandible not so deep as the upper at the same place. Adult plumage plumbeous gray never whitening; primaries, their coverts and alula, blackish. *Young* with head feathered, and plumage varied with rusty-brown. Rather smaller than the last.

HAB. Southern half of North America; now rare near the Atlantic coast, except in Georgia and Florida.

Eggs 2; light brownish-drab, marked except at the greater end with blotches of dull chocolate-brown, shell rough, with numerous warty elevations.

I am indebted to Dr. Garnier, of Lucknow, for the only

record I have of the occurrence of the Sandhill Crane in Ontario. Writing under date Dec. 6, 1884, he says: "About 22 years ago a pair of these birds spent the summer in the marshes near Murphy's landing, County Kent; later in the season they were seen stalking about accompanied by two young, and finally all disappeared as the weather grew cold."

"In 1881 a pair spent the summer near mud creek in the same locality, and were often seen by the people residing there. On the 1st Nov., Mr. Jos. Martin, while out shooting in his canoe, suddenly came upon them at short distance. He killed one dead, and the other being hard hit dropped on a shaking bog close by. Mr. Martin brought me the dead one, and next day I went with him in search of its mate. We saw it lying quite dead on the bog, but though my partner and I tried hard to force our way to where it was we were compelled to give it up, to my very great regret." These are the only well authenticated instances of the occurrence of the Sandhill Crane in Ontario, that I know of.

These large and interesting birds are now quite rare in the East, but are common enough further west, where they go a long way north, as Prof. Macoun found both the present species and the White Crane breeding near Moose Mountains in the Northwest.

SUBORDER RALLI. RAILS, GALLINULES, COOTS, ETC.

FAMILY RALLIDÆ. RAILS, GALLINULES, AND COOTS, ETC.

SUBFAMILY RALLINÆ. RAILS.

GENUS RALLUS LINNÆUS.

75. RALLUS ELEGANS AUD. 208.

King Rail.

Above brownish-black; variegated with olive-brown, becoming rich chestnut on the wing-coverts; under-parts rich rufous or cinnamon-brown, usually paler on the middle of the belly and whitening on the throat; flanks and axillars blackish, white-barred. Length, about 16; wing, 5-6; tail, 2-2½; bill, 2½; tarsus, 2: middle toe and claw, 2⅜. *Female* smaller.

HAB. Fresh water marshes of the Eastern Province of the United States, from the Middle States, Northern Illinois, Wisconsin, and Kansas southward. Casually north to Massachusetts, Maine and Ontario.

Nest a rude mass of reeds and grass, on marshy ground close to the water.

Eggs 6 to 12 ; buff or cream color, speckled and blotched with reddish-brown.

This large and handsome Rail which, until recently, was considered to be only a casual visitor to Ontario, is now known to breed plentifully in the marshes all along the river St Clair ; it has also been found at other points in Southern Ontario, but the St. Clair flats seem to be its favorite breeding place. The extent of the marsh, and the almost stagnant water seem to suit the taste of these birds, and here they spend the summer and raise their young without being disturbed.

They are seldom seen on the wing but get very noisy and excited before rain, keeping up an incessant cackling, which —better than anything else—gives an idea of the number which are moving about under cover of the rushes.

They arrive from the south early in May and leave again in September.

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76. RALLUS VIRGINIANUS LINN. 212.

Virginia Rail.

Coloration exactly as in *elegans*, of which it is a perfect miniature. Length, 8½-10½ ; wing about 4 ; tail about 1½ ; bill, 1½-1⅝ ; tarsus, 1⅝-1⅞ ; middle toe, 1½-1⅝.

HAB. North America, from British Provinces south to Guatemala and Cuba.

Nest in a tuft of reeds or rushes, some of them being bent down to assist in forming the structure which is usually placed close to the water.

Eggs 6 to 9 ; buff or creamy, speckled and blotched with reddish-brown.

Although this cannot be said to be a numerous species, it is very generally distributed, being found in all suitable places throughout the Province. When not disturbed it may be seen quietly wading in the shallow ponds in search of its

food, which consists of aquatic insects, snails, worms, and the seeds of such grasses as grow near its haunts, but if alarmed it at once takes itself to the rushes and passes with such swiftness along the covered runways which interlace the rush beds that it will thus elude the pursuit of an active dog, and so avoid exposing itself to the aim of the sportsman.

It breeds regularly along the south shore of Hamilton Bay where it arrives early in May and leaves again in September.

Genus PORZANA Vieillot.

Subgenus PORZANA.

77. PORZANA CAROLINA (Linn.). 214.

Sora.

Above, olive-brown, varied with black, with numerous sharp white streaks and specks; flanks, axillars and lining of wings, barred with white and blackish; belly whitish; crissum rufescent. *Adult* with the face and central line of the throat black, the rest of the throat, line over eye, and especially the breast more or less intensely slate-gray, the sides of the breast usually with some obsolete whitish barring and speckling; *young* without the black, the throat whitish, the breast brown. Length, 8-9; wing, 4-4½; tail, about 2; bill, ⅞-1; tarsus, 1¼; middle toe and claw, 1⅛.

Hab. Temperate North America, but most common in the Eastern Province, breeding chiefly northward. South to West Indies and Northern South America.

Builds a rude nest of grass and rushes on the ground near the water.

Eggs 8 to 10; dull drab, marked with reddish-brown.

Here as elsewhere the Sora is the most numerous of the Rail family, and is found breeding in all suitable places throughout the country. Many also pass up north, and when they return in the fall accompanied by their young they linger in the marshes along the southern border till they are found swarming everywhere; they are very sensitive of cold and a sportsman may have good Rail shooting till late in the evening, but should a sharp frost set in during the night he may return in the morning and find that the birds have all left.

They arrive early in May and remain till the first frost.

Subgenus COTURNICOPS Bonaparte.

78. PORZANA NOVEBORACENSIS (Gm.). 215.

Yellow Rail.

Above, varied with blackish and ochrey-brown, and thickly marked with narrow white semicircles and transverse bass; below, pale ochrey-brown, fading on the belly, deepest on the breast where many of the feathers are tipped with dark brown; flanks rufous with many white bars; lining of the wing, white; a brownish-yellow streak over the eye; length about 6 inches.

Hab. Eastern North America, from Nova Scotia and Hudson's Bay west to Utah and Nevada. No extra-limital record except Cuba and the Bermudas.

Nest like that of the other Rails.

Eggs 6 to 8; dark buff color, marked with reddish spots at the greater end.

We know little of this bird, partly because it belongs to a class much given to keeping out of sight, but chiefly because it is a rare species everywhere; during the present year I saw a fine mounted specimen in the store of Mr. Cross, taxidermist, Toronto. It was got in the marsh near that city, and I have heard of another which a few years since was got near the same place and is now in the public museum at Ottawa. The greater number of specimens of the Yellow Rail now in existence have been found in New England, but that may be owing to the greater number of collectors there. It would be well for our Canadian sportsmen to look out for the species when visiting its haunts, as from its general resemblance to the Sora it may readily be overlooked.

Subfamily GALLINULINÆ.

Genus GALLINULA Brisson.

79. GALLINULA GALEATA (Licht.). 219.

Florida Gallinule.

Head, neck and underparts grayish-black, darkest on the former, paler or whitening on the belly; back brownish-olive; wings and tail dusky; crissum, edge of wing, and stripes on the flanks, white; bill, frontal plate, and ring around tibiæ red, the former tipped with yellow; tarsi and toes

greenish ; 12-15 long ; wing, 6¼-7¼ ; tail, 3½ ; gape of bill, about 1½ ; tarsus, about 2.

HAB. Temperate and tropical America, from Canada to Brazil and Chili.

Nest a mass of broken, rotten reeds and rushes, with a slight hollow in the centre ; it is seldom much above water level and often afloat.

Eggs 10 to 12 ; brownish-buff, thickly spotted with reddish-brown.

A common summer resident breeding in suitable places throughout Southern Ontario. Near Hamilton it is quite common, a few pairs generally spending the summer in the Waterdown Creek, and also in the Dundas Marsh. Its retired haunts are seldom invaded during the summer months, the mosquitoes being a bar to the intrusion of visitors, and its flesh not being in demand for the table it is not much disturbed. It arrives early in May and leaves toward the end of September.

SUBFAMILY FULICINÆ.

GENUS FULICA LINNÆUS.

80. FULICA AMERICANA GMEL. 221.

American Coot.

Dark slate, paler or grayish below, blackening on the head and neck, tinged with olive on the back ; crissum, whole edge of wing, and top of the secondaries white ; bill white or flesh-colored, marked with reddish-black near the end ; feet dull olivaceous ; *young* similar, paler and duller. Length, about 14 ; wing, 7-8 ; tail, 2 ; bill from the gape, 1¼-1½ ; tarsus, about 2 ; middle toe and claw, about 3.

HAB. North America, from Greenland and Alaska southward to West Indies and Central America.

Nest of vegetable rubbish from the marsh, often afloat and fastened to the rushes like the Grebes, but sometimes on dry ground back from the water.

Eggs 10 to 12 ; clear clay color dotted minutely with dark brown.

Not so generally distributed as the last named species. It breeds abundantly at St. Clair, but at Hamilton is only a migratory visitor in spring and fall. It is a hardy bird, often arriving in spring before the ice is quite away, and again lingering late in the fall as if unwilling to depart. They are some-

times by amateur gunners mistaken for Ducks, and in this way a few lose their lives, but except in such cases they are not molested—Mud Hens generally not being looked upon as game.

Order LIMICOLÆ. Shore Birds.

Family PHALAROPODIDÆ.

Genus CRYMOPHILUS Vieillot.

81. CRYMOPHILUS FULICARIUS (Linn.). 222.

Red Phalarope.

Adult with the under-parts purplish chestnut of variable intensity, white in the young; above variegated with blackish and tawny. Length, 7-8 inches; wing, 5; tail, 2¾; bill, 1, yellowish, black-tipped; tarsus, ¾, greenish

Hab. Northern parts of Northern hemisphere, breeding in the Arctic regions and migrating south in winter; in the United States south to the Middle States, Ohio, Illinois, and Cape St. Lucas; chiefly maritime,

Nest a hollow in the ground lined with dry grass.

Eggs 3 to 4; variable in color, usually brownish-olive spotted or blotched with dark chocolate-brown.

Vast numbers of Phalaropes breed in Spitzbergen and on the shores of the Polar Sea. At the approach of winter they retire to the south, but in these migratory journeys they follow the line of the sea coast so that the stragglers we see inland are most likely bewildered by fog or driven by storm away from their associates and their regular course.

Dr. Garnier saw a flock of six, one of which he secured at Mitchell's Bay, near St. Clair, in the fall of 1880, and on the 17th of November, 1882, Mr. Brooks, of Milton, shot a single bird which he found swimming alone on Hamilton Bay, a little way out from Dynes's place. These are the only records I have of the occurrence of the species in Southern Ontario.

Genus PHALAROPUS Brisson.

Subgenus PHALAROPUS.

82. PHALAROPUS LOBATUS (Linn.). 223.

Northern Phalarope.

Adult, dark opaque-ash or grayish-black, the back variegated with tawny; upper tail-coverts and under-parts mostly white; side of the head

and neck with a broad stripe of rich chestnut, generally meeting on the jugulum ; breast otherwise with ashy-gray ; *young* lacking the chestnut. Length, about 7 inches ; wing, 4½ ; tail, 2 ; bill, tarsus, and middle toe each, under 1, black.

HAB. Northern portions of Northern hemisphere, breeding in Arctic latitudes ; south in winter to the tropics.

Nest a hollow in the ground lined with dry grass.

Eggs 3 to 4 ; similar to those of the Red Phalarope but smaller.

Like the preceding this is a bird of the sea coast. Though singly or in pairs it is sometimes seen inland during the season of migration. The two in my collection were found in the fall on one of the inlets of Hamilton Bay.

In the list of the birds of Western Ontario mention is made of three having been taken in Middlesex, and one found dead at Mitchell's Bay in 1882.

While this was passing through the press K. C. McIlwraith shot a young male of this species as it rose from one of the inlets which run from the Bay up to the Beach road near Hamilton.

SUBGENUS STEGANOPUS VIEILLOT.

83. PHALAROPUS TRICOLOR (VIEILL.). 224.

Wilson's Phalarope.

Adult ashy ; upper tail-coverts and under-parts white ; a black stripe from the eye down the side of the neck spreading into rich purplish-chestnut which also variegates the back and shades the throat ; young lacking these last colors. Length, 9-10 ; wing, 5 ; tail, 2 ; bill, tarsus and middle toe, each over 1, black.

HAB. Temperate North America, chiefly the interior, breeding from Northern Illinois and Utah northward to the Saskatchewan region ; south in winter to Brazil and Patagonia.

Nest in moist meadows.

Eggs 3 to 4 ; variable in pattern, usually brownish-drab, marked with splashes, spots, and scratches, of chocolate-brown.

This is the largest of the Phalaropes and the handsomest of all our Waders. Unlike the others of its class it is rare along the sea coast but common inland ; its line of migration being along

the Mississippi valley; another peculiarity of the species is that the female is the largest and most gaily attired, and from choice or necessity the eggs are incubated by the male. In some other respects their domestic relations are not in accordance with the recognized rules of propriety, but as it is not always safe for outsiders to interfere in such matters we will leave that part of the history without further comment.

Being a bird of the prairie ponds it is but a straggler in Ontario. The only record I have of its occurrence is the notice in the list of the Birds of Western Ontario, of one having been taken at Mitchell's Bay in 1882. It was observed by Prof. Macoun in the Northwest breeding in the marshes east of Moose Mountain.

Family. RECURVIROSTRIDÆ.

Genus RECURVIROSTRA Linnæus.

84. RECURVIROSTRA AMERICANA Gm. 225.

American Avocet.

White; back and wings with much black; head and neck cinnamon-brown in the adult, ashy in the young, bill black, 3½ to gape; legs blue; eyes red. Length, 16-18; wing, 7-8; tail, 3½; tarsus, 3½.

Hab. Temperate North America, from the Saskatchewan and Great Slave Lake south, in winter, to Guatemala and the West Indies. Rare in the Eastern Province.

Eggs variable in size and markings, usually brownish-drab, marked with spots of chocolate-brown.

This is another delicate inland Wader, rare on the sea coast, but abundant in the Mississippi valley. Stragglers appear occasionally at far distant points, and are at once identified by their peculiar markings and awl-shaped bill. I am aware of three individuals having been taken at different times at Rond Eau, on the north shore of Lake Erie, but these are all I have heard of in Ontario. Prof. Macoun found it abundant on the brackish ponds and marshes of the Northwest.

FAMILY SCOLOPACIDÆ. SNIPES, SANDPIPERS, ETC.

GENUS PHILOHELA GRAY.

85. PHILOHELA MINOR (GMEL.). 228.

American Woodcock.

Above variegated and harmoniously blended black, brown, gray and russet; below pale warm brown of variable shade. Length, *male*, 10-11; *female*, 11-12; extent, 16-18; wing, 4½-5; bill, 2½-3; tarsus, 1¼; middle toe and claw, 1⅝; weight, 5-9 ounces.

HAB. Eastern Province of North America, north to the British Provinces, west to Dakota, Kansas, etc.; breeding throughout its range. No extralimital records.

The nest, which is composed of a few dead leaves, is usually placed at the root of a tree, or in a clump of weeds.

Eggs 3 to 4; grayish-brown marked with spots and blotches of lilac and chocolate.

The Woodcock is a summer resident in Southern Ontario in uncertain numbers, appearing about the time the snow is going out of sight. In the fall it is much sought after by sportsmen with varying success. Occasionally good bags are made but in this respect no two seasons are alike. The fall of 1885 was one of the poor seasons, very few being obtained.

The birds seem to be paired on their arrival in spring, and at once select a site for the nest, which is usually placed in dense woods or swampy thickets; when the breeding season is over they change their places of resort and are often found in corn fields, orchards, and moist places where they feed mostly during the night. They remain as long as the ground is soft enough for them to probe, after which they retire to the south.

GENUS GALLINAGO LEACH.

86. GALLINAGO DELICATA (ORD). 230.

Wilson's Snipe.

Crown black with a pale middle stripe; back varied with black, bright bay and tawny, the latter forming two lengthwise stripes on the scapulars; neck and breast speckled with brown and dusky; lining of wings barred with black and white; tail usually of 16 feathers, barred with black, white and

chestnut ; sides waved with dusky ; belly dull white ; quills blackish, the outer white edged. Length, 9-11 ; wing, 4½-5½ ; bill, about 2½ ; whole naked portion of leg and foot, about 3.

HAB. North and Middle America, breeding from Northern United States northward ; south in winter to West Indies and Northern South America.

Nest usually a depression in a grassy meadow.

Eggs 3 to 4 ; grayish-olive, heavily marked with umber-brown and irregular lines of black.

This is *the* Snipe of America, although the name is often erroneously applied to other species. It is sometimes called English Snipe, owing to the close resemblance it bears to the British bird, but those who have compared the two species state positively that they are different in their markings, besides which the American Snipe has 16 tail feathers, whereas the English bird has only 14.

In Southern Ontario it is found in considerable numbers in spring and fall, and it is also said to breed sparingly throughout the country.

In the List of Birds of Western Ontario it is stated that "many breed in the St. Clair marshes," and mention is made of a pair having been shot there on the 17th of May, 1882.

Wherever it appears it is eagerly sought after both on account of the excellency of its flesh and the enjoyment it affords to the sportsman. It arrives toward the end of April, passes north for the summer and in the fall remains here till October.

GENUS MACRORHAMPHUS LEACH.

87. MACRORHAMPHUS GRISEUS (GMEL.). 231.

Dowitcher.

Tail and its coverts, at all seasons, conspicuously barred with black and white (or tawny), lining of the wings and axillars the same ; quills dusky, shaft of first primary, and tips of the secondaries, except long inner ones, white ; bill and feet greenish-black. In summer, brownish-black above, variegated with bay ; below brownish-red, variegated with dusky ; a tawny

superciliary stripe, and a dark one from the bill to the eye. In winter, plain gray above, and on the breast, with few or no traces of black and bay, the belly, line over eye and under eyelid white. Length, 10-11 ; wing, 5-5½ ; tail, 2½ ; bill, about 2½ ; tarsus, 1½ ; middle toe and claw, 1½. A variety of this (*M. scolopaceus* Lawrence) is almost a foot long, the bill upward of three inches.

HAB. Atlantic coast of North America, breeding far north.

Eggs 3 to 4 ; identical in appearance with those of the common Snipe.

Although this species is said to be abundant along the sea coast and also in the Mississippi valley during the season of migration, it can only be regarded as a straggler in Ontario. The specimen in my collection is the only one I have ever found near Hamilton. In the List of Birds of Western Ontario it is spoken of as rare ; and in Lr. Wheaton's exhaustive list of the birds of Ohio the writer says he never saw it in that State but has had it reported as a rare spring and fall migrant.

In their habits the Red-breasted Snipe very much resemble some of the Sandpipers, associating in large flocks, and feeding in exposed places, without much fear or suspicion, which often leads to great slaughter in their ranks. Their flesh is held in high estimation ; and in the south where they spend the winter they are often exposed for sale in the markets.

GENUS MICROPALAMA BAIRD.

88 MICROPALAMA HIMANTOPUS (BONAP.). 233.

Stilt Sandpiper.

Adult in summer, above blackish, each feather edged and tipped with white and tawny or bay, which on the scapulars becomes scalloped ; auriculars chestnut ; a dusky line from bill to eye, and a light reddish superciliary line ; upper tail-coverts white with dusky bars ; primaries dusky with blackish tips ; tail-feathers ashy-gray, their edge and a central field white ; under-parts mixed reddish, black and whitish, in streaks on the jugulum, elsewhere in bars ; bill and feet greenish-black. *Young* and *adult* in winter, ashy-gray above, with or without traces of black and bay, the feathers with white edging ; line over the eye and under-parts white ; the jugulum and sides suffused with the color of the back, and streaked with dusky ; legs usually pale. Length, 8-9 inches ; wing, 5 ; tail, 2½ ; bill and tarsus, both 1½-1⅝ ; middle toe, 1.

HAB. Eastern Province of North America, breeding north of the United States, and migrating in winter to the West Indies, Central and South America.

I have some scruples about including this species in my list, as I have no record of its having been taken within the Province, and yet when we consider that it breeds to the north of us, and winters far to the south, there can be no reasonable doubt that it passes through Ontario, but being rather a scarce species may have escaped the notice of sportsmen or it may have been taken and no record made of the occurrence. I anticipate that when this list is made public I will learn of birds having been found in Ontario which are not included here for the simple reason that I had not heard of it. There being no convenient way of placing such records before the public, they drop out of sight and are forgotten.

It is to be hoped that the writer of the next list of the birds of Ontario will in this way have many additions to make to the present one.

While this article was in the hands of the printer Mr. Cross, taxidermist, of Toronto sends me a bird for identification which proves to be this species. It is one of two which were shot near Toronto about the 25th of June last by Mr. Heinrich. Mr. Cross has made a happy hit in the mounting of them. They look like a pair of miniature Curlews.

GENUS TRINGA LINNÆUS.

SUBGENUS TRINGA.

89. TRINGA CANUTUS LINN. 2.34.

Knot.

Bill equalling or rather exceeding the head, comparatively stout; *adult in summer*: above, brownish-black, each feather tipped with ashy-white, and tinged with reddish on scapulars; below, uniform brownish-red, much as in the Robin, fading into white on the flanks and crissum; upper tail-coverts white with dusky bars, tail feathers and secondaries grayish-ash with white edges; quills blackish, gray on the inner webs and with white shafts; bill

and feet blackish. *Young* : above, clear ash, with numerous black and white semicircles ; below white, more or less tinged with reddish, dusky speckled on breast, wavy barred on sides. Length, 10-11 ; wing, 6-6½ ; tail, 2½, nearly square ; bill about 1½ (very variable).

HAB. Nearly cosmopolitan. Breeds in high northern lattitudes, but visits the Southern Hemisphere during its migrations.

This is the largest and handsomest of the Sandpipers ; though said to be common along the sea coast it is only an occasional visitor inland. The specimen in my collection I killed many years since on the muddy shore of one of the inlets of the bay. I did not see it again till May, 1884, when K. C. McIlwraith killed four very fine specimens in a moist vegetable garden on the beach. Dr. Wheaton met with it only once in Ohio, and it is not mentioned in the List of the Birds of Western Ontario, from which it may be inferred that we are not on the line of its migrations. In distribution it has a wide range; in the fall large flocks, which are supposed to come from Iceland visit the east coast of Scotland. It is also reported from Australia, New Zealand and South America.

SUBGENUS ARQUATELLA BAIRD.

90. TRINGA MARITIMA BRUNN. 235.

Purple Sandpiper.

Bill little longer than the head, much longer than the tarsus, straight or nearly so ; tibial feathers long, reaching to the joints ; though the legs are really bare a little way above ; *adult*, above ashy-black with purplish and violet reflections, most of the feathers with pale or white edgings ; secondaries mostly white ; line over eye, eye-lids and under-parts white, the breast and jugulum a pale cast of the color of the back, and sides marked with the same. In winter, and most immature birds, the colors are similar but much duller ; very young birds have tawny edgings above, and are mottled with ashy and dusky below. Length, 8-9 inches ; wing, 5 ; tail, 2⅜, rounded ; bill, 1¼ ; tarsus, ¾ ; middle toe, 1, or a little more.

HAB. Northern portions of the Northern Hemisphere ; in North America chiefly the northeastern portions breeding in the high north, migrating in winter to the Eastern and Middle States, the Great Lakes, and the shores of the larger streams in the Mississippi Valley.

The eggs are said to be four in number ; clay-color, shaded with olive and marked with rich umber-brown.

This, like the preceding species, is common to both continents, and is of circumpolar distribution. If it was in the habit of passing this way it did so without being observed till the 31st of Oct., 1885, when one individual was killed at the Beach by K. C. McIlwraith. This is the only record we have of it in the Province.

As its name (*Maritima*) implies, it is a bird of the sea coast, but though a Sandpiper, it is not so fond of the sandy shores as it is of the rocky ledges covered with sea weeds, where it no doubt finds something to suit its taste. The name *purple* might lead a stranger to expect this to be a bird of showy colors, but in general appearance it is perhaps the least so of its class, and might be described as about the size and make of the Black-heart, dull slaty-blue above, belly and vent white. Seen when in full plumage the feathers feel soft and silky for a bird of this class, and in certain rays of light seem slightly glossed with purple.

Subgenus ACTODROMAS Kaup.

91. TRINGA MACULATA Vieill. 339.

Pectoral Sandpiper.

Coloration much as in Baird's Sandpiper, but crown noticeably different from cervix; chestnut edgings of scapulars straight-edged; chin whitish, definitely contrasted with the heavily ashy-shaded and sharply dusky-streaked jugulum. Large. Length, 8½-9 inches; wing, 5-5½; bill, tarsus and middle toe with claw, about 1½; bill and feet greenish.

Hab. The whole of North America, the West Indies, and the greater part of South America. Breeds in the Arctic regions. Of frequent occurrence in Europe.

While on their extended migratory journey in spring and fall, these birds rest and refresh themselves on the marshes and lake shores of Ontario, where they are frequently observed by sportsmen in flocks of considerable size.

Near Hamilton they are not of regular occurrence, though they occasionally appear in the fall in goodly numbers, and if the weather keeps soft, remain till October.

While here they frequent the grassy meadows and muddy inlets near the Bay, being very seldom noticed on the sand.

Like several others of the same class this species has a wide geographical distribution, being found in Iceland, Europe and Asia.

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92. TRINGA FUSCICOLLIS VIEILL. 240.

White-rumped Sandpiper.

Size, medium. Upper tail-coverts white ; feet black ; bill black, light-colored at base below ; coloration otherwise much as in the preceding species, An ashy wash on the jugulum is hardly perceptible except in young birds, and then it is slight ; the streaks are very numerous, broad and distinct, extending as specks nearly or quite to the bill, and as shaft lines along the sides.

HAB. Eastern Province of North America, breeding in the high north. In winter, the West Indies, Central and South America, south to the Falkland Islands. Occasional in Europe.

Several of our Sandpipers resemble each other so much in general appearance that by the gunner they are considered as all of one sort and treated alike—that is they are tied in bunches by the neck or legs and handed over to be prepared for the table. With the collector it is different, every individual is carefully examined as to species, sex, age, and condition, so that nothing may be lost that is worth preserving. In the present species the white rump is always a distinguishing mark, most conspicuous while the birds are on the wing. Inland it is not very common, but a few are usually seen associating with the others during the season of migration. The pair in my collection I found on the sandy shore of Lake Ontario near the Burlington canal.

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93. TRINGA BAIRDII (COUES). 241.

Baird's Sandpiper.

Adult male : bill wholly black, small and slender, slightly shorter than the head, just as long as the tarsus or as the middle toe and claw, slightly expanded or lancet shaped at the end, the point acute ; grooves long, narrow.

deep ; feathers on the side of lower mandible evidently reaching further than those on upper. Upper parts brownish-black (deepest on the rump and middle upper tail-coverts, and lightest on the neck behind), each feather bordered and tipped with pale brownish-yellow, the tipping of the scapulars broadest and nearly white, their marginings broad and brightest in tint, making several deep scallops toward the shafts of the feathers. Only the outer series black, the others plain gray, with paler margins. Jugulum tinged with light, dull yellowish-brown, spotted and streaked with ill-defined blackish markings, as are also the sides under the wings. Throat and other under parts white, unmarked. Feet black, like the bill. Length, 7-25; extent, 15-25 ; wing, 4-90 ; bill, 85 ; tarsus, middle toe and claw, the same. The *female* is entirely similar, but slightly larger. The *young* have the upper parts wholly light brownish-ash, darker on the rump, and all the feathers with a dark field, and pale or whitish edging ; waves of brownish black on the scapulars. Jugulum and breast suffused with dull, light reddish-brown ; the spotting small, sparse, and very indistinct.

HAB. The whole of North and South America, but chiefly the interior of North and the western portions of South America. Rare along the Atlantic coast, and not yet recorded from the Pacific coast.

Known to breed only in the Arctic regions.

Eggs, 3 to 4 ; clay color, spotted with rich umber-brown.

Dr. Coues, in his new Key to North American Birds, says that "this is the most abundant small Sandpiper in some parts of the West during migrations," yet it has not been found on the Pacific coast and is quite rare on the Atlantic. The only record we have of its occurrence in Ontario is that of a fine specimen now in my collection which was shot at the Beach on the 25th of August, 1885, by K. C. McIlwraith. It was singled out among a flock of small Sandpipers by its peculiar erratic Snipe-like flight, and on being secured its dainty little body was picked up with feelings which only the enthusiastic collector can understand.

It is named after S. F. Baird, of the Smithsonian institution, and, so far as known, is peculiar to the American continent.

On the 23rd of August, 1886, while this article was in the printer's hands, the locality where the specimen herein referred to was obtained was again visited, and strange to say another individual of the species was got at the same place, under similar circumstances. On the 1st of September the place was

again visited and two more were obtained, but on two subsequent visits made within a day or two no more were seen. Those who are observant of the migratory movements of the birds must have been often astonished to see with what persistent regularity certain birds appear at certain places at a given time. In the present instance these are the only birds of the kind we have ever seen or heard of in Ontario, yet they were all found within a few yards of the same spot, and within ten days of the same date in different years.

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94. TRINGA MINUTILLA Vieill. 242.

Least Sandpiper.

Upper parts in summer with each feather blackish centrally, edged with bright bay, and tipped with ashy or white; in winter and in the young simply ashy; tail feathers gray with whitish edges, the central blackish, usually with reddish edges, crown not conspicuously different from hind neck; chestnut edgings of scapulars usually scalloped; below white, the jugulum with dusky streaks and an ashy or brownish suffusion; bill black; legs dusky greenish. Smallest of the Sandpipers; length, 5½-6 inches; wing, 3½-3¾; tail, 2 or less; bill, tarsus and middle toe with claw, about ¾.

Hab. Whole of North and South America, breeding north of the United States. Accidental in Europe.

The appearance of this, the smallest of the Sandpipers, always excites a feeling of pity as he is seen hurrying along the sand in rear of his big brothers, uttering his feeble "peep" as if begging them to leave a little for him.

In Ontario it is a common species, found in all suitable places in spring and fall, but its breeding ground is far north, and little, if anything, is known of its nest or eggs. Some might say that is a matter of no consequence; here is what Dr. Coues says about it in his Birds of the Northwest: "Fogs hang low and heavy over rock-girdled Labrador. Angry waves, palled with rage, exhaust themselves to encroach upon the stern shores, and sink back howling into the depths. Winds shriek as they course from crag to crag in mad career, till the humble mosses that clothe the rocks crouch lower still in fear. Overhead the Sea Gulls scream as they winnow, and the Murres all

silent ply eager oars to escape the blast. What is here to entice the steps of the delicate birds? Yet they have come, urged by resistless impulse, and have made a nest on the ground in some half-sheltered nook. The material was ready at hand in the mossy covering of the earth, and little care or thought was needed to fashion a little bunch into a little home.

"Four eggs are laid (they are buffy-yellow, spotted over with brown and drab), with the points together that they may take up less room and be more warmly covered. There is need of this—such large eggs for so small a bird. As we draw near, the mother sees us, and nestles closer still over her treasures, quite hiding them in the covering of her breast, and watches us with timid eyes, all anxiety for the safety of what is dearer to her than her own life. Her mate stands motionless but not unmoved, hard by, not venturing even to chirp the note of encouragement and sympathy she loves to hear.

"Alas, hope fades, and dies out, leaving only fear; there is no further concealment—we are almost upon the nest—almost trodden upon she springs up with a piteous cry and flies a little distance, re-alighting, almost beside herself with grief; for she knows only too well what is to be feared at such a time. If there were hope for her that her nest was undiscovered, she might dissimulate and try to entice us away by those touching deceits which maternal love inspires. But we are actually bending over her treasures, and deception would be in vain; her grief is too great to be witnessed unmoved, still less portrayed; nor can we, deaf to her beseeching, change it to despair. We have seen and admired her home—there is no excuse for making it desolate; we have not so much as touched one of the precious eggs, and will leave them to her renewed and patient care."

SUBGENUS PELIDNA CUVIER.

95. TRINGA ALPINA PACIFICA (COUES). 243 a.

Red-Backed Sandpiper.

Adult in summer: above chestnut, each feather with a central black field, and most of them whitish-tipped, rump and upper tail-coverts blackish,

tail feathers and wing coverts ashy-gray, quills dusky with pale shafts, secondaries mostly white, and inner primaries edged with the same; underparts white, belly with a broad jet black area, breast and jugulum thickly streaked with dusky; bill and feet black. *Adult* in winter, and *young*: above, plain ash-gray, with dark shaft, with or without red or black traces; below white, little or no trace of black on the belly; jugulum with a few dusky streaks and an ashy suffusion. Length, 8-9 inches; wing, 4½-5; tail, 2-2½; bill, 1⅛-1⅜, longer than head, compressed at base, rather depressed at the end; tibia bare about ½; tarsus, 1, or rather less.

HAB. North America in general, breeding far north, and straggling to eastern coast of Asia.

This is the Black-heart Plover of sportsmen. It is a regular visitor in Ontario in the season of migration, appearing on the shores of Lake Ontario with wonderful regularity on the Queen's birthday, (May 24th), as if to afford sport to our gunners on that Canadian holiday. It is much in favor with those who are fond of killing a great number of birds at once, as it usually appears in large compact flocks and is not very difficult of approach. I once saw seventy-six killed or wounded with the discharge of two barrels. They had just arrived on the shore, and seeming tired after a long flight, settled on a partially submerged log near the water's edge, from which they were unwilling to rise, and allowed the gunner to do as stated, to his extreme delight. It did not occur to one, when looking at so large a number of dead and wounded birds, that any very commendable feat had been accomplished, but so it was considered at the time, and so it will be again, I presume, with that class of sportsmen, but the like opportunity may not soon occur again, as the number of Blackhearts which now visit that locality is very small.

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96. TRINGA FERRUGINEA BRUNN. 244.

Curlew Sandpiper.

Adult: crown of the head and entire upper parts greenish-black, each feather tipped and indented with yellowish-red; wing-coverts ashy-brown, each feather with dusky shaft line and reddish edging. Upper tail-coverts white, with broad dusky bars, tinged at their extremities with reddish.

Tail, pale gray, with greenish reflection. Sides of the neck and entire under-parts uniform deep brownish-red; under tail-coverts barred with dusky; axillars and under wing-coverts white; bill and feet greenish-black.

HAB. Old World in general; occasional in Eastern North America.

So far as at present known, the Curlew Sandpiper is only a straggler on the American continent, about ten or a dozen being all the recorded captures; it is quite a common British species, and like others peculiar to those eastern lands, may occasionally be wafted westward against its inclinations, but no nest of the species has yet been found on this side of the Atlantic.

In 1867, the Board of Arts of Western Canada prepared a "catalogue of birds observed in the country," in connection with the collection which, during that year, was sent to the Paris exhibition. The Curlew Sandpiper is named in the catalogue, but no specimen was available for the collection. I have mentioned it here, chiefly with the view of placing the technical description in the hands of those interested, so that they may be able to identify the species should they at any time fall in with it.

GENUS EREUNETES ILLIGER.

97. EREUNETES PUSILLUS (LINN.). 246.

Semipalmated Sandpiper.

Adult in summer: above variegated with black, bay and ashy or white, each feather with a black field, reddish edge and whitish tip; rump and upper tail-coverts, except the lateral ones, blackish; tail feathers ashy-gray, the central darker; primaries dusky, the shaft of the first white; a dusky line from the bill to the eye, and a white superciliary line; below, pure white, usually rufescent on the breast, and with more or less dusky speckling on the throat, breast and sides usually wanting; in winter the upper parts mostly plain ashy-gray; but in any plumage or under any variation the species is known by its small size and semi-palmated feet. Length, 5½-6½ inches; wing, 4¼-3⅜; tarsus, and middle toe and claw, about 1; bill variable from ½ to 1¼, averaging ⅞.

HAB. Eastern Province of North America, breeding north of the United States; south in winter to the West Indies and South America.

Nest, a depression in the ground, in or near some moist place ; lined with withered grass.

Eggs 3 to 4 ; variable in color, usually clay color, blotched or spotted with umber-brown.

A very abundant species during the season of migration, thronging alike the shores of the sea, and those of our inland lakes and marshes.

They visit the shores of Hamilton Bay in spring and fall in considerable numbers, but are so much disturbed by amateur gunners that they soon seek for more retired feeding grounds elsewhere.

Some, but probably not all of them, breed far north, as they are here till the end of May and return again with their young by the end of August. They are usually found associating with the Least Sandpiper, which they much resemble in general appearance, but the semipalmated toes of the present species is always a sure distinguishing mark.

Genus CALIDRIS Cuvier.

98. CALIDRIS ARENARIA (Linn.). 248.

Sanderling.

Adult in summer : head, neck and upper parts varied with black, ashy and bright reddish ; below from the breast pure white ; tail except central feathers light-ash, nearly white ; primaries gray with blackish edges and tips, the shafts of all and bases of most white ; secondaries white except a space at the end, and greater coverts broadly white tipped ; bill and feet black. *Adult* in winter, and *young*, nc reddish ; speckled with black and white, sometimes tawny tinged on the jugulum. Length, 7½-8 ; wing, 4½-5 ; tail, 2½ ; bill, about 1 ; tarsus, 1 or rather less ; middle toe and claw, ⅝.

Hab. Nearly cosmopolitan, breeding in the Arctic and Subarctic regions, migrating, in America, south to Chili and Patagonia.

A species of very wide geographical distribution, being found in suitable places nearly all over the world.

It visits the shores of the great lakes in Ontario during the season of migration, and appears in different dress according to age or the season of the year. In spring the breast and fore-

neck are tinged with pale rufus, but in autumn the whole lower parts are as white as snow. It is a very active species, and when feeding along the shore, shows great celerity in following the receding wave, or keeping clear of the next one that rolls up on the Beach. When wounded in the wing, it will run with great swiftness, and even take to the water and swim well. In spring their visits to Hamilton Bay are uncertain and of short duration, but on the return trip they appear about the end of August and are found all through the fall.

Genus LIMOSA Brisson.

99. LIMOSA FEDOA (Linn.). 249.

Marbled Godwit.

Tail barred throughout with black and rufous, rump and upper tail-coverts like the back; no pure white anywhere. General plumage rufous or cinnamon-brown; below, nearly unmarked and of very variable shade, usually deepest on the lining of the wing; above, variegated with black and brown or gray; quills rufous and black; bill flesh-colored largely tipped with black; feet dark. Large; length, 16-22; wing, about 9; tail, about 3½; bill, 4-5; tibia bare 1-1½; tarsus, 2½-3½, 1½, stout;

Hab. North America; breeding in the interior (Missouri region and northward), migrating in winter southward to Central America and Cuba.

Nest on the prairie.

Eggs 3 to 4; olive-drab spotted with various shades of umber-brown.

The Marbled Godwit is occasionally seen singly or in pairs on the lake shores of Ontario during the season of migration, but these can only be regarded as stragglers, as we learn that in spring it passes up the Mississippi Valley in flocks of considerable size, and has been found nesting in Iowa, Minnesota and Dakota. It was also found by Prof. Macoun "feeding in large flocks along the Salt marshes at Old Wives Lakes and other points" in the Northwest.

It is a handsome bird, in general appearance resembling the Curlews, from which, however, it can readily be distinguished by its straight bill.

From its large size and the delicacy of its flesh, it is held in esteem by sportsmen who do not let it pass within reach.

It used to visit the Beach at Hamilton regularly in spring and fall, but of late years has been rarely seen.

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100. LIMOSA HÆMASTICA (LINN.). 251.

Hudsonian Godwit.

Tail black, largely white at base, its coverts mostly white; rump blackish; lining of wings extensively blackish; under-parts in the breeding season intense rufous (chiefly barred) with dusky; head neck and upper parts brownish-black, variegated with gray, reddish and usually some whitish speckling; quills blackish, more or less white at the base. *Young* and apparently winter specimens much paler, tawny-whitish below, more gray above. Considerably smaller than the foregoing, about 15; wing, 8 or less; bill, 3½ or less; tarsus, 2½ or less.

HAB. Eastern North America and the whole of Middle and South America. Breeds only in the high north.

Eggs 4; olive-drab with dark spots,

Less abundant than the preceding. This species seems to prefer the line of the Atlantic for its migrations, but is also noticed inland in smaller numbers. I have seen it in spring at St. Clair flats, and also on the shores of Hamilton Bay, where the specimen in my collection was obtained.

It is not known to breed anywhere within the limits of the United States, and Prof. Macoun in recording its presence in the Northwest speaks of it as "less abundant than the preceding and more to the north."

In spring, the prevailing color of the plumage is rich chestnut-red, crossed with wavy lines of black. In the fall, it is less attractive, being mostly ashy-gray.

GENUS TOTANUS BECHSTEIN.

SUBGENUS GLOTTIS KOCH.

101. TOTANUS MELANOLEUCUS (GMEL.). 254.

Greater Yellow-legs.

Bill straight or slightly bent upwards, very slender, grooved half its length or less, black; legs long and slender, yellow. In summer, ashy-brown,

above varied with black and speckled with whitish, below white, jugulum streaked, and breast, sides and crissum speckled or barred with blackish, these latter marks fewer or wanting in winter and in the young; upper tail coverts white with dark bars; tail feathers marbled or barred with ashy or white; quills blackish. Large; length, over 12; wing, over 7; tail, 3 or more; bill, 2 or more; tarsus, about 2¼; middle toe and claw, 1¼; tibia bare, 1¼.

HAB, America in general, breeding in the cold temperate and subarctic portions of North America, and migrating south to Chili and Buenos Ayres.

In spring even before the ice is quite gone from the lakes and rivers of Ontario, the shrill piercing cry of this bird may be heard overhead as it circles round in search of some quiet marshy inlet as a temporary resting place.

At this season but a short stay is made, as it passes quickly on to its breeding place in the far north. As early as the end of August the birds again appear, toned down in dress and manners accompanied by their families, many falling the victims of misplaced confidence by exposing themselves within reach of the ever-ready breech-loader which at this season of the year seems omnipresent in all the marshes.

Like others of its class this species is an occasional visitor at the Beach near Hamilton, but the visits of all this class of birds at that point are now of less frequent occurrence and of shorter duration than in former years.

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102. TOTANUS FLAVIPES (GMEL.). 255.

Yellow-legs.

A miniature of the last; colors precisely the same; legs comparatively longer; bill grooved rather further. Length, under 12; wing, under 7; tail under 2; tarsus, about 2; middle toe and claw, and bare tibia, each 1¼.

HAB. America in general, breeding in the cold temperate and subarctic districts, and migrating south in winter to Southern South America. Less common in the Western than in the Eastern Province of North America.

Nest a slight depression in the grounnd, lined with dried grass or leaves.

Eggs 3 to 4; variable in color, usually clay-color, blotched or spotted with umber-brown.

In color, haunts, and habits, this species closely resembles the preceding, the difference in size serving at all times to distinguish one from the other ; both are esteemed for the table, and are therefore sought for by the gunners and often exposed for sale in the market. When one is wounded from a flock, the others raise a great outcry and remain near it so long that their ranks are often still farther thinned before they move off. Alone or in company with the preceding this species pays a passing visit to the shores of Hamilton Bay in spring and fall.

Subgenus RHYACOPHILUS Kaup.

103. TOTANUS SOLITARIUS (Wils.). 256.

Solitary Sandpiper.

Bill perfectly straight, very slender, grooved little beyond its middle Dark lustrous olive-brown, streaked on the head and neck, elsewhere finely speckled with whitish ; jugulum and sides of neck with brownish suffusion and dusky streaks ; rump and upper tail coverts like the back ; tail, axillars and lining of wings beautifully barred with black and white ; quills entirely blackish ; bill and feet very dark olive-green ; *young* duller above, less speckled, jugulum merely suffused with grayish brown. Length, 8-9 ; wing, 5 ; tail 2½ ; bill, tarsus, and middle toe, each about 1-1¼ ; tibiæ bare ⅝.

Hab. North America, breeding throughout the temperate portions (more commonly northward), and migrating southward as far as Brazil and Peru.

Information regarding the nest and eggs of this species is still much desired.

As its name implies, this is a solitary bird, nowhere abundant, yet widely distributed. It is seen during the summer months in Southern Ontario. Prof. Macoun reports it as "of frequent occurrence on the plains" of the Northwest, and it has been found in Alaska.

In the List of Birds of Western Ontario, published in the Canadian Sportsmen and Naturalist for November 1882, it is stated that "in the summer of 1879 this bird bred very commonly along the streams in Middlesex, but, has since then been quite rare. Most of those I have seen near Hamilton have got up unexpectedly from some pool by the roadside, frequently from

places where cattle have been in the habit of visiting to obtain water. I have not seen more than two together. In their motions they are quiet and sedate, but have the habit peculiar to others of this class, of nervously jerking their hinder parts in a manner apparently satisfactory to themselves, though what particular purpose is served by it, is not to us apparent. From having seen this species in all the summer months, I have placed it on the list as a rare summer resident here.

Genus SYMPHEMIA Rafinesque.

104. SYMPHEMIA SEMIPALMATA (Gmel.). 258.

Willet.

Bill straight, comparatively stout, grooved little if any more than half its length. In summer, gray above, with numerous black marks, white below, the jugulum streaked, the breast, sides and crissum barred or with arrow shaped marks of dusky (in winter, and in young birds, all these dark marks few or wanting, except on jugulum); upper tail-coverts, most of the secondaries, and basal half of primaries, white; ends of primaries, their coverts, lining of wings, and axillars, black; bill bluish or dark. Toes with two conspicuous basal webs. Length, 12-16; wing, 7-8; tail, 2½-3; bill or tarsus, 2-2⅝; tibia bare, 1 or more, middle toe and claw, 1½-2.

Hab. Temperate North America, south to the West Indies and Brazil.

Nest in a tussock of grass in the marsh, just above water level.

Eggs 3 to 4; usually clay color, splashed or spotted with varying shades of umber brown,

Very little is known of this species in Ontario. On two occasions I have seen it brought in by gunners from the marsh, but have not met with it alive. That it passes this way in spring and fall is probable, as it breeds generally throughout the United States as far north as Dakota, and has also been observed in the Northwest by Prof. Macoun. In general appearance it resembles the Greater Yellow Shanks, but in the present species the legs are bluish-lead color. The Willets are very wary birds, and along the sea coast, where they are more common and much sought after, decoys are used to attract them within range. In the fall they are said to get extremely fat and are much prized for the table.

Genus PAVONCELLA Leach.

105. PAVONCELLA PUGNAX Linn. 260.

Ruff.

Above varied with black, rufous, and gray, the scapulars and tertials exhibiting these colors in oblique bands. Beneath, white, varied on the jugulum and throat; primaries, dark-brown, with greenish reflection above; the inner webs finely mottled towards the base. Outer three tail-feathers plain, the remainder transversely barred. Bill, brown; sides of rump, white, legs yellow. *Male* in spring dress with the feathers of the neck greatly developed into a ruff; the face covered with reddish papillae. Length about 10 inches; wing, 6-40; tail, 2-60; bill, 1-25.

Hab. Northern parts of the Old World, straying occasionally to Eastern North America.

A wanderer from the Old World, which has been frequently obtained on Long Island, on the coast of New England and in the Middle States.

The fact of a specimen having been killed on the island near Toronto in the spring of 1882, gives me the privilege of recording it as a rare visitor to Ontario. This is farther inland than any of the others occurred, and the probabilities are that it will not often be found so far from the sea. The specimen referred to is apparently a young male in nearly perfect plumage, and is now mounted, and in the possession of Mr. Young, of Toronto.

Genus BARTRAMIA Lesson.

106. BARTRAMIA LONGICAUDA (Bechst.). 261.

Bartramian Sandpiper.

Above blackish, with a slight greenish reflection, variegated with tawny and whitish; below, pale tawny of varying shade, bleaching on throat and belly; jugulum with streaks, breast and sides with arrowheads and bars of blackish; axillars and lining of wings pure white, black-barred; quills blackish, with white-bars on the inner webs; tail varied with tawny, black and white, chiefly in bars, bill and legs pale, former black-tipped. Length 11-13 inches; wing, 6-7; tail, 3-4; bill, 1-1¼; middle toe and claw about the same; tarsus, about 2.

HAB. Eastern North America, north to Nova Scotia and Alaska, breeding throughout its North American range; migrating in winter southward, as far even as Southern South America. Occasional in Europe.

Nest on the prairie.

Eggs 4, clay color, marked all over with small spots of umber brown, most numerous at the larger end.

The Field Plover, as this species is frequently called, is now very seldom seen in Ontario, though the older sportsmen tell us that in former times it was often observed in the pasture fields in spring and fall. The few that I have noticed near Hamilton, have always been in such places, but these can only be regarded as stragglers, bewildered by fog, or driven by adverse winds away from their regular habitat. In all the country between the Mississippi and the Rocky Mountains, this species is said to be exceedingly abundant during the seasons of migration, many remaining to raise their young in Illinois, Iowa, Minnesota, and Dakota, while large flocks pass on for the same purpose, going as far north as the Yukon. According to Prof. Macoun, it is abundant on the prairies of the Northwest, where it will afford good sport and a table delicacy, to many a future settler in that promising country.

GENUS TRYNGITES CABANIS.

107. TRYNGITES SUBRUFICOLLIS (VIEILL.). 262.

Buff-breasted Sandpiper.

Quills largely white on the inner web, and with beautiful black marbling or mottling, best seen from below; tail unbarred, gray, the central feathers darker, all with subterminal black edging and white tips; crown and upper-parts blackish, the feathers with whitish or tawny edging, especially on the wings; sides of the head, neck all round and under-parts pale rufous, or fawn-color, speckled on the neck and breast with dusky; bill black; feet, greenish-yellow. Length, 7-8; wing, 5-5½; tail, 2½; tarsus, 1¼; middle toe and claw, and bill, under an inch,

HAB. North America, especially in the interior; breeds in the Yukon district and the interior of British America, northward to the Arctic coast; South America in winter. Of frequent occurrence in Europe.

Nest a depression in the ground, lined with dry grass or leaves.

Eggs 4; clay-color, blotched or spotted with umber-brown

In the early fall, I have several times met with these interesting little birds, running among the short grass on the sandy knolls, north of the canal at the Beach, but have not seen them elsewhere.

