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APRIL, 1897.

VOL XI, No. I.

# THE OTTAWA NATURALIST.

Published by the Ottawa Field-Naturalists' Club

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OTTAWA, CANADA.

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VOL XI.

1898.

THE  
OTTAWA NATURALIST,

Being VOL XIII of the

TRANSACTIONS

of the

OTTAWA FIELD-NATURALISTS' CLUB.

Organized March, 1879.

Incorporated March, 1884.

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OTTAWA, CANADA :

Printed for the Ottawa Field-Naturalists' Club by Paynter & Abbott.

1897.



# THE OTTAWA FIELD-NATURALISTS' CLUB, 1897-1898.

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# THE OTTAWA NATURALIST.

VOL. XI.

OTTAWA, APRIL, 1897.

No. 1.

## ANNUAL REPORT OF THE OTTAWA FIELD-NATURALISTS' CLUB, 1896-97.

The Council elected by you on the 17th March, 1896, now submits for your consideration the following as its account of the Club's work during the year 1896-97 :

The number of members at present on the roll is 248.

Fourteen meetings of the Council were held during the year. At the first of these, according to custom, Leaders in the several branches, viz. : Geology, Botany, Entomology, Ornithology, Conchology and Zoology, were appointed, besides an Editor and Associate-Editors for the publication of the OTTAWA NATURALIST.

At the invitation of the Royal Society of Canada to send a delegate, our President, Mr. Shutt, was chosen to represent us. At its meeting he presented the annual account of the work of the Club, which will be found incorporated in the Royal Society of Canada's Transactions.

Under the auspices of the Club, three General Excursions were held during the summer.

The first was to Chelsea on Saturday 23rd May, 1896, and a full account of this excursion can be read in the June number of the NATURALIST. The second was to Rockland on the 20th June, of which a full account is published in the July number of the NATURALIST. The third was on the 26th September to Galetta and Marshall's Bay on the Mississippi and Ottawa rivers, respectively, of which a full account is recorded in the October number of the NATURALIST.

Besides the General Excursion, a number of Sub-excursions were held on Saturday afternoons, and proved to be of great interest to those who attended them.

THE OTTAWA NATURALIST, the official organ of the Club has been under the editorship of Dr. Ami, with a staff of associate editors. This periodical will compare favourably with other publications of the kind, its articles being of a varied character, thoroughly scientific in tone, yet popular enough to meet the tastes of all students of Natural History who peruse its pages.

The Library—mostly made up of valuable exchanges from other clubs or societies—has been under the management of Mr. Sinclair. The work devolving upon the Librarian has of late increased to such an extent that the appointment of an Assistant Librarian is desirable.

During the absence of the Secretary from the Capital, in an official capacity, Miss Marion Whyte kindly and efficiently performed the work of that officer.

Jointly with the Literary and Scientific Society the Club held seven soirees during the winter months, and by the kind permission of the Ottawa Teachers' Association, a lecture by Prof. Cox, of McGill University, entitled: "Electrical Discharges in High Vacua," was incorporated in the series.

The seven soirees in their course were as follows:—

- Nov. 19, 1896.—*Conversazione*—Exhibition of microscopical objects, specimens of natural history and lantern slides. Short addresses were delivered by Mr. Shutt, President of the Club; Mr. Klotz, President of the Literary and Scientific Society; Dr. MacCabe, Principal of the Normal School; and Mr. Macdougall, President of the Ottawa Teachers' Association.
- Dec. 17.—A lecture entitled: "Goethe," by Prof. L. R. Gregor, of McGill University.
- Jan. 14, 1897.—A lecture entitled: "Under the Midnight Sun—A Trip to Iceland" (with original sciopticon views), by Prof. Mavor, of Toronto University.
- Jan. 21.—Addresses on "Recent Explorations in Canada," by Dr. G. M. Dawson, Dr. Robert Bell, Mr. J. B. Tyrrell and Mr. A. P. Low.

Feb. 4.—A lecture entitled: "Lyrical poetry of the Elizabethans," by Mr. D. C. Scott.