They are said to breed in high lattitudes, a dozen sets of eggs in the Smithsonian Institution, having all been collected by Mr. Macfarlane in the Anderson River region, and along the Arctic coast.

With this record before me, I was not a little surprised to receive from Dr. G. A. Macallum, of Dunnville, Ont., a notice of his having found a nest of the species near his home, a few miles back from the north shore of Lake Erie. In answer to my request for further particulars, I received a prompt and full reply, from which the following is an extract: "About the Buff-breasted Sandpiper; I find on turning up my notes that it was taken June 10, 1879, when two of the eggs were hatched and the other one chipped, which however I was able to make a good specimen of, and it is now in my cabinet.

The female was shot, and with the two little fellows, stands in my collection. The young are fawn-colored, with black spots over the whole body; the egg measures 1-25 x 95, is pyriform in shape; color, ground, buff, thickly covered with dark blotches of two shades of brown, making the general appearance very dark—almost as dark as the egg of Wilson's Snipe.

The nest was placed between two tussocks of grass on the ground, a short distance from the bank of the river where the ground is tolerably high, and where it is the custom to cut marsh hay. The nest was of a decided shape, and was composed of a fine moss or weed which grows between the tussocks of marsh grass. This is the only case of its breeding here to my knowledge."

This species not being common anywhere, there is not much opportunity for obtaining positive information regarding its distribution during the breeding season. It may be that the case referred to by Dr. Macallum is an isolated one; but it may yet be found that, like its near relative Bartram's Sandpiper, the

Buff-breasted has a wide geographical range, and that although many pairs breed in the far north, a few remain and raise their young in the middle districts. Those I obtained were got on the 5th of September, 1885, and, though evidently young birds, were in good plumage at that time.

Genus ACTITIS Illiger.

108. ACTITIS MACULARIA (Linn.). 263.

Spotted Sandpiper.

Above, olive (quaker-color, exactly as in the Cuckoo), with a coppery lustre, finely varied with black; line over eye, and entire under-parts pure white, with numerous sharp circular black spots, larger and more crowded in the *female* than in the *male*, entirely wanting in very young birds; secondaries broadly white-tipped, and inner primaries with a white spot; most of the tail feathers like the back with sub-terminal black bar and white tip; bill pale-yellow, tipped with black; feet flesh-color. Length, 7-8; wing about 4; tail, about 2; bill, tarsus and middle toe, each about 1.

Hab. North and South America, south to Brazil. Breeds throughout temperate North America. Occasional in Europe.

Nest on the ground not far from water, composed of dried grass.

Eggs 4; clay-color, blotched with blackish-brown.

No bird of its class is so well known throughout Ontario as the "Teeter Snipe."

Merry bands of children, getting out to the woods to pick flowers in the early summer listen with delight to its soft "peet weet," as it flits from point to point along the margin of the stream, and find great amusement in watching the peculiar jerky teetering motions which give rise to its common name. It thus becomes associated in the mind of the rising generation with the return of summer and its many outdoor enjoyments, and so is always welcome. About the middle of April the Peet-Weets cross our Southern boundary and are soon dispersed in pairs all over the country, where they are heard and seen by every brook-side till about the end of September, when they move off to spend the winter in the Southern States. In the

fall they get quite numerous, and many may be seen along the lake shore at one time, yet they are not gregarious, each individual choosing its own time to arise, and place to alight. The female is rather larger and more heavily spotted than the male.

Genus NUMENIUS Brisson.

109. NUMENIUS LONGIROSTRIS Wils. 264.

Long-billed Curlew.

Bill of extreme length and curvature, measuring from 5 to 8 or 9 inches; total length, about 2 feet; wing a foot or less; tail, about 4; tarsus, $2\frac{1}{2}$ to $2\frac{3}{4}$. Plumage very similar to that of the Godwit, prevailing tone rufous, of varing intensity in different birds and in different parts of the same bird, usually more intense under the wing than elsewhere; below, the jugulum streaked, and the breast and sides with arrow-heads and bars of dusky; above, variegated with black, especially on the crown, back and wings; tail barred throughout with black and rufous; secondaries rufous; primaries blackish and rufous; no pure white anywhere; bill black, the under mandible flesh-colored for some distance; legs dark.

Hab, Temperate North America, migrating south to Guatemala and the West Indies. Breeds in the South Atlantic States, and in the interior through most of its North American range.

Nest on the prairies.

Eggs 3 to 4; clay-color, blotched or spotted with umber-brown.

The Long-billed Curlew is a bird of the prairie rather than the coast, though it is often met with along the shores of the sea. It is said to breed in suitable places from Carolina to Minnesota, but is spoken of by Prof. Macoun as rare in the Northwest. In Ontario, it is occasionally seen along the shores of the Lakes, but only as an irregular visitor and not in large numbers. Among the veteran sportsmen near Hamilton, it is spoken of as one of the kinds which have been scared away by the railroads. Whether the snorting of the locomotive has anything to do with the disappearance of the birds from their former haunts is hard to say, but certain it is that the number of Waders and Swimmers we now see is small as compared with former years.

110. NUMENIUS HUDSONICUS LATH. 265.

Hudsonian Curlew.

Bill medium, 3 or 4 inches long; length, 16-18; wing, 9; tail, 3½; tarsus, 2½-2¾. Plumage as in the last species in pattern, but general tone much paler; quills barred.

HAB. All of North and South America, including the West Indies; breeds in the high north, and winters chiefly south of the United States.

Nest similar to the preceding.

Eggs similar in markings but smaller.

According to Dr. Coues, this species is less abundant than either of the other two Curlews, yet at Hamilton it is, of the three, most frequently observed. I was once on the Beach in May, when there appeared to be a migratory movement of Hudsonian Curlews toward the North. They flew high, in regular order like geese and showed no inclination to alight till a boy with a long shot brought down one, wing broken, from a passing flock.

Knowing the habits of the birds, he quickly tied it to a stake in a moist meadow, and concealing himself close by, had good shooting during the afternoon, as the loud outcry made by his prisoner brought down every passing flock.

Of late years very few have been seen.

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111. NUMENIUS BOREALIS (FORST.). 266.

Eskimo Curlew.

Bill small, under three inches long; length, 12-15 inches; wing, under 9; tail, 3; tarsus, 2. Plumage in tone and pattern almost exactly as in the last species, but averaging more rufous, especially under the wings, and primaries not barred.

HAB. Eastern Province of North America, breeding in the Arctic regions, and migrating south to the southern extremity of South America.

Nest in open plains.

Eggs similar to the preceeding but smaller.

The Curlews all resemble each other in plumage, but in size they vary considerably, this being the smallest of thethree. It is

very abundant in the remote regions which it frequents in summer, and also along its migratory course from which it does not seem to deviate much. On the Pacific coast it has not yet been observed, and on the Atlantic shores it appears only in limited numbers. The great highway of the species is through the States just east of the Rocky Mountains, where it is seen in immense flocks in spring and fall. I once found myself unexpectedly in close proximity to a solitary individual on the shore of the Beach near Hamilton, and secured it, but that is the only record I have of its occurrence in Ontario.

FAMILY CHARADRIIDÆ PLOVERS.

GENUS CHARADRIUS LINNÆUS.

SUBGENUS SQUATAROLA CUVIER.

112. CHARADRIUS SQUATAROLA (LINN.). 270.

Black-bellied Plover.

Adult in breeding season (rarely seen in the United States); face and entire under parts black; upper parts variegated with black and white, or ashy; tail barred with black and white; quills dusky with large white patches. *Adults* at other times and *young*, below white more or less shaded with gray, the throat and breast more or less speckled with dusky; above blackish, speckled with white or yellowish; the rump white with dark bars, legs dull bluish. Old birds changing show every grade, from a few isolated feathers on the under parts, to numerous large black patches. Length, 11-12; wing, 7 or more; tail, 3; bill, 1-1¼; tarsus, 2; middle toe and claw, 1⅓; hind toe, hardly ¼.

HAB. Nearly cosmopolitan, but chiefly in the Northern Hemisphere, breeding far north, and migrating south in winter; in America to the West Indies, Brazil, and New Grenada.

Eggs 4, dark clay color, blotched or spotted with brownish black.

Although of nearly cosmopolitan distribution, this large and handsome Plover is nowhere abundant. It has been found breeding on the Arctic coast east of the Anderson River, where its eggs were taken by Mr. McFarlane.

In its migrations it prefers the sea coast on either side, to the interior, but a few are also observed inland.

At Hamilton it visits the Beach in spring and fall in limited numbers. I once got two out of three very handsome individuals which I saw there on the third of June. In the list of Birds of Western Ontario, it is mentioned as a "common Migrant" at St. Clair Flats.

SUBGENUS CHARADRIUS LINNÆUS.

113. CHARADRIUS DOMINICUS MULL. 272.

American Golden Plover.

Plumage speckled above, and in the breeding season black below, as in the last species, but much of the speckling bright yellow, and the rump and upper tail-coverts like the back; forehead, and a broad line over the eye to the nape white; tail feathers grayish-brown, with imperfect white or ashy bars; axillars, gray or ashy. At other times, the under parts nearly as in the last species. Length, 10-11; wing, 7 or less; tail, under 3; bill, 1 or less.

HAB. Arctic America, migrating southward throughout North and South America to Patagonia.

Nest composed of dry grass in a natural hollow in the ground.

Eggs 4, similar to those of the preceding species but not quite so large.

Aged gunners tell us that Golden Plovers used to follow the line of the Detroit River in immense flocks, passing quickly to the north in the spring, and lingering along the shores and in the pasture fields on their return in the fall.

According to the list of Birds of Western Ontario, they are still regular visitors there, but only in small numbers. Near Hamilton they have never been common. Small flocks of immature birds are seen passing south in the fall occasionally, but not regularly.

The Golden Plover in full breeding plumage is a very handsome bird, but like the Snow Bird and some others which breed in high latitude, they do not assume the nuptial dress till they reach their northern home, and by the time they get back within the bounds of civilization they have donned the sober garb of winter.

This species has, by some authors, been described as identical with the British bird of the same name. Dr. Coues who has made a careful comparison of the two, tells us they are different, and, as one distinguishing mark which is constant, mentions that the lining of the wings which is pure white in the European bird, is, in the American species, ashy-gray. This distinction I have confirmed by specimens of each in my possession.

Genus ÆGIALITIS Boie.

Subgenus OXYECHUS Reichenbach.

114. ÆGIALITIS VOCIFERA (Linn.). 273.

Killdeer.

Above quaker-brown with a greenish tinge, sometimes most of the feathers tipped and edged with orange-brown; rump and upper tail-coverts orange brown; most of tail feathers white at base and tip, suffused with orange-brown in part of their length and with 1-3 black bars; secondaries mostly white, and primaries with a white space; a black bar across the crown, and two black bands on the neck and breast; forehead and entire under parts except as stated, white; bill, black; feet, pale; eyelids, scarlet. Length, 9-10 inches; wing, 6 or more; tail, 3½, much rounded; tarsus, about 1½.

Hab. Temperate North America, migrating in winter to the West Indies, Central and Northern South America.

Nest in the grass or shiffgle in the vicinity of water.

Eggs 4, clay color marked with blackish-brown.

A noisy, well known bird, generally distributed throughout Ontario, and abundant in the North-West. In April, even before the snow is quite gone, the shrill cry of the Killdeer is heard in the upper air as it circles around, surveying its old haunts, and selecting a bare spot on which to settle.

Its favorite resorts are pasture fields or waste places near water, where it spends much of its time on the ground, sometimes running with great speed, and again sitting quietly as if aware that it is more likely to escape observation in this way than by moving. It can scarcely be called gregarious, yet, in the fall, when the young birds are getting strong on the wing, they may be seen in companies of ten, or a dozen, visiting the muddy shores of streams and inlets, till about the end of September, when they all move off south.

Subgenus ÆGIALITIS Boie.

115. ÆGIALITIS SEMIPALMATA Bonap. 274.

Semipalmated Plover.

Above dark ashy-brown with an olivaceous shade; below white; very broad coronal and pectoral black bars in the adult in spring, in fall and in the young the coronal bar hardly evident, the pectoral grayish-brown; edges of eyelids bright orange; bill moderately short and stout, orange or yellow, black tipped; legs yellowish; toes conspicuously semipalmate. Length, about 7 inches; wing, 4¼; tail, about 2½ rounded.

Hab. Arctic and Subarctic America, migrating south throughout tropical America, as far as Brazil and Peru.

Nest a depression in the ground lined with dry grass.

Eggs 4; clay-color, marked with blackish-brown.

A solid, plump, little bird of very pleasing plumage, particularly in spring when the colors are clear and decided. In company with other Beach birds, it is found along the shores of the lakes in Ontario from the middle till the end of May. In the fall it is again seen in increased numbers in similar places, till about the end of September, when they disappear for the season. Dr. Coues found the Ring Necks breeding abundantly in Labrador, and mostly remaining there till the beginning of September. The distance between their summer and winter home is very great, but their flight is rapid, and as they seem to know the way, the journey is quickly made.

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116. ÆGIALITIS MELODA (Ord). 277.

Piping Plover.

Above, very pale ashy-brown; the black bands narrow, often imperfect; bill colored as in the last, bur shorter and stumpy; edges of eyelids colored; no evident web between inner and middle toes, and only a slight one between middle and outer. Length, about 7 inches; wing, 4½; tail 2.

Hab. Eastern Province of North America, breeding from the coast of New Jersey (at least formerly) northward; in winter, West Indies.

Eggs 4; deposited among the shingle of the beach; clay-color, marked with spots of brownish-black, not exceeding a pin's head in size.

The Piping Plover is a more Southern bird than the Ring neck, and evidently does not penetrate far into Ontario. I have met with it at the Beach, but only on two occasions. It has also been found on the island at at Toronto, but is more common along the north shore of Lake Erie, and Mr. Saunders reports it as breeding at Point Pelee, at the western end of that lake. When sitting quietly among the shingle of the beach, the colors of this little bird harmonize so well with its surroundings that quite a number may be close at hand without being observed. The birds seem aware of this, and when suspicious of danger, sit perfectly still till it is time to fly, when they rise simultaneously and move off with a soft, plaintive, piping note.

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117. ÆGIALITIS NIVOSA Cass. 278.

Snowy Plover.

Male in breeding dress; above, pale ashy-gray, little darker than in *meloda*. Top of head with a fulvous tinge. A broad black coronal bar from eye to eye. A narrow black post-ocular stripe, tending to meet its fellow on the nape, and thus encircle the fulvous area. A broad black patch on each side of the breast; no sign of its completion above or below; no complete black loral stripe, but indication of such in a small dark patch on either side of base of upper mandible. Forehead, continuous with line over the eye, sides of head, excepting the black post-ocular stripe, and whole under-parts excepting the black lateral breast patches, snowy white. No white ring complete around back of neck. Primaries blackish, especially at bases and ends. the intermediate extent fuscous; shaft of first, white, of others white for a space; nearly all the primaries bleaching toward bases of inner webs, but only on some of the inner ones with a white area on outer webs. Primary coverts like the primaries, but white-tipped. Greater coverts like the back, but white-tipped. Secondaries, dark-brown, bleaching internally and basally increasing extent from without inwards, their shafts white along their respective white portions. Tertiaries like back. Several intermediate tail feathers like back, darkening toward ends; two or three lateral pairs entirely white; all the feathers more pointed than usual. Bill slender and acute, black. Legs, black. Length, 6-50 to 7-00; extent, 13-50 to 14-00; wing, 4-00 to 4-25; tail, 2-00 or less.

Hab. Western Province of North America; in winter, both coasts of Central America, and Western South America to Chili.

The Snowy Plover is a western bird very seldom seen east of the Rocky Mountains, and would not have been mentioned here, but for the following notice of it which appears in the *Auk*, for Oct. 1885. It is contributed by Mr. Seton, of Toronto. "A specimen of this bird was shot here by Mr. I. Forman, May, 1880, and is now in the rooms of the Toronto Gun Club. It was at the time in company with some Piping Plovers. This specimen answers in general to the description in Coues's Key and fully in regard to the bill; it differs in being much lighter in plumage. I had no opportunity to make measurements, but in the same case were *Meloda* and *Semipalmata* and comparison with these makes me almost certain that it is *Cantiana*. The bill is noticeably long, black and slender. I never met the bird before and have no material to aid me in settling the point."

If Mr. Seton has correctly identified the specimen described, it can only be regarded as a casual straggler from the far west which may not be seen here again.

FAMILY APHRIZIDÆ. SURF BIRDS AND TURNSTONES.

SUBFAMILY ARENARIINÆ. TURNSTONES.

GENUS ARENARIA BRISSON.

118. ARENARIA INTERPRES (LINN.). 283.

Turnstone.

Adult in summer pied above with black, white, brown and chestnut red, the latter color wanting in winter and in young birds; below from the breast (which is more or less completely black) throat, most of the secondaries, most of the primaries, and bases and tips of the tail feathers white; bill black; feet orange; length, 8-9 inches; wing, 5½-6; tail, 2½; bill, ⅞, almost recurved; tarsus, 1; tibiæ bare but a little way.

HAB. Nearly cosmopolitan. In America from Greenland and Alaska to the Straits of Magellan; more or less common in the interior of North America, on the shores of the Great Lakes and the larger rivers. Breeds in high latitudes.

In the "Birds of Ohio," Dr. Wheaton says that "Mr. Sinnett observed this species on the coast of Texas in the breeding season, and believes that they breed there. The eggs are described as olive-green, with brown spots."

The beautifully marked Turnstone is a bird of nearly cosmopolitan distribution. It is found in America on both coasts, and also in the interior. At Hamilton Beach it is a regular visitor in spring and fall, though seldom more than two or three are found together.

They are very sociable in their habits, mixing freely with whatever other waders they chance to meet, and as they are seen here till the end of the first week in June, it is probable that they breed within the limits of Ontario.

They are again seen, young and old together, early in September, and linger around the shores of the bay till the end of that month, when they move farther south to spend the winter.

ORDER GALLINÆ. GALLINACEOUS BIRDS.

SUBORDER PHASIANI. PHEASANTS, GROUSE, PARTRIDGES, QUAILS, ETC.

FAMILY TETRAONIDÆ. GROUSE, PARTRIDGES, ETC.

SUBFAMILY PERDICINÆ. PARTRIDGES.

GENUS COLINUS LESSON.

119. COLINUS VIRGINIANUS (LINN.). 289.

Bob-white.

Coronal feathers erectile but not forming a true crest. Forehead, superciliary line and throat white, bordered with black; crown, neck all round and upper-part of breast brownish-red, other under-parts tawny-whitish, all with more or fewer doubly crescentic black bars; sides broadly streaked with brownish-red; upper-parts variegated with chestnut, black, gray and tawny, the latter edging the inner quills. *Female* known by having the throat buff instead of white, less black about the fore-parts, and general colors less intense, rather smaller than the male. Length, 9-10; wing, 4½-5; tail 2½-3.

HAB. Eastern United States and Southern Canada, from Southern Maine to the South Atlantic and Gulf States, west to Dakota, Eastern Kansas, and Eastern Texas.

Nest on the ground in a natural or excavated hollow, lined with grass or leaves, usually sheltered by tall grass, weeds, bushes, or brush.

Eggs, pure white, said to range in numbers from 10 to 40, the larger lots supposed to include contributions from several females ; 15 being considered the usual set.

Bob-white may be claimed as a permanent resident in Southern Ontario, which is the northern limit of his range, and he has hard work to hold his own against the many influences which are continually operating against him. Birds of prey, crows, jays, weasels, dogs, cats, mowing machines, and sportsmen of all classes tend to thin the ranks ; worse than all these the vicissitudes of winter, spells of cold weather during which the mercury gets down below zero, and occasional long continued deep snow, tell so severely against this little bird that were it not for its wonderful capacity f r increase it would soon be exterminated.

The Quail follows in the wake of cultivation, and under ordinary circumstances thrives best near the abode of man. It is a good friend to the farmer, and is well entitled to his protection in return for the service it renders, not only in the consumption of large quantities of the seeds of noxious weeds, but also in the destruction of many sorts of insects whose ravages among the crops are often very severe and difficult to prevent. A recent writer mentions having examined the crop of one which was killed as it rose from a potato patch, and found it to contain seventy-five potato-bugs. This is only one of the many instances illustrating the value of this bird to the farmer.

Were I a farmer, I would hang over my kitchen fire-place the motto, inscribed in goodly characters : " Spare the Quail."

Many interesting articles have from time to time appeared in sporting magazines concerning the query—has the Quail the power to withhold its scent ?

No one acquainted with the habits of the birds will deny that at times the best of dogs will fail to find them where they have been marked down, but how this happens is a subject regarding which sportsmen still hold different opinions.

From among many instances given in illustration of the fact we select the following by Dr. H. E. Jones, an enthusiastic

sportsman and naturalist : " A few years since I was out with a friend, and we flushed a very large bevy, and marked them down accurately on an elevated piece of ground in a woodland pasture. The grass was short and there was not even a weed or briar, but here and there a large tree. We moved forward with three dogs, expecting to bring on an engagement at once. We made the dogs approach cautiously, giving them warning that game was in the immediate vicinity, but they arrived at the identical spot where we saw as many as thirty birds alight, without making the least demonstration whatever that there was anything unusual about the place. We knew better, and made them go over and over, crossing and recrossing, until it seemed every foot, every inch of ground had been most thoroughly examined. We did this until two sportsmen and three dogs gave up the pursuit. It was now past noon, and we sat down on the grass, uncorked our canteens and opened out our lunch. We were eating, talking and laughing, occasionally rewarding the dogs with a cracker, when my friend by way of sport said, " Look at old Tom, he is on a point." The dog was standing half up, half down, with his nose thrown under his chest between his front legs. Sure enough he was on a point, for there was the bird, with its bright black eyes, only partially concealed by a leaf, almost under the dog's body. My friend put his hat over it and caught it without moving from the dinner table. At that instant another dog made a point within six inches of my feet. I saw the bird at once, and tried to capture it with my hand, but it made its escape. This was the signal for a general move and the whole covey now arose from all around and about us. The concert of action in the manner of going down, retaining their scent, remaining still under the most trying circumstances, and the mode of leaving —all indicated an understanding and education by command how to act in time of danger."

Some time ago the Government of Ontario passed an Act prohibiting the killing of Quail under any circumstances for a period of three years, which co-incident with mild winters had the effect for a time of increasing the numbers, but again they are greatly reduced and in need of protection which they well deserve.

SUBFAMILY TETRAONINÆ. GROUSE.

GENUS DENDRAGAPUS ELLIOT.

SUBGENUS DENDRAGAPUS.

DENDRAGAPUS OBSCURUS RICHARDSONII (SAB.).

120. Richardson's Grouse. 297 b.

Adult-male : Back and wings blackish-brown crossed with wavy lines of slaty-gray, mixed with yellowish-brown on the scapulars. Long feathers of the sides tipped with white, under-parts light slate-color, mixed with white on the lower parts. Cheeks black; chin and throat speckled with black and white feathers on the sides of the neck slightly enlarged, covering a rudimentary air sack. Tail brownish-black veined and marbled with gray, and having a broad terminal band of the same color. *Female* smaller, more varied and generally lighter in color, but having the under-parts and bar at the end of the tail slate-gray as in the male. Length, 20 to 22 inches; wing, 9 to 10; tail, 7.

HAB. Rocky Mountains, from Central Montana northward into British America.

Eggs, creamy-buff, freckled all over with chocolate-brown.

For a notice of the occurrence of this species in Ontario, I am indebted to C. J. Bampton, of Sault St. Marie, who has frequently seen it brought into market at that place.

It bears a strong resemblance to the Dusky Grouse (Dendragapus Obscurus (Say.), of which it is regarded as the Northern form. The Dusky Grouse is found chiefly on the west coast as far south as New Mexico and the White Mountains of Arizona. In the Rocky mountains toward the north, it gradually assumes the peculiarities of the present species; but many intermediate individuals are found which cannot positively be said to belong more to the one than to the other.

In Richardsonii, the tail feathers are longer and broader than in Obscurus. The slate-colored bar at the end is smaller, or wanting, and the general colors darker, specially so on the throat.

SUBGENUS CANACHITES STEJNEGER.

121. DENDRAGAPUS CANADENSIS (LINN.). 298.

Canada Grouse.

Adult-male : Tail of sixteen feathers, rounded, black, with an orange-brown bar at the end. Prevailing color, black, barred and spotted with white on the lower parts, and above crossed with wavy lines of tawny and grey. *Female* smaller, variegated all over with black, brown, white and tawny. Tail bar as in the male but less decided. Length, 16-00 ; wing 7 ; tail, 5-50.

HAB. British America, east of the Rocky Mountains, from Alaska south to Northern Michigan, Northern New York, and Northern New England.

Nest on the ground in secluded places, well concealed, built of twigs, leaves, moss and grass.

Eggs 12 or more ; creamy-brown, sometimes dotted or blotched with a darker shade.

When young birds of different species are cast loose from parental oversight, and go out into the world on their own account they are often very erratic in their movements, are frequently found in places where they have no business to be, and sometimes thereby come to grief.

It was from some such cause as this that I once got a specimen of the Canada Grouse in the Hamilton market. It was in month of October, a farmer had seen this small dark-colored bird in company with some Ruffed Grouse, and following them up, singled it out as something new. They are not known to breed anywhere near Hamilton, but are common in the picturesque district of Muskoka, between the Georgian Bay and the Ottawa River, where they breed and are resident.

They are plump, handsome little birds, but are not equal to the Quail or the Ruffed Grouse for the table.

GENUS BONASA STEPHENS.

122. BONASA UMBELLUS (LINN.). 300.

Ruffed Grouse.

Sexes nearly alike ; variegated reddish or grayish-brown ; the back with numerous oblong, pale, black-edged spots ; neck-tufts, glossy-black ; below,

whitish barred with brown ; tail with a broad subterminal black zone, and tipped with gray. Length, 16-18 ; wing, 7-8.

HAB. Eastern United States, south to North Carolina, Georgia, Mississippi, and Arkansas.

Nest in a hollow in the ground, lined with grass or leaves ; often placed by the side of a log or stump.

Eggs, 8 to 12 ; cream-color, sometimes minutely spotted with chocolate-brown.

Notwithstanding the continual persecution to which the Ruffed Grouse is exposed, it is still a common species throughout Ontario, breeding in all suitable places from the shore of Lake Erie to the northern boundary of the Province, and even in Alaska.

It is a robust, hardy bird, well able to stand the rigors of our climate, and being exceedingly strong and active on the wing, gets oftener away from the sportsman than any other species he pursues. Occasionally when the birds are found feeding among bushes of stunted growth, with a good dog a fair bag may be made, but to follow them through the tangled masses of foliage and fallen trees where they are usually found is attended with great fatigue, and usually very slim results. The birdsget up with wonderful suddenness, and disappear as if by magic ; besides which they seem always to rise at the wrong time, from the wrong place, and to go off in the wrong direction to suit the sportsman.

Much has been written regarding the mode in which this bird produces the peculiar drumming sound so familiar to all who have had occasion to visit its haunts, but it is now generally believed to be caused by the rapid vibratory motion of the wings beating the air, a similar sound being produced in a similar way by the Hummingbird, and also by the Nighthawk. The Grouse in the spring-time produces this music as a call to his lady fair, who, no doubt, delights to hear it, and responds accordingly. It is also heard occasionally late in the season, when he is possibly working off the exuberance of his spirits after some happy experience in his sylvan life.

At different points throughout its extensive habitat, this species is subject to considerable variation in plumage. This has recently led to the formation of several sub-species, one of which (Bonasa umbellus togata) (Linn.), will, I daresay, be found in Ontario, but between these new groups are always to be found *intermediate* individuals which render the boundary rather uncertain. All are more or less closely related to the old original Bonasa umbellus.

Genus LAGOPUS Brisson.

123. LAGOPUS LAGOPUS (Linn.). 301.

Willow Ptarmigan.

Bill stout, as high as the distance from the nasal groove to its tip. In summer rufous, or orange-chestnut on the head and neck : the feathers of the back black, barred rather closely with yellowish-brown and chestnut. In winter white, the tail black tipped with white. Length, 15 to 17 ; wing, about 8 ; tail, 5-50.

Hab. Arctic America, south to Sitka and Labrador.

Nest on the ground,

Eggs, 14 ; fawn color spotted with reddish-brown.

The Ptarmigans are found both in the old and new world, as far north as vegetation extends, and so thoroughly boreal are they in their habits, that they seldom come within even the northern boundary of Ontario. C. J. Bampton, registrar of the district of Algoma, who has furnished me with many interesting notes regarding the birds of that remote district, mentions the Willow Ptarmigan as a rare winter visitor at Sault St. Marie.

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124. LAGOPUS RUPESTRIS (Gmel.). 302.

Rock Ptarmigan.

Bill slender, distance from the nasal groove to the tip greater than height at base. In summer the feathers of back black, banded distinctly

with yellowish-brown and tipped with white. In winter white, the tail black, tipped with white ; the *male* with a black bar from the bill through the eye. Length, 14 to 15 ; wing 7 to 7-50 ; tail, 4-50.

HAB. Arctic America, from Alaska to Labrador.

Nest on the ground.

Eggs, reddish-brown, spotted with darker brown.

This is another northern species reported by Mr. Bampton as being occasionally exposed in the winter time in the market at Sault St. Marie. It resembles the preceding in general appearance, but is rather less in size, and in winter plumage the black band through the eye of the male serves at once to decide his identity.

The Ptarmigans have a most interesting history, their small feet covered densely with hair-like feathers, the wonderful changes which their plumage undergoes to match their surroundings, and their life amid the rigors of an arctic winter, are matters which invest the history of the group with peculiar interest.

GENUS TYMPANUCHUS GLOGEN.

125. TYMPANUCHUS AMERICANUS (REICH.). 305.

Prairie Hen.

Above variegated with black, brown, tawny or ochrey, and white, the latter especially on the wings ; below pretty regularly barred with dark brown, white and tawny ; throat tawny a little speckled, or not ; vent and crissum mostly white ; quills fuscous with white spots on the outer webs ; tail fuscous, with narrow or imperfect white or tawny bars and tips ; sexes alike in color, but the female smaller with shorter neck-tufts. Length, 16-18 ; wing, 8-9 ; tail, about 5.

HAB. Prairies of the Mississippi Valley, south to Louisiana, east to Kentucky and Indiana.

Nest on the ground, in a tuft of grass or small shrub.

Eggs, 8 to 12 ; pale greenish-gray, sometimes minutely dotted with brown.

Southern Ontario has no prairie which meets the requirements of the Prairie Chicken, and therefore the birds are not here. From various sources I have heard of their being still

found along the south western frontier, but their numbers are on the decrease. In the List of Birds of Western Ontario it is stated that a few still breed at St. Clair. From W. E. Wagstaff, one of the oldest and most respected settlers in the County of Essex, I have a most interesting letter regarding the birds he has observed during his long residence there. Of this species he says: "I have never seen Prairie Chickens alive, but have heard of their being seen in bands about Sandwich. When I first came to Amherstburg, about 1840, I heard the old sports tell of having killed them in the gardens of the town."

From the foregoing it would appear that the days of the Prairie Chicken in Ontario are numbered. They afford excellent sport to the gunner, and the facilities for reaching them in their remote haunts are now so much increased, that year by year, even in the United States, they are being driven to regions still more remote.

In the first week in May, 1886, some young men were practising flight shooting at such waterfowl as were passing between the bay and the lake near the canal at the Beach. Presently a bird of different flight and shape came buzzing along, and was brought down by one of the gunners who was greatly astonished to find he had killed a male Prairie Chicken in fine spring plumage. I came along shortly after and saw the bird just as picked up. It had been going at a very rapid rate, but whence it came, or whither bound, was not apparent.

Genus PEDIOCÆTES Baird.

126. PEDIOCÆTES PHASIANELLUS (Linn.). 308.

Sharp-tailed Grouse.

Adult male:—A decurved crest of narrow feathers; a bare space on each side of the neck capable of being inflated; tail short, much graduated, of sixteen feathers, all of which are more or less concave, excepting the two middle ones along the inner edge, obliquely and abruptly terminated, the two middle projecting an inch beyond the rest. Upper parts variegated with light yellowish-red, brownish-black and white, the latter in terminal triangular or guttiform spots on the scapulars and wing-coverts; quills grayish-brown, primaries with white spots on the outer web; secondaries

tipped and barred with white, tail white variegated at the base, the two middle feathers like the back ; loral space and a band behind the eye yellowish-white, a dusky streak under the eye ; throat reddish-white, with dusky spots ; fore-parts and sides of the neck barred with reddish-white ; on the breast the dusky spots become first curved, then arrow-shaped, and so continue narrowing on the hind part of the breast and part of the sides of which the upper portion is barred ; abdomen, lower tail-coverts and axillars, white ; tarsal feathers light brownish-gray, faintly barred with whitish. *Female* smaller, the tints of colors less bright. Length, 18-20 ; wing, 8-9 ; middle feathers of the tail, 4-6 ; outer feathers, 1½.

HAB. British America, from the northern shore of Lake Superior and British Columbia to Hudson's Bay Territory and Alaska.

Nest in a tuft of grass on the prairie.

Eggs, 5 to 12 ; grayish-olive or drab color, minutely dotted with brown spots the size of a pin's head.

Writing from the Northwest Prof. Macoun says of this species : " This is the Prairie Chicken of our western plains, the true Prairie Chicken not being observed here."

And Dr. Coues, writing in the same strain, says : " This is the Prairie Chicken of the whole Northwest, usually occurring where the Pinnated Grouse does not, although the habitats of the two species overlap to some extent." From the foregoing it appears that while the present species occupied the North-west, the Prairie Chicken flourished more in the south-east, but that now both are being driven farther to the north-west, as the prairies come under cultivation.

The Sharp-tail is abundant near Winnipeg, from which point it has reached the Hamilton market. It is also reported by Mr. Bampton as being found at Sault St. Marie.

FAMILY PHASIANIDÆ. PHEASANTS, ETC.

SUBFAMILY MELEAGRINÆ. TURKEYS.

GENUS MELEAGRIS LINNÆUS.

127 MELEAGRIS GALLOPAVO LINN. 130.

Wild Turkey.

Naked skin of head and neck livid-blue ; general color copper-bronze with copper and green reflection, each feather with a narrow black border ;

all the quills brown closely barred with white; tail chestnut barred with black and a broad subterminal black bar. Tip of tail feathers and upper tail-coverts lighter chestnut. Length, 3-4 feet.

HAB. United States, from Southern Canada to the Gulf coast, and west to the Plains, along the timbered river valleys; formerly along the Atlantic coast to Southern Maine.

Nest on the ground.

Eggs, 10 to 15; dark buff or cream color, thickly sprinkled with dark umber-brown.

Within the recollection of people still living, Wild Turkeys were comparatively common along our south-western frontier. Mr. Wagstaff in his letter already referred to says: "Wild Turkeys are getting scarce. They were once numerous in Kent and Essex, going about in flocks, but the severe winter of 1842 almost exterminated them. About 1856 they had again become numerous, but are gradually getting fewer in number as the settler's axe clears away the timber." In the List of Birds of Western Ontario it is stated that a nest was found in the County of Middlesex in 1878.

That veteran sportsman and naturalist, Dr. Garnier, of Lucknow, writing under date of December 11th, 1884, says: "I have killed several Wild Turkeys in the County of Kent, and saw one there this season which I did not obtain.

On the 21st of last October I had a female of this species in my hands at Chatham station, which had just been killed near by. About four years ago, at Leguis farm, near Mitchell's Bay, I saw three gobblers, two of which I killed right and left, the third was shot the same day by a boy from whom I bought it for a dollar.

Most of the domestic Turkeys in that section are either the wild species tamed or half-breeds, and are far superior in flavor to the ordinary stock. In 1856 I killed two out of a large flock within half a mile of Hagersville, which at that time consisted of a waggon-shop, a toll-gate, postoffice, and a small shop called 'store.' I also got a set of nine eggs, and found the female killed by a fox, lying close by, still warm but quite dead."

The Wild Turkey has never advanced into Ontario much beyond the southern boundary, the climate being evidently too severe, and the locality from other causes perhaps not very attractive. The few which still remain are more hunted as they become more rare, and to all appearance the day is not far distant when this valuable game bird will be sought for in vain in the Province of Ontario.

In the south a second species is found which is believed to be the parent of the domestic stock. It is more of a southern bird, being found chiefly in Texas, New Mexico, Arizona and southward.

Order COLUMBÆ. Pigeons.

Family COLUMBIDÆ. Pigeons.

Genus ECTOPISTES Swainson.

128. ECTOPISTES MIGRATORIUS (Linn.). 315.

Passenger Pigeon.

Adult-male :—Dull blue above with olivaceous tinge on back, below dull purplish-red, whitening on vent and crissum ; sides of neck golden and ruby ; some wing-coverts black-spotted ; quills blackish, with slaty, whitish and rufous edging ; middle tail-feathers bluish-black, the others white or ashy, the inner webs basally black with chestnut patch ; bill black ; feet coral-red ; *female* and *young* duller and more brownish or olivaceous above, below dull grayish, with a tawny tinge anteriorly, or quite gray ; very young have the feathers skirted with whitish ; length, 15-17 ; wing, 7-8 ; tail about the same.

Hab. Eastern North America, from Hudson's Bay southward, and west to the Great Plains ; straggling westward to Nevada and Washington Territory.

Nest on bushes or small trees, loosely built of twigs.

Eggs, 1 or 2 ; pure white.

As its name implies, this is a migratory species, but it has not, like many others, a regular migratory course which it instinctively follows year after year in the same direction. On the contrary, the movements of the Wild Pigeon are quite irregular, and guided only by the instinct which directs the birds in their search for food. A few straggling pairs are still

found in the backwoods in Southern Ontario where they probably breed, but the rising generation of sportsmen can have but inadequate conceptions of the vast flocks of pigeons which used in former years to pass over Hamilton.

They were annually looked for in April—the first who observed them circulated the news, "The Pigeons are flying," and early in the morning a regular fusilade was heard all along the edge of the mountain, where at daylight the gunners had taken up their stand at such points as the flocks were likely to pass. These annual migrations seemed to attain their maximum in 1854, "the year of the cholera." During that season, from the middle of April till the end of June, flocks could be seen in every hour of every day passing to the west. The summer was unusually warm, and as the heat increased the birds seemed weak and languid with scarcely enough energy left to rise above the houses. Vast numbers were killed, till, fortunately for the birds, a rumor got abroad that eating too many pigeons caused the cholera, after which they were allowed to pass on their way unmolested.

After that year the flocks rapidly decreased in number, till at present the annual migrations have entirely ceased.

The food of the species consists chiefly of beech nuts, wild berries, and seeds of different kinds. These disappear as the country comes more under cultivation, and the pigeons seek the less settled districts, in search of their favorite fare. At present we hear of them being exceedingly abundant in the valley of the Upper Missisippi, and being quite hardy, they probably extend up north into the "Great Lone Land."

Those who wish to see such flocks of pigeons as used to pass over Ontario will have to follow them there, as, in all probability, they will never be seen here again.

Genus ZENAIDURA Bonaparte.

129. ZENAIDURA MACROURA (Linn.). 316.

Mourning Dove.

Brownish-olive, glossed with blue on the crown and nape; below purplish-red, becoming tawny white on the vent and crissum; neck metallic-

golden ; a velvety-black spot on the auriculars and others on the wing-coverts and scapulars ; middle tail feathers like back, the rest ashy-blue at the base, then crossed by a black bar, then white or ashy-white ; bill very slender, black ; feet carmine ; the *female* and *young* differ as in the wild pigeon ; length, 11-13 ; wing, 5-6 ; tail, 6-7.

HAB. North America, from Southern Maine, Southern Canada, and Oregon, south to Panama and the West Indies.

Nest usually in a tree or bush, sometimes on a log or on the ground, composed mostly of twigs.

Eggs, 2 ; pure white.

The Mourning Dove breeds sparingly throughout Southern Ontario, but is more common farther south. It feeds in the open fields on berries, buckwheat, and the seeds of certain weeds, but on being disturbed seeks shelter in the nearest woods.

It is a gentle, timid species, and as it does not occur with us in sufficient numbers to make it worth following, it is seldom disturbed. It is one of the most difficult birds the collector undertakes to handle, the skin being so tender that should the bird be brought down even from a moderate height the fall is almost sure to burst the skin and destroy the specimen. For the same reason the greatest care is necessary when preparing the skin for the cabinet.

ORDER RAPTORES. BIRDS OF PREY.

SUBORDER SARCORHAMFHI. AMERICAN VULTURES.

FAMILY CATHARTIDÆ. AMERICAN VULTURES.

GENUS CATHARTES ILLIGER.

130. CATHARTES AURA (LINN.). 325.

Turkey Vulture.

Blackish-brown ; quills ashy-gray on their under surface ; head red ; feet flesh-colored ; bill white. Skin of the head corrugated, sparsely beset with bristle-like feathers ; plumage commencing in a circle on the neck ; tail rounded. Length, about 2½ feet ; extent, 6 ; wing, 2 ; tail, 1.

HAB. Temperate North America, from New Jersey, Ohio Valley, Saskatchewan region, and Washington Territory southward to Patagonia. Casual northward on the Atlantic coast to Maine.

Breeds generally in communities. Nest on the ground, or in a hollow log or stump.

Eggs, usually 2; creamy white, spotted and blotched with different shades of brown.

So far as I am aware, the Turkey Buzzard has been observed in Ontario, only in the south-western portion of the Province.

Mr. Wagstaff, in the letter already quoted, says: "Turkey Buzzards are frequently seen in Essex sailing around in search of carrion." I once saw it at Baptiste Creek some years since, but have not heard of it being seen farther east. Dr. Coues says: "This species has a curious habit of 'playing possum' by simulating death when wounded and captured, the feint being admirably executed and often long protracted."

SUBORDER FALCONES. VULTURES FALCONS, HAWKS, BUZZARDS, EAGLES, KITES, HARRIERS, ETC.

FAMILY FALCONIDÆ. VULTURES, FALCONS, HAWKS, EAGLES, ETC.

SUBFAMILY ACCIPITRINÆ. KITES, BUZZARDS, HAWKS, GOSHAWKS, EAGLES, ETC.

GENUS ELANOIDES VIEILLOT.

131. ELANOIDES PORFICATUS (LINN.). 327.

Swallow-tailed Kite.

Head, neck and under-parts white; back, wings and tail lustrous black; feet greenish blue, claws pale. Length, *female*, 23-25; wing, 16-16¼; tail, 14; *male* a little smaller.

HAB. Southern United States, especially in the interior, from Pennsylvania and Minnesota southward, throughout Central and South America; westward to the Great Plains. Casual eastward to Southern New England. Accidental in England.

Nest on a tree; constructed of sticks, hay, moss, etc.

Eggs, 4 to 6; whitish, blotched and spotted with chestnut-brown.

In the course of its extensive wanderings, this bold, dashing Kite has been known to visit Ontario. In the List of Birds of

Western Ontario mention is made of a pair having spent a summer about eight miles north-west of London, and there is also a record of one having alighted on the top of a flagstaff at Ottawa, when it was closely examined through a glass and satisfactorily identified.

The food of this species consists chiefly of snakes, lizards, grasshoppers, locusts, etc., which not being abundant in Ontario readily accounts for the absence of the birds. According to Audubon the Swallow-tailed Hawk feeds chiefly on the wing, and having pounced on any prey on the ground, rises with it and devours it while flying. "In calm weather," he farther observes, "they soar to an immense height, pursuing the large insects called Mosquito Hawks, and performing the most singular evolutions that can be conceived, using their tail with an elegance peculiar to themselves."

Genus CIRCUS Lacepede.

132. CIRCUS HUDSONIUS (Linn.). 331.

Marsh Hawk.

Adult-male :—Pale bluish-ash, nearly unvaried, whitening below and on upper tail-coverts ; quills blackish towards the end. Length, 16-18 ; wing, 14-15 ; tail, 8-9 ; *female* larger, above dark-brown streaked with reddish-brown, below the reverse of this ; tail banded with these colors ; *immature male* is like the *female* though redder, but in any plumage the bird is known by its white upper tail-coverts and generic characters.

Hab. North America in general, south to Panama.

Nest on the ground ; composed of twigs and dried grass.

Eggs, 4 to 5 ; pale greenish-white, spotted or blotched with light brown.

In Ontario the Marsh Hawk in the red plumage is a well known bird, but in the blue phase it is seldom seen. It arrives from the south in April as soon as the ice is gone, and from that time till November, it may usually be seen coursing over the marshes and moist meadows in search of its food, which consists of mice, small birds, snakes, frogs, worms, etc. It breeds sparingly at the St. Clair Flats, becoming quite numerous in the fall on the arrival of those which have bred

farther north. It is said that during the excitement of the breeding season, this bird has the singular habit of turning summersaults in the air. I have never happened to see one in this state of hilarity, all those observed being quite subdued in their habits, seldom deviating from their daily occupation of sailing over the marshes looking for mice.

Genus ACCIPITER Brisson.

Subgenus ACCIPITER.

133. ACCIPITER VELOX (Wils.). 332.

Sharp-shinned Hawk.

Feet extremely slender ; bare portion of tarsus longer than middle toe ; scutellæ frequently fused, tail square. Above dark-brown (deepest on the head, the occipital feathers showing white when disturbed), with an ashy or plumbeous shade which increases with age, till the general cast is quite bluish-ash ; below white or whitish, variously streaked with dark-brown and rusty, finally changing to brownish-red (palest behind and slightly ashy across the breast), with the white then only showing in narrow cross-bars ; chin, throat and crissum mostly white with blackish penciling ; wings and tail barred with ashy and brown or blackish, the quills white-barred basally, the tail whitish tipped ; bill dark ; claws black ; cere and feet yellow. *Male*, 10-12 ; wing, 6-7 ; tail, 5-6 ; *female*, 12-14 ; wing, 7-8 ; whole foot, 3½ or less.

Hab. North America in general, south to Panama.

Nest in trees.

Eggs, 4 to 5 ; white, shaded with purple and splashed with brown.

A rather common summer resident in Southern Ontario, smaller in size than Cooper's Hawk, but similar in markings. It lives chiefly on small birds, and nothing can exceed the impetuosity with which it dashes down and captures them by sheer power of flight. "Many have been the times," says Audubon, "when watching this vigilant, active and industrious bird, have I seen it plunge headlong into a patch of briers, in defiance of all thorny obstacles, and passing through, emerge on the other side bearing off with exultation in its sharp claws a finch or a sparrow which it had surprised at rest."

This species is much given to variation in size and markings, making it difficult at times to distinguish between a large Sharp-shinned and a small Cooper's Hawk. In the present species the legs and feet are relatively longer and more slender than in the other, the term sharp-shinned being no misnomer. They all seem to retire from Ontario in the fall, as none are observed during winter.

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134. ACCIPITER COOPERI (BONAP.). 333.

Cooper's Hawk.

Feet moderately stout; bare portion of tarsus shorter than middle toe; scutellæ remaining distinct; tail a little rounded. Colors and their changes as in *A fuscus*; larger, *male*, 16-18; wing, 9-10; tail, 7-8; *female*. 18-20; wing, 10-11; tail, 8-9. Whole foot 4 or more.

HAB. North America in general, south to Southern Mexico.

Nest in trees, mostly in evergreens.

Eggs, 4 to 5; white tinged with green, sometimes faintly spotted with brown.

This is one of the Chicken Hawks, and it well deserves the name from the havoc it makes among the poultry. It is most common in spring and fall, but sometimes appears suddenly in the winter and shortens the days of *Passer domesticus* when nothing better is available.

Cooper's Hawk breeds sparingly throughout Southern Ontario, apparently preferring the vicinity of large marshes, where blackbirds, rails, etc., are easily obtained.

Extraordinary migrations of hawks are sometimes seen in the fall, when for two or three days in succession, along a certain section of country, individuals of this and the preceding species will be continually in sight. Flocks of this description have often been observed at Point Pelee, near the west end of Lake Erie, where the birds probably gather when working their way round the west end of the lake, in preference to going across. Although a few remain during the winter, this species is mostly migratory, arriving in April and leaving in October.

Subgenus ASTUR Lacepede.

135. ACCIPITER ATRICAPILLUS (Wils.). 334.

American Goshawk.

Adult dark bluish-slate blackening on the head, with a white superciliary stripe.; tail with four broad dark bars ; below closely-barred with white and pale-slate, and sharply streaked with blackish. *Young* dark-brown above, the feathers with pale edges, streaked with tawny-brown on the head and cervix ; below fulvous-white with oblong brown markings. *Female*, 2 feet long ; wing, 14 inches ; tail, 11 ; *male* smaller.

Hab. Northern and Eastern North America, breeding mostly north of the United States, south in winter to the Middle States. Accidental in England.

Nest in trees.

Eggs, 3 to 6 ; soiled white faintly blotched with brown.

The Goshawk and the Peregrine Falcon were both much prized in the olden time when hawking was a princely amusement in Europe, and the same spirit and courage which was the admiration of lords and ladies fair in those ancient days still characterize the birds in their native haunts. They never fail to attract the attention of the sportsman, as unencumbered by hood or bell, they carry terror and dismay among the ranks of the waterfowl.

In Ontario the Goshawk is an irregular winter visitor, sometimes appearing in considerable numbers, and again being altogether wanting for several years in succession. In the young plumage it bears some resemblance to Cooper's Hawk, but is always much larger in size, and is more bold and daring in proportion, frequently carrying off poultry from the very doors of houses in the suburbs of the city.

It is one of the handsomest species of the family. A small sized adult male in my collection is the finest I have ever seen, a perfect model in symmetry, the colors clear and bright, and the whole plumage smooth and compact, admirably suited for passing rapidly through the air with the least possible resistance.

GENUS BUTEO CUVIER.

136. BUTEO BOREALIS (GMEL.). 337.

Red-tailed Hawk.

Four outer quills emarginate on inner web. *Adult*, dark-brown above, many feathers with pale or tawny margins, and upper tail-coverts showing much whitish; below white or reddish-white, with various spots and streaks of different shades of brown, generally forming an irregular zone on the abdomen; *tail above bright chestnut-red*, with subterminal black zone and narrow whitish tip, below pearly-gray; wing-coverts dark; *young* with the tail grayish-brown barred with darker, the upper parts with tawny streaking. A large stoutly-built Hawk, *Female*, 23; wing, 15⅛; tail, 8½; *male*, 20; wing, 14; tail, 7.

HAB. Eastern North America, west to the Great Plains.

Nest placed on a high tree, composed of sticks, twigs, grass, moss, etc.

Eggs, 2 to 4; dull white blotched with rich brown.

This a large and powerful bird, strong of wing, and stout of limb, yet incapable of performing the feats of dexterity common to the Hawks and Falcons. It is most frequently seen sitting bolt upright on a stub in a field, or by the edge of the woods, carefully scrutinizing the ground below in search of young birds or small quadrupeds on which it feeds. It is resident in Ontario, being seen both in summer and winter, but is most frequently observed during the period of migration in spring and fall, from which may be inferred that many individuals spend the winter farther south. Occasionally in spring this species may be seen singly, or in pairs, soaring to a vast height, sailing round in wide circles, apparently enjoying the warm sunshine and the return of life to the landscape below.

The Red-tail breeds in Southern Ontario, is generally distributed throughout the province, and is included in the list of birds observed by Prof. Macoun in the Northwest.

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137. BUTEO LINEATUS (GMEL.). 339.

Red-shouldered Hawk.

Four outer primaries emarginate on inner web. General plumage of the adult of a rich *fulvous* cast; above, reddish-brown, the feathers with dark-

brown centres; below a lighter shade of the same, with narrow dark streaks and white bars; quills and tail blackish, conspicuously banded with pure white; *the bend of the wing orange-brown*. *Young* plain dark brown above, below white with dark streaks; quills and tail barred with whitish. Nearly as long as *B. borealis*, but not nearly so heavy; tarsi more naked. *Female*, 22; wing, 14; tail, 9; *male*, 19; wing, 13; tail, 8 (average).

HAB. Eastern North America, west to Texas and the Plains, south to the Gulf coast and Mexico.

Nest in trees; composed of sticks and twigs, lined with grass and a few feathers.

Eggs, 2 to 4; variable in color, usually dull white, blotched with rich brown.

In Southern Ontario this species is a common summer resident, breeding freely in the less settled parts of the country, where it is more frequently seen than any other of the "Chicken Hawks."

In the fall it becomes quite numerous, making occasional predatory visits to the poultry yard, although it is usually satisfied with smaller game. It is not included in the list of birds observed by Prof. Macoun in the Northwest, and as it does not occur with us in the winter, it is probably less hardy than the Red-tail.

Like others of the family, this species varies greatly in plumage according to circumstances. The young birds do not show any of the rich reddish-orange of the adult, and were at one time described as a separate species under the name of *Winter Falcon*. From Western Texas to California, and south into Mexico, the colors get much brighter and more decided, which has led to this western form being described as a subspecies under the name of *Buteo lineatus elegans* (Cass.). Occasionally we meet here with an adult in full plumage which might well be included in this group, but generally all are much brighter in the west.

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138. BUTEO SWAINSONI BONAP. 342.

Swainson's Hawk.

It is hardly possible, within the limited space at my disposal, to give anything like a detailed description of the various phases of plumage which

this interesting buzzard assumes, according to age, sex, or the season of the year. Suffice it to say, that individuals differ so much from each other as to have led to the description of about a dozen different individuals as new species, all of which are now attributable to *Buteo Swainsoni*.

In measurement this species is about the same as its nearest relative, the Red-tail, averaging about 20 inches in length by about 50 in extent, but is less stoutly built, has the wings longer and more pointed, and it has only three of the primaries emarginate, whereas the Red-tail has four. The entire upper parts are dark-brown, many of the feathers with tawny edgings, those on the head showing white when disturbed. Tail feathers, ashy-gray crossed with numerous dark bars, and tipped with yellowish-white. Upper tail coverts, chestnut and white with blackish bars. Under-parts white, more or less shaded with chestnut. A broad pectoral area of bright chestnut, usually with a glacuos shade, and displaying sharp black shaft lines ; this area contrasting strongly with the pure white throat.

In younger birds the upper parts are much as already described—the lower parts, including the lining of the wings, are nearly uniform fawn color, thickly spotted with blackish brown. These large dark spots for the most part circular or guttiform, crowd across the fore-breast, scatter on the middle belly, enlarge to cross bars on the flanks, become broad arrow heads on the lower belly and tibiæ, and are wanting on the throat. In all stages of plumage the iris of the eye is brown.

HAB. Western North America, from Wisconsin, Illinois, Arkansas and Texas to the Pacific coast ; north to the arctic regions, and south to Buenos Ayres. Casual east to Massachusetts.

Nest in a bush or tree at a height varying from 10 to 40 feet from the ground.

Dr. Coues gives an admirable history of this species in his Birds of the Northwest (page 357), from which I will here make a few extracts :

" This large hawk is very abundant in Northern Dakota where it came under my almost daily observation during the summer of 1873. They were to be seen anywhere in the region mentioned—even far out on the prairie, miles away from the timber, circling overhead or perched on the bare ground. In alighting it generally takes advantage of some little knoll commanding a view around, though it has often no more prominent place than a heap of dirt from a badger's hole, from which to cast about for some imprudent Gopher espied too far from home, or still more ignoble game.

The quarry of Swainson's Buzzard is of a very humble nature. I never saw one swoop upon wild fowl or grouse, and though they often strike rabbits like the Red-tails, their prey is usually nothing larger than Gophers. Though really strong and sufficiently fierce birds, they lack the 'snap' of the Falcons and Asturs, and I scarcely think they are smart enough to catch little birds very often. I saw one make the attempt on a Lark Bunting. The Hawk poised in the air at a height of about 20 yards for fully a minute, fell heavily with an awkward thrust of the talons—and missed. The little bird slipped off, badly scared no doubt, but unhurt, while the enemy flapped away sulkily, very likely to prowl around a Gopher hole for his dinner, or take pot luck at grasshoppers."

From the foregoing it will be seen that the home of Swainson's Buzzard is on the prairies of the Northwest, while in Ontario it is only a casual visitor. I first met with it at an agricultural fair in Hamilton in 1865, where a young specimen was observed in a collection which was competing for a prize. Being called upon to name the species to which it belonged, I turned to such works of reference as were available and made it out to be *Buteo Bairdi* (Hoy.), which is now known to be the young of *Buteo Swainsoni*. Since that time I have occasionally seen birds in similar plumage flying overhead, but did not again meet with it close enough for examination till the present summer (1886) when I saw one in the hands of a local taxidermist where it had been left to be "stuffed." It too was a young bird, but in fine plumage with the characteristic markings fully displayed.

When we have more naturalists among our sportsmen, such a bird as this will be more frequently brought to light. At present should a hawk come along, when there is nothing better in sight, it is killed in the interest of the game, but is seldom picked up.

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139. BUTEO LATISSIMUS (WILS.). 343.

Broad-winged Hawk.

Three outer primaries emarginate on inner web. Above, umber-brown, the feathers with paler, or even with fulvous or ashy-white edging, those of

the hind head and nape cottony-white at base ; quills blackish, most of the inner webs white, barred with dusky ; tail with three broad dark zones alternating with narrow white ones, and white tipped ; *conspicuous dark maxillary patches* ; under parts white or tawny, variously streaked, spotted or barred with rusty or rufous, this color usually predominating in adult birds, when the white chiefly appears as oval or circular spots on each feather ; throat generally whiter than elsewhere, narrowly dark-lined. In the *young* the upper parts are duller brown, varied with white, the under-parts tawny-whitish with linear and oblong dark spots, the tail grayish-brown with numerous dark bars. *Female*, 18 ; wing, 11 ; tail, 7 ; *male* less.

HAB. Eastern North America, from New Brunswick and the Saskatchewan region to Texas and Mexico, and thence southward to Central America, Northern South America and the West Indies.

Nest in a tree, built of sticks and twigs, lined with grass and leaves.

This species was first described by Wilson who met with two individuals in the woods near the Schuykill, and does not appear to have seen it again.

In Southern Ontario the Broad-winged Hawk is often very common in the spring. Toward the end of April or early in May, should the weather be clear, great numbers are seen soaring at a considerable height, and moving in circles toward the Northwest.

About the same time, singly or in pairs, it may be met with in the woods, usually sitting quietly on the lower branch of a tree near some wet place, watching for frogs. A few pairs remain during summer, but the greater number pass on to the Northwest, and in winter none have been observed.

GENUS ARCHIBUTEO BREHM.

ARCHIBUTEO LAGOPUS SANCTI-JOHANNIS (GMEL.).

140. American Rough-legged Hawk. 347 a.

Below, white, variously dark colored, and often with a broad black abdominal zone ; but generally no ferruginous. Above, brown varying from dark-chocolate in the adult to light umber in the young ; the back, scapulars and shorter quills strongly cinereous. The head above more or less white, dark streaked ; upper tail coverts and tail at base white, the former tipped with blackish ; the latter barred near the tip with one, and sometimes several bands of black or dark-brown. In this plumage the bird

has been known as *A. lagopus*, the Rough-legged Buzzard, while to a melanotic variety of the same, found in this country only, the name *sancti-johannis* has been given. This variety is entirely glossy-black, except the occiput, forehead, throat, inner webs of quills, base of tail and broad tail-bars, white. As it is now generally conceded that these are varieties of the same species, the original name, *lagopus* is retained and the American form considered a geographical variety of the European, characterized as variety *sancti-johannis*. Length, about 2 feet ; wing, 16-17 ; tail, 8-10.

HAB. Whole of North America north to Mexico, breeding chiefly north of the United States.

Nest on trees or rocks.

Eggs, 3 to 4 ; soiled white, blotched with reddish-brown.

Another large and powerful bird, which, from some cause, seems contented with very humble fare, living chiefly on mice, lizards, frogs, etc., while its appearance would lead us to suppose it capable of capturing much larger game. It is sometimes found in a melanotic state, the plumage being nearly black, and in this garb it was formerly described as a distinct species, but this idea has now been abandoned.

It can always be recognized by the legs being feathered down to the toes which are very short.

In Southern Ontario this is only a visitor during the season of migration, being most plentiful in the fall, when it is often seen frequenting the marshy shores of Hamilton Bay. It has not been observed during the breeding season, neither does it occur in winter.

Speaking of this species Sir John Richardson says : "In the softness and fullness of its plumage, its feathered legs, and habits, this bird bears some resemblance to the Owls. It flies slowly, sits for a long time on the bough of a tree watching for frogs, mice, etc., and is often seen sailing over swampy pieces of ground and hunting for its prey by the subdued daylight which illuminates even the midnight in the high parallels of latitude."

Genus AQUILA Brisson.

141. AQUILA CHRYSAETOS (Linn.). 349.

Golden Eagle.

Dark-brown with a purplish gloss ; lanceolate feathers of head and neck golden-brown ; quills blackish ; in the *young*, tail white with a broad terminal black zone. About 3 feet long ; wing, upwards of 2 feet ; tail a foot or more.

Hab. North America south to Mexico. Northern parts of the Old World.

Nest, an accumulation of sticks, usually placed on an inaccessible rocky crag.

Eggs, 2 to 4 ; soiled white marked with brown.

This fierce and daring Eagle has its home among the rugged and inaccessible cliffs of Canada east, but in the fall it is seen following the flocks of waterfowl, which, at this season, visit the lakes to rest and recruit themselves as they travel southward. Some years ago I asked a boy, whose home I thought a favorable point for getting birds of prey, to shoot any Hawks or Owls he saw and bring them to me. A few days afterwards I saw him approaching my house with a sack over his shoulder, which, judging from the bulk, might contain a dozen hawks, but great was my surprise when he shook out a fine large female Golden Eagle which he had shot that morning as it flew over the place where he happened to be standing.

Shortly afterwards I got a young male which was caught near Stoney Creek. I have also seen several which were procured near Toronto. Dark-brown Eagles are often observed hovering along the shores of Lake Ontario during the fall, but at a distance it is impossible to distinguish between this and the young of the Bald Eagle, which is also uniform brown throughout. The quickest way of identifying the species, on close inspection, is by referring to the legs, which, in the Golden Eagle, are feathered down to the toes, differing as much in this respect from the Bald Eagle as the Rough-legged Buzzard does from any of the other Hawks.

Genus HALIÆETUS Savigny.

142. HALIÆETUS LEUCOCEPHALUS (Linn.). 352

Bald Eagle.

Dark-brown; head and tail white after the third year; before this, these parts like the rest of the plumage. About the size of the last species. Immature birds average larger than adults.

Hab. North America at large, south to Mexico.

Nest of huge dimensions, built of sticks, placed on a tree.

Eggs, 2; soiled white.

This is more frequently seen than the preceding species, and may be considered resident, as it is often observed during winter, and breeds in suitable places throughout the country, usually on or near the shore of a lake. In a letter from Dr. McCormick dated Breeze Place, Pelee Island, June 12th, 1884, the writer says: "I chanced to observe an interesting incident a few days since, showing what looked very much like reasoning powers in a Bald-headed Eagle. The wind was blowing quite strong from the west, and the Eagle had caught a large fish. Rising in the air with his dying prey in his talons, he tried to fly directly to windward, towards his nest, but the wind was too strong, and after several unsuccessful attempts he dropped the fish (now dead) into the water. Then flying off toward the north for some distance, apparently to try the wind in that direction, and finding he could progress more easily, he turned round, went back to the fish, took it up again in his claws, and flying north with a beam wind made the shore. Then in shelter of a friendly grove of trees, he flew away toward the west and his nest, with his scaly treasure, thus exercising what appeared to be a reasoning process of cause and effect."

A favorite haunt of this species used to be along the Niagara River below the Falls, where they would sit on the dead trees by the river bank and watch for any dead or dying animals that came down the stream. This habit becoming known to collectors, a constant watch was kept for the appearance of the birds, many were picked off with the rifle, and although a few still visit the old haunts, their numbers are greatly reduced.

Twenty years ago, I knew a youth who shot one of these birds as it flew over him while he lay concealed among the rushes on the shore of Hamilton Bay watching for Ducks. On taking it up he found an unusual appendage dangling from the neck, which proved, on examination, to be the bleached skull of a weasel. The teeth had the "death grip" of the skin of the bird's throat, and the feathers near this place were much confused and broken.

The Eagle had probably caught the weasel on the ground, and rising with his prize, a struggle had ensued in the air, during which the weasel had caught the bird by the throat and hung there till he was squeezed and clawed to pieces.

Bald Eagles are, during some winters, common at the Beach, where they pick up any dead fish and "Cowheens" that are shaken out of the fishermen's nets. Knowing the habits of the birds, the fishermen often capture them by placing a poisoned carcase near the edge of the ice. The bait is sure to be taken by the first Eagle which comes along, and usually the bird dies before leaving the spot.

SUBFAMILY FALCONINÆ. FALCONS.

GENUS FALCO LINNÆUS.

SUBGENUS RHYNCHODON NITZSCH.

143. FALCO PEREGRINUS ANATUM (BONAP.). 356.

Duck Hawk.

Tarsus feathered but little way down in front, elsewhere irregularly reticulated in small pattern, not longer than middle toe; 1st quill alone decidedly emarginate on inner web, not shorter than the 3rd. Above blackish-ash, with more or less evident paler waves; below and the forehead, white, more or less fulvous tinge, and transverse bars of blackish; conspicuous black ear-patches. *Young* with the colors not so intense and tending to brown; the tawny shade below stronger, the lower parts longitudinally striped. Length, about 18; wing, 13-14; tail, 7-8.

HAB. North America at large.

Nest, in a tree, or on a rock, or on the ground.

Eggs, 3 to 5; dull white, blotched with different shades of reddish-brown.

This is the Bullet Hawk, the terror of the Ducks and admiration of the sportsmen at the shooting stations, where he is often seen, either capturing game on his own account or appropriating what has been killed by the gunner before he has time to pick it up. As it is known to breed in Massachusetts, on the coast of Labrador, and in Alaska, it will most likely be found also to do so in suitable places in Ontario, but at present we have no satisfactory record of the fact. The steep rocky ledges which overhang the blue waters of Lake Superior offer inducements which the birds will hardly overlook, and we expect yet to hear of their being found breeding there.

While here the Peregrine is no loiterer, but follows the migratory course of the waterfowl and fares sumptuously every day. Ducks are his favorite game, and he need never be at a loss, yet (by way of relish perhaps) we see him sometimes scoop up a Sandpiper or a Mudhen, and pick its bones on an elevation which commands a clear view for some distance around. In Southern Ontario the Peregrine is seldom seen except in the fall.

Subgenus ÆSALON Kaup.

144. FALCO COLUMBARIUS Linn. 357.

Pigeon Hawk.

Tarsus scarcely feathered above, with the plates in front enlarged, appearing like a double row of alternating scutellæ (and often with a few true scutellæ at base); 1st and 2nd quill emarginated on inner web.

Adult-male, above ashy-blue, sometimes almost blackish, sometimes much paler; below pale fulvous or ochreous, whitish on the throat, the breast and sides with large oblong dark-brown spots with black shaft lines; the tibiæ reddish, streaked with brown; inner webs of primaries with about eight transverse white or whitish spots; tail tipped with white, and with the outer feather whitening; with a broad subterminal black zone and 3-4 black bands alternating with whitish; cere greenish-yellow. *Female* with the upper parts ashy-brown; the tail with 4-5 indistinct whitish bands; about 13; wing, 8; tail, 5; *male*, smaller.

Hab. The whole of North America, south to the West Indies and Northern South America.

Nest, in a hole in a tree, or on a branch, or on rocks.

Eggs, yellowish-brown, blotched with brown of a darker shade.

This handsome little Falcon is a miniature of the Peregrine, and is quite its equal in courage and spirit, often attacking birds of much greater weight than itself. It is not a common species anywhere, and in Southern Ontario can only be regarded as a migratory visitor in spring and fall. It is at all times a difficult matter to define the precise breeding range of birds that are rare everywhere, and regarding the summer haunts of the Pigeon Hawk we have yet much to learn. As it has been known to breed in Maine, and in Alaska, it is quite likely to breed also in Ontario, where there is plenty of room for it to do so without being observed. In the fall when the Blackbirds get together in flocks, they are frequently followed by the Little Corporal who takes his tribute without much ceremony. I once saw him "stoop" on a flock as they hurried toward the marsh for shelter. How closely they huddled together, as if seeking mutual protection, but he went right through the flock and came out on the other side with one in each fist!

SUBGENUS TINNUNCULUS VIEILLOT.

145. FALCO SPARVERIUS LINN. 360.

American Sparrow Hawk.

Tarsus and quills as in *columbarius*. Crown ashy-blue, with a chestnut patch, sometimes small or altogether wanting, sometimes occupying nearly all the crown; conspicuous black maxillary and auricular patches, which with three others around the nape make seven black places in all, but a part of them often obscure or wanting; back cinnamon-brown, in the male with a few black spots or none, in the *female* with numerous black bars; wing-coverts in the *male* ashy-blue, with or without black spots, in the *female*, like the back; quills in both sexes blackish with numerous pale or white bars on inner webs; tail chestnut, in the *male* with one broad black subterminal bar, white tip, and outer feather mostly white with several black bars; in the *female* the whole tail with numerous imperfect black bars; below white variously tinged with buff or tawny, in the male with a few small black spots or none, in the *female* with many brown streaks; throat and vent nearly white and immaculate in both sexes; bill dark-horn, cere and feet yellow to bright orange; 10-11; wing, 7; tail, 5, more or less.

HAB. Whole of North America, south to Northern South America.

Eggs, 5 to 7; deposited in the hollow of a decayed limb, or deserted Woodpecker's hole. In color variable, usually yellowish brown, blotched all over with brown of a darker shade.

The peculiar and handsome markings of this little Hawk serve, even at a distance, to prevent its being mistaken for any other species. Though sometimes seen near the farm-house, it does not bear the stigma of having felonious intentions towards the occupants of the poultry yard, but is credited with the destruction of large numbers of mice, and is therefore regarded with favor by the farmer. It also feeds freely on snakes, lizards, grasshoppers, etc., but has the true falcon etiquette of taking only what is newly killed. It is generally distributed throughout Ontario, arriving on the southern frontier about the end of April, and leaving for the south in September.

Genus POLYBORUS.

Subfamily PANDIONINÆ. Ospreys.

Genus PANDION Savigny.

PANDION HALIAETUS CAROLINENSIS (Gmel.).

146 American Osprey. 364.

Plumage lacking after-shafts, compact, imbricated, oily to resist water; that of the legs short and close, not forming the flowing tufts seen in most other genera, that of the head lengthened, acuminate; primary coverts stiff and acuminate, Feet immensely large and strong, the tarsus entirely naked, granular-reticulate, the toes all of the same length, unwebbed at base, very scabrous underneath, the outer versatile; claws very large, rounded underneath. Hook of the bill long, nostrils touching edge of cere. Above dark-brown; most of the head and neck and the under-parts white, latter sometimes with a tawny shade, and streaked with brown. Length, 2 feet; wing, 16-18 inches; tail, 8-10.

Hab. North America, from Hudson's Bay and Alaska, south to the West Indies and Northern South America.

Nest in a tree; composed of sticks, often very bulky, from annual additions.

Eggs, 2 to 4; variable in color, usually creamy-brown, blotched with various darker shades of brown.

The Fish Hawk is generally distributed throughout Ontario, breeding by the lakes and rivers in the less thickly settled parts of the country. Along the sea coast it is more abundant, frequently breeding in communities of several hundreds. In

such cases the nests are placed indifferently on rocks or trees, and sometimes the eggs have been deposited on the sand. Near such breeding places the Bald Eagle has every opportunity of tyrannizing over the Fish Hawks, and compelling them to drop the fish they have just caught. On the inland waters of Ontario the Bald Eagle is of less frequent occurrence, and the Osprey is allowed to enjoy the results of his industry in peace.

The Fish Hawk arrives in Ontario as soon as the ice breaks up in the spring, and in the fall remains fishing along the shores till November.

Suborder STRIGES. Owls.

Family STRIGIDÆ. Barn Owls.

Genus STRIX Linnæus.

147. STRIX PRATINCOLA Bonap. 365.

American Barn Owl.

Tawny or fulvous brown, delicately clouded or marbled with ashy or white, and speckled with brownish-black; below, a varying shade from nearly a pure white to fulvous, with sparse sharp blackish speckling; face white to purplish-brown, darker or black about the eyes, the disk bordered with dark-brown; wings and tail barred with brown, and finely mottled like the back; bill whitish; toes yellowish. Length, *female*, 17; wing, 13; tail, 5½; *male* rather less.

Hab. Warmer parts of North America, from the Middle States, Ohio Valley and California southward through Mexico.

Breeds in hollow trees, frequently in the tower of a church or other high buildings.

Eggs, 3 to 6; soiled white.

Although this species, so much like the Barn Owl of Britain, has long been known as an American bird, coming as far north as Massachusetts, it is only within the past few years that it has been observed in Canada. In May, 1882, a specimen was killed by young Mr. Reid, gardener, York street, Hamilton, and in the fall of the same year another was found in an empty outhouse near the canal leading to Dundas. On calling the

attention of Dr. Garnier, of Lucknow, to these facts, he mentioned having seen one several years before near where he lives, and from Mr. C. J. Bampton comes a report of his having seen two individuals near Sault St. Marie. Compared with the British Barn Owl, the American species is a little larger, but by many they are regarded as identical. The British bird is noted for its partiality for ruinous church towers and other lonely places. Strange to say, Mr. Reid's specimen was killed in the cemetery, while one of those seen by Mr. Bampton was perched on the cross on the spire of the Catholic church.

It has a sharp inquisitive visage, and is said to be an expert mouser. In Ontario it can be regarded only as an accidental visitor from the south.

FAMILY BUBONIDÆ. HORNED OWLS, ETC.

GENUS ASIO BRISSON.

148. ASIO WILSONIANUS (LESS.). 366.

American Long-eared Owl.

General plumage above a variegation of dark-brown, fulvous and whitish, in small pattern; breast more fulvous, belly whiter, the former sharply striped, the latter striped and elaborately barred with blackish; quills and tail mottled and closely barred with fulvous and dark-brown; face pale, with black touches and eye patches; bill and claws blackish. Ear-tufts of 8-12 feathers. Length, 14-15; wing, 11-12; tail, 5-6.

HAB. Temperate North America.

Nest of sticks loosely put together, lined with a few feathers, variable as to situation, frequently in a thick evergreen.

Eggs, 4 to 6; round, white.

The Long-eared Owl is strictly nocturnal in its habits, and is seldom seen abroad by day, except when disturbed in its retirement among the evergreens. So far as I have observed, it is not a common species in Ontario, but from its retiring habits it may be more so than we are aware. Those observed near Hamilton have been found in the fall, the season when birds of all kinds wander away from their summer resort, before retiring south to spend the winter. Along the sea coast it is more

common, and in New England resides throughout the year. That it breeds in Ontario is vouched for by Mr. Robert Elliot, who found a nest near his home at Bryanston during the summer of the present year (1886).

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149. ASIO ACCIPITRINUS (PALL.). 367.

Short-eared Owl.

Fulvous or buffy-brown, paler or whitey-brown below; breast and upper parts broadly and thickly streaked with dark-brown; belly usually sparsely streaked with the same, but not barred crosswise; quills and tail buff, with few dark bands and mottling; facial area, legs and crissum pale, unmarked; eye-patch blackish; ear-tufts of from 3-6 feathers. Size of *Wilsonianus*.

HAB. Throughout North America; nearly cosmopolitan.

Nest, on the ground; consisting of a few sticks, blades of grass and feathers, loosely thrown together.

Eggs, 4 to 6; white, nearly round.

This is a much more common species than the preceding, and probably more northern in its range. I have reports of its occurrence at different points throughout Ontario, and it was observed in the Northwest by Prof. Macoun. It is less nocturnal in its habits than the preceding, and is somewhat gregarious, being occasionally seen during the day in the fall, in flocks of 10 or 12, hunting in company. It has not been my fortune to fall in with any of those migratory groups, but I have observed the species skimming noiselessly over the inlets and moist meadows along the shores of Hamilton Bay.

It is a most expert mouser, destroying large numbers of the farmers' foes, and is therefore entitled to his protection, but all birds of prey are regarded as enemies by the sportsman, who allows none to pass that come within his reach.

GENUS SYRNIUM SAVIGNY.

150. SYRNIUM NEBULOSUM (FORST.). 368.

Barred Owl.

Above cinerous-brown, barred with white, often tinged with fulvous; below similar, paler, the markings in bars on the breast, in streaks elsewhere;

quills and tail feathers barred with brown and white with an ashy or fulvous tinge. Length, about 18 ; wing, 13-14 ; tail, 9.

HAB. Eastern United States, west to Minnesota and Texas, north to Nova Scotia and Quebec.

Nest, in a hollow tree, or in the deserted nest of a hawk or crow.

Eggs, 2 to 4 ; round, white.

Along the southern boundary of Ontario the Barred Owl is by no means rare, but farther north I have not heard of it being observed. It does not occur west of the Rocky Mountains, but is very abundant along the south Atlantic and Gulf States. It is occasionally seen abroad by day, but at such times its sight seems to be rather uncertain, so that the capture of the small animals on which it feeds is accomplished during the hours of darkness.

Regarding its uncertain vision by day, Mr. Giraud, in his Birds of Long Island, says : " My friend, Mr. J. G. Bell, informs me that when on a collecting tour in South Carolina, and while looking for the blue-winged yellow warbler whose note he had a moment before heard, he was startled by feeling a sudden pressure on his gun. Judge of his surprise when he perceived perched on the barrels a Barred Owl, which, at the same moment discovered its mistake, but too late to correct the fatal error, as it was shot down by the astonished gunner."

Audubon mentions seeing one alight on the back of a cow, which it left so suddenly, when the cow moved, as to show that it had mistaken the object on which it perched for something else.

In former years I used to find the Barred Owl regularly every fall in the ravines along the south shore of the Dundas Marsh, but now many of the pines and hemlocks which formed an inviting retreat are cut down, and the bird has sought for greater seclusion elsewhere. Its black eyes are at all times a ready mark to distinguish it from any other member of its family.

Genus ULULA Cuvier.

151. ULULA CINEREA (Gmel.). 370.

Great Gray Owl.

Above, cinereous-brown, mottled in waves with cinereous white; below, these colors rather paler, disposed in *streaks* on the breast, in *bars* elsewhere; quills and tail with five or six darker and lighter bars; the great disk similarly marked in regular concentric rings. An immense owl, one of the largest of all, much exceeding any other of this country. Length, 2½ feet; wing, 1½; tail, a foot or more

Hab. Arctic America, straggling southward, in winter, to the northern border of the United States.

Nest, in trees, composed of sticks and twigs, lined with moss and a few feathers.

Eggs, 3 to 4; not quite round, white.

This beautifully marked and solemn-looking bird is usually described as the largest of North American Owls, but it can only be regarded so by measurement, as in weight, strength and ferocity it is inferior to either the Snowy or the Great Horned Owl. The lengthy tail, and the long loose feathers with which its body is densely clothed, gives it the appearance of a very large bird of prey, but when closely examined, the legs, claws and bill are smaller and weaker than those of either of the two species named.

The Great Gray Owl is said to be more northern in its range than even the Snowy Owl. In Southern Ontario it is a casual visitor in the winter only. I have had two individuals brought to me which were got near Hamilton, and have seen several in the hands of other parties. During the present winter I saw one which was sent down from Muskoka, where it was shot in the woods in the month of December.

Genus NYCTALA Brehm.

NYCTALA TENGMALMI RICHARDSONI (Bonap.).

152. Richardson's Owl. 371.

Upper-parts, grayish-brown, tinged with olive; feathers of the head and neck spotted with white; scapulars, quills and tail also with white spots;

ruff and lower parts, yellowish-white, throat white. *Male*, 11 inches; *female*, 12 inches.

HAB. Arctic America, south occasionally in winter into the Northern United States.

Nest in trees.

Eggs, 2; round, white.

This comparatively small and timid-looking owl is perhaps more hyperborean in its range than any of the others we have had under consideration, inasmuch as the records of its occurrence do not extend so far south as those of either the Great Gray or the Snowy Owl. It is warmly clad in a dense coat of soft, silky feathers, which, no doubt, enables it to withstand the severity of the winter. In the matter of food, it evidently finds a supply, as the species is spoken of by Sir John Richardson as being abundant in the region of the Saskatchewan, yet only a very few come as far south as Southern Ontario. The two in my collection were both found during winter in the neighborhood of Toronto, besides which I have very few records of its being observed anywhere throughout the country.

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153. NYCTALA ACADICA (GMEL.). 372.

Saw-whet Owl.

Size, small. Bill, black, the cere tumid, the circular nostrils presenting anteriorly. Above chocolate-brown, spotted with white, the tail with transverse white bars; facial area and forehead variegated with white, the face and superciliary line grayish-white; the lower parts white with streaks of the color of the back. Length, 7½-8; wing, 5½; tail, 3⅜.

HAB. North America at large, breeding from the Middle States northward.

Nest, in a hole in a tree.

Eggs, 4 to 6; round, white.

This is the smallest member of the family found east of the Rocky Mountains. For some reason all the owls are of irregular occurrence in the settled parts of the country. I have seen as many as six or eight of this species in one winter, and again for several years have not seen one. Without being migratory,

in the ordinary sense of the word, I think it is highly probable that during the fall these birds associate in groups, and move from one section of the country to another in search of food. In this way a good many may be observed at one point, while for many miles around they may be altogether absent.

The "Saw-whet" is evidently partial to a medium temperature, as it is most common in the northern states, and does not penetrate far into British America. In the opposite direction, it has been found breeding as far south as Mexico, but mostly in the wooded mountain ranges. In Southern Ontario, these birds are most at home in the thick shelter of the evergreens in the depths of the woods, but when deep snow covers the ground they are often found in the barn, or other outhouse near the farmer's dwelling, where they are forced to seek for food and shelter when their supply outside is cut off.

Genus MEGASCOPS Kaup.

154. MEGASCOPS ASIO (Linn.). 373.

Screech Owl.

One plumage: general aspect gray, paler or whitish below. Above, speckled with blackish, below patched with the same; wings and tail dark-barred; usually a lightish scapular area.

Another: general aspect brownish-red, with sharp black streaks; below rufous-white, variegated; quills and tail with rufous and dark bars. These plumages shade insensibly into each other, and it has been determined that they bear no definite relations to age, sex or season. Length, about 10; wing, 7; tail, 3½.

Hab. Temperate Eastern North America, south to Georgia, and west to the Plains. Accidental in England.

Nest, in a hole in a tree; lined with feathers.

This is the most abundant of the Owls in this part of the country, yet, like the others, it is of very irregular occurrence. I have met with it once or twice in the woods in summer, but it is most frequently seen in winter, when the ground is covered with snow. It is then forced to approach the dwellings of man in search of food, and during some winters there is scarcely a farm in the country which has not its Screech Owl in the barn.

There it sits on a rafter, snoozing away the hours of daylight, occasionally opening its round, yellow, cat-like eyes, and glowering at the farm hands as they move about like shadows below. After dark it is all alive, not a mouse can stir without being observed, and so quick and noiseless is the flight of the bird that few escape which expose themselves. It thus renders good service to the farmer, in consideration of which it is protected by the more intelligent of that class, but is persecuted almost to extinction by the "*boys*."

As will be seen by the description of the markings given above, individuals of this species assume different phases of plumage, and are spoken of as the "red" and "gray." For many years great difference of opinion prevailed on this subject, some believing the red bird to be the male, and *vice versa*. It is now fully understood that the color is entirely independent of age, sex or season. It is one of those seeming irregularities which we find in nature, and all we can do is to bear witness to the fact without being able to tell the reason of it.

During the winter of 1883-4, I kept a record of the birds of this species heard of, in or near Hamilton, and the total number reached 40. In 1884-5 they were less common, and during 1885-6 I am not aware of a single individual being observed.

GENUS BUBO CUVIER.

155. BUBO VIRGINIANUS (GMEL.). 375.

Great Horned Owl.

Distinguished by its large size, in connection with the conspicuous ear tufts; the other species of similar dimensions are tuftless. The plumage varies interminably, and no concise description will meet all its phases; it is a variegation of blackish, with dark and light-brown, and fulvous. A white collar is the most constant color mark. Length, about 2 feet; wing, 14-16 inches; tail, 9-10.

HAB. Eastern North America, west to the Mississippi Valley, and from Labrador south to Costa Rica.

Nest, if any, in a hollow tree, or cleft of a rock.

Eggs, 2; round, white,

The Great Horned Owl is well known in Ontario, being generally distributed throughout the province. During the day it hides away in the deep impenetrable parts of the woods, but at night sallies forth in quest of prey, and does not hesitate to rob the hen roost, returning for that purpose night after night, unless stopped by a snap shot in the dark, or caught in a trap baited for the purpose. Individuals vary greatly in plumage, so much so that they have been described as distinct species. Near Hamilton I have found them varying from light silvery-gray to deep fulvous brown, I once obtained a very handsome specimen in the latter dress which I was unable to utilize from its having been recently in contact with a skunk. It is strictly nocturnal in its habits, yet, when obliged by the attention of crows or other disturbing causes to move during the day, it makes good use of its eyes, and gets quickly away to the nearest thicket for shelter.

Genus NYCTEA Stephens.

156. NYCTEA NYCTEA (Linn.). 376

Snowy Owl.

Pure white with more or fewer blackish markings. Length, nearly 2 feet; wing, 17 inches; tail, 10.

Hab. Northern portions of the Northern Hemisphere. In North America breeding mostly north of the United States; in winter migrating south to the Middle States, straggling to South Carolina, Texas and the Bermudas.

Nest, on the ground, or on rocks.

Eggs, 5 to 10; laid at intervals, so that the nest may contain young birds and fresh eggs at the same time. (*Coues Key*).

An irregular winter visitor to Ontario, sometimes appearing in considerable numbers, and again entirely absent for several years in succession. Near Hamilton its favorite resort is on the Beach, or along the shore of the bay, where it may be seen sitting watchful on the top of a musk rat heap, or pile of drift-wood, frequently turning its head right round to look out for approaching danger. It hunts by day as well as at night, but is most active in the morning and evening. I once saw a large

female make several attempts to capture a wounded Duck, which was swimming in a patch of open water among the ice on the bay near the canal. The Owl skimmed along close to the ice and tried in passing to grasp the Duck, which quickly went under water and appeared again cautiously at a different place. The Owl passed several times over the pond in this way, resting alternately on the pier of the canal and on the shore, till getting into a favorable position I shot it on one of the return trips, and subsequently I also shot the Duck on which I had a first claim.

The number of these birds which occasionally descend from the north in the early part of the winter must be very great, for their migrations extend over a wide extent of country, and at Hamilton, which is only one of the points they pass, I have known of as many as thirty being captured in a single season. During the winter they are seen as far south as Texas and the Carolinas. How interesting it would be to know how many of these individuals which travel so far south are permitted to return.

Genus SURNIA Dumeril.

157. SURNIA ULULA CAPAROCH (Mull.). 377 a.

American Hawk Owl

Dark-brown above more or less thickly speckled with white; below closely barred with brown and whitish, the throat alone streaked; quills and tail with numerous white bars; face ashy, margined with black. Length, about 16 inches; wing, 9; tail, 7, graduated, the lateral feathers 2 inches shorter than the central.

Hab. Arctic America, migrating in winter to the northern border of the United States. Occasional in England.

Nest of sticks, grass, moss and feathers; in trees or on rocks.

Eggs, 4 to 7; soiled white.

In Southern Ontario the Hawk Owl can only be regarded as a rare winter visitor. Farther north it seems more common, as I have heard of it being frequently seen in the district of Muskoka. While here in winter it has no particular haunt, but takes the country as it comes, like a Hawk, and is evidently

as sharp in the sight, as it is active on the wing. The two in my collection were obtained in the neighborhood of this city.

The Hawk Owl, like some other boreal birds of prey, occasionally comes south in the winter in large numbers, and is welcomed by collectors wherever it appears. These extensive migrations occur most frequently in the east. In Quebec, some years since, in the month of March, I saw them exposed in the market day after day, and when coming west by rail I noticed many perched on trees near the track.

ORDER COCCYGES. CUCKOOS, ETC.

SUBORDER CUCULI. CUCKOOS, ETC.

FAMILY CUCULIDÆ. CUCKOOS, ANIS, ETC.

SUBFAMILY COCCYGINÆ. AMERICAN CUCKOOS.

GENUS COCCYZUS VIEILLOT.

158. COCCYZUS AMERICANUS (LINN.). 387.

Yellow-billed Cuckoo.

Above as in the last; below pure white. Wings extensively cinnamon-rufous on inner webs of the quills. Central tail feathers like the back, the rest black with large white tips, the outermost usually edged with white. Bill extensively yellow below and on the sides. Size of the next.

HAB. Temperate North America, from New Brunswick, Canada, Minnesota, Nevada and Oregon, south to Costa Rica and the West Indies. Less common from the eastern border of the Plains westward.

Nest, on a bough, or in the fork of a low tree; composed of twigs, leaves, and soft vegetable material.

Eggs, 4 to 8; pale greenish.

It is a well-known fact that the British Cuckoo entirely ignores family responsibilities by depositing its eggs in the nest of a bird of a different species, and with a pleasant "*cuckoo*" bids good-bye to the whole connection.

The two kinds we have in Canada are not so totally depraved. They usually build a nest and bring up a family, but even to them the duty does not seem to be a congenial one, and they are sometimes known to slip an egg into each

others nests or into that of a different species. The nest they build is of the most temporary description, and the eggs are deposited in such a desultory manner, that it is no uncommon occurrence to find fresh eggs and young birds therein at the same time.

Of the two Cuckoos we have in Ontario, the Yellow-billed seems the more southern, apparently finding its northern limit along our southern border, where it is rather scarce and not generally distributed.

159. COCCYZUS ERYTHROPHTHALMUS (WILS.). 388.

Black-billed Cuckoo.

Above uniform satiny olive-gray, or "quaker color," with bronzy reflections. Below pure white, sometimes with a faint tawny tinge on the fore parts. Wings with little or no rufous. Lateral feathers not contrasting with the central, their tips for a short distance blackish, then obscurely white. Bill blackish except occasionally a trace of yellowish below. Eye-lids red; bare circum-ocular space purplish. Length, 11-12; wing, 5-5½; tail, 6-6½; bill, under 1.

HAB. Eastern North America, from Labrador and Manitoba south to the West Indies and the valley of the Amazon; west to the Rocky Mountains. Accidental in the British Islands and Italy.

Nest, loosely constructed of twigs, grass, strips of bark, leaves, etc., placed in a bush.

Eggs, 2 to 5; light greenish-blue.

The Black-billed Cuckoo is a regular summer resident in Ontario, where it arrives about the end of May, after which its peculiar note may often be heard, especially before rain, and its lithe slim form be seen gliding noiselessly among the evergreens. Though not an abundant species, it is generally distributed throughout the province, and well known to the country people as the *rain-crow*.

The food of the Cuckoos consists chiefly of caterpillars, with an occasional change to ripe fruit in the season. They also stand charged with sucking the eggs of other birds. They retire to the south early in September.

SUBORDER ALCYONES. KINGFISHERS.

FAMILY ALCEDINIDÆ. KINGFISHERS.

GENUS CERYLE BOIE.

SUBGENUS STREPTOCERYLE BONAPARTE.

160. CERYLE ALCYON (LINN.). 390.

Belted Kingfisher.

Upper parts, broad pectoral bar, and sides under wings, dull blue with fine black shaft lines; lower eyelid, spot before eye, a cervical collar and under-parts, except as said, pure white; the *female* with a chestnut belly band, and the sides of the same color, quills and tail feathers black, speckled, blotched and barred with white on the inner webs; outer webs of the secondaries and tail feathers like the back; wing-coverts frequently sprinkled with white; bill black, pale at base below; feet dark. Length, 12 or more; wing, about 6; tail, 3½; whole foot, 1⅛; bill, about 2¼.

HAB. North America, south to Panama and the West Indies.

Nest, none.

Eggs, 6 to 8; white, deposited in an enlargement at the end of a tunnel, 4 to 8 feet deep, dug by the bird into a sand bank or gravel pit.

The Kingfisher is generally distributed throughout Ontario. It arrives early in April, and soon makes its presence known by its loud rattling cry, as it dashes along and perches on a horizontal bough overhanging the river. On some such point of observation it usually waits and watches for its scaly prey, but when passing over open water of greater extent it is often observed to check its course, hover Hawk-like at some distance above the surface, and then dash into the water after the manner of a Tern. If a fish is secured it is carried in the bill to some convenient perch, on which it is hammered till dead, and then swallowed head downwards.

The Kingfisher is a strong flier, and is sometimes seen careering at a considerable height as if for exercise.

They remain in their summer haunts till the end of September, when they all move farther south.

Order PICI. Woodpeckers, Wrynecks, etc.

Family PICIDÆ. Woodpeckers.

Genus DRYOBATES Boie.

161. DRYOBATES VILLOSUS (Linn.). 393.

Hairy Woodpecker.

Back black, with a long white stripe; quills *and wing coverts* with a profusion of white spots; four middle tail feathers black, next pair black and white, next two pairs white; under-parts white; crown and sides of head black, with a white stripe over and behind the eye, another from the nasal feathers running below the eye to spread on the side of the neck, and a scarlet nuchal band in the *male*, wanting in the *female*; *young* with the crown mostly red or bronzy, or even yellowish. Length, 9-10; wing, nearly 5; tail, 3½.

Hab. Middle portion of the Eastern United States, from the Atlantic coast to the Great Plains.

Nest, in a hole in a tree.

Eggs, 5 to 6; pure white,

A resident, though not very abundant species, noticed more frequently in winter than in summer. It is generally distributed through Southern Ontario, and was also noted by Prof. Macoun in the Northwest. Individuals vary much in size, those found in the north being the largest.

The Hairy Woodpecker is one of the most retiring of the family, spending much of its time in the solitudes of the woods, and when these are thinned out or cleared away, moving to regions still more remote. It is a strong, hardy, active bird, and the noise it makes while hammering on a tree, when heard in the stillness of the woods, might well be supposed to be produced by a bird of much greater size.

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162. DRYOBATES PUBESCENS (Linn.). 394.

Downy Woodpecker.

Coloration exactly as in *P. villosus* except the outer tail feathers are barred with black and white. Length, 6-7; wing, under 4; tail, under 3.

HAB. Northern and Eastern North America, from British Columbia and the eastern edge of the Plains northward and eastward.

Nest, a hole in a tree.

Eggs, 5 to 6; pure white.

A miniature of the preceding species which it resembles in habits as well as in appearance, although it is of a more sociable disposition, often being found in winter in company with the Chickadees and Brown Creepers. It is also an occasional visitor to the orchard, where it goes over the apple trees carefully, examining all injured or decayed parts in search of insects.

It is commonly known as the little Sapsucker, but the name is incorrectly applied, for any holes drilled by this species are made while it is in search of insects, those which allow the sap of the tree to exude being the work of the Yellow-bellied Woodpecker.

Like its big brother, the Downy Woodpecker is a resident species, but more plentiful in spring and fall than in summer, the numbers being increased at those seasons by passing migrants.

GENUS PICOIDES LACEPEDE.

163. PICOIDES ARCTICUS (SWAINS.). 400.

Arctic Three-toed Woodpecker

Crown with a yellow patch in the *male*. Back uniform black, sides of head striped, of body barred with black and white; quills with white spots; tail feathers unbarred, the outer white, the central black. Length, 8-9; wing, 4½-5; tail, 3½-4.

HAB. Northern North America, from the arctic regions south to the northern border of the United States; much further south in the western part of the United States (Nevada, California), along the mountain ranges.

Nesting, habits and eggs, so far as known, similar to those of other Woodpeckers.

This is a truly northern bird, seldom, even in winter, coming as far south as the southern border of Ontario. In November, 1859, I killed one on a pine tree on the south shore of Dundas

Marsh, which is the only time I have ever seen it alive. I have heard of one or two others being obtained in Southern Ontario, but as the species is common farther north, these can only be regarded as wanderers.

In the district of Muskoka it is resident and quite common, frequenting certain tracts of country which the fire has gone through and left the trees standing dead and decaying. It belongs to a small group, the members of which have only three toes. Whether this is a special adaptation of the bird to its life among the pines is not apparent, but it seems quite as able to shift for itself with three toes as its near relatives are with four.

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164. PICOIDES AMERICANUS Brehm. 401.

American Three-toed Woodpecker.

Three-toed; entire upper-parts glossy, bluish-black with a few spots of white on the wing quills. Below, white from the bill to the tail; the sides, flanks and lining of the wings barred with black. Four middle tail feathers black, the rest white. *Male* with a square patch of yellow on the crown, wanting in the *female*, bill and feet dull blue. Length, 9-10 inches.

Hab. Northern North America, from the Arctic regions southward, in winter, to the Northern States.

Nesting, habits and eggs as in the other Woodpeckers.

This is a more northern species than even the preceding, and nowhere so abundant. The two are often seen in company, and were found by Dr. Merriam breeding in the same district in northern New York, but strange to say, the present species has not been found in Muskoka, where the other is common and resident. During the past two years my friend Mr. Tisdall has been much in the woods in that district, and though he has seen scores of the black-backed during that time, he has never once met with the other. The only record I have of its occurrence in Ontario is that of a single female which was obtained near Ottawa, and is now in the collection of Mr. White of that city. Mention is made in the List of Birds of Western Ontario of one being found near London, but Mr.

Saunders informs me that the record is now believed to be incorrect. In the far west it is said to be common on the mountains of Colorado, but differs from the eastern form in having an uninterrupted stripe of white down the back, on account of which it has been ranked as a separate species under the name *dorsalis* or pole-back.

Genus SPHYRAPICUS Baird.

165. SPHYRAPICUS VARIUS (Linn.). 402.

Yellow-bellied Sapsucker.

Crown crimson, bordered all around with black; chin, throat and breast black, enclosing a large crimson patch on the former in the *male*, in the *female* this patch white; sides of head with a line starting from the nasal feathers and dividing the black of the throat from a trans-ocular black stripe, this separated from the black of crown by a white post-ocular stripe; all these stripes frequently yellowish; under parts dingy yellow, brownish and with sagittate dusky marks on the sides; back variegated with black and yellowish-brown; wings black with large oblique white bar on the coverts, the quills with numerous paired white spots on the edge of both webs; tail black, most of the feathers white edged, the inner webs of the middle pair and the upper coverts mostly white. *Young* birds lack the definite black areas of the head and breast and the crimson throat patch, these parts being mottled-gray. About, 8½; wing, 4½-5.

Hab. North America north and east of the Great Plains, south to the West Indies, Mexico and Guatemala.

Eggs, 4 to 6; white; deposited in a hole in a tree.

In Ontario this beautiful species is strictly migratory, not having been observed during winter, but from the fact of its being seen late in the fall and again early in spring we infer that it does not go far south.

It is decidedly a Sapsucker, the rows of holes we see pierced in the bark of sound, growing trees being mostly made by this species. It is not endowed with the long, extensile tongue peculiar to many of the Woodpeckers, but feeds largely on insects, which it finds on the outer bark of the trees or catches on the wing. It has been accused of doing serious injury to growing trees, by girdling them to get at the inner bark

on which it is said to feed. Dr. King, of River Falls, in his "Economic Relations of our Birds" exonerates it from this charge, and says that in the stomachs of thirty specimens which he examined he found in only six a small amount of material resembling the inner bark of trees, and further adds: "no instance in which the bark of trees has been stripped off by these birds has come under my observation, nor do I know of a single case in which their puncturings of the bark have been fatal or even appreciably injurious to the tree." In Southern Ontario a few remain and raise their young, but the majority go farther north.

Genus CEOPHLŒUS Cabanis.

166. CEOPHLŒUS PILEATUS (Linn.). 405.

Pileated Woodpecker.

Black; the head, neck and wings much varied with white or pale yellowish; bill dark; *male* scarlet crested, scarlet moustached; *female* with the crest half black, half scarlet, and no maxillary patches. Length, 15-19; wing, 8½-10; tail, 6-7.

Hab. Formerly, whole wooded region of North America; now rare or extirpated in the more thickly settled parts of the Eastern States.

Nest, a hole in the trunk or limb of a tall tree.

Eggs, 4 to 6; oval; white.

This is one of the grand old aborigines who retire before the advance of civilization. It used (so we are told) to be common near Hamilton, but seclusion among heavy timber is necessary for its existence, and such must now be sought for in regions more remote.

It is not strictly a northern species, being found resident in suitable localities both north and south, but varies considerably in size according to latitude, the northern individuals, as usual in such cases, being the largest. Many spend the winter in the burnt tracts in Muskoka, and in spring disperse over the country to breed in the solitude they seem to like.