Mar. 4.—A lecture entitled: "Weather," by Mr. Otto J. Klotz.

Mar. 11.—A lecture entitled: "Fruit and Fruit Districts of Canada" (illustrated), by Mr. John Craig. His Excellency the Governor General was present at this lecture and took part in the discussion that followed.

A lecture by Dr. Macphail, of the University of Bishop's College, Montreal, on "The American Lobster," postponed from 18th February, was delivered on Thursday, 18th March. The lecture was illustrated with lantern slides and specimens.

On the resolution of the Council, the collection of mounted birds, &c., in the glass case in the Normal School were named by the leaders of the Ornithological branch.

A memorial to the Hon. Minister of Education was drawn up by a Committee, appointed by the Council, and then signed by members of the Council and members of the Club, asking for a grant of \$300 annually towards the publication of the NATURALIST.

The thanks of the Club are due to Dr. MacCabe, Principal of the Normal School, and to the Minister of Education for their courteous kindness in granting the use of the Assembly Hall for the course of lectures, and to Dr. MacCabe for the use of a room for the Council meetings.

One word in conclusion which is really in the interest of the Club. Many of the members are still in arrears in the payment of their annual fee, and such are therefore urged without further delay to hand the amount due to the Treasurer, and thus remove from the Club what otherwise will be a blemish as it begins another year of its history.

ANDREW HALKETT,  
*Secretary.*

FRANK T. SHUTT,  
*President.*

## TREASURER'S STATEMENT.

## RECEIPTS.

Balance on hand March 18th 1896.....		\$ 25 19
Members fees, current year.....	\$126 00	
"    "    arrears.....	36 50	
"    "    in advance.....	11 00	
		<hr/>
		173 50
<i>Naturalists</i> sold.....		1 61
Advertisements in <i>Naturalist</i> .....		88 25
Authors' extras.....		26 85
Excursions.....		10 80
		<hr/>
Total receipts.....		<u>\$326 20</u>

## EXPENSES.

Printing <i>Naturalist</i> , 9 mos.....	\$216 45	
Engraving.....	2 50	
Postage.....	16 22	
Mailing and wrapping.....	9 75	
		<hr/>
		\$244 92
Soirées and Lectures:		
Circulars, postcards, notices, &c.....	\$10 75	
Lantern, door-keeper, &c.....	14 35	
		<hr/>
		25 10
General postage.....		7 60
Stationery.....		1 38
Printing authors' extras.....		14 55
Sundries.....		7 05
		<hr/>
Total expenses.....	\$300 60	
Cash on hand.....		25 60
		<hr/>
		<u>\$326 20</u>

Audited and found correct, March 18th, 1897.

(Sgd.) J. BALLANTYNE, } *Auditors.*  
R. B. WHYTE, }

## REPORT OF THE ENTOMOLOGICAL BRANCH,

*To the Council of the Ottawa Field-Naturalists' Club :*

The Leaders have much pleasure in presenting the following brief report on the work of the year 1896-97.

COLEOPTERA.—The species belonging to this order are now so well represented in our collections that many additions cannot be expected, except as the result of very careful and special collecting in such families as the Dytiscidæ and Hydrophilidæ, which are chiefly aquatic forms, or the Staphylinidæ, many of which live in, or upon, decaying vegetable matter or fungi. A few additions to our list are, however, annually made, even in the groups which have been more fully worked up, and occasionally some very rare species is accidentally obtained. From time to time our territory is reached by insects, either American or foreign, which have gradually spread from more distant points. Some of these species multiply very rapidly, and thus may, in a few years after the first individuals are noticed, become quite abundant. Such has been the case with *Aphodius prodromus* Brahm., mentioned in previous reports, and which is now everywhere met with. Another instance is *Sphæridium scarabæoides* Linn., first found at Casselman in May 1895, and which Mr. Simpson last summer found to be abundant at King's Mere. It is somewhat curious that, though so plentiful there, careful search in the more immediate vicinity of the city has failed to produce specimens. A pretty little steel-blue weevil was last summer observed for the first time, viz., *Cetorhynchus cyanipennis* Germ. This species appears to have been first noticed in America about ten years ago (*Entomologica Americana* Vol. V., p. 57.) but it must now be somewhat widely distributed as a specimen taken at Toronto was received for examination. In Ottawa it has occurred upon garden-cress. A rare beetle picked up on the railway track near Casselman is *Hylecætus lugubris*

Say, belonging to the family Lymexylidae, of which no representative had previously been recorded within our district.