They are wild; shy birds, difficult of approach, but their loud hammering is at all times a guide to those who wish to follow them in the woods. A nest was taken in the county of Middlesex, in May, 1885, by Mr. Robt. Elliot.

Genus MELANERPES Swainson.

Subgenus MELANERPES.

167. MELANERPES ERYTHROCEPHALUS (Linn.). 406.

Red-headed Woodpecker.

Glossy blue-black; rump, secondaries and under-parts from the breast pure white; primaries and tail feathers black; whole head, neck and breast crimson in both sexes, grayish-brown in the *young*; about 9; wing, 5½; tail, 3½.

Hab. United States, west to the Rocky Mountains, straggling westward to Salt Lake Valley; rare or local east of the Hudson River.

Nest, in a hole in a tree, varying greatly in height.

Eggs, 4 to 6; white.

In Ontario the Red-headed Woodpecker is a summer resident only, arriving early in May and leaving again in September. It is quite common and perhaps the best known of any of the Woodpeckers, both on account of its decided markings, and from its habit of visiting the orchard during the season of ripe fruit. It is also an expert fly-catcher, frequently taking its position on the top of a dead pine, from which it darts out after the passing insect in true fly-catcher style. Though a very showy bird when seen in the woods, it does not look so well in collections, the red of the head evidently fading after death.

Subgenus CENTURUS Swainson.

168. MELANERPES CAROLINUS (Linn.). 409.

Red-bellied Woodpecker.

Back and wings, except larger quills, closely banded with black and white; primaries with large white blotches near the base, and usually a few smaller spots. Whole crown and nape scarlet in the *male*, partly so in the *female*; sides of head and underparts grayish-white, usually with a yellow shade, *reddening* on belly; flanks and crissum with sagittate-black marks;

tail black, one or two outer feathers white barred; inner web of central feathers white with black spots, outer web of same black with a white space next the shaft for most of its length; white predominating on the rump. Length, 9-10; wing, about 5; tail, about 3½.

HAB. Eastern United States, to the Rocky Mountains; rare or accidental east of the Hudson River.

Nest, a hole in a tree.

Eggs, 4 to 6; white.

This handsome species is gradually becoming more common in Southern Ontario, and like some others, such as the Lark, Finch, Orchard Oriole and Rough-winged Swallow, it evidently makes its entrance to the province round the west end of Lake Erie, for it has become quite common near London and farther west, while I have found it only twice near Hamilton.

It is rather retiring in its habits, raising its young in the solitude of the woods, and seldom coming near the farm house. It is possible a few may remain over the winter, for I had a fine male sent down from near London in March of the present year (1886), while the weather was still quite cold and no spring birds had arrived.

GENUS COLAPTES SWAINSON.

169. COLAPTES AURATUS (LINN.). 412.

Flicker.

Back, wing-coverts and innermost quills olivaceous-brown thickly barred with black. Rump snowy-white. Quills and tail golden-yellow underneath, and shafts of this color. A scarlet nuchal crescent and large black pectoral crescent in both sexes; *male* with black maxillary patches, wanting in the *female*, head and nape ash; chin, throat and breast lilac-brown; under-parts with numerous round black spots; sides tinged with creamy-brown; belly with yellowish. About 10 inches long; wing, about 6; tail, 4½.

HAB. Northern and Eastern North America, west to the eastern slope of the Rocky Mountains and Alaska. Occasional on the Pacific slope, from California northward. Accidental in Europe.

Nest, a hole in a tree.

Eggs, 5 to 7; white.

Early in April, if the weather is mild, the loud cackling call of the "Higholder" may be heard from his perch at the top of a tall dead limb, where he watches to welcome his comrades as they hourly arrive from the south. For a week or two at this season they are very abundant, but many soon pass on farther north, and the others are distributed over the country, so that they are less frequently seen.

In habits this species differs considerably from all the other members of the family. It is more terrestrial, being often observed on the ground, demolishing ant hills and devouring the inmates, for which achievement its curved bill and long slimy tongue are admirably adapted. It is also fond of fruit, and of corn, either green or ripe.

It is by no means confined to the forest, but is often seen peeping from its hole in a stub by the roadside. When alighting on a tree it perches on a bough in the ordinary manner, being seldom seen clinging to the trunk like other members of the family, except when entering its nest. In Southern Ontario it is seen till late in October, but has not been observed during the winter.

Order MACROCHIRES. Goatsuckers, Swifts, etc.

Suborder CAPRIMULGI. Goatsuckers, etc.

Family CAPRIMULGIDÆ. Goatsuckers, etc.

Genus ANTROSTOMUS Gould.

170. ANTROSTOMUS VOCIFERUS (Wils.). 417.

Whip-poor-will.

General color of the upper-parts, dark brownish-gray, streaked and minutely sprinkled with brownish-black. Quills and coverts dark brown, spotted in bars with light brownish-red. Four middle tail feathers like those of the back, the three lateral white in their terminal half. Throat and breast similar to the back with a transverse band of white on the foreneck; rest of the lower-parts paler than above and mottled. *Female* similar, but with the lateral tail feathers reddish-white toward the tip only, and the band across the forehead pale yellowish-brown.

Hab. Eastern United States to the Plains, south to Guatemala.

Eggs, 2 ; marbled and clouded like the plumage of the birds ; deposited in a hollow or a rotten log, or on the ground on a dry bank among leaves.

This well-known bird crosses the Southern frontier of Ontario about the 10th of May, and should the weather be mild its loud and well-known cry is soon heard at night at many different points throughout the country. It is seldom seen abroad by day, except when disturbed from its resting place in some shady part of the woods, when it glides off noiselessly like a great moth. Disliking the glare of the light it avoids the city, but not unfrequently perches on the roof of the farm house, startling the inmates with its cry, which is there heard with great distinctness.

This is the only song of the bird, and it is kept up during the breeding season, after which it is seldom heard. We see so little of these birds that it is difficult to tell exactly at what time they leave us, but it is most likely early in September that they "fold their tents like the Arabs, and as silently steal away."

Genus CHORDEILES Swainson.

171. CHORDEILES VIRGINIANUS (Gmel.). 420.

Nighthawk.

Above mottled with black, brown, gray and tawny; the former in excess ; below from the breast transversely barred with blackish and white or pale fulvous ; throat in the *male* with a large white, in the *female* tawny, cross-bar ; tail blackish, with distant pale marbled cross-bars and a large white spot (wanting in the *female*) on one or both webs of all the feathers toward the end ; quills dusky, unmarked except by one large white spot on five outer primaries about midway between their base and tip ; in the *female* this area is restricted or not pure white. Length, about 9 ; wing, 8 ; tail, 5.

Hab. Northern and Eastern North America, east of the Great Plains, south through tropical America to Buenos Ayres.

Eggs, 2 ; veined and freckled with lavender and gray ; deposited on rocks or on the ground, or among the gravel of a flat-roofed house in the city.

A well-known and abundant summer resident, arriving from the south early in May. Though a Nighthawk, it is often seen abroad by day during cloudy weather, and in the evening, just

as the sun is sinking below the horizon, numbers of these birds are occasionally seen careering around high overhead, uttering their peculiar cry, so readily recognized, yet so difficult either to imitate or describe. While thus in the exercise of its most wonderful powers of flight, and performing many graceful aerial evolutions, it will suddenly change its course and plunge headlong downwards with great rapidity, producing at the same time a singular booming sound which can be heard for some distance. Again, as quickly, with a few bold strokes of its long pointed wings, it will rise to its former height, and dash hither and thither as before.

Poets, in all ages, have sung the praises of their favorite birds, and even now, from the unpoetic plains of Chatham, comes the following lines on the habit of the Nighthawk, just described :

" With widespread wings and quivering boom,
Descending through the deepening gloom,
Like plummet falling from the sky,
Where some poor moth may vainly try
A goal to win—
' He holds him with his glittering eye '
And scoops him in."

Towards the end of August, when the first frosts begin to cut off their supply of insect food, large gatherings of Nighthawks may be seen in the evenings moving toward the southwest, not in regular order like Ducks or Pigeons, but skimming, darting and crossing each other in every imaginable direction, but still with a general tendency toward the south, till darkness hides them from our view.

SUBORDER CYPSELI. SWIFTS.

FAMILY MICROPODIDÆ. SWIFTS.

SUBFAMILY CHÆTURINÆ. SPINE-TAILED SWIFTS.

GENUS CHÆTURA STEPHENS.

172. CHÆTURA PELAGICA (LINN.). 423.

Chimney Swift.

Sooty-brown with faint greenish gloss above, below paler, becoming gray on the throat; wings black. Length, about 5 ; wing the same ; tail, 2 or less.

HAB. Eastern North America, north to Labrador and the Fur Countries, west to the Plains, and passing south of the United States in winter.

Nest, a basket of twigs glued together and to the side of the chimney or other support by the saliva of the bird.

Eggs, 4 to 5; pure white.

The Swift is a late comer, and while here seems ever anxious to make up for lost time, being constantly on the wing, darting about with great rapidity, sometimes high overhead, sometimes skimming the surface of the pond, often so closely as to be able to sip from the water as it passes over it, or snap up the insects which hover on the surface.

The original nesting place of the Swifts was in a hollow tree, often of large diameter, and frequented year after year by a great many of the birds, but now they seem to prefer a city chimney. There they roost and fasten their curious basket nest to the wall a few feet down, to be out of reach of the rays of the sun. A fine exhibition of bird life it is to watch the Swifts, in the evening about sunset, circling a few times round the chimney, raising their wings above their backs and dropping like shuttle-cocks down to their nest, nea rwhich they spend the night clinging to the wall with their claws. The sharp spines at the end of the tail feathers, pressed against the surface, form their chief support.

They arrive about the 10th of May, and leave for the south early in September.

SUBORDER TROCHILI. HUMMINGBIRDS.

FAMILY TROCHILIDÆ. HUMMINGBIRDS.

GENUS TROCHILUS LINNÆUS.

SUBGENUS TROCHILUS.

173. TROCHILUS COLUBRIS LINN. 428.

Ruby-throated Hummingbird.

Male with the tail forked, its feathers all narrow and pointed; no scales on crown; metallic gorget reflecting ruby-red, etc.; above golden green;

below white, the sides green; wings and tail dusky-purplish. The *female* lacking the gorget; the throat white; the tail somewhat double-rounded, with black bars, and the outer feathers white-tipped. Length, 3½; wing, 1⅜; bill, ⅜.

HAB. Eastern North America to the Plains, north to the Fur Countries, and south, in winter, to Cuba and Veragua.

Nest, a beautiful specimen of bird architecture, usually placed on the horizontal branch of a tree in the orchard; composed of gray lichens, lined with the softest plant down.

Eggs, 2; pure white, blushed with pink while fresh.

The Hummingbirds begin to arrive towards the middle of May, and by the end of the month when the lilacs are in bloom they are quite numerous. About this time many pass on to breed farther north, while others engage in the same occupation here.

In September they again become common, showing a strong liking for the *impatiens fulva*, or wild balsam, which grows abundantly in moist places, and later they crowd about the *bignonia* or trumpet-creeper. This is a late flowering plant, and the tiny birds, as though loth to leave it, are seen as late as the middle of September rifling it of its sweets.

There are about sixteen different species of Hummingbirds now known as North American, but this is the only one found east of the Mississippi River. Though small it is very pugnacious, often attacking birds much larger than itself who may venture near its nest. On such occasions it produces an angry buzzing sound with its wings, but it has no voice save a weak chirp, like a cricket or grasshopper.

ORDER PASSERES. PERCHING BIRDS.

SUBORDER CLAMATORES. SONGLESS PERCHING BIRDS.

FAMILY TYRANNIDÆ. TYRANT FLYCATCHERS.

GENUS MILVULUS SWAINSON.

174. MILVULUS FORFICATUS (GMEL.). 443.

Scissor-tailed Flycatcher.

First primary alone emarginate; crown patch, orange or scarlet. Hoary ash, paler or white below, sides at the insertion of the wings scarlet or blood-

red, and other parts of the body tinged with the same, a shade paler; wings blackish, generally with whitish edgings; tail black, several outer feathers extensively white or rosy; wing, about 4½; tail, over 12 inches long.

HAB. Texas and Indian Territory, casually north to Kansas and Missouri; south to Central America. Accidental in Virginia, New Jersey, New England, Manitoba, and at York Factory, Hudson's Bay.

Nest, like the King-birds.

Eggs, 4 to 5; white blotched with reddish and lilac shell-spots.

The home of this beautiful bird is in Texas, but it is evidently much given to wandering, appearing unexpectedly at points far distant from its usual habitat.

The only record I have of its occurrence in Ontario is furnished by Dr. Garnier, of Lucknow, Bruce County, who reports having seen one near his place some years since. He had no means of securing the bird, but saw it by the roadside as he drove past, opening and closing its tail feathers with the usual scissor-like motion.

It was also found in the Northwest by Prof. Bell of the geological survey. Such visits can only be regarded as accidental, for the species does not regularly come so far north.

GENUS TYRANNUS CUVIER.

175. TYRANNUS TYRANNUS (LINN.). 444.

Kingbird.

Two outer primaries obviously attenuate. Above blackish, darker on the head; crown with a flame colored patch; below pure white, the breast shaded with plumbeous; wings dusky, with much whitish edging; tail black, broadly and rather sharply tipped with white, the outer feathers sometimes edged with the same. Bill and feet black. *Young* without the patch; very young birds show rufous edging of the wings and tail. Length, about 8 inches; wing, 4½; tail, 3½; bill, under 1.

HAB. Eastern North America, from the British Provinces south to Central and South America. Rare west of the Rocky Mountains (Utah, Nevada, Washington Territory, etc.)

Nest, large for the size of the bird, placed on the horizontal bough of an isolated tree; composed of vegetable fibrous materials and sheep's wool compactly woven together.

Eggs, 4 to 6; creamy or rosy-white, spotted and blotched with reddish, brown and lilac shell-spots.

The Kingbird arrives in Ontario from the south about the 10th of May, and from that time till it leaves again in September it is one of the most familiar birds in the rural districts. It is generally distributed, each pair taking possession of a certain "limit," which is valiantly defended against all intruders, no bird however large being permitted to come with impunity near where the Kingbird's treasures are deposited. It is partial to pasture fields, a favorite perch being the top of a dry mullein stalk. Here the male sits like a sentinel, issuing his sharp note of warning, and occasionally darting off to secure a passing insect. When the breeding season is over and the young are able to shift for themselves, he gets over his local attachments and quietly takes his insect fare wherever he can find it, allowing other birds to do the same.

Genus MYIARCHUS Cabanis.

176. MYIARCHUS CRINITUS (Linn.). 452.

Crested Flycatcher.

Decidedly olivaceous above, a little browner on the head, where the feathers have dark centres; throat and fore-breast pure dark ash, rest of under-parts bright yellow, the two colors meeting abruptly; primaries margined on both edges with chestnut; secondaries and coverts edged and tipped with yellowish-white; tail, with all the feathers but the central pair, chestnut on the whole of the inner web, excepting, perhaps, a very narrow stripe next the shaft; outer web of outer feathers edged with yellowish; the middle feathers, outer webs of the rest, and wings, except as stated, dusky brown. Very young birds have rufous skirting of many feathers, in addition to the chestnut above described, but this soon disappears. Length, 8½-9½; wing and tail, about 4; bill and tarsus, each ¾.

Hab. Eastern United States and Southern Canada, west to the Plains, south through Eastern Mexico to Costa Rica.

Nest, in hollow of trees, sometimes in the deserted hole of a Woodpecker; composed of straw, leaves, rootlets and other vegetable materials

lined with feathers ; about the edge is always to be found the cast-off skins of snakes.

Eggs, 4 to 5 ; light buffy-brown, streaked lengthwise by lines and markings of purplish and darker brown.

This species does not penetrate far north into Ontario, but is a regular summer resident along the southern frontier, where it arrives early in May, and soon makes its presence known by its loud note of warning, which is heard among the tree tops long before the bird is visible.

Dr. Wheaton in his "Birds of Ohio" states that this species is very numerous near Columbus, where the country being well cleared and the usual breeding places difficult to find, the birds have taken to the use of boxes put up for Bluebirds and Martins, and have been observed to dispossess the legitimate owners. It has also been noticed that the snake skins are left out where the nests are in boxes.

Genus SAYORNIS Bonaparte.

177. SAYORNIS PHŒBE (Lath.). 456.

Phœbe.

Dull olivaceous-brown ; the head much darker fuscous-brown, almost blackish, usually in marked contrast with the back ; below soiled whitish, or palest possible yellow, particularly on the belly ; the sides and the breast, nearly or quite across, shaded with grayish-brown ; wings and tail dusky, the outer tail feather, inner secondaries and usually the wing coverts edged with whitish ; a whitish ring around the eye ; bill and feet black, varies greatly in shade. The foregoing is the average spring condition. As the summer passes, the plumage becomes much duller and darker brown from wearing of the feathers, and then, after the moult, fall, specimens are much brighter than in spring, the under-parts being frequently decidedly yellow, at least on the belly. Very young birds have some feathers edged with rusty, particularly on the edges of the wing and tail feathers. Length, 6¼-7 ; wing and tail, 3-3¼.

Hab. Eastern North America, from the British Provinces south to Eastern Mexico and Cuba, wintering from the South Atlantic and Gulf States southward.

Nest, under bridges or projection about outhouses ; composed of vegetable material mixed with mud and frescoed with moss.

Eggs, 4 to 5 ; usually pure white, sometimes faintly spotted.

This is one of the earliest harbingers of spring, and its quick querulous notes are hailed with joy, as a prelude to the grand concert of bird music which is soon to follow.

Early in April the male Pee-wee appears in his former haunts, and being soon joined by his mate they at once begin to repair their old nest or to select the site for a new one. They are partial to the society of man, and their habits, as shown in their nesting, have been somewhat changed by this taste. The original typical nest of the Pee-wee, we are told, was placed on a ledge under a projecting rock, over which water trickled, the nest itself often being damp with the spray. We still see one occasionally in such a position, but more frequently it is placed on the beams of a bridge, beneath the eaves of a deserted house, or under the verandah or the projection of an outhouse. They raise two broods in the season, and retire to the south in September.

Genus CONTOPUS Cabanis.

178. CONTOPUS BOREALIS (Swains.). 459.

Olive-sided Flycatcher.

Dusky olivaceous-brown, usually darker on the crown, where the feathers have black centres, and paler on the sides; chin, throat, belly, crissum and middle line of the breast white, more or less tinged with yellowish; wings and tail blackish, unmarked, excepting inconspicuous grayish-brown tips of the wing coverts, and some whitish edging of the inner quills; feet and upper mandible black, lower mandible mostly yellowish. The olive-brown below has a peculiar *streaky* appearance hardly seen in other species, and extends almost entirely across the breast. A peculiar tuft of white fluffy feathers on the flanks. *Young* birds have the feathers, especially of the wings and tail, skirted with rufous. Length, 7-8; wing, 3½-4½, remarkably pointed; second quill longest, supported nearly to the end by the first and third, the fourth abruptly shorter; tail, about 3; tarsus, middle toe and claw together about 1½.

Hab. North America, breeding from the northern and the higher mountainous parts of the United States northward. In winter, south to Central America and Colombia.

Nest, a shallow structure composed of weeds, twigs, rootlets, strips of bark, etc., loosely put together; saddled on a bough or placed in a fork high up in a tree.

Eggs, 3 to 4; creamy-white, speckled with reddish-brown.

So far as at present known, this species is rare in Ontario, and not very abundant anywhere. Towards the end of May, 1884, when driving along the edge of a swamp north of the village of Millgrove, I noticed a bird on the blasted top of a tall pine, and stopping the horse at once recognized the species by the loud *O-whee-o, O-whee-o*, so correctly described as the note of this species by Dr. Merriam in his "Birds of Connecticut." I tried to reach it with a charge of No. 8, and it came down perpendicularly into the brush, but whether dead, wounded or unhurt I never knew, for I did not see it again. That was the only time I ever saw the species alive.

It has a wide distribution, having been found breeding in New Jersey, Pennsylvania, and north on the Saskatchewan, near Cumberland House. In the west it has been observed in Colorado and along the Columbia river.

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179. CONTOPUS VIRENS (LINN.). 461.

Wood Pewee.

Olivaceous-brown, rather darker on the head, below with the sides washed with a paler shade of the same nearly or quite across the breast; the throat and belly whitish, more or less tinged with dull yellowish; under tail coverts the same, usually streaked with dusky; tail and wings blackish, the former unmarked, the inner quills edged and the coverts tipped with whitish; feet and upper mandible black, under mandible usually yellow, sometimes dusky. Spring specimens are purer olivaceous. Early fall birds are brighter yellow below. In summer, before the now worn feathers are renewed, quite brown and dingy-whitish. Very young birds have the wing-bars and pale edging of quills tinged with rusty, the feathers of the upper-parts skirted, and the lower plumage tinged with the same; but in any plumage the species may be known from all the birds of the following genus by these dimensions. Length, 6-6½; wing, 3¼-3½; tail, about ½, not longer than the *bill*.

HAB. Eastern North America to the plains, and from Southern Canada southward.

Nest, composed of bark fibre, rootlets and grass, finished with lichens; on the outside it is compact and firm round the edge, but flat in form, and rather loose in the bottom. It is sometimes saddled on a bough, more frequently placed on the fork of a twig 10 or 12 feet or more from the ground.

Eggs, 3 or 4; creamy-white, blotched and variegated at the larger end with reddish-brown.

This species resembles the Phœbe in appearance, but is smaller and has an erect Hawk-like attitude, when seen perched on a dead twig on the outer limb of a tree. It is a late comer, being seldom seen before the middle of May, after which its prolonged melancholy notes may be heard alike in the woods and orchards till the end of August, when the birds move south. To human ears the notes of the male appear to be the outpourings of settled sorrow, but to his mate the impressions conveyed may be very different.

The Wood Pewee is a less hardy bird than the Phœbe. It is not so numerous in Ontario, neither does it penetrate so far north.

Genus EMPIDONAX Cabanis.

180. EMPIDONAX FLAVIVENTRIS Baird. 463.

Yellow-bellied Flycatcher.

Above olive green, clear continuous and uniform as in *acadicus*, or even brighter; below not merely *yellowish*, as in the foregoing, but emphatically *yellow*, bright and pure on the belly, shaded on the sides and anteriorly with a paler tint of the color of the back; eye-rings and wing-markings yellow; under mandible yellow; feet black. In respect of color, this species differs materially from all the rest; none of them, even in their autumnal yellowest, quite match it. Size of *Traillii* or rather less; feet proportioned as in *acadicus*; bill nearly as in *minimus*, but rather larger; first quill usually equal to sixth.

Hab. Eastern North America to the Plains, and from Southern Labrador south through Eastern Mexico to Panama, breeding from the Northern States northward.

Nest, in a mossy bank; composed mostly of moss, with a few twigs and withered leaves, and lined with black wiry rootlets and dry grass.

Eggs, 4; creamy-white, spotted and blotched with reddish-brown and a few black markings chiefly near the larger end.

Several of the small Flycatchers resemble each other so closely that it is often difficult for the general observer to identify them correctly. The clear yellow of the under-parts of

the present species serves to distinguish it from the others, but it is everywhere scarce and little known except to collectors.

Near Hamilton I have noticed one or two every spring, and sometimes also in the fall. During the summer it has not been observed.

It is only within the past five years that correct information has been obtained regarding the nest and eggs of this species, one of the first and best descriptions being given by Mr. Purdie in the Nuttall Bulletin for October, 1878. The nest in this case was placed among the roots of an upturned tree.

All the nests I have seen described have been found in Maine, but the species will no doubt yet be found breeding in Ontario and elsewhere in the interior.

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181. EMPIDONAX PUSILLUS TRAILLII (AUD.). 466a.

Traill's Flycatcher.

Above olive-brown, lighter and duller brownish posteriorly, darker anteriorly, owing to obviously dusky centres of the coronal feathers; below nearly as in *acadicus*, but darker, the olive-gray shading quite across the breast; wing-markings grayish-white with slight yellowish or tawny shade; under mandible pale; upper mandible and feet black. Averaging a little less than *acadicus*, 5½-6; wing, 2⅞-2⅞, more rounded, its tip only reaching about ⅜ of an inch beyond the secondaries, formed by 2d, 3d and 4th quills as before, but 5th not so much shorter (hardly or not ¼ of an inch), the first ranging between 5th and 6th; tail, 2⅛; tarsus, ⅝ as before, but middle toe and claw three-fifths, the feet thus differently proportioned owing to length of the toes.

HAB. Eastern North America, breeding from the Middle States (Southern Illinois and Missouri) northward; in winter south to Central America.

Nest, in an upright fork, firmly secured in its place with the stringy fibres of bark, deeply cupped, composed chiefly of vegetable fibres, lined with dry grass and thistle down.

Eggs, 3 to 4; creamy-white, blotched, chiefly toward the larger end, with reddish-brown.

Traill's Flycatcher is not much known in Ontario, the number of collectors being few. By the ordinary observer, the bird may readily be mistaken for others of its class which it

closely resembles. Mr. Saunders has found it near London, and I have met with it now and then in the moist secluded ravines by the shore of the Dundas Marsh, but it is by no means common.

In former years, confusion existed in the minds of different authors regarding the history and distribution of the small Flycatchers, and in my list, published in 1866, the Acadian Flycatcher is included as a rare summer resident near Hamilton. Since that time I have had it frequently reported as occurring at different points in the province, but I have been compelled to reject all of these records as incorrect, and to conclude that it is very doubtful if the Acadian Flycatcher ever enters Ontario.

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182. EMPIDONAX MINIMUS BAIRD. 467.

Least Flycatcher.

Colors almost exactly as in *Traillii*; usually, however, olivé-gray rather than olive-brown; the wing-markings, eye-ring and loral feathers plain grayish-white; the whole anterior parts often with a slight ashy cast; under mandible ordinarily dusky; feet black. It is a smaller bird than *Traillii*, and not so stoutly built; the wing-tip projects only about ½ an inch beyond the secondaries; the 5th quill is but a little shorter than the 4th, the 1st apt to be nearer the 6th than 5th; the feet are differently proportioned, being much as in *acadicus*; the bill is obviously under ½ inch long. Length, 5-5-25; wing, 2-60 *or less*; tail, about 2-25.

HAB. Eastern North America, south in winter to Central America. Breeds from the Northern States northward.

Nest, in the fork of a sapling or tree; composed of vegetable fibre and wilted weeds, with a compact lining of plant down, horse hair and fine grass.

Eggs, 3 to 4; usually pure white, occasionally a set or part of a set are found dotted with dusky.

The Least Flycatcher is very common throughout Ontario, and is mentioned among the birds found by Prof. Macoun in the Northwest Territory. It arrives near Hamilton about the end of the first week in May, soon after which its short, sharp call, "*Chebec*," is heard by the outer edge of the woods, and even in the city orchards it takes its location and raises its family. As soon as the young ones are able to fly the birds disperse

more generally over the country, and are in no haste to retire, but linger till the cold weather cuts off their supply of food.

As the correct indentification of the small Flycatchers is often a puzzle to the amateur I will give Dr. Coues' instructions which may be of use in this connection:

"E. Acadicus—Nest, in the trees, in horizontal forks, thin, saucer-shaped, open-worked; eggs, creamy-white, boldly spotted.

E. Traillii—Nest, in trees, in upright crotch, deeply cupped, more or less compact walled; eggs, creamy-white, boldly spotted.

E. Minimus—Nest, in trees, in upright crotch, deeply cupped, compact walled; eggs, immaculate white.

E. Flaviventris—Nest, on the ground or near it, deeply cupped, thick and bulky; eggs, white, spotted."

SUBORDER OSCINES. SONG BIRDS.

FAMILY ALAUDIDÆ. LARKS.

GENUS OTOCORIS BONAPARTE.

183. OTOCORIS ALPESTRIS (LINN.). 474.

Horned Lark.

Adult: above brown, tinged with pinkish, brightest on the nape, lesser wing-coverts and tail-coverts; other upper-parts gray, the centre of the feathers dusky. Below white, tinged with dusky on the sides, anteriorly with sulphur-yellow. A large black area on the breast. Sides of the head, and whole of the throat, sulphury-yellow, with a crescentic mark of black below each eye, and a black bar across the forehead, and thence along the side of the crown, prolonged into a tuft or "horn."

Middle tail-feathers like the back, the others black, the outer web of the outer pair whitish. Bill blackish, livid blue at base below; feet black. In winter, at which season it is observed in Southern Ontario, the colors are paler and much less decided. Length, 7 to 7-50; *female* smaller.

HAB. Northeastern North America, Greenland and northern parts of the Old World; in winter south in the Eastern United States to the Carolinas, Illinois, etc.

Nest, a slight depression in the ground lined with grass.

Eggs, 4 to 5; grayish-white, marked with spots of brownish-purple.

The Shore Lark, with which I became acquainted twenty-five years ago, is a rare winter visitor in Ontario, only a few being observed. They usually are found in company with the Snowbirds, and are thoroughly terrestrial in their habits, seldom alighting anywhere but on the ground. While here they spend most of their time, during the short days of winter, searching for their daily fare on bare gravelly patches, from which the snow has been blown away. Occasionally toward the end of March, just before leaving, I have seen the male settle himself on a hillock and warble out a pleasing Lark-like song, which is probably given with more power and pathos later in the season near his grassy home, with his mate for an audience.

This is the northern type of the family, and it is believed to be identical with the British bird of the same name. In Ontario it is as rare as formerly, its breeding place being far to the north and east, but we have now a pale race which spends the summer with us, a description of which will follow this.

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184. OTOCORIS ALPESTRIS PRATICOLA HENSH. 474 b.

Prairie Horned Lark.

Adult-male in spring, posterior portion of the crown, occiput, nape, sides of the neck and breast, lesser wing-coverts and shorter upper tail coverts, light vinaceous; back, scapulars and rump grayish-brown; the feathers with darker centres, becoming darker and much more distinct on the rump; middle-wing coverts light vinaceous terminally, brownish-gray basally. Wings (except as described), grayish-brown, the feathers with paler edges, outer primaries with outer web chiefly white. Middle pair of tail feathers light-brown (paler on edges), the central portion (longitudinally) much darker, approaching dusky; remaining tail feathers uniform black, the outer pair with exterior webs broadly edged with white. Longer upper tail-coverts light-brown edged with whitish and marked with a broad lanceolate streak of dusky. Forehead (for about .15 of an inch) yellowish-white, this continued back in a broad supercilliary stripe of nearly pure white; fore-part of crown (for about .35 of an inch) deep black, continued laterally back to and including the ear-like tufts; lores, suborbital region, and broad patch on cheeks (with convex posterior outline) deep black, jugular crescent also deep black, this extending to lower part of throat; chin and throat pale straw-yellow, gradually fading into white on sides of fore-neck; anterior half of ear-coverts white, posterior half drab-gray, each portion forming a crescent-shaped patch. Lower parts posterior to the jugulum crescent pure white, the sides of the breast light vinaceous, the sides similar but brown and

indistinctly streaked with darker. Upper mandible plumbeous-black, lower, bluish-plumbeous; iris deep-brown; legs and feet brownish-black. Size, slightly less than the preceding.

HAB. Upper Mississippi Valley and the region of the Great Lakes.

Nest, a hollow in the ground, lined with grass

Eggs, 4 to 5; dull white marked with spots of brown and purple.

As near as I can remember this species first appeared in Ontario about the year 1868. It was noticed at once as being different from our winter visitor, being less in size and its plumage having the washed-out look peculiar to the Prairie birds. Since that time it has increased annually until it has become quite established. I think they do not all leave in the fall, but that a few remain and associate with the northern form, which arrives from the north early in the winter. Great numbers appear in February or early in March, and should the season be late they swarm in the road tracks and bare places everywhere, waiting for the disappearing of the snow, and even before it is quite gone many pairs commence building their nests. Soon the flocks separate, the birds scatter in pairs over the country, and are not again seen in such numbers until the following season.

There are now eight different species of the Genus *Otocoris*, described as being found in North America. They have all a strong family likeness, but differ sufficiently to warrant specific distinction, though several of the groups are of very recent formation. They are found mostly in the west and south-west, only two species having, till now, been observed in Ontario.

FAMILY CORVIDÆ. CROWS, JAYS, MAGPIES, ETC.

SUBFAMILY GARRULINÆ. MAGPIES AND JAYS.

GENUS PICA BRISSON.

185. PICA PICA HUDSONICA. (SAB.). 475.

American Magpie.

Bill black; head, neck, fore-part of the breast and back, black, glossed with green and blue; middle of the back, greyish-white; scapulars, white;

smaller wing coverts, black secondary and primary coverts, glossed with green and blue; primaries, black, glossed with green, their inner webs white except at the end; secondaries bright blue changing to green, the inner webs greenish-black; tail, glossed with green, changing to bluish-purple and dark-green at the end; breast and sides, pure white; legs, abdomen, lower tail-coverts, black Length, 18-20 inches.

HAB. Northern and Western North America, casually east and south to Michigan (accidently in Northern Illinois in winter) and the Plains, and in the Rocky Mountains to New Mexico and Arizona.

Nest, in a tree, 10 or 12 feet or more from the ground; built of coarse sticks, plastered with mud and lined with hair, feathers and other soft materials.

Eggs, 5 or 6; greenish, thickly shaded and dashed with purplish-brown.

The gaudy, garrulous Magpie is, on the American continent, peculiar to the north and west, and is mentioned as a bird of Ontario on the authority of Mr. C. J. Bampton, Registrar of the District of Algoma, who reports it as a rare winter visitor at Sault St. Marie. It has been seen by surveying parties along the northern tier of States, and is said to be possessed of all the accomplishments attributed to the British Magpie, whose history has been so often written. Mr. Trippe, who found it breeding in Colorado, describes the nest as having two apertures, one at each side, so that when the bird enters by the front it leaves by the one at the back, and while sitting on the nest the long tail projects outside.

The Magpie is a gay, dashing fellow, whom we always like to see in his native haunts, and we would welcome him to the woods of Southern Ontario should his curiosity lead him this way.

In the rural districts of Scotland these birds are regarded with suspicion, from the belief that they know more than birds ought to know. They are supposed to indicate future joy or sorrow to the wayfarer, according to the number he sees together, the idea being thus expressed in popular rhyme: one, mirth; two, grief; three, a wedding; four, a death.

Genus CYANOCITTA Strickland.

186. CYANOCITTA CRISTATA. (Linn.). 477.

Blue Jay.

Purplish-blue; below pale gray, whitening on the throat, belly and crissum; a black collar across the lower throat and up the sides of the neck and head behind the crest, and a black frontlet bordered with whitish; wings and tail, pure rich blue, with black bars, the greater coverts, secondaries and tail feathers, except the central, broadly tipped with pure white; tail, much rounded, the graduation over an inch. Length, 11-12; wing, 5¼; tail, 5¾.

Hab. Eastern North America to the Plains, and from the Fur Countries south to Florida and Eastern Texas.

Nest, in trees or bushes, built of sticks, lined with weeds, grasses and other soft material.

Eggs, 5 to 6; variable in color, usually clay color with brown spots.

This species is common throughout Ontario, and may be considered resident, for though the greater number migrate in the fall, a few always remain and are heard squalling among the evergreens any mild day in the depth of winter.

Notwithstanding his gaudy attire, the Jay is not a favorite, which is probably owing to his having many traits of character peculiar to the "bad boy," being always ready for sport or spoil. He frequently visits the farm house for purposes of plunder, and when so engaged works silently and diligently till his object is attained. He then gets off to the woods as quickly as possible, where he may afterwards be heard chuckling to himself over his success.

There is a swampy spot in a clump of bush in West Flamboro' where a colony of Blue Jays has spent the winter for several seasons, and they seem to have lots of fun even in the severest weather. I have occasionally called in when passing, and have found amusement listening to their varied notes issued in quite a colloquial strain. Sometimes the birds are on the ground, busily gathering nuts with which to replenish their storehouses, but if a scout arrives with some interesting intelligence, off goes the whole troop, each individual apparently knowing the object of the excursion. On the return notes are compared, and I almost fancy

I hear them laugh at their narrow escapes and ludicrous exploits. On such occasions I know I am often the subject of remark, but if I keep quiet they do not seem to object much to my presence.

GENUS PERISOREUS BONAPARTE.

187. PERISOREUS CANADENSIS (LINN.). 484.

Canada Jay.

Upper parts dull leaden-gray; lower, dull yellowish-white; forehead yellowish-white; hind-part of the head and neck, grayish-black; throat and band passing round the neck, grayish-white; secondary quills and tail feathers narrowly tipped with white; *young*, dull slate color, paler on the abdomen, darker on the head, the white tips of the wings and tail duller than in the adult. Length, 10 to 11 inches.

HAB. Northern New England, Michigan and Canada, northward to Arctic America.

Nest, on the branch of an evergreen; composed of twigs and grass, lined with feathers.

Eggs, 4 to 5; grayish-white, marked with yellowish-brown,

The Indian name for this bird is *Wis-Ka-Tjan*, which pronounced by an English tongue sounds much like "Whiskey John." Through familiarity this has become "Whiskey Jack," the name by which the bird is best known in the districts he frequents. The Canada Jay is found in high latitudes, from Labrador to the Pacific Coast. It is quite common in the District of Muskoka, where it breeds and is resident. I have also heard of one individual being taken at Oshawa, but have no record of its having been seen farther south in Ontario.

In the Birds of the Northwest, Dr. Coues, quoting from Mr. Trippe, says: "During the warmer months the Canada Jay frequents the darkest forests of spruce, occasionally flying a little way above the trees. It is quite tame, coming about the mining camps to pick up whatever is thrown out in the way of food, and evincing much of the curiosity that is characteristic

of the family. In winter its supply of food is very precarious, and it is often reduced to mere skin and bones. At such times it will frequently weigh no more than a plump Sparrow or Snowbird, and undoubtedly it sometimes starves to death. During the latter part of the autumn, its hoarse croaking is almost the only sound to be heard in the cold, sombre forests which lie near the timber line."

SUBFAMILY CORVINÆ. CROWS.

GENUS CORVUS LINNÆUS.

188. CORVUS CORAX SINUATUS (WAGL.). 486.

American Raven.

Entire lustrous black; throat feathers acute, lengthened and disconnected. Length, about 2 feet; wing, 16-18 inches; tail, 10.

HAB. Continent of North America, from the Arctic regions to Guatemala, but local and not common in the United States east of the Mississippi River.

Nest, on high trees or inaccessible cliffs.

Eggs, 4 to 5; greenish, dotted, blotched and clouded with purplish and blackish-brown.

Few birds are so widely distributed over the face of the earth, and few have obtained so great a share of notoriety as the Raven, that "grim, ungainly, ghastly, gaunt and ominous bird of yore." In Southern Ontario it is now seldom seen. The specimen in my collection was obtained at St. Clair Flats some years since, where it was reported as an occasional visitor in the fall. Wilson, when speaking of this species, says: "On the lakes, and particularly in the neighborhood of Niagara Falls, they are numerous, and it is a remarkable fact that where they so abound the common Crow seldom appears. I had an opportunity of observing this myself in a journey along the shores of Lake Erie and Ontario during the month of August and September. The Ravens were seen every day, but I did not see or hear a single crow within several miles of the lakes." Since the days of Wilson the case has been reversed, and any one travelling now round the lakes named will see Crows in plenty, old and young, but not a single

Raven. They are said to be common in the rocky region of Muskoka, where they probably nest on the cliffs. They are believed to continue mated for life, and are often heard expressing their feelings of conjugal attachment in what to human ears sounds but a dismal croak.

189. CORVUS AMERICANUS Aud. 488.

American Crow.

Color uniform lustrous black, including the bill and feet; nasal bristles about half as long as the bill, throat feathers oval and blended; no naked space on cheeks. Length, 18-20; wing, 13-14; tail, about 8; bill, 1-75.

Hab. North America, from the Fur Countries to Mexico.

Nest, in trees, built of sticks and twigs, lined with moss and strips of bark.

Eggs, 4 to 6; green, spotted and blotched with blackish-brown.

While the Raven prefers to frequent the uncleared parts of the country, the Crow delights in the cultivated districts, where, in the opinion of the farmer, his services could well be dispensed with. Though exposed to continued persecution, he knows the range of the gun accurately, and is wide awake to the intention of all sorts of ambuscades planned for his destruction, so that he thrives and increases in number as the country gets more thickly settled. The Crows mostly leave us at the approach of cold weather, yet should the carcase of a dead animal be exposed, even in the depth of winter, it is curious to observe how quickly it will be visited by a few individuals of this species, which are probably remaining in sheltered parts of the woods, and have some means of finding out where a feast is to be had. Early in April the northern migration begins, and the birds may be seen daily, singly, in pairs, or in loose straggling flocks, passing toward the north-west.

Family ICTERIDÆ. Blackbirds, Orioles, etc.

Genus DOLICHONYX Swainson.

190. DOLICHONYX ORYZIVORUS (Linn.). 494.

Bobolink.

Male in spring, black; cervix buff; scapulars, rump and upper tail-coverts ashy-white; interscapulars streaked with black, buff, and ashy;

outer quills edged with yellowish ; bill blackish-horn ; feet brown. *Male* in fall, *female* and *young*, entirely different in color ; yellowish-brown above, brownish-yellow below ; crown and bask conspicuously, nape, rump and sides less broadly streaked with black ; crown with a median and lateral light stripe ; wings and tail blackish, pale edged ; bill brown. The *male* changing shows confused characters of both sexes. Length, 6½-7½ ; wing, 2½-4 ; tail, 2⅛-3 ; tarsus, about 1 ; middle toe and claw, about 1¼.

HAB. Eastern North America to the Great Plains ; north to southern Canada ; south in winter to the West Indies and South America. Breeds from the Middle States northward, and winters south of the United States.

Nest, a cup-shaped hollow in the ground in a hay field ; lined with withered grass.

Eggs, 4 to 5 ; brownish-white, heavily blotched and clouded with chocolate-brown, making the general appearance very dark.

In Southern Ontario the merry, rollicking Bobolink is well known to all who have occasion to pass by the clover fields or moist meadows in summer. He attracts attention then by his fantastic dress of black and white, as well as by his gay and festive manner, while he seeks to cheer and charm his modest helpmate, who, in humble garb of yellowish-brown, spends much of her time concealed among the grass. Toward the close of the season, the holiday dress and manners of the male are laid aside, and by the time the birds are ready to depart, male and female, young and old, are all clad alike in uniform brownish-yellow. The merry, jingling notes are succeeded by a simple *chink* which serves to keep the flocks together, and is often heard overhead at night in the early part of September. In the south, where they get very fat, they are killed in great numbers for the table.

GENUS MOLOTHRUS SWAINSON.

191. MOLOTHRUS ATER (BODD.). 495.

Cowbird.

Male, iridescent black ; head and neck purplish-brown. *Female*, smaller, an obscure-looking bird, nearly uniform dusky grayish-brown, but rather paler below, and appearing somewhat streaky, owing to darker shaft lines on nearly all the feathers ; bill and feet black in both sexes. Length, 7½-8 ; wing, over 4 ; tail, over 3.

HAB. United States, from the Atlantic to the Pacific, north into Southern British America, south, in winter, into Mexico.

Nest, none.

Eggs, deposited in the nest of another bird ; dull white, thickly dotted, and sometimes blotched, with brown ; number uncertain.

In Southern Ontario nearly all the Cowbirds are migratory, but on two occasions I have seen them located here in winter. There were in each instance ten or a dozen birds which stayed by the farmhouse they had selected for their winter residence, and roosted on the beams above the cattle in the cow-house. Early in April the migratory flocks arrive from the south, and soon they are seen in small solitary parties, chiefly in pasture fields and by the banks of streams all over the country.

At this interesting season of the year, when all other birds are mated and are striving to make each other happy in the faithful discharge of their various domestic duties, the Cowbirds, despising all family relations, keep roving about, enjoying themselves after their own free love fashion, with no preference for any locality save that where food is most easily obtained. The deportment of the male at this season is most ludicrous. With the view of pleasing his female associate of the hour, he puffs himself out to nearly double his usual size and makes the most violent contortions seeking to express his feelings in song, but like individuals of the human species whom we sometimes meet he is "tongue-tied," and can only give utterance to a few spluttering notes.

As the time for laying draws near the female leaves her associates, and manifesting much uneasiness seeks diligently for the nest of another bird to suit her purpose. This is usually that of a bird smaller than herself, which the owner has just finished and may have made therein a first deposit. Into such a nest the female Cowbird drops her egg, and leaving it, with evident feelings of satisfaction, joins her comrades and thinks no more about the matter. By the owners of the nest the intrusion is viewed with great dislike, and should it contain no eggs of their own it is frequently deserted. But another expedient to rid themselves of the incumbrance is sometimes

resorted to which shows a higher degree of intelligence than what we are accustomed to call ordinary instinct. Finding that their newly finished cradle has been invaded, the birds build a floor over the obnoxious egg, leaving it to rot while their own are hatched on the new floor in the usual way.

Should the owners of the nest have one or more eggs deposited before that of the Cowbird appears, the intrusion causes them much anxiety for an hour or two, but in the majority of cases the situation is accepted, and the young Cowbird being first hatched the others do not come to maturity. The foster parents are most attentive in supplying the wants of the youngster till he is fit to shift for himself, when he leaves them, apparently without thanks, and seeks the society of his own kindred, though how he recognizes them as such is something we have yet to learn.

Much speculation is indulged in regarding the cause of this apparent irregularity in the habits of the Cowbird, and different opinions are still held regarding it, but whatever other purpose it may serve in the economy of nature, it must cause a very large reduction in the number of the different species of birds on which it entails the care of its young. Some idea may be formed of the extent of this reduction by looking at the vast flocks of Cowbirds swarming in their favorite haunts in the fall, and considering that for each bird in these flocks from three to four of a different species have been prevented from coming to maturity.

The number of species imposed upon by the Cowbird is large, including Warblers, Vireos, Sparrows, Thrushes, Bluebirds, etc., but the one they most frequently select in this locality is the Summer Yellowbird. On the prairies where the Cowbirds are numerous and the number of foster parents limited, it is said that in the month of June nearly every available nest contains an egg of the Cowbird.

In Southern Ontario they disappear during July and August, but usually return in vast flocks in September, when they frequent the stubble fields and patches of wild rice by the edge of the marshes.

Genus XANTHOCEPHALUS Bonaparte.

XANTHOCEPHALUS XANTHOCEPHALUS (Bonap.).

192. Yellow-headed Blackbird. 497.

Male black, whole head (except lores), neck and upper breast yellow, and sometimes yellowish feathers on the belly and legs ; a large white patch on the wing, formed by the primary and a few of the outer secondary coverts. *Female* and *young* brownish-black, with little or no white on the wing, the yellow restricted or obscured. *Female* much smaller than the *male*, about 9½. Length, 10-11 ; wing, 5½ ; tail 4½.

Hab. Western North America, from Wisconsin, Illinois and Texas to the Pacific coast. Accidental in the Atlantic States (Massachusetts, South Carolina, Florida).

Nest, composed of aquatic grasses fastened to the reeds.

Eggs, 3 to 6 ; grayish-green spotted with reddish-brown.

A wanderer from the west, this handsome Blackbird has appeared from time to time at different points in the Eastern States. The only record I have of its occurrence in Ontario is that given by Mr. Seton in the *Auk* for October, 1885, as follows : " This species has been taken a number of times in company with the Red-winged Blackbirds by Mr. Wm. Loane, who describes it as the Californian Blackbird. The specimen I examined was taken near Toronto by that gentleman, and it is now in the possession of Mr. Jacobs, of Centre street."

Though the Yellow-headed Blackbird is only a casual visitor, I think it is quite probable that we may yet see it as a summer resident in the grassy meadows of Ontario. At present it comes east as far as Iowa, Minnesota, Illinois and Wisconsin, while in a northerly direction it extends its migrations to the interior of the Fur Countries, reaching the Saskatchewan about the 20th of May.

We should like to see him here, his yellow head making a bright spot among the sombre plumaged Cowbirds and Grackles.

Genus AGELAIUS Vieillot.

193. AGELAIUS PHŒNICEUS (Linn.). 498.

Red-winged Blackbird.

Male uniform lustrous black; lesser wing-coverts scarlet, broadly bordered by brownish-yellow or brownish-white, the middle row of coverts being entirely of this color, and sometimes the greater row likewise are similar, producing a patch on the wing nearly as large as the red one. Occasionally there are traces of red on the edge of the wing and below. The *female* smaller, under 8; everywhere streaked; above blackish-brown with pale streaks, inclining on the head to form median and superciliary stripes; below whitish, with very many sharp dusky streaks; the sides of the head, throat and the bend of the wing tinged with reddish or fulvous. The *young male* at first like the *female*, but larger; apt to have a general buffy or fulvous suffusion, and bright bay edgings of the feathers of the back, wings and tail, and soon showing black patches. Length, 8-9; wing, 4½-5; tail, 3½-4.

Hab. North America in general, from Great Slave Lake south to Costa Rica.

Nest, large for the size of the bird; composed of rushes and sedges loosely put together and lined with grass and a few horse hairs; usually fastened to the bulrushes, sometimes placed in a bush or tussock of grass near the ground.

Eggs, 4 to 5; pale blue, curiously marked with brown.

This species is generally distributed and breeds in suitable places throughout the province. It is very common near Hamilton, breeding abundantly in the Dundas Marsh, and in the reedy inlets all around the shores of Hamilton Bay. As soon as the young broods are able to fly, old and young congregate in flocks, frequenting the stubble fields and moist meadows by day, and roosting at night among the reeds in the marsh. As the season advances the numbers are increased by others arriving from the north, and during October very large flocks are observed in the places they frequent. Towards the end of that month, if the weather gets cold, they all move off to the south, and none have been observed here during the winter.

GENUS STURNELLA VIEILLOT.

194. STURNELLA MAGNA (LINN.). 501.

Meadowlark.

Above, the prevailing aspect brown. Each feather of the back blackish, with a terminal reddish-brown area, and sharp brownish-yellow borders; neck similar, the pattern smaller; crown streaked with black and brown, and with a pale median and superciliary stripe; a blackish line behind eye; several lateral tail feathers white, the others with the inner quills and wing-coverts barred or scolloped with black and brown or gray. Edge of wing, spot over eye, and under-parts generally, bright yellow, the sides and crissum flaxen-brown, with numerous sharp blackish streaks; the breast with a large black crescent (obscure in the young); bill horn-color; feet light brown. Length, 10-11; wing, 5; tail, 3½; bill, 1¼. *Female* similar, smaller, 9½.

HAB. Eastern United States and Southern Canada to the Plains.

Nest, on the ground, at the foot of a tuft of grass or weeds; lined with dry grass, and sometimes partly arched over.

Eggs, 4 to 6; dotted and sprinkled with reddish-brown.

The Meadowlark is found in all suitable districts throughout Ontario, and was observed by Prof. Macoun breeding in the grand valley of the Assinniboine in the Northwest. In the southern portion of the province it is generally distributed throughout the agricultural districts, where its loud, clear, liquid notes are always associated in our minds with fields of clover and new-mown hay. Here it may be considered migratory, the greater number leaving us in October to return again in April, yet it is no uncommon thing to find one or two remaining during the winter in sheltered situations. On the 7th of February, 1885, when the cold was intense and snow covered the ground, I noticed an individual of this species digging vigorously into a manure heap at the Beach. When examined he was found to be in very poor condition, and looked altogether as if he had been having a hard time. In the west the Meadowlark resembles our eastern form so closely that it is doubtful if any one, judging by appearance, can separate them with certainty, but the song of the birds is so entirely different,

that chiefly on this account the western bird has been recorded as a separate species under the name of *Sturnella magna neglecta*, or Western Meadowlark, the dry central plains forming the boundary between the two.

Genus ICTERUS Brisson.

195. ICTERUS SPURIUS (Linn.). 506.

Orchard Oriole.

Male black; lower back, rump, lesser wing-coverts, and all under-parts from the throat, deep chestnut; a whitish bar across the tips of greater wing-coverts; bill and feet blue-black. Tail graduated. Length, about 7; wing, 3¼; tail, 3. *Female* smaller, plain yellowish-olive above, yellowish below; wings dusky; tips of the coverts and edges of the inner quills, whitish; known from the *female* of the other species by its small size and very slender bill. *Young* male at first like the *female*, afterwards showing confused characters of both sexes; in a particular stage it has a black mask and throat.

Hab. United States, west to the Plains, south, in winter, to Panama.

Nest, pensile; composed of grass and other stringy materials ingeniously woven together and lined with wool or plant down, rather less in size and not quite so deep in proportion to its width as that of the Baltimore.

Eggs, 4 to 6; bluish-white, spotted and veined with brown.

On the 15th of May, 1865, I shot an immature male of this species in an orchard at the Beach, which was the first record for Ontario. I did not see or hear of it again till the summer of 1883, when they were observed breeding at different points around the city, but since that year they have not appeared near Hamilton.

Mr. Saunders informs me that they breed regularly and in considerable numbers near London and west of that city, from which we infer that the species enters Ontario around the west end of Lake Erie, and does not often come as far east as Hamilton. Most likely it does not at present extend its migrations in Ontario very far from the Lake Erie shore. The notes of the male are loud, clear and delivered with great energy as he sits perched on the bough of an apple tree,

or sails from one tree in the orchard to another. This species would be a desirable acquisition to our garden birds, both on account of his pleasing plumage of black and brown, and because of the havoc he makes among the insect pests which frequent our fruit trees.

SUBGENUS YPHANTES VIEILLOT.

196. ICTERUS GALBULA (LINN.). 507.

Baltimore Oriole.

Male, with head and neck all round, and the back, black ; rump, upper-tail coverts, lesser wing-coverts, most of the tail feathers, and all the under-parts from the throat, fiery-orange, but of varying intensity according to age and season. Middle tail feathers black, the middle and greater coverts and inner quills, more or less edged and tipped with white, but the white on the coverts not forming a continuous patch ; bill and feet blue-black. Length, 7½-8 ; tail, 3. *Female* smaller, and much paler, the black obscured by olive, sometimes entirely wanting. The *young* entirely without the black on throat and head, otherwise colored nearly like the *female*.

HAB. Eastern United States, west nearly to the Rocky Mountains.

Nest, purse shaped ; pensile ; about 6 inches deep ; composed chiefly of vegetable fibre, with which is often intertwisted rags, paper, thread, twine and other foreign substances ; usually suspended from the outer branches of a tree, most frequently an elm, at a height of 10 to 50 feet from the ground.

Eggs, 4 to 6 ; white, faintly tinged with blue.

The gay, dashing, flashing Baltimore Oriole seems to court the admiration so generally bestowed on him, and is much more frequently seen among the ornamental trees in our parks and pleasure grounds than in the more retired parts of the country. He arrives from the south with wonderful regularity about the end of the first week in May, after which his clear flute-like notes are heard at all hours of the day till the early part of July, when with his wife and family he retires, probably to some shady region to avoid the extreme heat of summer. At all events they are not seen in Southern Ontario again till the beginning of September, when they pay us a passing visit while on their way to winter quarters. The species seems to be well distributed in Ontario, for in the report of the "Ottawa Field Naturalists' Club" it is said to be common, arriving in that district about the 10th of May. It is also included in the list of birds observed at Moose Mountain in the Northwest by Prof. Macoun.

Genus SCOLECOPHAGUS Swainson.

197. SCHOLECOPHAGUS CAROLINUS (Mull.). 509.

Rusty Blackbird.

Male in summer lustrous black, the reflections greenish, and not noticeable different on the head ; but not ordinarily found in this condition in the United States, in general glossy black, nearly all the feathers skirted with warm brown above and brownish-yellow below, frequently continuous on the foreparts ; the *male* of the first season, like the *female*, is entirely rusty-brown above, the inner quills edged with the same ; a pale superciliary stripe ; below, mixed rusty and grayish-black, the primaries and tail above black ; bill and feet black at all times. Length, male about 9 ; wing, 4½ ; tail, 3½ ; bill ⅞ ; *female* smaller.

Hab. Eastern North America, west to Alaska and the Plains. Breeds from Northern New England northward.

Nest, a coarse structure, resting on a layer of twigs ; composed of grass mixed with mud ; well formed inside and lined with fine grass and rootlets ; usually placed in alder or similar bushes overhanging the water.

Eggs, 4 to 6 ; grayish-green marked with brown.

During the last week in April or the first in May according to the weather, the Rusty Grackles are seen in small flocks hurrying on to their breeding places farther north. Their stay at this time is very short, and the collectors have but little chance of securing a male in adult plumage, spring being the only season when such can be had here, and even then only a few in each flock have acquired their nuptial dress. They will no doubt yet be found breeding in Ontario, although, owing to the number of observers being small, the fact (so far as I know) has not yet been recorded. About the end of August or early in September they return in flocks of much greater dimensions than those which passed up in the spring, and in company with the Cowbirds and Redwings continue to frequent the plowed fields, cornfields and wet places till the weather gets cold in October, when they all move off to the south and are not seen again till spring.

GENUS QUISCALUS VIEILLOT.

SUBGENUS QUISCALUS.

198. QUISCALUS QUISCULA ÆNEUS (RIDGW.). 511 b.

Bronzed Grackle

Metallic tints, rich, deep and uniform. Head and neck all round rich, silky steel-blue, this strictly confined to these portions, and abruptly defined behind, varying in shade from an intense Prussian-blue to brassy-greenish, the latter tint always, when present, most apparent on the neck, the head always more violaceous; lores velvety-black. Entire body, above and below, uniform continuous metallic brassy-olive, varying to burnished golden olivaceous-bronze, becoming gradually uniform metallic purplish or reddish-violet on wings and tail, the last more purplish; primaries violet-black; bill, tarsus and toes pure black, iris sulphur-yellow.

Length, 12-50 to 13-50; wing, 6-00; tail, 6-00; culmen, 1-26; tarsus, 1-32. Third and fourth quills longest and equal; first shorter than fifth; projection of primaries beyond secondaries, 1-28; graduation of the tail, 1-48. *(Ridgway.)*

HAB. From the Alleghanies and New England north and west to Hudson's Bay and the Rocky Mountains.

Nest, coarse and bulky; composed of twigs and weeds, with a mixture of mud; often placed in a spruce or hemlock tree, sometimes in a bush overhanging the water, and occasionally in a hollow stub or deserted Woodpecker's hole.

Eggs, 4 to 6; smoky-blue with irregular dark brown blotches, lines and spots.

The Bronzed Grackle was christened by Mr. Ridgway in the Proceedings of the Academy of Natural Sciences of Philadelphia in June, 1869. Prior to that date Dr. Baird had separated one as peculiar to Florida, but all the others were supposed to belong to the species named by Linn as *Quiscalus quiscula* or Purple Grackle. Mr. Ridgway on comparing a large number of specimens from different points found the group to contain two well-defined species, and his decision has now been generally adopted. One, the original Purple Grackle, is the more southern bird of the two, its habitat being given as "Atlantic States from Florida to Long Island," while our present species is said to extend from the Alleghanies and New England, north and west to Hudson's

Bay and the Rocky Mountains. Since giving my attention to this subject I have made a point of examining all available mounted Crow Blackbirds in public museums, country taverns, etc., and find that all belong to the Bronzed division.

It is quite possible that a few of the others may yet be found along our southern border, but unquestionably the Crow Blackbird of Ontario is the Bronzed Grackle. They like to be near water and are very common in the town of Galt, breeding close to the houses along the banks of the river. There is a colony established at East Hamilton, where they breed in the Norway spruce trees near the residence of Mr. Barnes, who protects them from being molested, whether wisely or not is open to question, for there rests at their door the serious charge of robbing the nests of small birds and destroying the eggs and young, besides that of being very destructive to the sprouting corn in spring-time.

FAMILY FRINGILLIDÆ. FINCHES, SPARROWS, ETC.

GENUS COCCOTHRAUSTES BRISSON.

SUBGENUS HESPERIPHONA BONAPARTE.

199. COCCOTHRAUSTES VESPERTINA (COOP.). 514.

Evening Grosbeak.

Dusky olivaceous, brighter behind; forehead, line over the eye and under tail coverts yellow; crown, wings, tail and tibiæ black; the secondary quills mostly white; bill greenish-yellow, of immense size, about $\frac{3}{4}$ of an inch long and nearly as deep. Length, $7\frac{1}{2}$-$8\frac{1}{2}$; wing, 4-$4\frac{1}{2}$; tail, $2\frac{1}{2}$. The *female* and *young* differ somewhat, but cannot be mistaken.

HAB. Western North America, east to Lake Superior, and casually to Ohio and Ontario; from the Fur Countries south into Mexico.

Nest and eggs unknown.

This is a western species whose line of travel in the season of migration seems to be along the Mississippi Valley, casually coming as far east as Ontario.

I have heard of its being observed during the winter at St. Cloud, St. Pauls and Minneapolis, and last winter I had a pair sent me by mail in the flesh from Redwing, Minnesota. The

first report of its appearance in Ontario was made by the late Dr. T. J. Cottle, of Woodstock, who in the month of May, 1866, observed a flock among the evergreens near his residence, and obtained one or two of them.

Again, in 1871, they were noticed near London about the same season, and several were procured, three of them coming into my possession. I did not hear of the species again till the 17th of March, 1883, when enjoying a sleigh ride along a road which runs through a swamp in West Flamboro' we came unexpectedly upon two in the bush by the roadside and secured them both.

I have also heard of a female having been obtained by the Rev. Mr. Doel in Toronto, on the 25th of December, 1854, which completes the record for Ontario so far as I know. The Evening Grosbeak is much prized by collectors on account of its rarity, its beauty, and the desire we have to know more of its history.

Dr. Coues speaks of it as "A bird of distinguished appearance, whose very name suggests the far away land of the dipping sun, and the tuneful romance which the wild bird throws around the fading light of the day. Clothed in striking color contrasts of black, white and gold, he seems to represent the allegory of diurnal transmutation, for his sable pinions close around the brightness of his vesture as night encompasses the golden hues of sunset, while the clear white space enfolded in these tints foretell the dawn of the morrow." Thus the glowing words flow from the pen of an accurate observer and graceful writer, while to the mass of the people the beauties of bird life are a sealed book. By far the larger number of those who have the opportunities of observing our wild birds in their native haunts belong to that practical class of which the representative is Peter Bell, of whom it is written :

> "A primrose by the river's brim
> A yellow primrose was to him
> And it was nothing more."

I once directed the attention of an intelligent, successful farmer, whose speech betrayed his nationality, to a fine mounted speci-

men of the bird we have been describing. I pointed out the beauty of its markings and related the interesting parts in its history, but failed to excite any enthusiasm regarding it; in fact the only remark elicited was that it was "unca thick i' the neb."

GENUS PINICOLA VIEILLOT.

200. PINICOLA ENUCLEATOR (LINN.). 515.

Pine Grosbeak.

Male carmine-red, paler or whitish on the belly, darker and streaked with dusky on the back; wings and tail dusky, much edged with white, the former with two white bars. *Female*, ashy-gray, paler below, marked with brownish-yellow on the head and rump. Length, 8-9; wing, 4½; tail, 4.

HAB. Northern portions of the Northern Hemisphere, breeding far north; in winter south, in North America, irregularly to the northern United States. South in the Rocky Mountains to Colorado, and in the Sierra Nevada to California.

Nest, in a bush, four feet from the ground; composed entirely of coarse green moss.

Eggs, 2; slate-color, tinged with green, spotted and clouded with brown and purple.

In Southern Ontario the Pine Grosbeak is an irregular winter visitor, sometimes appearing in large flocks and again being entirely absent for several years in succession. During the winter of 1882-3, and also 1883-4, they were quite common and were observed throughout the country wherever their favorite red cedar or mountain ash berries were to be found, but since that time not one has been seen. They are fine, robust birds of a most sociable, gentle disposition. I have often watched them feeding in flocks, sometimes in places where food was not over abundant, but never noticed a quarrel among them, all being willing to share alike.

Very many of the individuals which visit us are females or young males clad in a uniform garb of smoky-gray, more or less tinged with greenish-yellow, but in every flock of twenty or thirty there are two or three adult males in the showy crimson dress, which, when seen with a background of

the sombre foliage of the Norway spruce, forms a most attractive object at this season of the year when the tide of bird life is at its lowest ebb.

Our knowledge of the breeding habits of this species is as yet very imperfect, the description given of the nest and eggs being that of a *supposed* Grosbeak's nest which was found in Maine by Mr. Boardman, but the birds to which the nest belonged were not secured.

Mr. Trippe found them in Colorado in summer living up near the timber line, and observed young birds fully feathered and shifting for themselves in June, which gives the impression that they must breed very early. I think it highly probable that they may yet be found breeding in Ontario, for on the occasion already referred to they appeared early in January, and many were seen as late as April, so that they would not have time to travel far before engaging in their domestic duties.

Genus CARPODACUS Kaup.

201. CARPODACUS PURPUREUS (Gmel.). 517.

Purple Finch.

Male crimson, rosy or purplish-red, most intense on the crown, fading to white on the belly, mixed with dusky streaks on the back; wings and tail dusky, with reddish edgings, and the wing-coverts tipped with the same; lores and feathers all round the base of the bill hoary. *Female* and *young* with no red; olivaceous-brown, brighter on the rump, the feathers above all with paler edges, producing a streaked appearance; below white, thickly spotted and streaked with olive-brown, except on the middle of the belly and under tail-coverts; obscure whitish superciliary and maxillary lines. *Young males* show every gradation between these extremes in gradually assuming the *male* plumage, and are frequently brownish-yellow or bronzy below. Length, 5¾-6¼; wing, 3-3¼; tail, 2¼-2½.

Hab. Eastern North America, from the Atlantic coast to the Plains. Breeds from the Middle States northward.

Nest, usually but not always in an evergreen; composed of weeds, grass, strips of bark, vegetable fibre, etc., lined with hair.

Eggs, 4 to 5; pale green, scrawled and spotted with dark-brown and lilac, chiefly toward the larger end.

In Southern Ontario the Purple Finch is most abundant during the month of May. At this season the few which have remained with us during the winter put on their brightest dress, and being joined by others which are daily arriving from the south they make the orchards for a time quite lively with their sprightly song. Their presence, however, could well be dispensed with for they are observed at this time to be very destructive to the buds and blossoms of fruit trees. As the season advances they get generally distributed over the country and are not so often seen.

The male does not acquire the bright crimson dress till after the second season. The young male in the garb of the female being observed in full song has led to the belief that both sexes sing alike but such is not the case. *Crimson* Finch would have been a more appropriate name for this bird than *Purple* Finch, for the color is certainly more crimson than purple.

Genus LOXIA Linnæus.

202. LOXIA CURVIROSTRA MINOR (Brehm). 521.

American Crossbill.

Male bricky-red, wings blackish, unmarked; *female* brownish-olive, streaked and speckled with dusky, the rump saffron. Immature males mottled with greenish and greenish-yellow. Length, about 6; wing, 3⅓; tail, 2⅓.

Hab. Northern North America, resident sparingly south in the Eastern United States to Maryland and Tennessee, and in the Alleghanies; irregularly abundant in winter; resident south in the Rocky Mountains to Colorado.

Nest, among the twigs of a spruce; composed of twigs, rootlets, lichens, etc., lined with hair and feathers.

Eggs, 3 to 4; pale green, spotted toward the larger end with purple and lilac.

Throughout Ontario the Crossbills are very erratic in their movements, sometimes appearing unexpectedly in considerable numbers in sections of the country where for several succeeding years they will be entirely absent. Their time of nesting is also unusual, the duties of incubation being performed while

the ground is still covered with snow. Hence the young being soon set at liberty are often seen in flocks quite early in summer, and sometimes in the fall we hear their rattling call and see them descend from upper air to visit a patch of sunflowers on the seeds of which they feast with evident relish. Early in spring, when food was less abundant, I have seen them alight on the ground and dig the seeds from a squash which had been left out during the winter.

Their favorite resorts, however, are the spruce and hemlock trees, whose dark green foliage forms a fine back ground for the rich red color of the male as he swings about in every possible position, searching for food among the cones at the end of the slender branches.

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203. LOXIA LEUCOPTERA Gmel. 522.

White-winged Crossbill.

Wings in both sexes with two conspicuous white bars; *male* rosy-red, *female* brownish-olive, streaked and speckled with dusky, the rump saffron. Length, about 6; wing, 3⅛; tail, 2⅛.

Hab. Northern parts of North America, south into the United States in winter. Breeds from Northern New England northward.

Nest, similar to the preceding species.

Eggs, 3 to 4; pale blue, dotted toward the larger end with lilac and purple.

This species resembles the preceding in its habits, but does not appear in such large numbers. They visit the same localities, sometimes in company or again in separate flocks. Both are quite unsuspicious, and when eagerly searching for food among the pine cones they admit of a very near approach without taking alarm. They vary much in plumage with age and sex, but the present species can at all times be identified by the white wing-bars.

Genus ACANTHIS Bechstein.

ACANTHIS HORNEMANNII EXILIPES (Coues).

204. Hoary Redpoll. 527 a.

Colors pale, the flaxen of linarius bleaching to whitish; rump white or rosy, entirely unstreaked in the adults; breast pale rosy, and streaks on the sides small and sparse; bill very small with heavy plumules, feet small, the middle toe and claw hardly equal to the tarsus.

Length, 5-50; extent, 9; wing, 3; tail, 2-50.

Hab. Arctic America and Northeastern Asia.

So few Redpolls are taken from the vast flocks which in some winters visit us from the north that it is unsafe to say how rare or common any particular species may be. I have however seen a good many in different winters during the last thirty years and have only seen one of this species. It was killed by K. C. McIlwraith at the Beach on the 6th of April, 1885, and on being picked up at once elicited the exclamations which follow the capture of a rare bird. It was a male in fine plumage, the feathers being full and soft, and beautifully tinted with the rosy color peculiar to the race.

This species is said to inhabit the whole of boreal America, but has seldom been found as far south as even the northern tier of states.

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205. ACANTHIS LINARIA (Linn.). 528.

Redpoll.

Upper parts streaked with dusky and flaxen in about equal amounts, rump white or rosy, streaked with dusky; below, streaked on the sides, belly dull white; bill mostly yellow; feet blackish. Length, $5\frac{1}{2}$-$5\frac{3}{4}$; wing, $2\frac{3}{4}$-3; tail, $2\frac{1}{4}$-$2\frac{1}{2}$.

Hab. Northern portions of Northern Hemisphere, south irregularly in winter, in North America, to the Middle United States (Washington, D. C., Kansas, Southeastern Oregon).

Nest, in a low tree or bush; composed of grass and moss, lined with plant down.

Eggs, 4 to 5; pale bluish-white, speckled with reddish-brown.

Like our other winter birds, the Redpolls are somewhat irregular in their visits, but are more frequently seen than either the Grosbeaks or Crossbills. Sometimes they appear in October and remain till late in March, while in other seasons only an occasional roving flock is seen during the winter, and again they are entirely absent. They are hardy, active, little birds, and must consume a large quantity of seeds, which can well be spared from the weedy places the birds frequent.

Before leaving in spring, the breast of the male assumes a soft rosy tint, which adds greatly to his beauty when seen among the snow.

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206. ACANTHIS LINARIA HOLBŒLLII (BREHM). 528 a.

Holbœll's Redpoll.

Like the last; length, 6; wing, 3-25; tail, 2-75; bill longer.

HAB. Northern portions of Northern Hemisphere, near the sea coast.

I have occasionally found among the common Redpolls, individuals of large size which answer to the description given of this species. As they are never numerous, and have not been observed in flocks by themselves, those we see may be stragglers from the main body of their race, which is said to keep well up to the north and east.

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207. ACANTHIS LINARIA ROSTRATA (COUES). 528 b.

Greater Redpoll.

Bill regularly conic, only moderately compressed and acute, as high as long at the base; color, black or yellow according to the season. Frontlet black, overlaid with hoary, a recognized light superciliary stripe reaching to the bill. Crimson cap over nearly all the crown. Upper-parts streaked with brownish-black and white, the latter edging and tipping the feathers, this white nearly pure, only slightly flaxen on the sides of the head and neck. Wings and tail as in other species. Rump and entire under-parts, from the sooty throat, white, free from spots; the rump and breast rosy.

HAB. Greenland and Northeastern North America, south irregularly in winter to New England, New York and Northern Illinois.

About the year 1863, a friend who used to join me in some of my local collecting trips was in the town of Galt, and seeing a small flock of large light-colored Redpolls secured two of the lot and sent them to me in the flesh. I have neither before nor since met with any so large and hoary. One of them which I still have, mounted, seems to answer to the above description, but the country from which the Redpolls come is large enough to produce varying forms from different latitudes, and I think it is open to question whether or not it is wise to divide them into so many different species.

Genus SPINUS Koch.

208. SPINUS TRISTIS (Linn.). 529.

American Goldfinch.

Male in summer, rich yellow, changing to whitish on the tail-coverts; a black patch on the crown; wings black, more or less edged and barred with white; lesser wing-coverts yellow; tail black, every feather with a white spot; bill and feet flesh-colored. In September the black cap disappears and the general plumage changes to a pale flaxen-brown above and whitey-brown below, with traces of the yellow, especially about the head; this continues till the following April or May. *Female* olivaceous, including the crown; below soiled yellowish; wings and tail dusky, whitish-edged; *young* like the *female*. Length, about $4\frac{3}{4}$; wing, $2\frac{3}{4}$; tail, 2.

Hab. North America generally, breeding southward to the middle districts of the United States (to about the Potomac and Ohio Rivers, Kansas and California), and wintering mostly south of the northern boundary of the United States.

Nest, a neat strong structure, resembling that of the Summer Yellow-bird; composed of miscellaneous soft materials firmly felted together and lined with plant down; usually placed in the upright fork of a tree or bush, from 6 to 20 feet from the ground.

Eggs, 4 to 6; pale bluish-white, unmarked.

In Southern Ontario the Goldfinch may be considered a resident species, for they nest throughout the country generally, and even in the depth of winter are often met unexpectedly in some favored locality where they find food and shelter. In the severe winter of 1885-6, I came upon a colony of this kind in West Flamboro', where several hundreds of the birds

frequented a grove of hemlock, and judging by the amount of debris on the snow underneath they must have been there all winter. They were very lively, keeping up a continual chattering as they swayed to and fro on the slender branches, extracting the seeds from the cones. Occasionally, when cheered by the mild rays of the wintry sun, some of the males would come to the sunny side of the tree and warble out a few of their varied summer notes, but they spent most of the short wintry day in feeding and dressing their plumage, retiring early to the thick shelter of the evergreens.

At other seasons of the year they frequent the cultivated fields, orchards and gardens, and in the fall, when they are seen in greatest numbers, they do good service in consuming the seeds of the thistle and other noxious weeds. They are not in any great haste to begin the duties of housekeeping, and are seen in flocks till towards the end of May. About that time they pair off and are actively engaged in their domestic duties till some time in August, when the males throw off their gaudy summer dress and join with the females and young in making up the flocks we see roving about the country in their own wild way.

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209. SPINUS PINUS (WILS.). 533.

Pine Siskin.

Bill extremely acute; continuously streaked above with dusky and olivaceous-brown or flaxen; below with dusky and whitish, the whole plumage in the breeding season more or less suffused with yellowish, particularly bright on the rump; the bases of the quills and tail feathers extensively sulphury-yellow, and all these feathers more or less edged externally with yellowish. Length, $4\frac{3}{4}$; wing, $2\frac{3}{4}$; tail, $1\frac{3}{4}$.

HAB. North America generally, breeding mostly north of the United States and in the Rocky Mountain region; in winter south to the Gulf States and Mexico.

Nest, placed high in an evergreen.

Eggs, pale greenish, speckled with brown.

The Siskin, or Pine Linnet, is a more northern bird than the Goldfinch, and as a winter visitor in Southern Ontario is sometimes present and sometimes absent. Occasionally they appear

in October in large flocks, swarming on the rank weeds in waste places, and hanging on the alder bushes by the banks of creeks and gullies. They are extremely restless, and in certain districts the twittering sound of their voices will fill the air for days together, till they rise and pass away like a cloud of smoke, perhaps to be seen no more for the season. They are said to have been found nesting in New York State, and also in Massachusetts, but at present I have no record of their being found so engaged in Ontario. As the country becomes more explored we shall have many such items to add to our present stock of knowledge of the birds.

Genus PLECTROPHENAX Stejneger.

210. PLECTROPHENAX NIVALIS (Linn.). 534.

Snowflake.

Bill small, truly conic, ruffed at base; hind claw decidedly curved. In breeding plumage pure white, the back, wings and tail variegated with black; bill and feet black. As generally seen in the United States, the white is clouded with warm, clear brown, and the bill is brownish. Length, about 7; wing, $4\frac{1}{2}$; tail, $2\frac{3}{4}$.

Hab. Northern parts of the Northern Hemisphere, breeding in the arctic regions; in North America south in winter into the Northern United States, irregularly to Georgia, Southern Illinois and Kansas.

Nest, on the ground; composed of grass and moss lined with feathers, concealed by a tuft of grass or projecting ledge of rock; cavity deep; sides warm and thick.

Eggs, 4; white, scrawled and spotted with brown.

The Snowbirds are our most regular visitors from the north, and they come in greater numbers than any of the other species which descend from high latitudes to avoid the rigors of winter. As early as the 20th of October, their tinkling, icy notes may be heard, but more frequently the birds are first observed later in the season, driving with wild eccentric flight before the earliest flurry of snow. By the shores of the lakes, on bare sandy spots, thinly grown over with the *Andropogon scoparius*, on the seeds of which they freely feed, they may be found with tolerable certainty any time between the end of October and the first of

April. Elsewhere throughout the country they are frequently seen by the roadsides examining the tall weeds which appear in waste places above the snow, or running in the road tracks searching hurriedly for their scanty fare. They are exceedingly restless, never remaining long in one place, and even when feeding the flock will often arise without apparent cause of alarm and go off as if never to return, but not unfrequently they come swirling back and alight on the spot from which they have just arisen. There are one or two instances on record of their nests and eggs having been found among the highest mountain peaks in Massachusetts, but their breeding ground is within the Arctic circle, from which they descend over the northern portions of both continents, enlivening many a dreary region with their sprightly presence during the dull days of winter, till reminded by the lengthening days and rising temperature to return again to their northern home.

Genus CALCARIUS Bechstein.

211. CALCARIUS LAPPONICUS (Linn.). 536.

Lapland Longspur.

Bill moderate, unruffed, but with a little tuft of feathers at the base of the rictus; hind claw straightish, with its digit longer than the middle toe and claw. *Adult male*, whole head and throat jet black, bordered with buffy or whitish, which forms a postocular line, separating the black of the crown from that of the sides of the head; a broad chestnut cervical collar; upper parts in general, blackish, streaked with buffy or whitish that edges all the feathers; below, whitish, the breast and sides black streaked; wings, dusky, the greater coverts and inner secondaries edged with dull bay; tail, dusky, with an oblique white area on the outer feathers; bill, yellowish, tipped with black; legs and feet, black. Winter *males* show less black on the head, and the cervical chestnut duller; the *female* and *young* have no continuous black on the head, and the crown is streaked like the back, and there are traces of the cervical collar. Length, 6-6½; wing, 3¼-3½; tail, 2½-2¾.

Hab. Northern portions of the Northern Hemisphere, breeding far north; in North America south in winter to the Northern United States, irregularly to the Middle States, accidentally to South Carolina and abundantly in the interior to Kansas and Colorado.

Nest, like that of the Snowflake.

Eggs, 4 to 5; greenish-grey, which color is nearly obscured by a heavy mottling of chocolate-brown.

Like the Snowflake, the present species is common to both continents. They come and go together and keep company while here; but at all times the Snowflakes far exceed the others in numbers.

The male Longspur, in full breeding plumage, is a very handsome bird. It is seldom found in Ontario in this dress, but some years since two young men who were collecting at Mitchell's Bay met with quite a large flock in the month of May and got some very fine specimens, several of which came into my possession. All those I have met have been in winter dress, in which state the colors are obscured by the black feathers of the head and breast being tipped with yellowish-grey.

Genus POÖCÆTES Baird.

212. POOCÆTES GRAMINEUS (Gmel.). 540.

Vesper Sparrow.

Thickly streaked everywhere above, on sides and across breast; *no* yellow anywhere; lesser wing-coverts, *chestnut*, and one to three outer tail feathers part or wholly white. Above, greyish-brown, the streaking dusky and brown with greyish-white; below, white, usually buffy-tinged, the streaks very numerous on the fore-part and sides; wing-coverts and inner quills much edged and tipped with bay; crown, like back, without median stripe, line over and ring round eye, whitish; feet, pale. Length, 5¾-6¼; wing, 2⅞-3¼; tail, 2¼-2⅝.

Hab. Eastern North America to the Plains, from Nova Scotia and Ontario southward; breeds from Virginia, Kentucky and Missouri northward.

Nest, a deep cup-shaped hollow in the ground, lined with grass.

Eggs, 4 to 6; greyish-white, heavily clouded with chocolate-brown.

This is one of the "Gray Birds," and the most abundant in Ontario of the several species to which this name is applied.

Its song is very sweet and plaintive, and being most frequently uttered in the evening about sundown it has gained for the bird the appropriate name of Vesper Sparrow.

It is a summer resident, arriving in Southern Ontario toward the end of April and soon becoming common all over the country. The favorite perch of the male is the top of a fence post, and

his nesting place among the grass close by. In the fall they get to be abundant before leaving; but from their habit of skulking among the rank weeds they are not so conspicuous as the Blackbirds and other species which keep in flocks on the wing. They move to the south in October, none having been observed during the winter.

Genus AMMODRAMUS Swainson.

Subgenus PASSERCULUS Bonaparte.

AMMODRAMUS SANDWICHENSIS SAVANNA (Wils.).

213. Savanna Sparrow. 542 a.

Above, brownish-gray, streaked with blackish, whitish-gray and pale bay, the streaks largest on the inter-scapulars, smallest on the cervex, the crown divided by an obscure whitish line; superciliary line and edge of wing, *yellowish*; sometimes an obscure yellowish suffusion about the head. Below, white, pure or with faint buffy shade, thickly streaked with dusky, the individual spots edged with brown, mostly arrow-shaped, running in chains along the sides, and often aggregated in an obscure blotch on the breast. Wings and tail dusky, the wing-coverts and inner secondaries black edged and tipped with bay. Length, 5¼-5¾; wing, 2¼-2¾; tall, 2-2¼.

Hab. Eastern Province of North America, breeding from the Northern United States to Labrador and Hudson's Bay Territory.

Nest, composed of fine withered grass placed in a deep cup-shaped hole in the ground.

Eggs, 4 to 6; ground-color grayish, heavily clouded with chocolate-brown.

This quiet, unobtrusive, little Sparrow may be seen and heard in the moist meadows in spring and summer, but it is not very plentiful anywhere.

Towards the end of August they become abundant along the marshy shores of Hamilton Bay, where they evidently find food to suit their taste, and they continue to enjoy it till reminded by the cool nights in September that it is time to be off to the south. The specimens secured at this season are evidently northern bred birds, being more fully developed in size and markings than those which breed with us. Often when picking them up I

fancy I have got the *Ipswich Sparrow*, but so far have not succeeded in doing so. I still think the latter species will be found near Hamilton, for we have several suitable resorts which will in future be carefully watched at the proper season.

SUBGENUS COTURNICULUS BONAPARTE.

AMMODRAMUS SAVANNARUM PASSERINUS (WILS.).

214. Grasshopper Sparrow. 546.

Edge of wing conspicuously yellow; lesser wing-coverts and short line over the eye yellowish; below, not or not evidently streaked, but fore-parts and sides buff, fading to dull white on the belly. Above, singularly variegated with black, gray, yellowish-brown, and a peculiar purplish bay in short streaks and specks, the crown being nearly black, with a sharp median brownish-yellow line, the middle of the back chiefly black, with bay and brownish-yellow edgings of the feathers, the cervical region and rump chiefly gray, mixed with bay; wing-coverts and inner quills variegated like the back; feet pale. *Young* similar, not so buffy below, and with pectoral and maxillary dusky spots. Length, 4⅞-5¼; wing, 2⅛; tail, 2 or less, the outstretched feet reaching to or beyond its end.

HAB. Eastern United States and Southern Canada to the Plains, south to Florida, Cuba, Porto Rico and coast of Central America.

Nest, a cup shaped hole in the earth, lined with dry grass.

Eggs, 4 to 6; crystal-white speckled with reddish-brown.

So far as at present known, the Grasshopper Sparrow is of very rare occurrence in Ontario, the southern border seeming to be the northern limit of its distribution.

Many years ago I killed a male, who was squeezing out his wheezy notes from the top of a mullein stalk. Mr. Saunders mentions having taken one near London, but these two cases complete the record for Ontario.

It is named among the birds found in the Northwest by Prof. Macoun, but is not mentioned in Mr. Seton's list of the Birds of Western Manitoba. It is much given to concealing itself among the rank herbage, and *may* in some localities be a rare summer resident in Southern Ontario, but I do not expect to see it here, except as a casual visitor.

Genus CHONDESTES Swainson.

215. CHONDESTES GRAMMACUS (Say.). 552.

Lark Sparrow.

Head curiously variegated with chestnut, black and white; crown chestnut, blackening on the forehead, divided by a median stripe and bounded by two lateral stripes of white; a black line through and another below the eye, enclosing a white streak under the eye and the chestnut auriculars; next a sharp black maxillary stripe, not quite reaching the bill, cutting off a white stripe from the white chin and throat. A black blotch on middle of breast. Under-parts white, faintly shaded with grayish-brown; the middle of the back with fine black streaks. Central tail-feathers like the back, the rest jet black, broadly tipped with pure white in diminishing amount from the lateral pair inward, and the outer web of outer pair entirely white. Length, 6½-8; wing, 3½; tail, 3.

Hab. Mississippi Valley region, from Ohio, Illinois and Michigan to the Plains, south to Eastern Texas. Accidental near the Atlantic coast (Massachusetts, Long Island, New Jersey and Washington, D. C.)

Nest, on the ground; composed of dry grass.

Eggs, 4 to 7; white, irregularly veined with dark.

In May, 1862, a pair of these birds were observed near Hamilton, and the male was obtained and shown to me shortly afterwards.

I did not hear of the species again till the publication of the List of Birds of Western Ontario in 1882, in which it is given as "breeding, but rare." More recently, Mr. Saunders informs me that it breeds regularly near London. In the spring of 1885 I saw several on the Beach near Hamilton, and it is also reported by Mr. Seton as having been observed near Toronto.

It is evidently like some others making its way into Ontario around the west end of Lake Erie, and all lovers of birds will do well to encourage it, for it is a sweet songster and a handsome little bird of confiding, pleasing manners.

Genus ZONOTRICHIA Swainson.

216. ZONOTRICHIA LEUCOPHRYS (Forst.). 554.

White-Crowned Sparrow.

Adults of both sexes with the crown pure white, enclosing on either side a broad black stripe that meets its fellow on the forehead and descends the

lores to the level of the eyes, and bounded by another black stripe that starts behind the eye and curves around the side of the hind head, nearly meeting its fellow on the nape; edge of under eye-lid white. Or, we may say, crown black, enclosing a median white stripe and two lateral white stripes, all confluent on the hind head. General color, a fine dark ash, paler below, whitening insensibly on the chin and belly, more brownish on the rump, changing to dull brownish on the flanks and crissum, the middle of the back streaked with dark purplish-bay and ashy-white. No bright bay like that of *albicollis* anywhere, except some edging on the wing-coverts and inner secondaries; middle and greater coverts tipped with white, forming two bars; no yellow anywhere; bill and feet reddish. *Young* birds have the black of the head replaced by a very rich warm brown, the white of the head by pale brownish and the general ash has a brownish suffusion and the back is more like *albicollis*. Length, 6.25-7; extent, 9.20-10.20; tail, 2.90-3.20.

HAB. North America at large, breeding chiefly in the Rocky Mountain region (including Sierra Navada) and northeast to Labrador.

Nest, on the ground among the bushes; composed of grass and weeds, intermixed with moss and lined with fine hair like grass and rootlets.

Eggs, 4 to 5; ground color, greyish-white, heavily clouded with chocolate-brown. Very variable in pattern.

The White-*crowned* Sparrow is a more northern bird than its white-*throated* relative, but it does not arrive so early in spring, seldom appearing along our southern border before the first week in May. During the two succeeding weeks it is very common among the brambles and thorn bushes by the wayside.

They travel in small companies of ten or twelve, the individuals keeping each other in view as they skulk from one brush pile to another to avoid being observed. By the 25th of May they have all gone north, apparently *far* north, for I have no record of their having been found breeding in Ontario.

In the fall they are again seen on the return trip, but not in such great numbers as in the spring, and none have been observed to winter within our limits.

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217. ZONOTRICHIA ALBICOLLIS (GMEL.). 558.

White-throated Sparrow.

Adult-male, with the crown black, divided by a median white stripe, bounded by a white superciliary line and *yellow spot* from the nostril to the eye; below this a black stripe through the eye; below this a maxillary black

stripe bounding the indefinitely pure white throat, sharply contrasted with the dark ash of the breast and sides of the neck and head. *Edge of wing yellow.* Back continuously streaked with black, chestnut and fulvous-white; rump ashy, unmarked. Wings much edged with bay, the white tips of the median and greater coverts forming two conspicuous bars; quills and tail-feathers dusky, with pale edges. Below white, shaded with ashy-brown on sides, the ash deeper and purer on the breast; bill dark; feet pale. *Female* and immature birds with the black of head replaced by brown, the white of throat less conspicuously contrasted with the duller ash of surrounding parts, and frequently with obscure dusky streaks on the breast and sides. Length, 6¼-7½; wings and tail, each about 3.

HAB. Eastern North America, west to the Plains, north to Labrador and the Fur Countries. Breeds in Northern Michigan, Northern New York and Northern New England, and winters from the Middle States southward.

Nest, among the bushes, on or near the ground; composed of weeds, grass and moss, lined with fibre and thread-like rootlets.

Eggs, 4 to 6; variable in color and pattern, usually grayish-white, clouded and blotched with chocolate-brown.

These beautiful Sparrows make their appearance in Southern Ontario about the 20th of April, and till the middle of May are seen among the shrubbery and underbush, working their way in small flocks towards their summer residence to the north of us. Great numbers are said to go right on to the Fur Countries, but many no doubt find suitable nesting places in the intermediate districts. I first found them breeding near a retired pond surrounded by tamaracks, in the township of Dumfries, about thirty miles north-west of Hamilton. It was towards the close of a warm day in the early part of July, and the slanting rays of the setting sun were gilding the tops of the tamaracks, while underneath the still waters of the pond, enclosed in a deep natural basin, were shrouded in gloom. There was little to break the stillness, till a bird, mounting to the topmost twig of one of the trees, his bill pointing upwards, his tail hanging limp and motionless, and his whole attitude indicating languor and weariness, drawled out the plaintive, familiar "Old Tom Peabody, Peabody." This song harmonized so perfectly with the surroundings that we felt at once he was at home. The hour, the

attitude, and above all the feeling of weariness expressed in the plaintive notes of the bird, reminded me strongly at the time of the Yellow-hammer of Britain.

Allan Brooks has also found this species breeding at Milton, a few miles north of the west end of Lake Ontario, but such cases are by no means common in this district. In the fall they are again seen in limited numbers, but at that season the plumage of the male has lost much of its brightness, and young and old, male and female resemble each other in appearance.

Their food, which consists chiefly of seeds, is obtained on or near the ground. During October they are seen travelling from one brush pile to another, and by the end of that month they are gone for the season.

Genus SPIZELLA Bonaparte.

218. SPIZELLA MONTICOLA (Gmel.). 559.

Tree Sparrow.

Bill black above, yellow below; legs brown, toes black; no black on forehead; crown chestnut (in winter specimens the feathers usually skirted with gray) bordered by a grayish-white superciliary and loral line, and some vague chestnut marks on sides of head; below, impurely whitish, tinged with ashy anteriorly, washed with pale brownish posteriorly; the middle of the breast with an obscure dusky blotch; middle of back boldly streaked with black, bay and flaxen; middle and lesser wing-coverts black, edged with bay and tipped with white, forming two conspicuous cross bars; inner secondaries similarly variegated; other quills and tail-feathers dusky, with pale edges. Length, 6; wing and tail, nearly 3.

Hab. Eastern North America, westward to the Plains, and from the Arctic Ocean south, in winter, to the Carolinas, Kentucky and Eastern Kansas. Breeds north of the United States, east of the Rocky Mountains.

Nest, indifferently on the ground or in a tree or bush.

Eggs, bluish-green, speckled and blotched with reddish-brown.

In Southern Ontario the Tree Sparrow is a regular winter visitor, arriving from the north during the month of October, and remaining over the winter in sheltered hollows or among the brush and weeds by the banks of streams. In appearance

it does not look like a hardy bird, yet while here it is exceedingly lively and cheerful, its silvery tinkling notes being frequently heard during the coldest snaps in winter. At the approach of spring they all move off to the north, and none are observed during summer.

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219. SPIZELLA SOCIALIS (WILS.). 560.

Chipping Sparrow.

Adult, bill black; feet pale; crown chestnut, extreme forehead black, a grayish-white superciliary line, below this a blackish stripe through eye and over auriculars. Below, a variable shade of pale ash, nearly uniform and entirely unmarked; back streaked with black, dull bay and grayish-brown; inner secondaries and wing coverts similarly variegated, the tips of the greater and lesser coverts forming whitish bars; rump ashy, with slight blackish streaks; primaries and tail dusky, the bill pale brown, and the head lacking definite black. Length, 5-5½; wing, about 2⅜; tail, rather less.

HAB. Eastern North America, west to the Rocky Mountains, north to Great Slave Lake, and south to Eastern Mexico.

Nest, in a bush or among the vines; composed of rootlets and fine grass lined with horse hair.

Eggs, 4 to 6; pale bluish-green, dotted, speckled or scrawled with dark brown.

Prior to the advent of the House Sparrow, the Chipper was the most familiar and best known bird around our dwellings, and though now in the minority it still builds its nest in the garden, and comes familiarly near the door to pick up crumbs for the support of its family.

It is very generally distributed over Ontario, being found near the dwellings of rich and poor alike; in the shade trees in the city as well as in weedy corners and thorn bushes in the pasture field.

It arrives from the south about the end of April, and at once begins building its nest. It is most diligent in the discharge of its varied domestic duties during the summer, and when the young are able to shift for themselves, old and young get together in flocks, and about the end of October all move off to the south.

220. SPIZELLA PUSILLA (WILS.). 563.

Field Sparrow.

Bill pale reddish; feet very pale; crown dull chestnut; no decided black or whitish about head. Below white, unmarked, but much washed with pale brown on breast and sides; sides of head and neck with some vague brown markings; all the ashy parts of *socialis* replaced by pale brownish. Back bright bay, with black streaks and some pale flaxen edgings; inner secondaries similarly variegated; tips of median and greater coverts forming decided whitish cross-bars. Size of *socialis*, but more nearly the colors of *monticola*. *Young*, for a short time, streaked below as in *socialis*.

HAB. Eastern United States and Southern Canada, west to the Plains.

Nest, on the ground, or near it, in a low bush; composed of grass and rootlets, lined with fine grass and hair.

Eggs, 4 to 6; greenish-white, variously marked with reddish-brown.

The Field Sparrow is sparingly distributed in suitable places in Southern Ontario, which probably forms its northern limit. It arrives from the south during the first week in May, and soon makes its presence known by its pleasing ditty which is heard from the top of a low tree or bush in the pasture field. It resembles the Chipper in size, but is more like the Tree Sparrow in coloring. The cinnamon tinted bill is always a ready mark by which to distinguish it from any other of the small Sparrows.

It raises two broods in the season and retires to the south in September.

GENUS JUNCO WAGLER.

221. JUNCO HYEMALIS (LINN.). 567.

Slate-colored Junco.

Blackish-ash, below abruptly pure white from the breast. Two to three outer tail-feathers white. Bill flesh-colored. In the *female*, and in fact in most fall and winter specimens, the upper parts have a more grayish, or even a decidedly brownish cast, and the inner quills are edged with pale bay. Length, 6-6½; wing and tail, about 3.

HAB. North America at large, but chiefly east of the Rocky Mountains, breeding from the higher parts of the Alleghanies and Northern New York and Northern New England northward. South in winter to the Gulf States.

Nest, on the ground, rarely in a bush above it; composed of strips of bark, grass and rootlets, lined with moss and hair.

Eggs, 4 to 5; greenish-white, spotted and blotched with reddish-brown.

In Southern Ontario the "White Bill," as this species is familiarly called, may fairly be considered resident, for although it is most numerous in April and October, yet it breeds commonly throughout the country, and a few are always observed remaining during the winter.

It is a very familiar species, showing a marked partiality for rocky ravines, quarries and stone heaps. It is also common by the roadsides, and in gullies and other uncultivated places, but in the dense bush it is seldom seen, until we come to a spot where men and horses have been at work felling and hauling timber. In such a place at all seasons, its white tail feathers are almost sure to be seen flirting about among the brush. The ordinary note of this species is a simple "*chip*," like the sound produced by striking two pebbles together, but in the spring the male has a rather pleasing little song, with which he cheers his mate while they are fitting up their home.

Genus MELOSPIZA Baird.

222. MELOSPIZA FASCIATA (Gmel.). 581.

Song Sparrow.

Below white, slightly shaded with brownish on the flanks and crissum, breast and sides with numerous dusky streaks, with brown edges, coalescing to form a pectoral blotch and maxillary stripes bounding the throat; crown dull bay, with fine black streaks, divided and bounded on either side by ashy-whitish lines; vague brown or dusky and whitish markings on the sides of the head; the interscapular streaks black, with bay and ashy-white edgings; rump and cervix grayish-brown, with merely a few bay marks; wings with dull bay edgings, the coverts and inner quills marked like the interscapulars; tail obviously longer than the wings, pale brown, with darker shaft lines on the middle feathers at least, and often with obsolete wavy markings. Length, 6-6½; wing, about 2½; tail, about 3.

Hab. Eastern United States to the Plains, breeding from Virginia and the northern portion of the Lake States northward.

Nest, on the ground, more rarely on a low tree or bush ; composed of rootlets and leaves, lined with fine grass and occasionally some horse hair.

Eggs, 4 to 5 ; very variable in marking, usually grayish or greenish-white, blotched or spotted with brown, the shades of which differ greatly in different specimens.

This is an abundant summer resident, and one which seeks the society of man, being found wherever human habitations have been raised within its range. Large numbers pass on to the north in April, returning again in October on their way south, but they do not all leave us. While getting on or off the ice on Hamilton Bay in the depth of winter, I have several times been surprised by seeing a Song Sparrow rise from among the flags, which at that season have a roof of snow, and no doubt afford a comfortable shelter to the little birds. In the same locality, on a comparatively mild day in the middle of winter, I have seen a male of this species mount to the top of a bulrush and warble forth his pleasing familiar notes, perhaps in appreciation of the rising temperature.

In the "Birds of Ohio" Dr. Wheaton mentions the following singular instance of the strong attachment which this species has for its nest. "Some laborers, who were cutting grass on a railroad track near Columbus, found a nest of this species on the embankment, and though rather a delicate piece of work for this class of men to undertake, they moved it from its original site among the grass and placed it gently, but loosely, on the fork of a horizontal limb of a maple sapling three feet from the trunk. Instead of deserting the nest as many birds would have done, or attempting to fasten it to the limb on which it had been placed, the Sparrows brought long stems of timothy grass and twisted them together and around a limb extending over the nest at a distance of one and a half feet. The lower ends of these stems were firmy fastened into the rim of the nest, and other stems were woven in transversely, form-a complete basket. The whole structure resembled an inverted balloon, and in this remarkable construction the eggs were hatched and the young safely raised. After the nest was deserted, I found the guy ropes sufficiently strong to bear up the nest, after the limb on which it was placed had been removed."

223. MELOSPIZA LINCOLNI (AUD.). 583.

Lincoln's Sparrow.

Below white, breast banded and sides often shaded with yellowish; everywhere, except on the belly, thickly and sharply streaked with dusky; above grayish-brown, crown and back with blackish, brownish and paler streaks; tail grayish-brown, the feathers usually showing blackish shaft lines; wings the same, the coverts and inner quills blackish, with bay and whitish edgings; no yellow on wings or head. Length, 5½; wing and tail, about 2½.

HAB. North America at large, breeding chiefly north of the United States and in the higher parts of the Rocky Mountains; south in winter to Guatemala.

Nest, on the ground; composed of grass throughout, the finest used for lining inside.

Eggs, 4 to 6; grayish-white clouded with brown.

Nest and eggs scarcely distinguishable from those of the Song Sparrow.

This retiring little Sparrow is almost unknown in the east, although it has been found at a number of different points, and from its retiring habits may be more common than we think it is.

Audubon found it first in Labrador, the young being able to fly on 4th of July. It has occasionally been captured during the season of migration, chiefly in Massachusetts and Connecticut, and there is in a Bulletin of the Nuttal Club, 1878, an account of a nest being found by Mr. Bagg in Hamilton Co., N. Y.

Ontario was without a record of this species till the 23rd of May, 1885, when K. C. McIlwraith got into a bird wave which had been stopped at the Beach by a head wind during the previous night, and from a crowd composed of different classes in large numbers, picked out two Lincoln's Sparrows, and on the 25th he got other two at the same place. Since that time Mr. Geo. R. White reports having taken one at Ottawa, and Mr. Saunders has also secured one at London.

In the west the history of the species is entirely different. Mr. Trippe, writing from Colorado, says: "Lincoln's Finch is abundant and migratory, it breeds from about 9.500 or 10.000 feet up to the timber line. It arrives at Idaho Springs early in May and soon becomes very common, haunting the thickets and brush heaps by the brooks, and behaving very much like the

Song Sparrow. During the breeding season it is most abundant among the bushes near and above timber line, nesting as high as it can find the shelter of willows and junipers. Reappearing in the valleys in October it lingers by the streams for a few weeks and then disappears."

It is also said to be abundant in spring and fall in Iowa, and Mr. Ridgway reports it as wintering in great numbers in Southern Illinois.

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224. MELOSPIZA GEORGIANA (LATH.). 584.

Swamp Sparrow.

Crown bright bay or chestnut, blackening on the forehead, often with an obscure median ashy line and usually streaked with black; cervix, sides of head and neck and the breast strongly ashy, with vague dark auricular and maxillary markings, the latter bounding the whitish chin, the ashy of the breast obsoletely streaky; belly whitish; sides, flanks and crissum strongly shaded with brown and faintly streaked; back and rump brown, rather darker than the sides, boldly streaked with black and pale brown or grayish. Wings so strongly edged with bright bay as to appear almost uniformly of this color when viewed close, but inner secondaries showing black with whitish edging; tail likewise strongly edged with bay and usually showing black shaft lines. Further distinguished from its allies by the emphasis of the black, bay and ash. Length, 5¼-6; wing and tail, 2¼-2½.

HAB. Eastern North America to the Plains, accidently to Utah, north to the British Provinces, including Newfoundland and Labrador. Breeds from the Northern States northward, and winters in the Middle States and southward.

Nest, on the ground in a moist place, sometimes in a tussock of grass or low bush; composed of weeds, grass and rootlets, lined with fine fibrous substances.

Eggs, 4 to 6; grayish-white, speckled with reddish-brown.

This is, perhaps, the least known of any of our common Sparrows, for it seldom comes within reach of the ordinary observer, and even by the collector it is apt to be overlooked, unless he knows its haunts and goes on purpose to seek it. It is very common by the shores of Hamilton Bay, where it may be seen skulking along the line where land and water meet, and if disturbed at once hides itself among the rank herbage of the

marsh. Occasionally, during the excitement of the mating season, a male will mount a bulrush and warble out his not unpleasant song, but most of their time is spent in places which are difficult of access either by land or water, and so they are seldom seen.

They arrive from the south early in May and leave again in October, none being observed during winter.

Genus PASSERELLA Swainson.

225. PASSERELLA ILIACA (Merr.). 585.

Fox Sparrow.

General color ferrugineous or rusty-red, purest and brighest on the rump, tail and wings, on the other upper parts appearing as streaks laid on an ashy ground; below white variously but thickly marked, except on the belly and crissum, with rusty red, the markings anteriorly in the form of diffuse confluent blotches, on the breast and sides consisting chiefly of sharp sagittate spots and pointed streaks; tips of middle and greater coverts forming two whitish wing-bars; upper mandible dark, lower mostly yellow; feet pale. Length, 6¾-7¼; wing and tail, each 3 or more.

Hab. Eastern North America, west to the Plains and Alaska (Valley of the Yukon to the Pacific), and from the Arctic Coast south to the Gulf States. Breeds north of the United States; winters chiefly south of the Potomac and Ohio Rivers.

Nest, indifferently, on the ground or in a tree; composed of grass, moss and fibrous roots, lined with hair and feathers.

Eggs, 4 to 6; greenish-white thickly spotted with rusty-brown.

This large and handsome Sparrow breeds in the north and winters in the south, but by what particular route it passes between the two points I am at a loss to determine, for in this part of Ontario it is seldom seen.

In the London list it is mentioned as "rare during migration, 4 or 5 specimens taken." In all my rambles I have only met with it a few times, and but once have I heard it utter its rich, musical notes, which are the admiration of all who hear them. Speaking of this species, Dr. Coues, in his Birds of the Northwest, says: "During the sunny days which precede their departure the males are fond of perching on the top of a small tree or

bush to warble a few exquisitely sweet notes, the overtures of the joyous music which, later in the year, enlivens the northern solitudes whither the birds resort to breed." The nest has not been found within the limits of the United States or Ontario, so far as I am aware, but in the list of Birds of Western Manitoba Mr. Seton mentions it as breeding abundantly on Duck Mountain.

Genus PIPILO Vieillot.

226. PIPILO ERYTHROPHTHALMUS (Linn.). 587.

Towhee.

Adult male, black, belly white, sides chestnut, crissum fulvous-brown; primaries and inner secondaries with white touches on the outer webs; outer tail feathers with the outer web and nearly the terminal half of the inner web white, the next two or three with white spots, decreasing in size; bill blackish; feet pale brown; iris red in the adult, white or creamy in the *young*, and generally in winter specimens. *Female*, rich warm brown where the male is black; otherwise similar. Very *young* birds are streaked brown and dusky above, below whitish, tinged with brown and streaked with dusky. Length, male, 8½; wing, 3½; tail, 4; female rather less

Hab. Eastern United States and Southern Canada, west to the Plains.

Nest, on the ground, more rarely in a bush or sapling; a rude structure, composed of grape-vine bark, weed stalks, leaves and grass; lined with fine vegetable fibre.

Eggs, 4 to 6; white, thickly freckled with reddish-brown.

This species has a more northern range than we have been in the habit of attributing to it, for it is mentioned both by Prof. Macoun and Mr. Seton as being common in the Northwest Territory. In Southern Ontario it arrives from the south about the 1st of May, the males coming on a few days ahead of the females. Much of their time is spent on the ground, scratching and rustling about among the withered leaves in search of seeds and insects. During the pairing time, the male will frequently rise from the scrub bush to the lower branch of a tree and sing his original song in his best style, accompanying the performance with many a jerk and flirt of his long handsome tail, which shows to advantage on these occasions. If we sit down to

watch his motions for a little we may be favored with a glimpse of the female stealing through the underbrush, but except under such circumstances she is rarely seen.

During the heat of summer the loud ringing "Towhee" which has given the birds their common name is discontinued, and they spend their time quietly in the shade. In September it is again heard, perhaps as a bugle note to call the flocks together before starting for the south. We have no record of any being observed during winter.

Genus CARDINALIS Bonaparte.

227. CARDINALIS CARDINALIS (Linn.). 593.

Cardinal.

Male, rich vermillion or rosy-red, obscured with ashy on the back; face black; bill reddish; feet brown. *Female*, ashy-brown, paler below, with evident traces of the red on the crest, wings, tail and under parts. Length, 8-9; wing, about 3⅜; tail, 4.

Hab. Eastern United States, north to New Jersey and the Ohio Valley (casually farther), west to the Plains.

Nest, in a bush or low tree near the ground, usually not far from water. Composed of bark, leaves, grass and rootlets rather loosely put together.

Eggs, 4 to 5; white, thickly spotted with dark reddish-brown often wreathed round the larger end.

The Cardinal can only be regarded as a casual visitor along our south-western border. It is quite common in Ohio, and as might be expected a few occasionally cross the lake. Mr. Norval reports one or two being found at Port Rowan, and Dr. Macallum mentions that a few are seen every summer along the lake shore south of Dunnville, where they are supposed to breed among the evergreens. They make showy, interesting cage birds, on account of which great numbers are caught in trap cages and sold in the southern markets.

Genus HABIA Reichenbach.

228. HABIA LUDOVICIANA (Linn.). 595.

Rose-breasted Grosbeak.

Adult male, with head and neck all round and most of the upper parts black, the rump, upper tail-coverts and under parts white, the breast and under wing-coverts exquisite carmine or rose-red; wings and tail black, variegated with white; bill pale; feet dark. *Female*, above streaked with blackish and olive or flaxen-brown with median white coronal and superciliary line; below white, more or less tinged with fulvous and streaked with dusky; under wing-coverts saffron-yellow; upper coverts and inner quills with a white spot at end; bill brown. *Young males* at first resemble the female. Length, 7½-8½; wing, about 4; tail, about 3½.

Hab. Eastern United States and Southern Canada, west to the eastern border of the Plains, south in winter to Cuba, Central America and Northern South America.

Nest, in a low tree; composed of twigs, vegetable fibre and grass, rather loosely put together.

Eggs, 3 to 4; greenish-white, thickly spotted with reddish-brown.

This robust and gaily attired songster arrives from the south about the 10th of May, and soon its rich, rolling song is heard in the trees and thickets where it spends the summer. It breeds regularly along the southern border of Ontario, and has also been found in Labrador and in the Red River Valley. Its favorite haunts are along the wooded banks of streams, where even at noonday, when most other birds are silent, the male in the shade of the luxuriant foliage cheers his mate during the tedious hours of incubation with the song she loves to hear. Its food consists of seeds, buds and berries; but it also takes a variety of insects, and is one of the few birds which visit the potato patch and snap up the potato bugs. On this account alone it is entitled to our protection; but it is also one of the most attractive birds which visit the shrubbery, and would be most welcome if it could be taught to consider itself protected and come nearer to our dwellings.

Before retiring in the fall the males lose the greater portion of their black, but retain the carmine on the breast and under wing-coverts.

Genus PASSERINA Vieillot.

229. PASSERINA CYANEA (Linn.). 598.

Indigo Bunting.

Adult male, indigo blue, intense and constant on the head, glancing greenish, with different lights on other parts; wings and tail blackish, glossed with greenish-blue feathers around base of bill black; bill dark above, rather paler below, with a curious black stripe along the gonys. *Female*, above plain warm brown; below whitey-brown, obsoletely streaky on the breast and sides; wing-coverts and inner quills pale edged, but not whitish; upper mandible blackish, lower pale, with the black stripe just mentioned. The *young male* is like the female, but soon shows blue traces, and afterwards is blue, with white variegation below. Length, 5½; wing, 2¾; tail, 2½.

Hab. Eastern United States, south in winter to Veragua.

Nest, in a bush, composed of leaves and grass.

Eggs, 4 to 5; white, tinged with blue, sometimes speckled with reddish-brown.

About the 15th of May the Indigo arrives from the south and at once commences to deliver his musical message, such as it is, with considerable animation. While so engaged he is usually perched on the upper twig of a dead limb within hearing of the female, who is of retiring habits and seeks to elude observation among the briars and underbrush.

It is rather a tender species, and probably does not penetrate far north into Ontario. It is not mentioned either by Prof. Macoun or Mr. Seton as having been seen by them in the North-west, and by the middle of September they have all disappeared from Southern Ontario. The rich plumage and lively manners of the male make him quite conspicious while here; a favorite resort of the species near Hamilton being about the railroad track, near the waterworks reservoir.

Individuals vary considerably in the regularity of their coloring and in the intensity of the blue, but a male in rich spring plumage is a very handsome little bird.

Genus SPIZA Bonaparte.

230. SPIZA AMERICANA (Gmel.). 604.

Dickcissel.

Male, above grayish-brown, the middle of the back streaked with black, the hind neck ashy, becoming on the crown yellowish-olive, with black touches; a yellow superciliary line and maxillary touch of the same; eyelid white; ear-coverts ashy; chin white; throat with a large jet-black patch; underparts in general white, shaded on the sides, extensively tinged with yellow on the breast and belly; edge of wing yellow; lesser and middle coverts rich chestnut, the other coverts and inner secondaries edged with paler; bill dark horn-blue; feet brown. *Female* smaller; above like the male, but head and neck plainer; below less tinged with yellow, the black throat patch wanting and replaced by sparse sharp maxillary and pectoral streaks. Length, 6½-7; wing, 2¾; tail, 2⅜.

Hab. Eastern United States to the Rocky Mountains, north to Massachusetts, New York, Wisconsin and Minnesota, and south in winter through Central America to Northern South America.

Nest, on the ground or in a low bush, built of leaves and fine grass.

Eggs, 4 to 5; greenish-white, sometimes speckled with reddish-brown.

The only record we have at present of the Black-throated Bunting as a bird of Ontario is that furnished by Mr. Saunders in the "Auk" for July, 1885, page 307. The writer describes finding the species in June, 1884, at Point Pelee, at the west end of Lake Erie. The birds were tolerably common and evidently breeding, one or two pairs being in every field within a limited district, but it was only after considerable waiting and watching that the party succeeded in discovering a nest with 5 fresh eggs.

It is just possible that "Dickcissel," like some others, having reached the north shore of Lake Erie may come along as far as Lake Ontario, but it is rather a weakly, tender species, and we hardly expect to see it much north of the present limit, although there are several records of its capture in Massachusetts and Connecticut.

GENUS PIRANGA VIEILLOT.

231. PIRANGA ERYTHROMELAS (VIEILL.). 608.

Scarlet Tanager.

Male, scarlet, with black wings and tail; bill and feet dark. *Female*, *clear olive-green*, below *clear greenish-yellow*; wings and tail dusky, edged with olive. *Young male* at first like the female; afterwards variegated with red, green and black. Length, 7-7½; wing, 4; tail, 3.

HAB. Eastern United States, west to the Plains and north to Southern Canada. In winter, the West Indies, Central America and Northern South America.

Nest, on the horizontal limb of a low tree on the outskirts of the bush; a shallow, saucer-shaped structure, composed of vine-bark, rootlets and leaves, lined with vegetable fibre.

Eggs, 3 to 5; dull greenish-blue, spotted with reddish-brown and lilac.

The Scarlet Tanager is one of our most brilliant colored birds, but his rich plumage is all he has to commend him to popular favor, for he is neither handsome in form nor eloquent in tongue. Still he sings his song as well as he can, and it probably pleases his female for whose gratification it is intended, so we will let him pass. In Ontario the species is peculiar to the south and makes but a short stay, arriving about the 10th of May and leaving again about the middle of September.

In the fall the bright scarlet of the male's plumage is replaced by green, but he retains the black on wings and tail.

The food of the species consists chiefly of insects, in the capture of which they exhibit considerable dexterity. In the fall, when the wild berries are ripe, they take to them with evident relish, and though they usually keep to the retired parts of the woods, sometimes at this season they visit the farmer's raspberry patch in such numbers that they leave but few for household use.

In Southern Ontario they are generally distributed but nowhere abundant.

232. PIRANGA RUBRA (LINN.). 610.

Summer Tanager.

Male, rich rose-red or vermillion, including wings and tail; the wings, however, dusky on the inner webs; bill rather pale; feet darker. *Female*, *dull brownish-olive*; below *dull brownish-yellow*. *Young male* like the female; the male changing plumage, shows red and green confused in irregular patches, but no black. The female, with general resemblance to female *rubra*, is distinguished by the dull brownish, ochre or buffy tinge, the greenish and yellowish of *rubra* being much purer; the bill and feet also are generally much paler in *erythromelas*. Size of *rubra* or rather larger.

HAB. Eastern United States to the Plains, north to Southern New Jersey and Southern Illinois, casually north to Connecticut and Ontario, and accidently to Nova Scotia. In winter, Cuba, Central America and Northern South America.

Nest, on the horizontal bough of a tree; composed of strips of bark, rootlets and grass, lined with fine grass and fibre.

Eggs, 3 to 5; dull greenish-blue, spotted with reddish-brown.

We sometimes meet in the humbler walks of life people with little education, who, from a natural love of the subject, are wonderfully correct in their observation of the birds.

A man of this class, who, at the time I speak of, lived near a clump of bush on the mountain above the reservoir, three miles east of Hamilton, told me that one summer while he lived there a number of red birds, which had not black wings and tail like the common kind, bred in that bush. I felt sure he was describing the Summer Red Bird, and looked through that bush with interest every subsequent spring, but it was not till May, 1885, that I found the first and only individual of the species I ever saw in Canada. It was a female in fine adult plumage, and was among a group of Scarlet Tanagers, which apparently had just arrived from the south, and were enjoying the last rays of the setting sun which gilded the topmost twigs of a dead tree in the bush already referred to. Individuals have been found straggling as far north as Massachusetts and Connecticut, but the home of the species is farther south, and the above is the only record for Ontario.

Family HIRUNDINIDÆ Swallows.

Genus PROGNE Boie.

233. PROGNE SUBIS (Linn.). 611.

Purple Martin.

Lustrous blue-black. The female and young are much duller above, and more or less white below, streaked with gray. Length, 7 or more; wing, nearly 6; tail, 3½, simply forked.

Hab. Temperate North America, south to Mexico.

Nest, of hay, straw, bits of twine and paper, lined with feathers.

Eggs 4; pure white.

The Purple Martin arrives in Southern Ontario about the 10th of May, and though generally distributed is nowhere abundant. Its original nesting place was in a knot-hole or other hollow in a tree, but now, seeking the society of man, it raises its young in boxes put up for its accommodation, or in the interstices of the gothic architecture of our city buildings.

Its flight is rapid and its aerial evolutions often extremely graceful, while at other times it may be seen sailing Hawk-like with very little action of the wings.

They are general favorites in town and country, and are made welcome everywhere. Before leaving in the fall they have a grand gathering, which is thus described by Dr. Wheaton in the "Birds of Ohio:"

"After the breeding season is over, these birds congregate towards night in large flocks, and having selected a suitable cornice on some high building make preparations for spending the night. The retiring ceremony is very formal, to judge from the number of times they alight and arise again, all the while keeping up a noisy chatter. It is not until twilight deepens into evening that all are huddled together in silence and slumber, and their slumbers are often disturbed by some youngster falling out of bed amid the derisive laughter of his neighbors, which is changed to petulant scolding as he clambers over them to regain his perch, tumbling others down as he does so. All at

once the scene of last night's disturbance is quite and deserted, as the birds have flown to other lands, where they find less crowded beds and shorter, warmer nights."

Genus PETROCHELIDON Cabanis.

234. PETROCHELIDON LUNIFRONS (Say.). 612.

Cliff Swallow.

Lustrous steel-blue; forehead whitish or brown; rump rufous; chin, throat and sides of head chestnut; a steel-blue spot on the throat; breast, sides and generally a cervical collar rusty-gray, whitening on the belly. *Young*, sufficiently similar. Length, 5; wing, 4½; tail, 2¼.

Hab. North America at large, and south to Brazil and Paraguay.

Nest, a flask-shaped building of mud, lined with wool, feathers and bits of straw.

Eggs, 4 or 5; white, spotted with reddish-brown.

Early in May the Cliff Swallow crosses the southern border of Ontario, and gradually works its way up to the far north, breeding in colonies in suitable places all over the country. In towns and villages the nests are placed under the eaves of outhouses; in the country they are fastened under projecting ledges of rock and hard embankments. The birds are of an amiable, sociable disposition, as many as fifty families being sometimes observed in a colony without the slightest sign of quarrelling. Two broods are raised in the season, and by the end of August they begin to move off and are seen no more till spring. They are somewhat fastidious in their choice of a nesting place, and on this account are not equally abundant at all points, but still they are very numerous throughout the Province.

Genus CHELIDON Forster.

235. CHELIDON ERYTHROGASTER (Bodd.). 613.

Barn Swallow.

Lustrous steel-blue; below rufous or pale chestnut of varying shade; forehead, chin and throat deep chestnut; breast with an imperfect steel-blue

collar. Tail with white spots on the inner web of all the feathers, except the inner pair. Sexes alike, young less lustrous, much paler below, tail simply forked. Wing, 4½-4⅝; tail, 2⅜ to 5.

HAB. North America in general, from the Fur Countries southward to the West Indies, Central America and South America.

Nest, in a barn or other outbuilding; composed of pellets of mud and bits of straw, and lined with feathers.

Eggs, 4 or 5; white, spotted with reddish-brown.

While the Cliff Swallow chooses to fix its nest *outside* the building under the eaves, the present species prefers the *inside*, where its dwelling is seen attached to the beams and rafters.

They too are to some extent gregarious, as many as twenty or thirty pairs being often found nesting together in the same outhouse.

The Swallows as a class, from their great rapidity of flight and graceful aerial evolutions, are the most easily recognized of all our birds, and this species is perhaps the most accomplished of the group. It is seen skimming over the fields and meadows at a rate which leaves the lightning express far behind, when suddenly checking its course it will dart, with surprising rapidity, to right or left in pursuit of some passing insect. It likes to be near a still sheltered pond, where it can drink and bathe while on the wing, and beautiful it is, on a still summer evening, to see these birds take their plunge bath, and almost without checking their speed rise gracefully from the surface, shake sparkling drops from their burnished backs, and continue their airy gambols till the fading light calls them to their humble home. They arrive in Ontario early in May, and are generally distributed over the country during summer; but about the end of August they begin to move toward the south and soon have all disappeared.

GENUS TACHYCINETA CABANIS.

236. TACHYCINETA BICOLOR (VIEILL.). 614.

Tree Swallow.

Lustrous green; below pure white. Young similiar, not so glossy. Length, 6-6½; wing, 5; tail, 2½.

HAB. North America at large, from the Fur Countries southward, in winter to the West Indies and Central America.

Nest, of leaves and grass, lined with down and feathers.

Eggs, white, unspotted.

A common summer resident, arriving early in May and leaving about the middle of September.

The White-bellied Swallows must at times have had considerable trouble in finding suitable places for their summer residence, but it may be that like people who move often they have come to like the occupation of house hunting. The original nesting place was a hole in a tree or stub near water, but as the birds are incapable of making such an excavation themselves they had to search for a natural aperture, or the deserted hole of a Woodpecker to suit their purpose, the finding of which must have been to some extent accidental. As the country became settled, and the Swallow trees were cleared away, the birds betook themselves to breeding in boxes, which in the east were put up in great numbers for their accommodation, but on the advent of the English Sparrow many pairs of Swallows were summarily ejected from the boxes, and were obliged to retire to the remote parts of the country and resume their primitive habit of nesting in trees. On this account they are not so common in towns and villages as they were some years ago, but are more generally distributed throughout the country. In Southern Ontario they are seen in greatest numbers during the season of migration.

GENUS CLIVICOLA FORSTER.

237. CLIVICOLA RIPARIA (LINN.). 616.

Bank Swallow.

Lustreless gray, with a pectoral band of the same; other under parts white. Sexes exactly alike. Young similiar, the feathers often skirted with rusty or whitish. Length, 4½-4¾; wing, 3⅞-4; tail, 2.

HAB. Northern Hemisphere; in America, south to the West Indies Central America and Northern South America.

Nest, a few bits of straw and some feathers placed at the end of a tunnel, 2 to 4 feet deep, dug by the birds in a sand bank.

Eggs, 5; pure white.

A common summer resident, breeding abundantly in suitable places all over the country. They arrive about the end of April and leave in September, both dates being dependent, to some extent, on the weather.

Near Hamilton this species is very abundant, a favorite nesting place being in the gravel bank which is cut through to form the canal to Dundas. There are also many sand banks around the bay shore, perforated to an extent which shows that flocks of young ones are raised there every summer.

Dr. Wheaton, in the "Birds of Ohio," mentions that this species, from being a common summer resident in the immediate vicinity of Columbus, has become only a passing migrant in spring and fall. This he attributes partly to the frequent disturbance of the nesting places by freshets, and partly to the advent of the Rough-winged Swallow, which is comparatively a new species at Columbus, but is rapidly increasing in numbers. The Bank Swallows are sprightly little birds, greatly attached to their homes, and we hope that nothing will happen here to cause them to change their residence.

Genus STELGIDOPTERYX Baird.

238. STELGIDOPTERYX SERRIPENNIS (Aud.). 617.

Rough-winged Swallow.

Lustreless brownish-gray, paler below, whitening on the belly. Rather larger than the last. Hooklets on outer web of outer primary wanting, or much weaker in the female.

Hab. United States at large (in the Eastern States north to Connecticut), south to Guatemala.

Nest, in holes dug by the birds in the sandy banks of creeks and rivers, a few straws and feathers at the end of the excavation representing the nest.

Eggs, 5 to 6; pure white.

This species seems to be gradually advancing from west to east, for we hear every now and then of its being observed at points in the Eastern States where it has not before been noticed. I have no record of it from any part of Ontario except from London, where Mr. Saunders has found it breeding for the

past year or two. It is not so decidedly attached to the sand or gravel bank for a breeding place as the Bank Swallow, the nests having been found in crevices of rocks, on beams under bridges, and even in a hole in a brick wall.

It bears a very close resemblance to the Bank Swallow, and as there are not many of them killed, it is possible the Rough-winged species may be more common than we think. When closely examined, the curious little hooklets on the outer web of the first primary, which are most fully developed in the male, are always sufficient to identify the species.

Family AMPELIDÆ. Waxwings, etc.

Subfamily AMPELINÆ. Waxwings.

Genus AMPELIS Linnæus.

239. AMPELIS GARRULUS (Linn.). 618.

Bohemian Waxwing.

General color brownish-ash, shading insensibly from the clear ash of the tail and its upper coverts and rump into a reddish-tinged ash anteriorly, this peculiar tint heightening on the head, especially on the forehead and sides of the head, into orange-brown. A narrow frontal line, and broader bar through the eye, with the chin and throat sooty-black, not sharply bordered with white; no yellowish on belly; under tail-coverts orange-brown or chestnut; tail ash, deepening to blackish-ash towards the end, broadly tipped with rich yellow; wings ashy-blackish; primaries tipped (chiefly on the outer webs) with sharp spaces of yellow or white, or both; secondaries with white spaces at the ends of the outer webs, the shafts usually ending with enlarged, horny, red appendages; primary coverts tipped with white; bill blackish-plumbeous, often paler at base below; feet black; sexes alike. Length, 7 or 8 inches; wing, about 4¼; tail, 2½.

Hab. Northern parts of the Northern Hemisphere. In North America, south in winter, irregularly, to the Northern United States.

Nest and eggs, so far as known, similar to the succeeding species

This handsome, eccentric, garrulous wanderer is common to the high latitudes of both continents, often appearing unexpectedly in very large flocks, and disappearing quite as mysteriously, not to be seen again for many years in succession.

The Ontario records are mostly of small flocks which occasionally visit us during the winter, and feed on the berries of the red cedar or the mountain ash. Sometimes they move by themselves, and sometimes in company with the Pine Grosbeaks; the Waxwings taking the pulpy part of the berries and the Grosbeaks preferring the hard seeds. The nest of this species was found by Mr. Kennicott on the Yukon, and by Mr. McFarlane on the Anderson River, but when we read the accounts of the vast flocks which have been seen by travellers we have to admit that it is little we know of their summer haunts and homes.

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240. AMPELIS CEDRORUM (VIEILL.). 619.

Cedar Waxwing.

General color as in *garrulus*. Under tail-coverts whitish; little or no orange-brown about head; no white on wings; chin black, shading gradually into the color of the throat; a black frontal, loral and transocular stripe as in *garrulus*, but this bordered on the forehead with whitish; a white touch on lower eyelid; feathers on side of lower jaw white; abdomen soiled yellowish; tail tipped with yellow. Length, 7-7½; wing, about 3¾.

HAB. North America at large, from the Fur Countries southward. In winter south to Guatemala and the West Indies.

Nest, large, built in the orchard or in a low tree in the bush; composed of twigs, bark, leaves, rootlets, etc., lined with fine grass, hair or wool.

Eggs, 4 to 6; pale blue, spotted and blotched with brownish-black.

The Cedar Bird is generally distributed throughout Ontario. It is a resident species, being here both in summer and winter, and yet it is so uncertain in its movements that its presence at a particular point at a given time cannot be counted upon with any degree of certainty. They do not begin housekeeping until quite late in the season, and may be seen visiting the orchard in flocks up to the end of May. At this season their food consists chiefly of insects, some kinds of which they cleverly capture on the wing. They are also accredited with the destruction of large numbers of canker worms and other noxious insects. As the season advances they show a great liking for fruit, especially cherries, with which they often cram themselves till they can hardly maintain their balance on the branches. In the fall and

winter the berries of the poke weed, red cedar and mountain ash afford them a bountiful supply of food. Their voice is heard only in a weak call note, easily recognized yet difficult to describe.

In many individuals the secondaries finish with a hard horny appendage, having the appearance of red sealing-wax. This is not indicative of age or sex, but is most frequently found in the adult male, and in some instances the tail-feathers are similarly tipped. The use of these appendages is unknown to us.

Family LANIIDÆ. Shrikes.

Genus LANIUS Linnæus.

241. LANIUS BOREALIS (Vieill.). 621.

Northern Shrike.

Clear bluish-ash, blanching on the rump and scapulars; below white, always vermiculated with fine wavy blackish lines; a black bar along side of the head, not meeting its fellow across forehead, interrupted by a white crescent on under eyelid, and bordered above by hoary white that also occupies the extreme forehead; wings and tail black, the former with a large spot near base of primaries; and the tips of most of the quills white, the latter with nearly all the feathers broadly tipped with white, and with concealed white bars; bill and feet black. Length, 9-10; wing, 4½; tail rather more. The young are similar, but none of the colors are so fine or so intense; the entire plumage has a brownish suffusion, and the bill is flesh-colored at base.

Hab. Northern North America, south in winter to the middle portions of the United States (Washington, D. C., Kentucky, Kansas. Colorado, Arizona, Northern California).

Nest, rested on a platform of sticks and twigs in a low tree or bush; composed of weeds, rootlets, bark strips, moss and fine grass.

Eggs, 4 to 6; the ground color is greenish-gray, but this is almost hidden by the profuse markings of purple and reddish-brown.

In Southern Ontario a few individuals of the species are seen every winter. They arrive from the north in October, and remain with us if the weather is mild, but if it becomes severe about the end of the year they disappear and are not observed again until March. They like the open country, usually taking

their position, sentinel like, on the topmost twig of a low tree or bush from which they notice all that moves within a certain radius.

I once saw a pair of these birds unite to hunt down an unfortunate Junco. It took shelter in a patch of scrubby brush, and the Shrikes, not being able to clutch it as a Hawk would have done, sought to wear it out by fright and fatigue. As there were two of them taking the work by turns, they would probably have succeeded had I not stopped the proceedings by collecting the two Shrikes, and so saving the life of the Junco. They, no doubt, breed in the northern portion of the Province, but in the south I have not heard of their being found so engaged.

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242. LANUS LUDOVICIANUS (LINN.). 622.

Loggerhead Shrike.

Slate colored, slightly whitish on the rump and scapulars; below white, with a few obscure wavy black lines, or none; black bar on one side of the head, meeting its fellow across the forehead, not interrupted by white on under eyelid, and scarcely or not bordered above by hoary white; otherwise like *borealis* in color, but smaller; 8-8½; wing, about 4; tail, rather more.

HAB. Eastern United States, north to Maine, west to the Prairies of the Upper Mississippi Valley.

Nest, in a tree or bush not often more than 15 feet from the ground, the middle of a thorn being often selected.

The eggs cannot with certainty be distinguished from those of the White-rumped Shrike.

This and the next species resemble each other so closely as to raise a doubt in the minds of many whether or not they should ever have been separated. Dr. Coues in his "New Key" says on this subject: "Extreme examples of *Excubitorides* look very different from *Ludovicianus* proper, but the two are observed to melt into each other when many specimens are compared, so that no specific characters can be assigned." All those I have found near Hamilton agree best with the description given of *Excubitorides*, but there are other observers who think we have both kinds, and some believe we have *Ludovicianus* only. As

a guide to a proper understanding of the matter I have given the technical descriptions of both, but hold my own opinion that of the two only *Excubitorides* has been found in Ontario.

LANIUS LUDOVICIANUS EXCUBITORIDES (SWAINS.).

243. White-rumped Shrike. 622 a.

With the size and essential characters of head stripe of var. *ludovicianus*, and the under parts, as in that species, not or not obviously waved, but with the clear light ashy upper parts and hoary whitish superciliary line, scapulars and rump of *borealis*.

HAB Western United States, east to the Middle and New England. Breeding as far north as Northern New York and Northern New England. Rare or local east of the Alleghanies.

Nest, in a tree or bush, seldom more than 10 feet from the ground; exteriorly built of prickly twigs, interwoven with strips of bark, rags, twine and rootlets, lined with fine grass and pieces of cotton waste picked up on the railroad track.

Eggs, 4 to 6; light grayish color, spotted with yellowish-brown.

Besides the great northern Butcher Bird (*Lanius Borealis*) there are two Shrikes, smaller in size, described as North American. One is the Loggerhead Shrike of the south-east, and the other the White-rumped Shrike, which was originally described as a western species, but has of late years been extending its territory to the eastward, north of the Loggerhead's range. Taking examples from the south-east to compare with those from the north-west the difference is seen at once, but as they approach each other in habitat they also approach each other so closely in appearance that we are almost brought to the conclusion that they are simply different races of the same bird which should not have been separated. Those found in Ontario are of the western race. They were first observed about 1860, and have since become quite common, extending north to the banks of the Sasketchewan, where they were observed by Prof. Macoun. The species is also included in Mr. Seton's list of the "Birds of Western Manitoba," and is said to be "abundant all over" from May till September.

In Southern Ontario the little Shrike is not found in the city nor in the dense bush, its favorite haunts being along the roadsides in the open country, where it may often be seen on a fence post or on the telegraph wire by the railway track. My first acquaintance with this bird at its home was made on one of my Saturday afternoon excursions, shortly after its first appearance in this part of the country. While driving along a back road east of the city, my attention was attracted by an ancient negro, who, with a table fork fastened to the end of a fishing pole, was poking vigorously into the centre of a very large, dense thorn-bush near his shanty. Getting over the fence to find out what he was doing, I was informed that a little Chicken Hawk had its nest in there and that it had killed two of his young chickens. Looking along the pole I saw in the heart of the dense bush a Shrike's nest with some young ones, which one of the old birds was valiantly defending, biting at the end of the fork when it came too near the youngsters. Taking the pole from his hand I worked it into the bush, but it broke before I got it out which put an end for the time to hostilities. I tried to convince my colored friend that he was mistaken about the bird having killed his chickens, for this kind lived only on grasshoppers and crickets, but he insisted that it was a Chicken Hawk, giving emphasis to the name by the use of several profane adjectives, and vowing he would have him out before night, even if he should have to burn him out. The appearance of the bush the next time I passed that way indicated that he had carried out his threat.

My opinion regarding the food of this species, which I gave in good faith at the time, I have since had occasion to change, and to believe that after all Sambo was probably right on the subject. During the past twenty-five years no one could have gone a few miles into the country in any direction near Hamilton, during June, July or August, without seeing one or more pairs of these birds in suitable places, until the present year 1886, during which not one has been observed. It may be that the exodus is only local and temporary; we shall watch for the birds with interest next spring.

Family VIREONIDÆ. Vireos.

Genus VIREO Vieillot.

Subgenus VIREOSYLVIA Bonaparte.

244. VIREO OLIVACEUS (Linn.). 624.

Red-eyed Vireo.

Above olive-green; crown ash, edged on each side with a blackish line, below this a white superciliary line, below this again a dusky stripe through the eye; under parts white, faintly shaded with olive along sides, and tinged with olive on under wing and tail-coverts; wings and tail dusky, edged with olive outside, with whitish inside; bill dusky, pale below; feet leaden-olive; eyes red; no spurious quill. Length, 5⅝-6¼; wing, 3¼-3⅜; tail, 2⅛-2½; bill, about ⅜; tarsus, ¾.

Hab. Eastern North America, to the Rocky Mountains, north to the Arctic regions.

Nest, pensile, fastened by the rim to a horizontal fork, 10 to 25 feet from the ground; a thin light structure, composed of bark strips, pine needles, wasp's nest, paper and fine grass, felted and apparently pasted together.

Eggs, 3 to 5; pure white, sometimes having a rosy blush or a few dark spots toward the larger end.

A very common summer resident, whose loud, clear notes are heard in the outskirts of the woods at all hours of the day. Even during the sultry month of July, when most other songsters sing only in the morning or evening, the Red-eye keeps on all day with tireless energy. In Ontario it is the most numerous species of the family, arriving early in May and leaving in September. In the early part of the season its food consists entirely of insects, which it is at all times ready to capture, either on the wing or otherwise. In the fall it partakes of raspberries, the berries of the poke weed and of other wild plants, with the juice of which its plumage is often found to be stained. It is frequently imposed upon by the Cowbird, whose young ones it rears as tenderly as if they were its own. Large numbers spend the winter in the Gulf States, and many go even farther south.

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245. VIREO PHILADELPHICUS (Cass.). 626.

Philadelphia Vireo.

Above dull olive-green, brightening on the rump, fading insensibly into ashy on the crown, which is not bordered with blackish; a dull white super-

ciliary line; below palest possible yellowish, whitening on throat and belly, slightly olive-shaded on sides; sometimes a slight creamy or buffy shade throughout the underparts; no obvious wing bars; no spurious quill. Length, 4½-5¼; wing, about 2⅜; tail, about 2¼; bill, hardly or about ½; tarsus, ⅝.

HAB. Eastern North America, north to Hudson's Bay; south, in winter, to Costa Rica.

The only record of the nest and eggs of this species I have ever seen is published by Mr. E. R. T. Seton in the "Auk" for July, 1885. He says: "On the 9th of June, 1884, while camped near Duck Mountain, I found a nest of this species. It was hung from a forked twig, about 8 feet from the ground, in a willow which was the reverse of dense, as it grew in the shade of a poplar grove. The nest was pensile, as is usual with the genus; formed of fine grass and birch bark. The eggs were 4 in number, and presented no obvious difference from those of the Red-eyed Vireo, but unfortunately they were destroyed by an accident before they were measured."

The owners were not secured.

Very many of the more recent additions to the list of our American birds have been made by the discovery that within certain well-known groups were individuals differing in some respects from the others. If these differences were found to be uncertain and irregular they received only a passing notice, but if they were found to be constant they were made the basis on which to build a new species.

Thus, although the American Vireos had passed in review before many distinguished ornithologists, it was not until 1842 that John Cassin found one closely resembling several of the others, and yet differing in some respects from all of them.

In 1851 he published a description of the bird he had found, pointed out its peculiarities, claimed for it specific distinction, and named it after the city near which he first observed it. For many succeeding years it was again lost sight of, most likely because no one was looking for it, but as the number of collectors increased and rare birds were sought after, the species was again observed, and at far distant points, giving it an exten-

sive range from north to south, and west to the middle of the continent. How relatively rare it is would be unsafe to say, for it is difficult to identify it without close inspection, to accomplish which might require the slaughter of Warbling Vireos enough to excite the ire of the Audubon Club.

Some time in the early part of 1883, I took up casually the Bulletin of the Nuttall Ornithological Club and read therein a charming article by Wm. Brewster on the distribution of this Vireo in the Eastern States. It showed the little bird to be more common and more widely distributed than was first supposed, and left on my mind the impression that it must pass through Ontario.

In May when the Vireos began to arrive I scrutinized them closely, and the first I shot on suspicion proved to be of this species and was I believe the first record for Ontario. When seen in the woods it looked rather smaller than the Warbling Vireo, was more solid and compact in the plumage, and was noticeably tinged underneath with yellow. From these features in its general appearance I have since recognized it both in spring and fall. I have also heard of its being taken at other points in Ontario, but have no record of its being found breeding within the Province.

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246. VIREO GILVUS (VIEILL). 627.

Warbling Vireo.

Primaries ten, the exposed portion of the first of which is one-third or less of the second, no obvious wing-bars, no blackish stripe along the side of the crown, and no abrupt contrast between color of back and crown. Upper parts greenish, with an ashy shade, rather brighter on the rump and edgings of the wings and tail, anteriorly shading insensibly into ashy on the crown. Ash of crown bordered immediately by a whitish superciliary and loral line; region immediately before and behind the eye dusky ash. Below sordid white with faint yellowish (sometimes creamy or buffy) tinge, more obviously shaded along the sides with a dilution of the color of the back. Quills and tail-feathers fuscous, with narrow external edgings as above said, and broader whitish edging of the inner webs; the wing-coverts without obvious whitish tipping. Bill dark horn color above, paler below; feet plumbeous; iris brown. Length, 5 inches, or rather more; wing, 2.80; tail, 2.25; bill, .40; tarsus, .67.

HAB. North America in general, from the Fur Countries to Mexico.

Nest and eggs closely resembling those of the Red-eye, but usually placed at a greater distance from the ground.

This amiable little songster is very common in Southern Ontario, from the end of the first week in May till the beginning of September. Although less abundant than the Red-eye, it is probably known to a greater number of people, owing to the preference it shows for isolated ornamental trees in parks and gardens, and the shade trees in cities. Its song is soft, subdued and flowing, like the murmuring of "a hidden brook in the leafy month of June."

There is another little Vireo I wish to mention here, for I believe it will yet be found at some point on our southern frontier, but I cannot include it in the list, having no well authenticated record of its being found in the Province. This is the White-eyed Vireo (*Vireo Noveboraceusis*). Its haunts are different from those of any other member of the family, it being partial to dense shrubbery or low tangled thickets, where, like the Yellow-breasted-chat, it hops about and scolds vehemently at any intruder who dares to venture too near its nest.

SUBGENUS LANIVIREO BAIRD.

247. VIREO FLAVIFRONS (VIEILL.). 628.

Yellow-throated Vireo.

Above rich olive-green, crown the same or even brighter, rump insensibly shading into bluish-ash; below bright yellow, belly and crissum abruptly white, sides anteriorly shaded with olive, posteriorly with plumbeous; extreme forehead, superciliary line and ring around eye yellow; lores dusky; wings dusky, with the inner secondaries broadly white-edged, and two broad white bars across tips of greater and median coverts; tail dusky, nearly all the feathers completely encircled with white-edging; bill and feet dark leaden-blue; no spurious quill. Length, 5¾-6; wing, about 3; tail, only about 2¼.

HAB. Eastern United States; south, in winter, to Costa Rica.

The position and frame work of the nest of this species is similar to that of the Red-eye, but its appearance and comfort are greatly increased by an artistic outside coating of gray moss, intertwisted with the silk of caterpillars.

The eggs are not with certainty distinguishable from those of the Red Eye.

This is a summer resident in Southern Ontario, but is by no means common. It seems partial to the beech woods, and being more retiring than the preceding and less noisy than the Red-eye it is not much observed. It is by some considered the handsomest of all our Vireos, and a male in full spring plumage is pleasing to look at, but I prefer the succeeding species. The Yellow-throated Vireo, though not abundant, seems to be generally distributed throughout Ontario. It has been found at Ottawa by Mr. White; at London Mr. Saunders reports it as a common summer resident; and it is also included in Mr. Seton's list of Birds of the Northwest Territory.

248. VIREO SOLITARIUS (WILS.). 629.

Blue-headed Vireo.

Above olive-green; crown and sides of head bluish-ash in marked contrast; a broad white line from nostrils to and around eye and a dusky loral line; below white, flanks washed with olivaceous, and auxilaries and crissum pale yellow; wings and tail dusky, most of the feathers edged with white or whitish, and two conspicuous bars of the same across tips of middle and great coverts; bill and feet blackish horn-color. Length, $5\frac{1}{4}$-$5\frac{3}{4}$; wing, $2\frac{3}{4}$-3; tail, $2\frac{1}{4}$-$2\frac{1}{3}$; spurious quill, $\frac{1}{2}$-$\frac{3}{4}$, about $\frac{1}{2}$ as long as second.

HAB. Eastern United States to the Plains. In winter south to Mexico and Guatemala.

Nest and eggs similar to those of the other Vireos; resembling those of the Yellow-throat more than either of the others.

This is a stout, hardy-looking bird, apparently better adapted to live in the north than any other member of the family. It arrives from the south with the earliest of the Warblers, and in some years it is quite common during the first half of May, after which it is not seen again till the fall. While here it is much among the evergreens, leisurely seeking its food, and is usually silent, but when at home it is said to have a very pleasant song.

FAMILY MNIOTILTIDÆ. WOOD-WARBLERS.

GENUS MNIOTILTA VIEILLOT.

249. MNIOTILTA VARIA (LINN.). 636.

Black and White Warbler.

Entirely white and black, in streaks except on the belly. Tail white spotted; wings white barred. Length, about 5; wing, $2\frac{1}{2}$; tail, $2\frac{1}{4}$.

HAB. Eastern United States to the Plains, north to Fort Simpson, south in winter to Central America and the West Indies.

Nest, on the ground; built of bark fibre, grass and leaves, lined with plant down or hair.

Eggs, 4 to 6; creamy-white, spotted and sprinkled with reddish-brown.

This dainty little bird, formerly known as the Black and White *Creeper*, has now been named the Black and White *Warbler*, but as it is much more given to *creeping* than to *warbling*, it is likely that with the ordinary observer it will retain its former name as long as it retains its creeping habit. It arrives in Southern Ontario during the last days of April, and even before the leaves are expanded its neat, decided attire of black and white is observed in striking contrast to the dull colored bark of the trees, around which it goes creeping with wonderful celerity in search of its favorite insect food. It becomes very common during the first half of May, after which the numbers again decrease, many having passed farther north, and only a few remaining to spend the summer and raise their young in Southern Ontario. The note of the male is sharp and penetrating, resembling the sound made in sharpening a fine saw.

The Black and White Warbler is a typical representative of the family of Wood-Warblers, which is remarkable for the number of its members, as well as for the richness and variety of their dress. There is, perhaps, no group of small birds which so much interests the collector, or furnishes so many attractive specimens to his cabinet, as the one we have just been considering.

Some of the members of this family are so rare that the capture of one is the event of a life time. To get any of them in perfect plumage they must be collected during the spring migration, and that season is so short and uncertain that if a chance is missed in May another may not occur for a year.

Game birds are followed by sportsmen with much enthusiasm and varying success, though Ruffed Grouse, Woodcock, and Quail are now so scarce in the more settled parts of the country that it is hardly worth while searching for them.

Our inland lakes and rivers are, at certain seasons, visited by crowds of Waterfowl, and the hunter, hidden behind his screen of rushes in the marsh, delights to hear the hoarse honking of an old gander as he leads on his Λ shaped flock of Geese, or to see the flocks of Ducks wheeling around and pitching down into the open water beside his decoys. At Long Point, and other shooting places where the Ducks have been protected, the number killed in a day is often very large. Dull, windy weather with light showers of rain is preferred. If the hunter is fortunate in choosing a good point at which to screen his boat among the rushes he may remain there all day, and if the Ducks are moving about he needs only to load as quick as he is able and kill as many as he can, the proof of his success being the number he brings home at night.

Not so with the Field Ornithologist, whose pursuits I have always felt to be more refined and elevating than those of the ordinary sportsman. As soon as the winter of our northern clime relaxes its grasp, and the season of flowers and brighter skies returns, he [illegible] the woods as if by appointment, and hears among the expa[illegible] buds the familiar voice of many a feathered friend just ret[illegible]d from winter quarters. The meeting is pleasant and the birds pass on. The walk is enjoyable, the bush is fragrant and freckled with early spring flowers, the loud warning note of the Great Crested Fly-catcher is heard in the tree tops. Tanagers, Rose-breasted Grosbeaks, etc., are there in brilliant plumage and full of life, but a note is heard or a glimpse is seen of something rare, and then is the time for the collector to exercise his skill. He must not fire when the bird is too close or he will destroy it. He must not let it get out of reach or he may lose it. He must not be flurried or he may miss it, and if he brings it down he must carefully mark the spot where it fell and get there as quick as he can, for if the bird is only wounded it may flutter away and hide itself, and even if it falls dead it may be covered with a leaf and not seen again unless the spot where it fell is carefully marked.

All seasons have their attractions, but the month of May above all others is enjoyed by the collector, and bright and rare are the feathered gems he then brings from the woods to enrich his cabinet.

GENUS HELMINTHOPHILA RIDGWAY.

HELMINTHOPHILA CHRYSOPTERA (LINN.).

250. Golden-winged Warbler. 642.

Male, in spring, slaty-blue, paler or whitish below where frequently tinged with yellowish; crown and two wing-bars rich yellow; broad stripe on side of head through eye, and large patch on the throat black; both these bordered with white; several tail-feathers white blotched. Bill black. Back and wings frequently glossed with yellowish-olive in young birds in which the black markings are somewhat obscure. Length, 4.75; extent, 7.50; wing, 2.40; tail, 2.00.

HAB. Eastern United States; Central America in winter.

Nest, on the ground; built of dry leaves and grape-vine bark, lined with fine grass and horse hair.

Eggs, 4; pure white, spotted with reddish-brown.

A trim and beautifully marked species, very seldom seen in Ontario and not abundant anywhere, being spoken of as one of the rarer Warblers in the Eastern States, which is the habitat of the species. Mr. Saunders mentions it as rather common near London, where it breeds and is generally distributed. From this I infer that it is one of those birds which enter Ontario at the south-west corner, and having crossed the boundary do not care to penetrate farther into the Dominion. I have met with it on two occasions near Hamilton, and have also heard of its being noticed at Port Rowan. It is an exceedingly active, restless species, and is most frequently found among the low shrubbery on the moist ground near some creek or marshy inlet.

It is first observed about the 10th of May, and disappears early in September.

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251. HELMINTHOPHILA RUFICAPILLA (WILS.). 645.

Nashville Warbler.

Above olive-green, brighter on the rump, changing to pure *ash* on the head; below *bright yellow*, paler on the belly, olive shaded on the sides; crown with a more or less concealed *chestnut* patch; lores and ring round the eye pale; no superciliary line; *female* and autumnal specimens have the head glossed with olive, and the crown patch may be wanting. Length, 4½-4¾; wing, 2⅜-2½; tail, 1¾-2.

HAB. Eastern North America to the Plains, north to the Fur Countries, breeding from the Northern United States northward. Mexico in winter.

Nest, on the ground; composed of withered leaves and strips of bark, lined with fine grass, pine needles or hair.

Eggs, 4; white, speckled with lilac or reddish-brown.

The Nashville Warbler, although an abundant species, is not very regular in its visits to this part of Ontario; being sometimes with us in considerable numbers during the season of migration, and again being almost or altogether absent. When they pass this way in the spring a few pairs usually remain over the summer with us, but the greater number go on farther north. In the fall they are again seen in limited numbers, working their way southward in company with their young, which are distinguished by the absence of the crown patch. In this part of Ontario we never see as great a number of Warblers in the fall as we do in spring. Either they are less conspicuous on account of the time of their migration extending over a longer period, or they have some other return route by which the majority find their way south.

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252. HELMINTHOPHILA CELATA (SAY.). 646.

Orange-crowned Warbler.

Above olive-green, rather brightest on the rump, *never* ashy on the head; below *greenish-yellow*, washed with olive on the sides; crown with a more or less concealed *orange-brown* patch (sometimes wanting); eye ring and obscure superciliary line wanting. Length, 4.80-5.20; extent, 7.40-7.75; wing, 2.30-2.50.

HAB. Eastern North America (rare, however, in the North-eastern United States), breeding as far northward as the Yukon and Mackenzie River districts, and southward through the Rocky Mountains, and wintering in the South Atlantic and Gulf States and Mexico.

Nest, on the ground; composed of leaves, bark fibre and fine grass.

Eggs, 4 to 6; white, marked with spots and blotches of reddish-brown.

The range of this species is chiefly along the west coast or middle district of the continent. In the east it occurs rarely. As a straggler I have met with it only on two occasions, the latter being on the 11th May, 1886, when a specimen was taken at the

Beach by K. C. McIlwraith. Mr. Saunders mentions having obtained two near London, and Mr. Allan Brooks has got one in Milton.

It is a very plainly attired species, and may readily be overlooked, for there is nothing in its dress or manner to attract attention, but on close examination the color of the crown patch is a distinguishing mark not likely to be mistaken. The sexes closely resemble each other, and the young are like them, except that they do not always have the brown crown patch till after the first year.

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253. HELMINTHOPHILA PEREGRINA (WILS.). 647.

Tennessee Warbler.

Olive-green, brighter behind, but never quite yellow on the tail-coverts, more or less ashy towards and on the head; *no crown patch*; below white, often glossed with yellowish, but never quite yellow; a ring round the eye, and superciliary line whitish, frequently an obscure whitish spot on outer tail-feathers; lores dusky; in the *female* and *young* the olivaceous glosses the whole upper parts. Length, 4½-4¾; *wing, about* 2⅜; *tail, 2 or less.*

This comparative length of wing and tail, with other characters, probably always distinguishes this species from the foregoing.

HAB. Eastern North America, breeding from Northern New York and Northern New England northward to Hudson's Bay Territory; Central America in winter.

Nest, on or near the ground; built of grasses, mosses and bark strips, lined with fine grass and hair.

Eggs, 4; white, with markings of reddish-brown about the larger end.

The Tennessee Warbler breeds in the Hudson's Bay Territory, where it is by no means rare, but the line of its migration seems to be along the Mississippi Valley, so that in the east it is seldom seen. I have only met with it twice, once in spring and again in the fall. It is probable that a few visit us with the migratory birds every season, but like one or two others it may owe its safety to its plain attire, being allowed to pass, while one of more gaudy plumage would be stopped.

The discovery of this species is due to Wilson, who found it on the banks of the Cumberland River in the State of Tennessee, and who speaks of it as rare, for he met with it again only on two occasions.

Genus COMPSOTHLYPIS Cabanis.

254. COMPSOTHLYPIS AMERICANA (Linn.). 648.

Parula Warbler.

Male, in spring, above blue, back with a golden-brown patch, throat and breast yellow, with a rich brown or blackish patch, the former sometimes extending along the sides; belly, eyelids, two wing-bars and several tail spots white; lores black; upper mandible black, lower flesh-colored; *female*, in spring, with the blue less bright, back and throat patches not so well defined; young, with these patches obscure or wanting, but always recognizable by the other marks and very small size. Length, 4½-4¾; wing, 2⅛; tail, 1⅜.

Hab. Eastern United States, west to the Plains, north to Canada, and south in winter to the West Indies and Central America.

Nest, globular, with a hole in the side, suspended from the end of a bough, often 20 feet or more from the ground; composed of hanging mosses, so as often to look like on excavation made in the side of a bunch of moss.

Eggs, creamy-white, with spots of lilac and brown.

This small and neatly dressed species is very common during the spring migration, when it may be seen in the tops of the tallest trees often hanging back downward like a Titmouse, searching for insects among the opening leaves. In winter it withdraws entirely from Canada, and even from the United States, great numbers being at that season observed in the West Indies.

On the return trip in spring a few pairs stop by the way, but the majority pass on still farther north to breed. I have not heard of the nest being found in Ontario, but I have the impression that this and many others of the same family will yet be found breeding in the picturesque District of Muskoka, between the Georgian Bay and the Ottawa River.

Genus DENDROICA Gray.

Subgenus PERISSOGLOSSA Baird.

255. DENDROICA TIGRINA (Gmel.). 650.

Cape May Warbler.

Male, in spring, back yellowish-olive with dark spots; crown blackish, more or less interrupted with brownish; *ear patch orange-brown*; chin, throat and posterior portion of a yellowish superciliary line, tinged with the same; a black loral line, *rump and under parts rich yellow*, paler on belly and crissum; the breast and sides streaked with black; wing-bars fused into a large whitish patch; tail blotches large, on three pairs of retrices; bill and feet black. *Female*, in spring, somewhat similar, but lacks the distinctive head markings; the under parts are paler and less streaked; the tail spots small or obscure; the white on the wing less. *Young*, an insignificant looking bird, resembling an overgrown Ruby-crowned Kinglet without its crest; obscure greenish-olive above, rump olive-yellow, under parts yellowish-white; breast and sides with the streaks obscure or obsolete; little or no white on wings, which are edged with yellowish; tail spots very small. Length, 5-5½; wing, 2¾; tail, 2¼.

Hab. Eastern North America, north to Hudson's Bay Territory, west to the Plains. Breeds from Northern New England northward and also in Jamaica; winters in the West Indies.

Nest, fastened to the outermost twigs of a cedar bough about 3 feet from the ground, composed of minute twigs of dried spruce, grasses and strawberry vines woven together with spider webs The rim is neatly formed and the lining is entirely of horse hair.

Eggs, creamy white; marked with lilac and reddish-brown.

This rare and beautiful Warbler is peculiar to the east, not yet having been found west of the Mississippi. In the Eastern States it is got occasionally, but is so rare that it is always regarded as a prize, and the collector who recognizes in the woods the orange ear-coverts and striped breast of this species is not likely soon to forget the tingling sensation which passes up to his finger ends at the time.

I have altogether found six in Ontario, but the time of their capture extended over a good many years. The above description of the nest and eggs is condensed from an account given by Montagne Chamberlain in "The Auk" for January, 1885, of the finding of a nest on the northern boundary of New Brunswick in the summer of 1882.

Subgenus DENDROICA Gray.

256. DENDROICA ÆSTIVA (Gmel.). 652.

Yellow Warbler.

Golden-yellow; back olive-yellow, frequently with obsolete brownish streaks; breast and sides streaked with orange-brown, which sometimes tinges the crown; wings and tail dusky, the latter marked with yellow blotches; bill dark blue. Female and young paler; less or not streaked below. Length, 5¼; wing, 2⅜; tail, 2¼.

Hab. North America at large, south in winter to Central America and Northern South America.

Nest, placed in the crotch of a small tree or bush; composed of a variety of soft, elastic materials, including wool, hair, moss, bark fibre and plant down, closely felted together.

Eggs, 4 to 5; grayish-white, spotted and blotched with different shades of reddish-brown.

This is, perhaps, the best known of all the Warbler family, its nest being more frequently found in a lilac bush in the garden than in any more retired situation. About the 10th of May it arrives from the south, and soon makes its presence known by its sprightly notes, the males being in full song at the time of their arrival.

It spends much of its time picking small caterpillars off the foliage of the willows, and is a general favorite on account of its sociable disposition and confiding manners. Unfortunately for its domestic comfort, it is often reluctantly compelled to become the foster parent of a young Cowbird, but it does not always accept the situation. After the obnoxious egg has been deposited, it has been known to raise the sides of the nest an inch higher, build a second bottom over the top of the egg, and raise its own brood above, leaving the Cowbird egg to rot in the basement.

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257. DENDROICA CÆRULESCENS (Gmel.). 654.

Black-throated Blue Warbler.

Male, in spring, above uniform slaty-blue, the perfect continuity of which is only interrupted, in very high plumages, by a few black dorsal streaks; below pure white; the sides of the head to above the eyes, the chin, throat and whole

sides of the body continuously jet black; *wing-bars wanting* (the coverts being black, edged with blue), *but a large white spot at the base of the primaries;* quill feathers blackish, outwardly edged with bluish, the inner ones mostly white on their inner webs; tail with the ordinary white blotches, the central feathers edged with bluish; bill black; feet dark. *Young* male, similar, but the blue glossed with olivaceous, and the black interrupted and restricted. *Female* entirely different; dull olive-greenish with faint bluish shade, below pale soiled yellowish; recognizable by the white spot at the base of the primaries, which, though it may be reduced to a mere speck, is always evident, at least on pushing aside the primary coverts; tail blotches small or obscure; feet rather pale. Length, about 5; wing, 2½; tail, 2¼.

HAB. Eastern North America to the Plains, breeding fron Northern New England and Northern New York northward, and in the Alleghanies to Northern Georgia, West Indies in winter.

Nest, placed in the fork of a bush near the ground; composed of grape-vine bark and rootlets, lined with vegetable fibre and horse hair.

Eggs, 3 to 5, creamy-white with a few spots of reddish-brown toward the larger end.

During the spring migration this species is always fairly represented, and some seasons it exceeds in numbers any other group of the family to which it belongs. It arrives about the 10th of May, and continues common till the 25th, by which time those bound for the north have disappeared. I have heard of individuals being seen in the woods in summer, and think it quite likely that a few pairs breed in suitable places in the southern part of the Province, but the majority unquestionably go farther north. While here the favorite haunt of the species is in the open woods, but it also visits the orchard, and is often seen among the lilac bushes in search of its insect food. In the fall it is in the woods during the greater part of September, after which it disappears and is seen no more till the following spring.

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258. DENDROICA CORONATA (LINN.). 655.

Myrtle Warbler.

Male, in spring, slaty-blue streaked with black; breast and sides mostly black; throat and belly pure white, immaculate; *rump, central crown patch and sides of breast sharply yellow*, there being thus *four* definite yellow places; sides of head black; eyelids and superciliary line white; ordinary white wing-bars and tail-blotches; bill and feet black; male in winter and *female*

in summer similar, but slate color less pure or quite brownish. *Young*, quite brown above, obscurely streaked below. Length, 5½-5⅝; wing, 3; tail, 2¼.

HAB. Eastern North America chiefly, straggling more or less commonly westward to the Pacific; breeds from the Northern United States northward, and winters from the Middle States and the Ohio Valley southward to the West Indies and Central America.

Nest, in a low tree or bush; composed chiefly of hemlock twigs and lined with feathers.

Eggs, 3 to 5; white, marked with brownish-purple.

The familiar Yellow Rump is the first of the family to arrive in spring, often appearing early in April, and for a time is the one most frequently met with in the woods, where it is observed passing in loose flocks among the upper branches of the trees.

By the middle of May they have mostly disappeared, and are not again seen in Southern Ontario till the end of September. They linger late in the fall as if unwilling to leave, and many probably do not go much beyond our southern boundary, though none have been known to remain here over the winter. On the Pacific coast this species has been replaced by *Dendroica Auduboni* (Audubon's Warbler). These two species resemble each other very closely, the principle difference being that in the western species the throat is *yellow*, while in ours it is *white*. Our eastern species has frequently been found on the Pacific coast, but in the east the western one has only once been observed, the record being of a specimen taken near Cambridge, Mass., on the 15th Nov., 1876.

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259. DENDROICA MACULOSA (GMEL.). 657.

Magnolia Warbler.

Male, in spring, back black, the feathers more or less skirted with olive; *rump yellow; crown clear ash*, bordered by black in front to the eyes, behind the eyes by a white stripe; forehead and sides of the head black, continuous with that of the back, enclosing the white under eyelid; entire under parts (except *white* under tail-coverts) rich yellow, thickly streaked across the breast and along the sides with black, the pectoral streaks crowded and cutting off the definitely bounded immaculate yellow throat from the yellow of the other under parts; wing-bars white, generally fused into one patch; tail spots *small, rectangular, at the middle of the tail and on all the feathers except*

the central pair; bill black; feet brown. *Female*, in spring, quite similar; black of back reduced to spots in the grayish-olive; ash of head washed with olive; other head markings obscure; black streaks below smaller and fewer. *Young* quite different; upper parts ashy-olive; no head markings whatever, and streaks below wanting or confined to a few small ones along the sides, but always known by the *yellow rump*, in connection with extensively or completely *yellow under parts* (except white under tail-coverts) and small tail spots near the middle of all the feathers except the central. Small, 5 inches or less; wing, 2½; tail, 2.

HAB. Eastern North America to the base of the Rocky Mountains, breeding from Northern New England, Northern New York and Northern Michigan to Hudson's Bay Territory. In winter, Bahamas, Cuba and Central America.

Nest, placed in a low spruce or hemlock, a few feet above the ground; composed of twigs, rootlets and grass, and lined with horse hair.

Eggs, 4; dull white, marked with lilac and brown.

This is by many considered the most gaily dressed of the Warbler family. In Southern Ontario it is a migrant in spring and fall and usually quite numerous. From its remaining near Hamilton till late in May and appearing again about the end of August, we may infer that some of the numbers which pass in spring breed at no great distance. Mr. C. J. Young, of the Collegiate Institute, Perth, mentions having found a nest of this species in his neighborhood on the 1st July, 1885. The description of the nest, its position, and the four eggs it contained correspond exactly with that given by others who have seen them elsewhere. So far as I have observed this is not one of the high fliers, being seldom seen among the tree tops, but mostly in young woods, particularly evergreens, where its colors show to advantage against the back-ground of dark foliage.

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260. DENDROICA CÆRULEA (WILS.). 658.

Cerulean Warbler

Male, in spring, azure-blue, with black streaks; below pure white, breast and sides with blue or blue-black streaks; two white wing-bars; tail blotches small, but occupying every feather, except perhaps the central pair; bill black; feet dark. ***Female*** and young with the blue strongly glossed with greenish, and the white soiled with yellowish; a yellowish eye-ring and superciliary line. **Length, 4-4½.**

HAB. Eastern United States and Southern Canada to the Plains. Rare or casual east of Central New York and the Alleghanies. Cuba (rare) and Central America in winter.

Nest, in the outer fork of a branch, 20 to 50 feet from the ground; composed of bark strips, grass and rootlets, and lined with fine grass and fibre; outside are many pieces of gray moss fastened with spider's silk.

Eggs, 4; creamy-white blotched with brown.

The Cerulean Warbler is, I think, a regular summer resident in Southern Ontario, but is somewhat local in its distribution. One spring I searched for it carefully near Hamilton without seeing a single individual, while across the bay, four miles off, Mr. Dickson reported it as quite common, and breeding in the woods near the Waterdown station of the Grand Trunk Railway. Its home and haunts are among the upper branches of the trees, and except on a blustering rainy day it is seldom seen among the lower branches. Its song is almost identical with that of the Parula Warbler, but in that species it rises to a slightly higher key at the close, while the Cerulean's ditty is uniform throughout. The colors of the bird are very pleasing when it is seen in a good light, fluttering among the topmost twigs of a beech or maple, the azure-blue and silvery-white seeming like a shred wafted from the drapery of the sky. Dr. Wheaton mentions the species as abundant in Ohio, but elsewhere it is considered rare.

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261. DENDROICA PENNSYLVANICA (LINN.). 659.

Chestnut-sided Warbler.

Male, in spring, back streaked with black and pale yellow (sometimes ashy or whitish), *whole crown pure yellow*, immediately bordered with white, then enclosed in black; sides of head and neck and whole under parts *pure white*, the former with an irregular black crescent before the eye, one horn extending backward over the eye to border the yellow crown and be dissipated on the sides of the nape, the other reaching downward and backward to connect with a chain of pure chestnut streaks that run the whole length of the body, the under eyelid and auriculars being left white; wing-bands generally fused into one large patch, and like the edging of the inner secondaries, much tinged with yellow; tail spots white as usual; bill blackish; feet brown. *Female*, in spring, quite similar; colors less pure; black loral crescent obscure or wanting; chestnut streaks thinner. *Young*, above, including the crown,

clear yellowish-green, perfectly uniform or back with slight dusky touches; no distinct head-markings; below entirely white from bill to tail, or else showing a trace of chestnut streaks on the sides; *wing-bands clear yellow*, as in the adult; this is a diagnostic feature, shared by no other species, taken in connection with the continuously white under parts; bill light colored below. Length, 5-5½; wing, 2½; tail, 2.

HAB. Eastern United States and Southern Canada, west to the Plains, breeding southward to Central Illinois and in the Appalachian Highlands, probably to Northern Georgia. Visits the Bahamas and Central America in winter.

Nest, in the fork of a bush or sapling, 3 to 8 feet from the ground; composed of bark strips and grass, and lined with plant down and hair.

Eggs, 4 to 5; creamy-white with reddish-brown marking.

A common summer resident, breeding in suitable places near the city and throughout the country, and raising two broods in the season. It is very partial to briar patches, but sometimes goes gleaning for insects among the trees, when the blending of its varied plumage with the fresh spring foliage produces a very pleasing effect. It arrives from the south about the 10th of May, and departs early in September.

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262. DENDROICA CASTANEA (WILS.). 660.

Bay-breasted Warbler.

Male, in spring, back thickly streaked with black and grayish-olive; *forehead and sides of head black, enclosing a large deep chestnut patch*; a duller chestnut (exactly like a Blue-bird's breast) occupies the whole chin and throat, and extends, more or less interrupted, along the entire sides of the body; rest of under parts ochrey or buffy-whitish, a similar buffy area behind the ears; wing-bars and tail-spots ordinary; bill and feet blackish. The *female*, in spring is more olivaceous than the male, with the markings less pronounced, but always shows evident *chestnut* coloration, and probably traces of it persist in all *adult* birds in the fall. The *young*, however, so closely resemble young *striata* that it is sometimes impossible to distinguish them with certainty. *Castanea* is, however, tinged with buffy or ochrey below, instead of the clear pale yellowish of *striata*; moreover, *castanea* is usually not streaked on the sides at all. Size of *striata*.

HAB. Eastern North America, north to Hudson's Bay. Breeds from Northern New England and Northern Michigan northward; winters in Central America.

Nest, in a hemlock tree, 15 or 20 feet from the ground; composed of larch twigs and moss, woven together with spider silk, and lined with fibrous roots.

Eggs, 4; bluish-green, thickly spotted with lilac and brown.

My observations of this species agree with what has been published regarding it by those who have observed it in the Eastern States. I have found it abundant in spring some years, and in others rare or entirely wanting, while in the fall it is always scarce, if it is seen at all. This has lead to the belief that the species does not always follow the same line of migration in spring, and that in the fall the return trip is made along a line to the west of us, the few we see being only stragglers from the main body. It is a late comer, being seldom seen till after the middle of May; and is less active in its movements than other members of the family. It is seldom seen on the ground or near it, usually keeping among the upper branches of the trees.

The only time I ever saw more than three or four together was in the spring of 1885, when I observed a flock of fifty or more feeding in a clump of willows overhanging an inlet of the bay.

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263. DENDROICA STRIATA (FORST.). 661.

Black-poll Warbler.

Male, in spring, upper parts thickly streaked with black and olivaceous-ash; *whole crown pure black*; head below the level of the eyes and whole under parts white, the sides thickly marked with black streaks crowding forward on the sides of the neck to form two stripes that converge to meet at base of the bill, cutting off the white of the cheeks from that of the throat; wing-bars and tail-blotches white; inner secondaries white edged; primaries usually edged externally with olive; feet and other mandible flesh color or pale yellowish; upper mandible black. *Female*, in spring, upper parts, including the crown, greenish-olive, both thickly and rather sharply black streaked; white of under parts soiled anteriorly with very pale olivaceous-yellow, the streaks smaller and not so crowded as in the male. *Young* closely resembling the adult female, but a brighter and more greenish-olive above with fewer streaks, often obsolete on the crown; below more or less tinged with pale greenish-yellow, the streaks very obscure, sometimes altogether wanting; under tail-coverts usually pure white; a yellowish superciliary line; wing-bars tinged with the same color. Length, 5$\frac{1}{2}$-5$\frac{3}{4}$; wing, 2$\frac{3}{4}$-3; tail, 2-2$\frac{1}{4}$.

HAB. Eastern North America to the Rocky Mountains, north to Greenland, the Barren Grounds and Alaska, breeding from Northern New England northward. South in winter to Northern South America.

Nest, in an evergreen, 8 or 10 feet from the ground; built of larch twigs woven together with moss and grass, and lined with fine grass.

Eggs, 5; white, spotted with purple and reddish-brown.

The Black-poll is a regular visitor in Southern Ontario in spring and fall. It is the last of the family to arrive from the south, being seldom seen before the 20th of May. Its stay at this time is of short duration, and when it goes the collector considers the Warbler season is over. In the fall they are again seen in increased numbers, many being in the young plumage, and not in such haste to depart, although none remain over the winter.

The musical powers, if they have any, are not exercised in this latitude, the birds while here being mostly silent. They feed largely on winged insects, which are never plentiful till the end of May, and this may account for the Black-polls being late in arriving in spring.

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264. DENDROICA BLACKBURNIÆ. (GMEL.). 662.

Blackburnian Warbler.

Male, in spring, back black, more or less interrupted with yellowish; crown black, with a central orange spot; a broad black stripe through the eye, enclosing the orange under eyelid; rest of head, with whole throat, most brilliant orange or flame color; other under parts whitish, more or less tinged with yellow, and sides streaked with black; wing-bars fused into a large white patch; tail blotches white, occupying nearly all the outer feathers; bill and feet dark. *Female* and young male, upper parts olive and black, streaked; superciliary line and throat clear yellow, fading insensibly on the breast; lower eyelid yellow, confined in the dusky ear-patch; wing patch resolved into two bars; tail blotches nearly as extensive as in the adult male, the outer feathers showing white on the outer webs at base. Length, 5½; wing, 2⅞; tail, 2¼.

HAB. Eastern North America to the Plains, breeding from the northern and more elevated parts of the Eastern United States northward; in winter, south to the Bahamas, Central America and Northern South America.

Nest, in an evergreen, 20 feet from the ground; built of twigs, grass and moss, and lined with fine fibre, hair and feathers.

This "flying gem," clad in black and orange of the richest shade, is by many regarded as the most gaily attired of all the Warblers. It is a regular visitor in spring and fall, and though not abundant is very generally distributed.

From its lingering late in spring and appearing early in September, it probably does not go much farther north to spend the summer, but at that season it has not been observed in Southern Ontario. One of the few errors made by Wilson was his description of the young of the Blackburnian Warbler as a different species, which he named the Hemlock Warbler. He was for a time followed by other writers, till further observation brought out the truth. Like most of its class this species crosses the southern frontier during the early part of May, and is again seen passing south in September.

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265. DENDROICA VIRENS (GMEL.). 667.

Black-throated Green Warbler.

Male, in spring, back and crown clear yellow-olive; forehead, superciliary line, sides of head rich yellow (in very high plumage, middle of back with dusky marks, and dusky or dark olive lines through eyes, auriculars, and even bordering the crown); *chin, throat and breast jet black*, prolonged behind in streaks on the sides; other under parts white, usually yellow-tinged; wings and tail dusky, the former with two white bars and much white edging, the latter with outer feathers nearly all white; bill and feet blackish; male in the fall and *female* in the spring similar, but black restricted, interrupted or veiled with yellow; *young* similar to the female, but the black more restricted or wanting altogether, except a few streaks along the sides. Length, about 5; wing, 2½; tail, 2¼.

HAB. Eastern North America to the Plains, north to Hudson's Bay Territory; breeding from the Northern United States northward. In winter, south to Cuba and Panama. Accidental in Greenland and Europe.

Nest, small, neat, compact, placed in a fork of a pine tree, near the end of a branch, often 20 to 50 feet from the ground; composed of twigs, strips of vine bark and dried grass, and lined with vegetable fibre and horse hair.

Eggs, 3 to 4; creamy-white, marked with reddish-brown, mostly toward the larger end.

The Black-throated Green Warbler is a regular visitor in spring and fall. It appears a few days earlier in spring than

some others of its class, and soon announces its arrival by the frequent utterance of its characteristic notes, which are readily recognized when heard in the woods, but difficult to translate into our language. When the Warblers are on their migratory journey they use trees of all kinds as resting places, but while seeking food this species evidently prefers the pines, and is most frequently seen among the higher branches. In the fall they are active as ever in their movements, but are mostly silent, except in the utterance of a simple chirp to advise each other of their whereabouts.

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266. DENDROICA VIGORSII (AUD.). 671.

Pine Warbler.

Uniform yellowish-olive above, yellow below, paler or white on belly and under tail-coverts, shaded and sometimes obsoletely streaked with darker on the sides; superciliary line yellow; wing-bars *white; tail blotches confined to two outer pairs of feathers, large, oblique*. *Female* and *young* similar, duller; sometimes merely olive-gray above and soiled-whitish below. The variations in precise shade are interminable, but the species may always be known by the lack of any special sharp markings whatever, except the superciliary line, and by the combination of white wing-bars with large oblique tail spots confined to the two outer pairs of feathers. Length, 5½ to nearly 6 inches.

HAB. Eastern United States to the Plains, north to Ontario and New Brunswick, wintering in the South Atlantic and Gulf States, and the Bahamas.

Nest, in a pine tree, well up from the ground; built of strips of bark, rootlets and grass, and lined with plant down, hair and feathers.

Eggs, usually 4; white, tinged with pink and spotted with reddish-brown.

The Pine-creeping Warbler is not remarkable for either the gaiety of dress or activity of movement which distinguish most of the others of its class. It is a large, quiet Warbler, yellowish-green above and greenish-yellow below, and is most frequently observed creeping on the trunks or branches of the pine trees searching for insects among the crevices of the bark. It does not seem to be generally distributed, for Dr. Wheaton speaks of it as being rare in Ohio, and Mr. Saunders has not met with it near London, while at Hamilton it is rather a common species, and raises its young near the city every season.

It arrives from the south quite early in spring, and for a time is quiet, but as the weather gets warmer the male indulges in a rather pleasant little song, resembling that of the Chipping Sparrow. In the fall they disappear about the middle of September.

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267. DENDROICA PALMARUM (GMEL.). 672.

Palm Warbler.

Adult male, in spring, beneath yellowish-white, tinged with yellow, the throat and crissum deepening into gamboge; sides of the neck, sides *and entire breast* streaked with umber-brown, tinged with rusty, the shafts of the feathers darker; a distinct superciliary stripe of clear yellow; pileum uniform rich chestnut, darker next the bill, when divided medially by a short and indistinct streak of yellow; upper parts in general olive-gray, deepening into yellowish olive-green on the upper tail-coverts; tail-feathers dusky, edged externally with pale olive-yellowish, the two outer pairs with their inner webs broadly tipped with white; wings dusky, the rimiges edged like the tail-feathers with yellowish olive-green, both rows of coverts tipped with pale grayish-buff, forming rather distinct indications of two bands. Wing, 2.55; tail, 2.30.

HAB. Northern interior to Great Slave Lake; in winter and in migrations, Mississippi Valley and Gulf States, including Western and Southern Florida and the West Indies. Casual in the Atlantic States.

From the way in which western birds creep up into Ontario around the west end of Lake Erie, I think it highly probable that this species will be found here. I have noticed some individuals much brighter in the yellow than others, but at present the number of specimens available for comparison is so small that I cannot say positively that we have both species, and have some doubts as to whether the recognized authorities have acted wisely in making the separation.

DENDROICA PALMARUM HYPOCHRYSEA (RIDGW.).

268. Yellow Palm Warbler. 672 a.

Adult male, in spring, entire lower parts and a conspicuous superciliary stripe bright yellow, entirely continuous and uniform beneath; entire sides marked with broad streaks of deep chestnut, these most distinct on the sides

of the breast; auricular mixed olive and chestnut (the latter prevailing), somewhat darker immediately behind the eye; lore with an indistinct dusky streak; entire pileum rich chestnut, becoming darker next the bill when divided medially by a short and rather indistinct yellow streak; rest of the upper parts olive, tinged with brown on the back and brightening into yellowish olive-green on the rump and upper tail-coverts, the latter having shaft streaks of reddish-chestnut; tail-feathers dusky, edged externally with yellowish-olive, the inner webs of the two outer feathers broadly tipped with white; wings dusky, all the feathers edged with pale brownish-olive, this edging rather widest on the ends of the middle and greater coverts, where, however, they do not form any indication of bands. Wing, 2.65; tail, 2.50.

HAB. Atlantic States north to Hudson's Bay. Breeds from New Brunswick and Nova Scotia northward; winters in the South Atlantic and Gulf States.

Nest, on the ground; built of bark fibre, grass and moss, and lined with hair and feathers.

Eggs, creamy-white, blotched with reddish-brown at the larger end.

As this interesting bird is said to be abundant in the Eastern States as far west as the Plains, we should expect to find it also plentiful in Ontario, but I have not so observed it near Hamilton. Occasionally, late in the fall or early in spring, it is seen running about on the ground, by the roadsides or in bare weedy fields, but it is not at any time abundant, and sometimes altogether absent. It is very different, in many respects, from the other members of the group in which it has been placed; its building its nest on the ground and the jerky motions of its tail suggesting relationship with the Tit Lark.

Some ten years ago, while examining a large series of specimens of this species in the National Museum, Mr. Ridgway observed a wide difference in the intensity of the coloring of different individuals in the group. An examination, as to the localities from which they had been obtained, showed that the highly colored individuals were from the east of the Alleghanies, while those in plainer attire were all from farther west. A comparison of specimens in the possession of different collectors in these districts showed that the differences referred to were constant, and apparently a Geographical race, which has led to the variety we are now considering being described as a sub-

species, under the name of *Dendroica Palmarum Hypochrysea;* the original Dendroica Palmarus of Gmelin being supposed to be the plain colored form observed in the west. I have described both, so that collectors may satisfy themselves as to whether we have here the eastern form, or the western, or both.

Genus SEIURUS Swainson.

269. SEIURUS AUROCAPILLUS (Linn.). 674.

Oven Bird.

Crown orange-brown, bordered with two black stripes, no superciliary line. Above bright olive-green; below pure white, thickly spotted with dusky on breast and sides; a narrow maxiliary line of blackish; under wing-coverts tinged with yellow; a white eye-ring; legs flesh color. Sexes alike; young similar. Length, 5½-6½; wing, 3; tail, 2⅜.

Hab. Eastern North America, north to Hudson's Bay Territory and Alaska, breeding from Kansas, the Ohio Valley and Virginia northward. In winter, Southern Florida, the West Indies and Central America.

Nest, on the ground, usually on a sloping bank, frequently roofed over with an entrance at the side; composed of twigs, leaves and moss, and lined with fine grass and hair.

Eggs, 4 to 5; creamy-white, spotted with reddish-brown.

The Oven Bird, so called from its habit of building its nest somewhat in the form of an oven, is a summer resident in Ontario, and is very generally distributed, being found in suitable places all over the country, from the early part of May till the beginning of September. To see it walking gingerly on the ground, jerking its tail after the manner of the Tit Lark, conveys the impression of a very quiet, retiring, little bird, with clear, handsome markings, but should it mount to one of the middle branches of a tree it is astonishing to observe with what emphasis and energy it delivers its notes. With a little help from the imagination its song resembles the word *teacher*, frequently repeated with increasing emphasis. This loud, clear call may often be heard in the moist woods during the month of May, but the bird is said to have also another song more soft and musical, which may be reserved for special occasions, for I have not met with any one who has heard it.

270. SEIURUS NOVEBORACENSIS (GMEL.). 675.

Water-Thrush.

Entire upper parts deep olivaceous-brown; conspicuous superciliary line yellowish; below white, more or less tinged with pale *yellowish*, thickly and *sharply* spotted with the color of the back, except on lower belly and crissum; feet dark. Length, 5½-6; wing, 2⅞; tail, 2¼; *bill, about* ½.

HAB. Eastern United States to Illinois, and northward to Arctic America; breeding from the Northern United States northward. South in winter to the West Indies and Northern South America.

Nest, on the ground; built of leaves, moss and grasses, and lined with fine grass and rootlets.

Eggs, 4 to 6; of crystalline whiteness, marked with reddish-brown.

This inhabitant of the moist woods and swampy thickets is found in all suitable places throughout the country, but it has not the loud decided notes of the Oven Bird, and is therefore less known though quite as abundant. It is terrestrial in its habits, being often seen walking with careful steps by the edge of the pools, or along wet logs, nervously jerking its tail, after the manner of the Teeter Snipe.

In appearance it closely resembles the next species, with which it has often been confounded, but the distinction, once clearly understood, is afterwards readily recognized. In the present species the throat and breast are streaked from the bill downwards, while in the next the throat is always unstreaked.

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271. SEIURUS MOTACILLA (VIEILL.). 676.

Louisiana Water-Thrush.

Very similar to the last; rather larger, averaging about 6, with the wing 3; bill especially longer and stouter, over ½, and tarsus nearly 1. Under parts white, only faintly tinged, and chiefly on the flanks and crissum, with buffy-yellow; the streaks sparse, pale and not very sharp; *throat*, as well as belly and crissum, unmarked; legs pale

HAB. Eastern United States, north to Southern New England and Michigan, west to the Plains. In winter, West Indies, Southern Mexico and Central America.

Nest, on the ground; composed of twigs, moss and leaves, and lined with fine grass and the fur of some quadruped.

Eggs, 4; white, tinged with rose color and lightly marked with reddish-brown.

Southern Ontario is perhaps the northern limit of this species, and even there it is not generally distributed. My first acquaintance with it was early on a bright May morning, a good many years ago. I had gone out under the mountain, west of Hamilton, and was crossing a deep ravine, which there cut through the mountain wall, when I heard farther up the glen the clear, rich, liquid notes of a bird that was then entirely new to me. Following, with some difficulty, the course of the stream, which was heard trickling beneath the moss-grown rocks in the bottom of the ravine, I came, at length, in sight of the musician. He was on the prostrate trunk of a tree, which, years before, had fallen and bridged over the chasm, but was now moss-grown and going to decay, and on this carpeted platform he moved about with mincing steps, often turning around with a jerk of the tail and uttering his characteristic notes with such energy that, for a time, the whole ravine seemed filled with the sound. I have seen the species many times since then, but the recollection of our first meeting has lingered long in my memory, and this particular bird still occupies a prominent place in my collection.

The Large-billed, or Louisiana Water-Thrush as it is now called, is by no means so common a bird in Ontario as the preceeding; yet along the southern border of the Province, wherever there is a rocky ravine, its loud, clear notes are almost sure to be heard in the spring, mingling with the sound of the falling water. It arrives from the south early in May and leaves in September.

Genus GEOTHLYPIS Cabanis.

Subgenus OPORORNIS Baird.

272. GEOTHLYPIS AGILIS (Wils.). 678.

Connecticut Warbler.

Above olive-green, becoming ashy on the head; below, from the breast, yellow, olive-shaded on the sides; chin, throat and breast grayish-ash; a

whitish ring round eye; wings and tail unmarked, glossed with olive; under mandible and feet pale; no decided markings anywhere. Length, 5½; wing, 2¾; tail, 2.

HAB. Eastern North America, breeding north of the United States.

Nest and eggs unknown.

The Connecticut Warbler was discovered by Wilson, and named by him after the State in which he found it. It is a widely distributed species but is nowhere abundant, though it seems to be more common in the west than in the eastern portion of its habitat. It is of shy, retiring habits, frequenting low, swampy places and keeping near the ground.

On one or two occasions I have met with the adults in spring, and have seen them again in the fall accompanied with their young. In their haunts and habits they closely resemble the Mourning Warbler, and in certain stages of plumage they are also like each other in appearance, but the present species can always be recognized by its wings, which are longer and more pointed.

This species undoubtedly breeds in Ontario, and as the nest and eggs are still unknown to naturalists there is here a prize which our Canadian boys should try to secure. I found the young in August, and they certainly looked as if they had not travelled far.

273. GEOTHLYPIS PHILADELPHIA (WILS.). 679.

Mourning Warbler.

Bright olive, below clear yellow; on the head the olive passes insensibly into ash; in high plumage the throat and breast are black, but are generally ash showing black traces, the feathers being black, skirted with ash, producing a peculiar appearance suggestive of the birds wearing crape; wings and tail unmarked, glossed with olive; under mandible and feet flesh color; *no white about eyes*. Young birds have little or no ashy on the head and no black on the throat, thus nearly resembling the *Oporornis agilis*. Length, 5¼-5½; wing and tail, each about 2¼.

HAB. Eastern North America to the Plains; breeding from the mountainous portions of Pennsylvania, New England and New York, and Northern Michigan northward. Central America and Northern South America in winter.

Nest, on or near the ground; built of leaves and weed stalks, and lined with fine black rootlets.

Eggs, 3; "light flesh color uniformly speckled with fine brown specks."

Very little is yet known of the nest and eggs of the Mourning Warbler. The above description is given by John Burroughs of a nest found by him in New York State, which is farther south than these birds usually spend the summer.

Some years since, when waiting for the train at a way station on the Kincardine branch of the G. T. R., I strolled into the neighboring woods to pass the time. Sitting on a prostrate log on the sunny side of a ravine, birds of many kinds fluttering about me, a pair of Mourning Warblers soon attracted attention by the displeasure and anxiety they manifested at being disturbed. I changed my position, and the female moved cautiously toward the place I had left. A few minutes more and certainly I should have seen the nest, but the engine whistle sounded, and being some distance from the station I had to leave. Next day as the train slowly passed the place the male was again observed singing on his former perch.

Any one who has given attention to the movements of the birds for a number of years, must have been surprised at the persistent regularity with which certain species appear at particular places at a given time, especially in spring.

For many years after I commenced collecting birds, I considered the Mourning Warbler only a straggler in this part of Ontario, having met with it but on two occasions. More recently I have carefully studied the topographical aspect of the neighborhood with special reference to the habits of the birds, and have calculated where certain species should be found at certain dates. One result of this was, that on two visits made to a particular place in May, 1885, K. C. McIlwraith obtained nine Mourning Warblers in a very short time. In the spring of 1886 they were again observed at the same place, but were not molested. The name *Mourning* does not refer to the manners of the bird, for it sings with much spirit and is quite lively in its movements, but was suggested by the ashy tips to the black feathers of the throat, resembling the effect produced by wearing crape.

274. GEOTHLYPIS TRICHAS (LINN.). 681.

Maryland Yellow-throat.

Male, in spring, olive-green rather grayer anteriorly; forehead and a broad band through the eye to the neck pure black, bordered above with hoary-ash; chin, throat, breast, under tail-coverts and edge of wing rich yellow, fading into whitish on the belly; wings and tail unmarked, glossed with olive; bill black; feet flesh colored. *Female*, in spring, without the definite black and ash of the head; the crown generally brownish, the yellow pale and restricted. The *young* in general resemble the female, at any rate lacking the head markings of the male; but are sometimes buffy-brownish below, sometimes almost clear yellow. Length, 4¾-5; wing and tail, 1⅞-2⅛.

HAB. Eastern United States, mainly east of the Alleghanies, north to Ontario and Nova Scotia, breeding from Georgia northward. In winter, South Atlantic and Gulf States, and the West Indies.

Nest, on the ground; composed of leaves and grass, and lined with fine withered grass.

Eggs, 4 to 6; white, thickly sprinkled with reddish-brown.

The Maryland Yellow-throat is widely but somewhat irregularly distributed. I have heard its familiar notes on the banks of the St. Lawrence, near Quebec; by the marshy ponds between Galt and Paris I have found it breeding abundantly; but near Hamilton, where there are places equally suitable for its summer residence, so far as *we* can judge, it is only observed as a casual migrant in spring and fall. It is a very lively little bird, and makes its summer haunts ring with its loud, clear "whit-ti-tee" often repeated, which once heard is not soon forgotten by any one who has an ear for bird music. It arrives during the first week in May, and disappears about the end of August.

GENUS ICTERIA VIEILLOT.

275. ICTERIA VIRENS (LINN.). 683.

Yellow-breasted Chat.

Bright olive-green; below golden-yellow, belly abruptly white; lore black, isolating the white under eyelid from a white superciliary line above and a short maxillary line below; wings and tail unmarked, glossed with olive; bill and feet blue-black, *female* and *young* similar, colors less bright. Length, 7-7½; wing, about 3; tail, about 3¼.

HAB. Eastern United States to the Plains, north to Ontario and Southern New England, south in winter to Eastern Mexico and Guatemala.

Nest, in a thicket, in the upright fork of a sapling, 3 to 6 feet from the ground; composed of leaves, strips of grape vine bark and grass, lined with fine withered grass and fibre.

Eggs, 3 to 4; very smooth, white, spotted and blotched with several shades of reddish-brown.

Bird collecting is attended with all the excitement of other speculations, the very uncertainty as to the amount of success attainable tending to increase the feeling.

Laying aside accidents by gun, boat or buggy, much time and labor are sometimes expended with very slim results, while on the other hand the prizes are often obtained quite unexpectedly. On the 16th of May, 1884, I went for a short excursion to the woods, impressed with the feeling that I had lately spent too much time collecting common species which I already had, and that by a more careful inspection of the birds I came across I should have a better chance of finding something new. I inspected quite a number that afternoon, but came back without a specimen of any kind, and as it began to rain I got home thoroughly damped, and unhitched my horse, firm in the belief that the subject was unworthy the attention I was giving it. Just then I noticed an olive-backed bird lying dead on the ground close by, and on picking it up found it to be the decaying body of a Yellow-breasted Chat, which had probably been killed by flying against the telegraph wire which passed over where it was found. It had evidently been there for two or three days, and I must have passed close to it several times daily. It was too far gone for preservation, so I had to console myself with its being the first record of the species in Canada. A week or so afterwards when visiting Mr. Dickson, who is Station-master on the G. T. R. at Waterdown, he pointed out to me an old, unused mill-race, grown up with briars and brambles, where the day before he had seen a pair of Chats mated. Mr. Dickson was collecting at the time, and was greatly surprised at their suddenly appearing within ten feet of where he was standing, but on his moving backward, with a view of get-

ting to a safer shooting distance, they disappeared in the thicket and did not again become visible, though they kept up their scolding as long as he remained near the place.

A pair of this species was also found by Mr. Saunders breeding on the north shore of Lake Erie, near Point Pelee, which completes the record for Ontario so far as I have heard.

Genus SYLVANIA Nuttal.

276. SYLVANIA MITRATA (Gmel.). 684.

Hooded Warbler.

Clear yellow-olive; below rich yellow shaded along the sides, whole head and neck pure black, enclosing a broad golden mask across forehead and through eyes; wings unmarked, glossed with olive; tail with large white blotches on the two outer pairs of feathers; bill black; feet flesh color. *Female*, with no black on the head; that of the crown replaced by olive, that of the throat by yellow. *Young male*, with the black much restricted and interrupted, if not wholly wanting, as in the female. Length, 5-5¼; wing, about 2⅜; tail, about 2¼.

Hab. Eastern United States, west to the Plains, north and east to Michigan Southern New York and Southern New England. In winter, West Indies, Eastern Mexico and Central America.

Nest, in a low bush or tree, a few feet from the ground; built of leaves and coarse grasses, and lined with fine grass and horse hair.

Eggs, 4; white, tinged with flesh color and marked with reddish-brown.

The Hooded Warbler is a southern species which rarely crosses our southern border. Mr. Norval reports finding it occasionally at Port Rowan, on the north shore of Lake Erie, and I once found a young male near Hamilton. It was toward the end of May, there had been a big bird-wave during the previous night, and this one had apparently got carried away in the crowd. It is a most expert fly-catcher, very active on the wing, and has the habit of flirting its tail after the manner of the Redstart. Its favorite haunts are in thick briary patches and among underbrush, where it finds food and shelter for itself and family.

There has been considerable discussion regarding the plumage of the *female* of this species, which has apparently subsided

into the belief that in mature adult birds the sexes are nearly alike, but that the female is longer in acquiring the black of the head and throat, and is sometimes found with it imperfectly developed or entirely wanting.

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277. SYLVANIA PUSILLA (WILS.). 685.

Wilson's Warbler.

Clear yellow-olive; crown glossy blue-black; forehead, sides of head and entire under parts clear yellow; wings and tail plain, glossed with olive; upper mandible dark, under pale; feet brown. *Female* and *young* similar; colors not so bright, the black cap obscure. Small; 4¾-5; wing, about 2¼; tail, about 2.

HAB. Eastern North America, west to and including the Rocky Mountains, north to Hudson's Bay Territory and Alaska. Breeds chiefly north of the United States, migrating south to Eastern Mexico and Central America.

Nest, a hollow in the ground; lined with fine grass and horse hair.

Eggs, 5; dull white, freckled with rusty-brown and liliac.

Wilson's Fly-catcher passes through Southern Ontario on its way to the north, in company with the Mourning Warblers and other late migrants. Like some of the others it has certain resting places, where it appears regularly in limited numbers every spring, but strangers unacquainted with its haunts might ransack the country for miles without seeing a single specimen. The greatest number go far north to spend the summer, but it is probable that a few remain in intermediate districts, for Mr. Geo. R. White found a pair nesting in his garden in Ottawa. This is the only record of the kind I have for Ontario.

In "New England Bird Life," part I., page 172, is an account of a nest found by Mr. D. H. Minot on Pike's Peak, 11,000 feet up, near timber line. The nest and eggs were as described above.

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278. SYLVANIA CANADENSIS (LINN.). 686.

Canadian Warbler.

Bluish-ash; crown speckled with lanceolate black marks, crowded and generally continuous on the forehead; the latter divided lengthwise by a slight yellow line; short superciliary line and edges of eyelids yellow; lores

black, continuous with black under the eye, and this passing as a chain of black streaks down the side of the neck, and prettily encircling the throat like a necklace; excepting these streaks and the white under tail-coverts the entire under parts are clear yellow; wings and tail unmarked; feet flesh color; in the female and young the black is obscure or much restricted, and the back may be slightly glossed with olive. Length, about 5⅓; wing, 2½; tail, 2¼.

HAB. Eastern North America, westward to the Plains and north to Newfoundland, Southern Labrador and Lake Winnipeg; south, in winter, to Central America and Northern South America.

Nest, on the ground in a tussock of grass or weeds; composed of fibre, rootlets, leaves and pine needles.

Eggs, 5; white, "beautifully marked with dots and small blotches of blended-brown, purple and violet, varying in shades and tints and grouped in a wreath around the larger end."

From the 15th to the 25th of May this species is very common in all suitable places in Southern Ontario. After the latter date the numbers are much reduced, but a few remain to spend the summer, while the bulk of the species goes farther north. When here their manners resemble those of the Green Black Cap, with which they are often found in company, and they prefer briary tickets, through which they pass nimbly, picking up their insect fare as they go. In the fall they are less frequently seen, returning south, perhaps, by some other route. They are first seen about the middle of May, and disappear toward the end of August.

GENUS SETOPHAGA SWAINSON.

279. SETOPHAGA RUTICILLA (LINN.). 687.

American Redstart.

Male, lustrous blue-black, belly and crissum white, sides of the breast, large spot at bases of the remiges, and basal half of the tail-feathers (except the middle pair) *fiery-orange*, belly often tinged with the same. *Female*, olivaceous, ashier on the head, entirely white below, wings and tail blackish, with the flame color of the male represented by yellow. *Young male* like the female, but browner, the yellow of an orange hue. From the circumstance that many spring males are shot in the general plumage of the female, but showing irregular isolated black patches, it is probable that the species requires at least two years to gain its perfect plumage. Length, 5⅓; wing and tail, about 2½.

HAB. North America, north to Fort Simpson, west regularly to the Great Basin, casually to the Pacific coast, breeding from the middle portion of the United States northward. In winter, the West Indies, and from Southern Mexico through Central America to Northern South America.

Nest, in the fork of a sapling 6 to 20 feet from the ground; composed of grape vine bark, grasses and weeds, and lined with fine grass, horse hair or plant down.

Eggs, 4 to 5; grayish-white, dotted with brown, lavender and purple.

The Redstart is one of the most active and restless little birds found in the bush, where its glowing garb of black and orange shines to great advantage among the fresh green leaves. It is generally distributed throughout Ontario, and from its manners and markings is well known to all who give any attention to the birds. In spring it arrives from the 10th to the 15th of May, the first to appear being the adult male in full costume, after which come the females and young males in plumage nearly alike. While here they are not higher fliers, but like to disport themselves among the middle and lower branches of deciduous trees, from which they dart off in pursuit of passing insects, making the clicking of the bill distinctly heard.

The male is so decided in his markings that he is not likely to be mistaken for any other species. The female is plainer, but has the habit of opening and closing the tail feathers, which serves, even at a distance, to indicate the species to which she belongs.

After the end of August they are seldom seen.

FAMILY MOTACILLIDÆ. WAGTAILS.

GENUS ANTHUS BECHSTEIN.

SUBGENUS ANTHUS.

280. ANTHUS PENSILVANICUS (LATH.). 697.

American Pipit.

Points of wings formed by the four outer primaries, the fifth being abruptly shorter. Hind claw nearly straight, nearly or quite equal to its digit. Above dark brown with a slight olive shade, most of the feathers with dusky centres; eyelids, superciliary line and under parts pale buffy or ochrey-brown,

variable in shade; breast and sides of neck and body thickly streaked with dusky; wings and tail blackish, inner secondaries pale edged; one or more outer tail feathers wholly or partly white. Length, about 6½; wing, 3⅓; tail, 2⅝-3.

HAB. North America at large; breeding in the higher parts of the Rocky Mountains and subarctic districts; and wintering in the Gulf States, Mexico and Central America. Accidental in Europe.

Nest, a cavity in the ground; lined thickly with coarse dry grass.

Eggs, 4 to 5; dark chocolate, with spots and streaks of black.

In spring and fall loose straggling flocks of Pipits are seen on the commons, either searching for food on the ground or in short stages working their way to their breeding grounds in the far north, though how they ever get there is a wonder to any one who notices their weak and vacillating flight.

In spring they pass along very quickly, but in the fall they are seen in flocks by the shores of muddy ponds or creeks, or in moist meadows in the open country, nervously jerking their tails after the manner of the Water-Thrushes. Their only note while here is a weak, timid "cheep" uttered while on the wing.

On the 20th of July, 1871, Mr. Allen found young birds of this species, scarcely able to fly, on Mount Lincoln, Park County, Colorado, among the snow fields above timber line.

Dr. Coues found them breeding abundantly on the coast of Labrador, and noticed their habit of resorting to the sea shore at low tide, there to ramble about in company with the Sandpipers in search of food.

FAMILY TROGLODYTIDÆ. WRENS, THRASHERS, ETC.

SUBFAMILY MIMINÆ. THRASHERS.

GENUS MIMUS BOIE.

281. MIMUS POLYGLOTTOS (LINN.). 703.

Mockingbird.

Wings considerably shorter than tail; above ashy-gray; below whitish; wings and tail blackish, the former with two white wing-bars and large white spot at base of primaries, latter with 1 to 3 outer feathers more or less white. Length, 9-10; wing, about 4; tail, about 5.

HAB. United States, south into Mexico. Rare from New Jersey, the Valley of the Ohio, Colorado and California northward.

Nest, in bushes and low trees; composed of twigs, leaves, grass, etc., put together in a slovenly manner.

Eggs, 4 to 6; bluish-green, heavily marked with several shades of brown.

Among birds, as among men, individuals differ greatly in natural ability, some being much more highly endowed than others and their gifts are also as varied. Some, representing the architects of the community, excel in building their homes, which have not only all the necessary requirements for the comfort and safety of the inmates, but exhibit a skill and taste in their construction, and in the selection and arrangement of the materials, which never fail to excite our admiration. One of the most complete nests which come under our observation is that built by the Summer Yellow-bird. It is often placed in the fork of a lilac bush near our houses, and is not only luxuriously comfortable, but it is so well put together that it stands the blasts of winter and is in good shape in the following spring, though the birds do not use it a second season, but are seen tugging pieces out of the old to help to build the new. Another interesting specimen of bird architecture is the curious, pensile, purse-like nest of the Baltimore Oriole, which is quite a familiar object as it is seen swaying at the end of a slender twig of a drooping elm, while in the solitudes of a cedar swamp the Winter Wren provides a wonderfully cosy home for her numerous family in the centre of a ball of green moss.

Others may be regarded as the poets, the musicians of the feathered tribes, and it would be a curious study for us to try to find out whether those who cannot sing enjoy the singing of those who can. To human ears the melody of many of the birds is as pleasing perhaps as it is to their own species, and in this respect there is none more fascinating than the Mockingbird, whose rapturous music excites admiration wherever it is heard.

One of America's most gifted poets, who evidently knew and appreciated the musical powers of the bird, thus describes it in words well worthy of the subject. The scene is on the lower Mississippi, a band of exiles is descending the river on a still evening in the early summer.

"Softly the evening came. The sun from the western horizon
Like a magician extended his golden wand o'er the landscape;
* * * * *
Then from a neighboring thicket, the Mockingbird, wildest of singers,
Swinging aloft on a willow spray that hung o'er the water,
Shook from his little throat such floods of delicious music,
That the whole air and the woods and the waves seemed silent to listen.
Plaintive at first were the tones and sad; then soaring to madness
Seemed they to follow or guide the revel of frenzied Bacchantes.
Single notes were then heard in sorrowful, low lamentation;
Till, having gathered them all, he flung them abroad in derision,
As when after a storm, a gust of wind through the tree tops
Shakes down the rattling rain in a crystal shower on the branches."

In the Southern States the Mockingbird is a constant resident. Occasionally a pair come farther north and spend the summer, but as soon as the young are able for the journey they again retire to the south. In the "Birds of Long Island," Mr. Giraud mentions it as an occasional summer resident there, and speaks of a pair having spent a summer near the beach at Egg Harbor. "The male," he says, "became the pet of the residents, to whom it also seemed much attached, and, as if in return for the attention they paid to his wants, he poured forth his charming melody, which on calm, bright nights, blending with the subdued voice of the ocean, rendered the scene enchanting beyond the powers of description."

In Ontario the Mockingbird is best known as a cage bird, numbers being occasionally brought from the south in captivity, and when exposed for sale are readily bought up by those who are fond of feathered pets. Even in confinement it seems to retain all its natural power and energy as a songster, and being of a sociable, familiar disposition, soon gets attached to those who are in the habit of attending to its wants. Among American birds it has been justly styled the "Prince of Musicians." Indeed, with the exception of the British Sky-lark, whose grand soaring flight adds greatly to the effect of its music, I know of no bird in any country possessed of such a wonderful compass of voice. Often while exercising its powers of mimicry, it will give so correct an imitation of the notes of other birds that the most retiring species will come from their haunts expecting to

meet their mates, when suddenly they will be driven in fear to the thicket by as correct an imitation of the harsh scream of the Hawk.

The following incident gives me the privilege of claiming the species for Ontario, a pair having spent the summer of 1883 near Hamilton.

Had any one, acquainted with this neighborhood and with the habits of the bird, been asked to suggest where it would most likely be found, he would certainly have said East Hamilton, and it was there that Mr. Eastwood first observed the male, early in the season, in one of the leafy lanes between his residence and the mountain. Mr. Eastwood was in the habit of taking exercise on horseback in the early morning, and seldom passed the place where the bird was first recognized without again seeing him on the dead branch of a low tree which he had chosen as his perch. As the season advanced these frequent visits grew into something like personal friendship, for the bird evidently recognized his visitor, and if absent at first would readily respond to a call, and mounting his usual perch would answer in his own eloquent style. He also caught up many of the local sounds of the neighborhood, the crowing of the rooster, the cackling of the fowls, and the notes of other birds were imitated with wonderful correctness, but sweetest of all were his own rich, full tones, which gave a new charm to that favored locality. Only once during the season was a glimpse obtained of the female, who was evidently engaged in domestic duties, though, with the view of making the pair feel as much at home as possible, the nest was not sought for.

It was hoped that this pair or some of their family would return the following season to visit their old friends in Ontario, but if they did they have not been observed, and this so far as I am aware is the only instance of the species being observed in Ontario.

GENUS GALEOSCOPTES CABANIS.

282. GALEOSCOPTES CAROLINENSIS (LINN.). 704.

Catbird.

Wings but little shorter than tail; dark slate color, somewhat lighter below; crown of head and tail black; under tail-coverts dark chestnut. Length, 8 to 9; wing, $3\frac{3}{4}$; tail, 4.

HAB. Eastern United States and British Provinces, west to and includ ing the Rocky Mountains; occasional on the Pacific coast. Winters in the Southern States, Cuba and Middle America to Panama. Accidental in Europe.

Nest, in a shrubbery or thicket, a few feet above the ground; composed of twigs, leaves, bark, rootlets, bits of twine or rags.

Eggs, 4 to 5; dark bluish-green.

A very common summer resident in Southern Ontario; and in the Northwest it is said by Prof. Macoun to be common wherever there are bushes. This is a bird well entitled to our protection, but, unfortunately, it is the subject of an ignorant prejudice, which leads to its being persecuted especially by boys, who would throw a stone at a Catbird with much the same feeling that they would at a cat. Perhaps one of his most familiar notes may have originated the prejudice, but outside of this, it should be remembered that he ranks high as a songster, coming next in that respect to the Mockingbird and the Thrasher. He is one of the first to begin in the morning, and delivers his message with so much sprightliness and vivacity that we are always pleased to hear him.

In the garden he is our best friend, destroying an innumerable quantity of injurious insects, but we seldom think when enjoying our luxurious crop of cherries or raspberries that we are largely indebted for such results to the much despised Catbird.

GENUS HARPORHYNCHUS CABANIS.

SUBGENUS METHRIOPTERUS REICHENBACH.

283. HARPORHYNCHUS RUFUS (LINN.). 705.

Brown Thrasher.

Above reddish-brown; below white, with more or less tawny tinge; breast and sides spotted with dark brown; throat and belly unspotted; bill black above, yellow below; feet pale; iris yellow. Length, 11; wing, 4; tail, 5 to 6.

HAB. Eastern United States, west to the Rocky Mountains, north to Southern Maine, Ontario and Manitoba, south to the Gulf States, including Eastern Texas. Accidental in Europe.

Nest, most frequently placed in the fork of a small tree in a thicket, 3 to 6 feet from the ground, sometimes higher, occasionally on the ground; composed of twigs, grass, leaves and rootlets, lined with bark fibre and similar substances.

Eggs, 4 to 5; greenish-white, thickly spotted with light reddish-brown.

The Brown Thrasher is not so abundant as the Catbird, neither is it so confiding or familiar in its habits, seldom coming near our dwellings. It delights in the tangled, briary thicket, in the depths of which it disappears as soon as it is aware of being observed. Near Hamilton it is a common summer resident, appearing regularly about the 10th of May. At first they are seen stealing quietly through the underbrush, or scratching among the withered leaves like the Towhees, but once arrived at their breeding place, the male is heard from the topmost twig of an isolated tree, pouring forth, morning and evening, his unrivalled strains of music, which are heard long ere the performer can be seen.

So far as I have observed, the Thrasher is somewhat local in its distribution, there being certain sections of country of considerable extent, where, without apparent cause, it is entirely wanting. About the end of September they all retire to the south.

SUBFAMILY TROGLODYTINÆ. WRENS.

GENUS TROGLODYTES VIEILLOT.

SUBGENUS TROGLODYTES.

284. TROGLODYTES AEDON (VIEILL.). 721.

House Wren.

Above brown, brighter behind; below rusty-brown or grayish-brown or even grayish-white, everywhere waved with a darker shade, very plainly on wings, tail, flanks and under tail-coverts; breast apt to be darker than either throat or belly. Length, $4\frac{7}{8}$; wings and tail, about 2.

HAB. Eastern United States and Southern Canada, west to Indiana and Louisiana.

Nest, in a hole or crevice, the neighborhood of a dwelling preferred; composed of twigs, leaves, hair, feathers, etc.

Eggs, 7 to 9; white, very thickly spotted with reddish-brown.

In the thinly settled parts of the country where this Wren has been observed, it breeds in any convenient hole or crevice in a tree or fence post by the roadside, and on account of this habit, and an imaginary superiority in point of size, those found in such places were described as a separate species, and named by Audubon the Wood Wren. The individuals procured in town and country being subsequently found to be identical, this name has for some years been allowed to drop, and the birds having taken kindly to the society of man are nearly all furnished with houses, or finding other suitable nesting places near our dwellings are living almost domesticated. They are sprightly, active, little birds, and do good service by the destruction of insects, which they find on the trees in the orchard or about the outhouses. Being possessed of all the scolding propensities peculiar to the family, they resent with great spirit any intrusion in the neighborhood of their dwelling. Their greatest enemy in this respect at present is the House Sparrow, who does not hesitate to eject the Wrens when their premises appear to suit his purpose. This habit may in time drive the Wrens back to their original mode of life in the woods.

Subgenus ANORTHURA Rennie.

285. TROGLODYTES HIEMALIS (Vieill.). 722.

Winter Wren.

Deep brown above, darkest on the head, brightest on the rump and tail, obscurely waved with dusky and sometimes with whitish also; tail like rump; wings dusky, edged with color of back, and dark barred; several outer primaries also whitish barred; a superciliary line and obscure streaks on sides of head and neck whitish. Below pale brown; belly, flanks and under tail-coverts strongly barred with dusky. Length, about 4; wing, 2 or less; tail, 1½ or less.

Hab. Eastern North America generally, breeding from the northern parts of the United States northward, and wintering from about its southern breeding limit southward.

Nest, a ball of green moss, warmly lined with feathers; entrance by a hole at one side.

Eggs, 5 to 6; white, speckled with reddish-brown.

In Southern Ontario the Winter Wren is most frequently seen during the periods of migration, but a few pairs remain and raise their young in suitable places throughout the country. There is a wet cedar swamp in West Flamboro' made impenetrable by fallen timber, moss-grown and going to decay. In the stillness and gloom of that uninviting region I have listened to the song of the Winter Wren in the month of June, and have thought it one of the most pleasing specimens of bird music we are privileged to hear. Tinged it may be with melancholy, but there is a hopeful sprightliness about it which seems to rise above the gloom of the surroundings and point to the brighter world outside. I have not heard of the species being observed during winter, but they arrive from the south early in April and linger quite late in the fall. During the latter season they are frequently seen in the city gardens, appearing and disappearing like mice around the roots of the bushes. In my boyish days I was familiar with the haunts and homes of the common Wren, the *troglodytes vulgaris* of Britain, on the "banks and braes o' bonnie Doon," and believe it is identical in every respect with the present species.

Genus CISTOTHORUS Cabanis.

Subgenus CISTOTHORUS.

286. CISTOTHORUS STELLARIS (Licht.). 724.

Short-billed Marsh Wren.

Dark brown above, crown and middle of the back blackish, *nearly everywhere conspicuously streaked with white*; below buffy-white, shading into pale brown on the sides and behind; wings and tail barred with blackish and light brown; flanks barred with dusky; throat and middle of belly whitish. Length, $4\frac{1}{2}$; wing and tail, about $1\frac{3}{8}$; bill, not $\frac{1}{2}$ long and very slender; tarsus, middle toe and claw, together $1\frac{1}{8}$.

Hab. Eastern United States and Southern British Provinces, west to the Plains. Winters in the Gulf States and southward.

Nest, similar to that of the Long-billed species, but sometimes placed near the ground; no mud used in the structure.

Eggs, 6 to 8; pure white, unspotted.

Never having happened to meet with the Short-billed Marsh Wren in any of my excursions, I consider it to be either locally distributed or less abundant than the Long-billed species, which is common in all the marshes in Southern Ontario.

Throughout Northern New England the Short-billed species is a common summer resident, and Mr. Seton speaks of it as being "abundant all over" in Western Manitoba. It is probable therefore that it is a summer resident in Ontario, but so few people follow these little birds into their marshy haunts that, at present, their history here is somewhat obscure. Mr. Saunders says it is found in the marshes along the River St. Clair, and he has a set of eggs which were taken in a marsh near Toronto. As the number of collectors increase we shall, no doubt, learn more about these retiring little birds.

Subgenus TELMATODYTES Cabanis.

287. CISTOTHORUS PALUSTRIS (Wils.). 725.

Long-billed Marsh Wren.

Dark brown above, crown and middle of the back blackish, *nearly everywhere conspicuously streaked with white;* below buffy-white, shading into pale brown on the sides and behind; wings and tail barred with blackish and light brown; flanks barred with dusky; throat and middle of belly whitish. Length, 4½; wing and tail, about 1¾; bill, not ½ long and very slender; tarsus, middle toe and claw, together 1⅛.

Hab. Southern British America and the United States, south in winter to Guatemala.

Nest, a large globular mass of coarse grass and rushes loosely laced together, sometimes plastered with mud and fastened to the reeds; warmly lined with fine soft grass; entrance by a hole in one side.

Eggs, 6 to 10; variable in shade, but usually so thickly spotted with chocolate-brown as to appear uniformly of that color.

A common summer resident found in suitable places throughout Ontario. Near Hamilton it breeds in all the inlets around

the bay, and it is seen from the beginning of May till the end of August, climbing, hopping and swaying itself to and fro among the reeds in all conceivable postures. In the spring it appears to be continually under great nervous excitement, which it works off in nest building, often constructing two or three when only one is required. So large a number of nests, when observed, gives the impression that the birds breed in colonies, but I have not noticed this to be the case. All the nests I have seen have been so placed that they could only be reached by wading or in a boat, and sometimes they were among the reeds on a quaking bog where approach was impossible.

Their mode of migration is a mystery. We are accustomed to say that they retire to the south early in September, but how do they travel? Do they rise in flocks like Swallows and go off during the night, or do they make the long journey from the Saskatchewan, where they were seen by Richardson, south to Guatemala, flitting singly or in pairs from bush to bush? In either case it is strange that they are seldom, if ever, seen except in the marshy tracts where they spend the summer.

Family CERTHIIDÆ. Creepers.

Genus CERTHIA Linnæus.

CERTHIA FAMILIARIS AMERICANA (Bonap.).

288. Brown Creeper. 726.

Plumage above singularly barred with dusky, whitish, tawny or fulvous-brown and bright brown—latter chiefly on the rump; below white, either pure or soiled, and generally brownish washed behind; wings dusky, oddly varied with tawny or whitish bars and spots; tail plain, about 5½; wing and tail, about 2⅝.

Hab. North America in general; breeding from the northern and more elevated parts of the United States northward, migrating southward in winter.

Nest, nearly always in a crevice where the bark is partially separated from the trunk of a tree.

Eggs, 5 to 8; dull white, spotted with reddish-brown.

This singular little bird is seen in Southern Ontario at nearly all seasons, but it is most abundant during the period of migra-

tion. About the end of April and beginning of May it becomes quite common in the woods, and is seen flitting like a great moth from tree to tree, or winding its spiral way upward on a trunk, uttering its simple note so descriptive of the motion, *creep, creep, creep*. In summer a pair may be seen occasionally in more favored spots, evidently nesting, but at that season they are quite rare. Early in September they again become numerous, in company with other migrants who are travelling southward, and in the depth of winter I have occasionally seen them mixed up with a small band composed of Chickadees, Downy Woodpeckers, Nuthatches and Golden Crown Kinglets. These birds seem to find pleasure in each other's society, when they spend the short, sharp days of winter in some sheltered patch of evergreens.

Family PARIDÆ. Nuthatches and Tits.

Subfamily SITTINÆ. Nuthatches.

Genus SITTA Linnæus.

289. SITTA CAROLINENSIS (Lath.). 727.

White-breasted Nuthatch.

Back, rump and middle tail-feathers ashy-blue; crown and nape glossy black, restricted or wanting in the young and many females; tail, except as above, black, spotted with white; beneath and sides of head white; flanks and under tail-coverts rusty-brown; wings varied, black, blue and white. Length, 6; wing, 3½; tail, 2.

Hab. Southern British Provinces and Eastern United States to the Rocky Mountains.

Nest, a hole in a tree, sometimes a natural cavity, or again dug by the birds with great labor; lined with hair and feathers.

Eggs, 4 to 6; white, spotted thickly with reddish-brown.

This is one of the few birds which remain with us summer and winter. It is quite a common species, well known to all who have occasion to be in the woods in spring, when it is seen climbing nimbly about, or hanging head downwards on the bark of a tree. In the winter time the country lads who are chopping in the bush, listen with pleasure to its familiar *quank*,

quank, which is often the only evidence of animal life observed. As a climber it has few equals, its long hind claw enabling it to travel head downwards, a feat which the Woodpeckers do not attempt. Its food consists chiefly of insects, which it finds lurking in the crevices of the bark. It is also said to hide away nuts and acorns in the holes of trees, a habit which may at first have suggested its name.

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290. SITTA CANADENSIS (LINN.). 728.

Red-breasted Nuthatch.

Above dark ashy-blue, tail as in *carolinensis*; below *rusty-brown*; wings plain; crown and nape glossy black, bordered by white superciliary line; a black line from bill through and widening beyond the eye.

HAB. North America at large, breeding mostly north of the United States, migrating south in winter.

Nest, in a hole in a stub, about 8 inches deep, warmly lined with down and feathers.

Eggs, said to be similar to those of the White-bellied Nuthatch, but rather less in size.

As compared with the White-bellied Nuthatch, this is more migratory in its habits, being seen in Southern Ontario only in spring and fall, and is not at any time numerous. I have been accustomed to think that those we get in the fall with the red-breast were in full plumage, but recent observers state that when in mature dress the lower parts are dirty white, slightly shaded with brown on the sides, and that only young birds have the lower parts uniform rusty-brown. While here they are very active, showing a decided partiality for the upper parts of pine trees, where they, no doubt, find something to suit their taste. The note resembles that of the White-bellied species, but is softer, weaker and more frequently repeated. It arrives during the first week of May, and is lost sight of again in September.

Subfamily PARINÆ. Titmice.

Genus PARUS Linnæus.

Subgenus PARUS Linnæus.

291. PARUS ATRICAPILLUS (Linn.). 735.

Chickadee.

Above brownish-ash; crown and nape, chin and throat black; beneath white, brownish on sides; wing and tail-feathers more or less whitish edged. Length, 5; wing and tail, 2½.

Hab. Eastern North America, north of the Potomac and Ohio Valleys.

Nest, a hole appropriated or dug by the birds in a dead tree or stump, not usually very high up; lined with hair, grass, moss, wool, feathers, etc.

Eggs, 6 to 8; white, speckled and spotted with reddish-brown, chiefly toward the larger end.

In Southern Ontario the Chickadee is one of our most familiar resident birds. During the breeding season it retires to the woods, but at other times it is seen in little troops visiting the shade trees and orchards in the city, searching the crevices for insects, and uttering its familiar *chickadee, dee, dee*, so well known to all the boys. It has also another note, or rather two notes, one quite high which drops suddenly to one much lower, soft and prolonged, and probably both convey a meaning to the ears for which they are intended. During the severity of winter they are most frequently seen in tamarack swamps, where they, no doubt, find both food and shelter.

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292. PARUS HUDSONICUS (Forst.). 740.

Hudsonian Chickadee.

Crown, nape and upper parts generally clear hair brown or ashy-brown, with a slight shade of olive, the coloration quite the same on back and crown, and continuous, not being separated by any whitish nuchal interval; throat quite black, in restricted area, not extending backward on sides of neck, separated from the brown crown by silky white on side of the head, this white not reaching back of the auriculars to the sides of the nape; sides, flanks and under tail-coverts washed with dull chestnut or rusty-brown; other under parts whitish; quills and tail-feathers lead color, as in other Titmice, scarcely or slightly edged with whitish; little or no concealed white on the rump; bill black; feet dark. Size of *P. atricapillus* or rather less.

HAB. Northern North America, from the more elevated parts of the Northern United States (Northern New England, Northern New York, Northern Michigan, etc.,) northward.

The home of the Hudsonian Tit, as its name implies, is in the Hudson's Bay country. It is also common in Labrador, and I have seen it on the banks of the Lower St. Lawrence, travelling in little troops from tree to tree, much after the manner of our familiar Chickadee. It is truly a northern species, but as it has been found in Massachusetts, Maine and New Hampshire, I think it will yet be found in the districts of Parry Sound and Muskoka. At present, the only record I have of its presence in Ontario is that given by Mr. W. L. Scott, in "The Auk" for April, 1884, page 157, where he mentions having seen one quite near the city of Ottawa, on the 31st October. In the same article it is said to be a rare winter visitor to that district.

FAMILY SYLVIIDÆ. WARBLERS, KINGLETS, GNATCATCHERS.

SUBFAMILY REGULINÆ. KINGLETS.

GENUS REGULUS CUVIER.

293. REGULUS SATRAPA (LICHT.). 748.

Golden-crowned Kinglet.

General color as in *calendula*. Crown bordered in front and on sides by black, inclosing a yellow and flame-colored patch (in the *male*; in the *female* the scarlet is wanting); extreme forehead and line over the eye whitish. *Young*, if ever without traces of black on the head, may be told from the next species by smaller size and the presence of a tiny bristly feather overlying the nostril; this wanting in *calendula*. Size of *calendula*.

HAB North America generally, breeding in the northern and elevated parts of the United States and northward, migrating south in winter to Guatemala.

Nest, in appearance resembling a ball of moss; it is open at the top, the cavity warmly lined with feathers; fastened to the outer twig of a branch, 6 to 8 feet from the ground.

Eggs, 10; ground color white, with numerous shell marks of purplish-slate and a few superficial markings of deep buff, making the whole appear of a cream color.

An abundant winter resident, appearing in November and remaining till April. During the severe weather in February and March, when the mercury is near zero, it is really surprising to see these tiny, feathered creatures, full of animation, flitting about among the evergreens, uttering their cheerful notes of encouragement to their companions, and digging out their insect food from the crevices of the bark. On these occasions they are usually accompanied by Chickadees, Downy Woodpeckers and White-bellied Nuthatches, making a merry company nowise discouraged by the severity of the weather.

The Gold-crest is known to breed in Northern New England, a nest containing young having been found by Mr. H. D. Minot in a forest of evergreens and birches on the White Mountains of New Hampshire, on the 16th of July, 1876. I once met with a pair, evidently mated, who were located in a swamp in West Flamboro' about the end of June. I did not persevere in seeking the nest, though I felt sure it was close at hand. That is the only time I have seen the species here in summer.

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294. REGULUS CALENDULA (LINN.). 749.

Ruby-crowned Kinglet.

Above greenish-olive, below whitish, wings and tail dusky, edged with greenish or yellowish; wing-coverts whitish tipped; crown with a rich scarlet patch in both sexes (but wanting in both the first year), no black about head; bill and feet black. Length, 4-4½; wing, 2⅞-2⅞; tail 1¾-1⅞.

HAB. North America, south to Guatemala, north to the Arctic coast, breeding mostly north of the United States.

Nest, large for the size of the bird, a mass of matted hair, grass, moss and feathers, placed on the bough of a tree.

Eggs, unknown.

In Southern Ontario the Ruby-crown is a regular migrant in spring and fall, but in summer or winter it has not been observed.

During the latter part of August and beginning of September, these little birds are exceedingly abundant, although from their small size and the weak, lisping note they utter at this

season, their numbers can be estimated only by close observation. I was once caught in the rain in the woods in the month of April, and took shelter in a clump of evergreens, which I found was in possession of a flock of Ruby-crowns. When the clouds passed away and a light breeze shook the sparkling drops from the foliage, I was delighted to hear some of the Kinglets indulge in a song of considerable compass and duration. It was more full, soft and musical than anything I have ever heard from so small a bird. At that season their stay is short; sometimes they are seen only during two or three days, but in the fall they travel more leisurely. Their breeding ground is far north. The only description I have seen of a nest is that of one found in Colorado. It was placed on the bough of a spruce about 15 feet from the ground, and contained five young birds and one egg.

Subfamily POLIOPTILINÆ. Gnatcatchers.

Genus POLIOPTILA Sclater.

295. POLIOPTILA CÆRULEA (Linn.). 751.

Blue-gray Gnatcatcher.

Above ashy-blue, bluer on the head; lighter on the rump; forehead and line over eye black, wanting in the female; ring around the eye and under parts whitish; outer tail-feather, except at base, two-thirds the second and tip of third white, rest of tail black. Length, 4½; wing, 2; tail, 2¼.

Hab. Middle and southern portions of the United States, from the Atlantic to the Pacific, south in winter to Guatemala, Cuba and the Bahamas; rare north toward the Great Lakes, Southern New York and Southern New England, straggling north to Massachusetts and Maine.

Nest, a model of bird architecture, compact-walled and contracted at the brim, elegantly stuccoed with lichens fixed to slender twigs at a height varying from 10 to 50 or 60 feet from the ground.

Eggs, 4 to 5; white, speckled with reddish, umber-brown and lilac.

The Gnatcatcher is, I believe, a regular summer resident in Southern Ontario, though apparently locally distributed and not very abundant. There is one particular patch of bush where I usually see this species every spring, but elsewhere I have not observed it. Mr. Dickson finds it regularly at Waterdown,

and Mr. Saunders reports it as not very rare near London. It keeps mostly to the tops of tall trees, and might readily be overlooked by any one not acquainted with its habits.

In the breeding season it is said to have a pleasing song, and it shows considerable spirit in driving off intruders from the neighborhood of its nest.

FAMILY TURDIDÆ. THRUSHES, SOLITAIRES, STONECHATS, BLUEBIRDS, ETC.,

SUBFAMILY TURDINÆ. THRUSHES.

GENUS TURDUS LINNÆUS.

SUBGENUS HYLOCICHLA BAIRD.

296. TURDUS MUSTELINUS (GMEL.). 755.

Wood Thrush.

Above bright tawny, shading into olive on rump and tail; beneath white, everywhere except throat and belly, with large distinct spots of dusky; bill dusky above, yellowish below; legs flesh-colored. Length, 7½ inches; wing, 4; tail, 3.

HAB. Eastern United States to the Plains, north to Southern Michigan, Ontario and Massachusetts, south in winter to Guatemala and Cuba.

Nest, in a sapling or low tree, seldom more than 20 feet from the ground; composed of twigs, leaves, grass, rootlets and moss, cemented together with clay.

Eggs, 4 to 5; deep greenish-blue.

The Wood Thrush is a shy, retiring songster, little known except to those who are fond of rambling in the woods in spring time. The favorite resort of the species is in moist beech woods, where the clear, flute-like notes of the male may be heard in the early morning, and also toward sunset, during the months of May and June. Were the song of the Wood Thrush continuous, the bird would take the highest rank among the songsters of the grove. Its tones are loud and full of liquid tenderness, but they suddenly break off short, which to us is a matter of regret.

Early in May they arrive from the south, and are soon generally distributed over Southern Ontario; but they are somewhat fastidious in their choice of a summer residence, and are absent from many clumps of bush where we should expect to find them. They avoid the dwellings of man, and seem most at home in the retirement of the woods, where they raise their young. During September they all move off to the south.

297. TURDUS FUSCESCENS (STEPH.). 756.

Wilson's Thrush.

Above uniform tawny; below white, olive shaded on sides and strong fulvous tint on breast; breast and sides of neck with small dusky spots. Length, about 7; wing, 4; tail, 3.

HAB. Eastern United States to the Plains, north to Manitoba, Ontario, Anticosti and Newfoundland.

Nest, on or near the ground; composed of grass, leaves and rootlets, rather loosely put together.

Eggs, 4 to 5; greenish-blue, unspotted.

With the exception of the Robin, the Veery is the most numerous of the Thrushes which visit Southern Ontario. It arrives here during the first week in May, and for a few days is quite common in the woods everywhere. Many soon pass on farther north to breed, but some remain and locate themselves among the undergrowth in moist uncleared places, where they spend the summer. On their first arrival they remain for a few days quietly in the woods, but as soon as nesting begins the clear, loud *veery* is heard at all hours of the day. The song has a sharp metallic ring, and at first is pleasant to listen to, but when heard in some favored locality, where several males are answering each other, it becomes monotonous through frequent repetition. It is rather a tender bird, and is one of the first to move off in the fall. The young are able to shift for themselves in August, and by the end of September all are gone.

298. TURDUS ALICIÆ (BAIRD.). 757.

Gray-cheeked Thrush.

Similar to the preceding, but without any buffy tint about head, nor yellowish ring around eye; averaging a trifle larger, with longer, slenderer bill.

HAB. Eastern North America, west to the Plains and Alaska, north to the Arctic coast, south in winter to Costa Rica. Breeds chiefly north of the United States.

Nest and eggs, similar to those of the Olive-backed Thrush.

It is still a question with many Ornithologists whether this should be separated from the Olive-back, or regarded as only a variety of that species. The Committee of the A. O. U. has decided to separate it as above, and I quite agree with the decision, for the few I have found could be identified at once by the description. When seen in the woods it resembles the Olive-back so closely that, till well acquainted with its appearance, it is difficult to tell the one from the other. On this account we cannot with certainty say which is the more numerous; but so far as I can judge, the proportion of the Gray-cheeked species which pass this way is not more than one to two of the other. Dr. Coues regards it as the northern form of the Olive-back, and suggests that this difference in the breeding range produces the change in size and color, which are regarded as specific distinctions. Like all the other Thrushes it most likely is musical at home, but here it comes and goes in silence.

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299. TURDUS USTULATUS SWAINSONII (CAB.). 758a.

Olive-backed Thrush.

Above uniform greenish-olive; below white, olive shaded on sides; sides of head, throat, neck and breast strongly tinged with buff; breast and throat thickly marked with large dusky olive spots. Length, about 7; wing, 3¾; tail, 3

HAB. Eastern North America and westward to the Upper Columbia River and East Humboldt Mountains, straggling to the Pacific coast. Breeds mostly north of the United States.

Nest, in a tree or bush, 6 or 8 feet from the ground; composed of rootlets, leaves and moss.

Eggs, 4 to 5; greenish-blue, freckled with brown.

In Southern Ontario the Olive-backed Thrush is a regular visitor during the season of migration, appearing in small companies about the 10th of May, and remaining till about the 25th of the same month, after which none are seen till they return in the fall. While here they frequent low, moist woods, and

spend much of their time on the ground, where their food at this season is evidently obtained. When at home, near their nest, the male is said to have a very pleasing song, which he takes delight in repeating, but while here they have only a low, soft call-note, easily recognized in the woods, but difficult to describe.

The return trip begins toward the end of September, and continues for about three weeks. At this time the birds move leisurely, and as they fare sumptiously on different sorts of wild berries they get to be in excellent condition, both as regards flesh and plumage. We occasionally fall in with individuals of this species much below the average size, and with the lower parts more deeply suffused with buff. Dr. Wheaton has also observed these little fellows, and suggests that they may be a local, southern-bred race. The distribution of this species during the breeding season is not yet clearly defined, but in Southern Ontario none have been observed except in spring and fall.

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300. TURDUS AONALASCHKÆ PALLASII (CAB.). 759 b.

Hermit Thrush.

Above olive, shading into rufous on rump and tail; below white, olive shaded on sides; sides of head, eyelids, neck and breast strongly tinged with buff; throat and breast marked with large dusky-olive spots. Length, about 7½; wing, 3¼; tail, 3.

HAB. Eastern North America; breeding from the Northern United States northward, and wintering from the Northern States southward.

Nest, on the ground, sometimes slightly above it; composed of weeds, leaves, rootlets and grass.

Eggs, 4 to 5; greenish-blue, without spots.

The Hermit Thrush is a regular visitor in spring and fall, arriving a few days before the Olive-back, and making but a short stay, although it probably does not go so far north to breed as the latter species. Referring to the Hermit, the following occurs in the "List of Birds of Western Ontario:" "Found common in full song in a large swamp, June 22nd, 1882. No nest found, although it was undoubtedly breeding. None observed in summer in any other locality."

At home, the habits of the Hermit are in keeping with its name. Among the dense shrubbery in some retired spot it builds its nest and raises its young; there too it pours forth its sweet song on the "desert air," where very few have been privileged to hear it. During the seasons of migration the birds come more into the open country, but they are at all times shy and fond of concealment. On these occasions they have only a simple call note, apparently used to tell their companions where they are.

Genus MERULA Leach.

301. MERULA MIGRATORIA (Linn.). 761.

American Robin.

Above dark olive-gray, blackish on head and tail; below reddish-brown, throat, vent and under tail-coverts white, throat with black streaks; outer pair of tail-feathers white tipped; bill dusky above, yellow below; feet dark; very young birds spotted above and below. Length, 9½ inches; wing, 5½; tail, 4½.

Hab. Eastern North America to the Rocky Mountains, including Eastern Mexico and Alaska. Breeds from near the southern border of the United States northward to the Arctic coast; winters from Southern Canada and the Northern States (irregularly) southward.

Nest, in a tree, frequently an apple tree in an orchard; large and rough looking; composed of twigs, grass and weeds cemented together with mud; lined with fine grass.

Eggs, 4 to 5; plain greenish-blue, without spots.

The Robin is well known and widely distributed throughout Ontario. In the south it is most abundant during the period of migration, but great numbers breed all over the Province, and along the southern border it is no uncommon thing to meet with individuals spending the winter in sheltered hollows, from which they are ready to start out and hail the first indications of returning spring. As the season advances, northern bound individuals of this species arrive from the south and pass on with little delay, but those which are satisfied to remain at once become engaged in the great business of the season, viz., raising their young. The males are the first to arrive, and are occasionally

heard rehearsing their summer song, being evidently somewhat out of practice. In a few days the females make their appearance and receive every attention.

The site for the nest is soon selected, and both birds work diligently till the structure is completed. The first set of eggs is layed in April, and during the tedious days of incubation the male often mounts his perch to cheer his faithful mate with what to her may seem delightful strains of music. On human ears the song does not fall as a first-class performance, but it is given with great earnestness and liberality, and is greeted with welcome as the prelude to the grand concert of bird music which is soon to be heard in the woods and fields all over the country. At this season the food of the Robin consists chiefly of worms and various insects. It is a fine exhibition of bird life to see him, early in the dewy morning, hop daintly over the newly cut grass to where an earth worm is exposing himself near the surface. With his head on one side the bird watches every wriggle of the worm with intense interest; if it is well clear of the ground it is seized, and with a jerk thrown clear of its hole, but if only a part of the worm is exposed the course is different; it is seized quickly and held firmly while it struggles hard to get into its hole. Robin knows that now a sudden jerk will part the animal and give him only a portion, but he knows how much strain the material will bear, and so he holds on till the exhausted worm relaxes its hold, is tossed out and pounded till fit for use.

As the season advances a *second* and even a *third* brood of young may be raised. The birds acquire a fondness for fruit, and now come the charges against them of robbing the cherry tree. No doubt they do take a few for themselves and families, but after all they are entitled to some consideration on account of the numbers of noxious insects which they destroy in the garden, and for my own part I would sacrifice a good many cherries rather than not have the Robins around the house.

Those which travel to the far north have a different experience. Dr. Richardson tells us that "The male is one of the loudest and most assidious songsters which frequent the Fur Countries, beginning his chant immediately on his arrival.

Within the Arctic circle the woods are silent during the bright light of noonday, but towards midnight when the sun travels near the horizon, and the shades of the forest are lengthened, the concert commences, and continues till 6 or 7 in the morning. Nests have been found as high as the 54th parallel of latitude about the beginning of June. The snow even then partially covers the ground, but there are in these high latitudes abundance of berries of *vaccinium ugliginosum* and *vites idea*, *arbutus alpina*, *empetsum nigrum*, and of some other plants, which, after having been frozen up all winter, are exposed by the first melting of the snow, full of juice and in high flavor, thus forming a natural *cache* for the supply of the birds on their arrival, soon after which their insect food becomes abundant."

In Southern Ontario large numbers are seen congregating together feeding on the berries of the mountain ash, poke weed, red cedar, etc. If the weather is mild they remain till November, but usually we have a cold blast from the north in October, which hustles them all off to their winter quarters in the south.

Genus SIALIA Swainson.

302. SIALIA SIALIS (Linn.). 766.

Bluebird.

Male, uniform sky-blue above, reddish-brown below, belly white. Female, duller. Young, spotted.

Hab. Eastern United States to the eastern base of the Rocky Mountains, north to Manitoba, Ontario and Nova Scotia, south in winter from the Middle States to the Gulf States and Cuba. Bermudas resident.

Nest, in natural or artificial holes in trees, stubs or posts, or in bird boxes; composed of miscellaneous material, loosely put together.

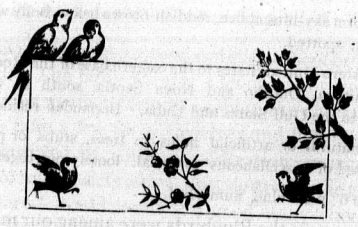
Eggs, 4 to 6; pale blue, unmarked.

In former years the Bluebirds were among our most abundant and familiar birds, raising their young near our dwellings, and returning year after year to occupy the boxes put up for their accommodation. Since the advent of the English Sparrow, they have been gradually decreasing in numbers, and are now seldom seen near their old haunts, from which they have been driven by

that pugnacious tramp, *passer domesticus*. They are still common throughout the country, where they are everywhere welcomed as early harbingers of spring, and in the fall they linger till late in October, as if loth to depart. This species was a special favorite with Wilson, on account of which it is often spoken of as Wilson's Bluebird, to distinguish it from the Indigo bird, and one or two other species to which the name is sometimes applied.

That enthusiastic lover of birds has made it the subject of one of his pleasing poetical effusions, in which he faithfully describes many of its habits, amongst others its early arrival in spring and reluctant departure in the fall. With a short extract from this production I will say good-bye, for the present, to the "Birds of Ontario."

"When all the gay scenes of the summer are o'er,
And autumn slow enters so silent and sallow,
And millions of warblers which charmed us before
Have fled in the train of the sun-seeking Swallow,
The Bluebird forsaken, yet true to its home,
Still lingers and looks for a milder to-morrow,
Till forced by the [rigors] of winter to roam,
It sings its adieu in a lone note of sorrow."



GLOSSARY

OF TECHNICAL TERMS USED IN THE PRECEDING DESCRIPTIONS.

MEASUREMENTS.

LENGTH. Distance between the tip of the bill and the end of the longest tail feather.

EXTENT. Distance between the tips of the outspread wings.

LENGTH OF WING. Distance from the carpal angle formed at the bend of the wing to the end of the longest primary.

LENGTH OF TAIL. Distance from the roots of the tail-feathers to the end of the longest one.

LENGTH OF BILL. From the tip of the upper mandible to the point where it meets the feathers of the forehead.

LENGTH OF TARSUS. Distance from the point where the tarsus joins the leg above to the point where it joins the middle toe below.

LENGTH OF TOES. Distance from the point last indicated along the top to the root of the claw.

LENGTH OF CLAWS. Distance in a straight line from the point last indicated to the tip of the claw.

A

ABERRANT. Deviating from ordinary character.

ACUMINATE. Tapering gradually to a point.

ALBINISM. State of whiteness—complete or partial—arising from deficiency or entire lack of pigment in the skin and its appendages.

ALULA. Little wing. The bastard wing, composed of the feathers which are set on the so-called thumb.

ATTENUATE. Slender and tapering toward a sharp point.

AXILLARS. Elongated feathers on the sides of the body under the wings.

B

BAND OR BAR. Any color mark transverse to the long axis of the body.

BEND OF WING. Angle formed at carpus in the folded wing.

C

CALCAREOUS. Chalky.
CANTHUS. Corner of the eye where the lids meet.
CAROTID. The principal blood vessel of the neck.
CARPAL ANGLE. Prominence at the wrist joint when wing is closed. From this point to the end of the longest quill constitutes the "length of wing."
CERE. Fleshy covering of the base of the bill.
CERVICAL. Pertaining to the hind neck.
CHIN. Space between the forks of the lower jaws.
CLAVICLE. Collar bone.
COMMISSURE. Line where the two mandibles meet.
CRISSUM. Under tail-coverts.
CULMEN. Ridge of upper mandible.
CUNEATE. Wedge-shaped. A cuneate tail has the middle feathers longest.

D

DECIDUOUS. Temporary; falling early.
DECOMPOSED. Separate; standing apart.
DENTIROSTRAL. Having the bill toothed or notched.
DIAGNOSTIC. Distinctively characteristic.
DORSAL. Pertaining to the back.

E

EMARGINATE. Notched at the end; slightly forked.
ERYTHRISM. A peculiar reddish state of plumage.

F

FALCATE. Sickle-shaped.
FEMORAL. Pertaining to the thigh.
FERRUGINOUS. Rusty-red.
FISSIROSTRAL. Having the bill cleft far beyond the base of its horny part.
FORFICATE. Deeply forked.
FULIGINOUS. Sooty-brown.
FULVOUS. Of a brownish-yellow color.
FURCATE. Forked.
FUSCOUS. Of a dark grayish-brown color.

G

GIBBOUS. Swollen; protuberant.
GONYS. Keel or lower outline of the bill so far as united.
GRADUATED. Changing length at regular intervals.
GULAR. Pertaining to the upper fore neck.
GUTTATE. Having drop-shaped spots.

H

HALLUX. The hind toe.

I

IMBRICATED. Fixed shingle-wise; overlapping.
INTERSCAPULAR. Between the shoulders.

J

JUGULUM. Lower throat.

L

LAMELLA. A thin plate or scale such as are seen inside a duck's bill.
LANCEOLATE. Shaped like the head of a lance.
LARYNX. Adam's apple; a hollow cartilaginous organ; a modification of the windpipe.
LOBE. Membraneous flap chiefly on the toes.
LORE. Space between the eye and the bill.

M

MAXILLAR. Pertaining to the upper jaw.
MELANISM. State of coloration arising from excess of dark pigment; a frequent condition of Hawks.
MEMBRANE. Soft skinny covering of the bill of some birds.

N

NUCHA. The upper part of the hind neck next the hind head.

O

OSCINES. A group of singing birds.
OCCIPUT. The hind head.

P

PALMATE. Web-footed.
PARASITIC. Habitually making use of other birds nests.
PECTINATE. Having tooth-like projections like those of a comb.
PECTORAL. Pertaining to the breast.
PLUMBEOUS. Lead color.
PRIMARIES. The large, stiff quills growing on the first bone of the wing; usually nine or ten, sometimes eleven in number.

R

REMIGES. Quills of the wing.
RETRICES. Quills of the tail.
RICTUS. Gape of the mouth.

S

SAGGITATE. Shaped like an arrow-head.
SCAPULARS. Long feathers rising from the shoulders and covering the sides of the back.
SECONDARIES. Quills which grow on the second bone of the wing.
SECONDARY COVERTS. The wing-feathers which cover the bases of the secondary quills.
SEMIPALMATE. Having the feet half-webbed.
SERRATE. Toothed like a saw.
SPECULUM. A brightly colored spot of the secondaries, especially of ducks.
SPURIOUS QUILL. The first primary when very short.
SUPERCILIARY. Pertaining to the eyebrows.

T

TAIL-COVERTS. The small feathers underlying or overlaying the base of the tail.
TARSI. The shanks of the legs.
TERTIALS. Feathers which grow from the second bone of the wing at the elbow joint.
TIBIA. The thigh.

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CURATOR'S REPORT, 1886.

DONATIONS TO THE MUSEUM.

A Vase made of Serpentine from Cornwall, England. Presented by S. Simmons, Esq.

A View of the first Railway Train as it appeared on the Mohawk & Hudson Railway, January, 1832, taken by Mr. Brown, of Pennsylvania, from the original picture in the possession of the Connecticut Historical Society. Presented by S. Simmons, Esq.

Three specimens of Coral on pieces of rock from Anticosti. Presented by Col. Grant.

Seven specimens of Echinus from Anticosti. Presented by Col. Grant.

Piece of Coquina Shell Stone from St. Augustine, Fla. Presented by L. D. Sawyer, Esq.

Indian Stone Implements from Parry Sound. Presented by A. Gaviller, Esq.

Two cases of Butterflies and Insects. Purchased by the Association.

Three Glasgow Newspapers recovered from one of the mail bags of the Steamer Oregon, lost March 14th, 1886. This bag was picked up 400 miles from the place of the wreck. Presented by F. Lonsdale, Esq.

Specimens of Iron Ore from Cove Hill Mine, Belleville. Presented by H. Murray, Esq.

Specimens of Copper Ore from Cove Hill Mine, Belleville. Presented by H. Murray, Esq.

A piece of the Wallace Tree from Elderslie, Scotland. Presented by Hugh Murray, Esq.

From Nassau. Presented by Mrs. Charlton.

Eight specimens of Sponges.
One specimen of Sponge, out of which has grown a Sea Plume.
Five Leaves of the Sago Palm.
One Blossom Case of the Royal Palm Tree.
One Blossom Case of the Cocoanut Tree.
Two Cocoanuts in their green case.
Three Coral Fans.
Five Coral Sea Plumes.
Two Triton Shells.
Two Queen Conch Shells.
Three King Conch Shells.
One Sea Beaver.
One Five Finger and one Six Finger Star Fish.
Two Echinus with large spines.
Four Echinus with small spines.
One Flat Echinus.
Eight specimens of Brain Coral.
Cotton in the Pods.
Collection of small trays with following shells.
Twenty-four small trays of shells.
Specimens of Helix Waltoni. Ackatina Zebra. Pina Nobilus.
" Voluta Delessertii. Dixon Denticulatus.
" Voluta Musica. Cardium Groculandicum.
" Voluta Umbulata. Cardium Edulis. Tellina Radiata.
" Turbo Imperialis. Oliva Irisans. Conus Ammiralis.
" Pectonculus. Venus Reticulators. Purpura Sapillus.
" Inlhina Communis. Monodanta Australis, or Bleeding Tooth.
" Patella Umbella. Selarium Perspectivum.
" Turritella. Pecton. Cowries.

A. GAVILLER, Curator.

LIBRARIAN'S REPORT.

DONATIONS TO LIBRARY, 1886.

Observations of the International Polar Expedition of 1882-3.
Astronomical observations made at the Royal Observatory, Edinburgh, being Vol. 15, for 1878 to 1886.
Annual Report of the Chief Engineer of the U. S. Army for 1884, four Vols., and for 1885, five Vols.
Catalogue of the Library of the Canada Royal Institute.
A New Philosophy of the Sun, by H. R. Rogers.
Journal of the New York Microscopical Society's Reports.
Narrative and Critical History of America, by Justin Winsor. Vol. 2. 1st Vol. not yet published.
Transactions of South African Philosophical Society, 1886.
" Canadian Institute, 1886.
" Canadian Entomological Society, 1886
" Canadian Record of Science, 1886.
" Bengal Asiatic Society, 1886.
" Edinbro' Geological Society, 1886.
" Scottish Geographical Society, 1886.
" Manchester Geographical Society, 1886.
" Harvard College, Curator's Report, 1886.
Bulletin of the Museum of Harvard College for 1886.
Transactions of Royal Canada Society, Montreal, 1886.
" Royal Colonial Institute, 1886.
" Western American Scientists, 1886.
" New Zealand Institute, 1886.
" Brookville Society of Natural History, 1886.
" Kansas Society of Science, 1886.
" Royal Society, England, 1886.
" The International Scientists' Directory, 1885.
Geological Survey of Canada, 1885.
Johns Hopkins University Circulars, No. 53, 1886.
Proceedings of the American Academy of Arts and Sciences, from May, 1884, to May, 1885, and from May, 1885, to Oct., 1885.
The Pharmaceutical Journal for 1886.

A. GAVILLER, Librarian.

FINANCIAL STATEMENT

—OF—

THE TREASURER

—OF THE—

HAMILTON ASSOCIATION,

Read at the Annual Meeting of the members held 20th May, 1886.

Richard Bull, Treasurer, in account with the Hamilton Association.

DR.—RECEIPTS.

Balance at May, 1885		$ 51 39
Government Grant		400 00
Members' Subscriptions		176 00
Interest		1 50
		$628 89

CR.—DISBURSEMENTS.

Rent	$200 00	
Gas	8 52	
Periodicals	64 08	
Printing, Stationery and Postage	121 35	
		$427 45
Balance		$201 44

RICHARD BULL,
Treasurer.

Audited and found Correct,

A. T. NEIL,
W. H. BALLARD, } Auditors.

NOTE.—There was an amount about due for printing of Proceedings and also for three months Rent of room which would require nearly all the above balance.—R. B.