On referring to Henshaw's check-list of N. A. Coleoptera, it appears that there are still thirteen families of which no examples have yet been captured here. Several of these families are, however, represented by single species, and altogether furnish only about thirty forms. Many of these are southern or western, but a few may be found to occur here if collecting is carefully continued. Unfortunately at present the collectors are few in number, and unable throughout the season to devote to collecting the time necessary to assure the capture of species which may occur only for brief periods, or in very small numbers. Mr. Simpson last summer collected assiduously at King's Merc, and was rewarded by many fine species, such as the beautiful longicorns *Purpuricenus humeralis* Fab. and *Anthophilax malachiticus* Hald. He obtained also additional specimens of the interesting and somewhat rare staphylinid, *Lomechusa cava* Lec., a dweller in ants' nests, and many other members of the same family, of which some have been determined by Mr. Wickham, and several additions thereby made to our lists. Many undetermined species in nearly all families are still in our collections, and there still remains plenty of work for local Coleopterists.

Among the eminent entomologists who for many years rendered invaluable assistance, none did so more willingly or more painstakingly than Dr. John Hamilton, of Allegheny, Pa., who recently died in Florida. He was one of the foremost of American Coleopterists and the author of numerous valuable contributions to the leading entomological publications. Many of these dealt with Canadian insects, and special attention was given by him to the geographical distribution of northern species. He was also a very careful and industrious collector, as is well evidenced by almost his latest production, a Catalogue

of the Coleoptera of South-western Pennsylvania (1895). The species enumerated therein numbered 2,153 and were mostly from the neighbourhood of Allegheny. His death will be sincerely regretted throughout the entomological world.

LEPIDOPTERA.—Moths and butterflies were abundant during the past summer, and although no new Diurnals were added to the local list, good series were obtained of some desirable species. The native white butterfly *Pieris oleracea* in the form *licmalis* which flies at the end of May was remarkably abundant in Clarke's wood near the Experimental Farm. The Camberwell Beauty, *Vanessa antiopa*, was injuriously abundant in many places around the city upon elm trees and willows. The Semicolon Butterfly, *Grapta interrogationis*, also appeared in unusual numbers this year, the caterpillars being found everywhere on elm trees. The Spring Azure, *Lycana Lucia*, a pretty little blue butterfly, was noted laying its eggs on the flowers of *Viburnum lantana*, an introduced ornamental European shrub. This was of interest because the same butterfly has previously been recorded as ovipositing at Ottawa on the flowers of *Viburnum pubescens* an unusual food plant.

Some nice captures were made in the shape of rare moths. Specimens of *Amphion nesus* and *Dolba Hyleus* were taken by Mr. C. Young at Meech's Lake, and a most interesting capture was reported by Mr. Harry May of the Imperial Moth, *Eacles Imperialis*. The latter collector among other good things took several specimens of the lovely Luna Moth. On May 2nd a fine specimen of the beautiful and active little moth *Brephos infans* was taken flying along a road at Rockcliffe.

Breeding experiments have been continued by members of the section, with useful results. A fine female *Paonias excrucatus* was bred from eggs laid by a female sent from St. Elmo, B.C. Eggs of the very rare butterfly *Erebia discoidalis* were sent from Olds, N.W.T., by Mr. T. N. Willing, and the whole life history,



with the exception of the pupa, has been secured from these eggs. Mr. Willing also sent eggs of *Argynnis Freya* from which Mr. Scudder reared the larvæ to the last stage in Boston, U.S., but unfortunately they then all died. It is hoped that future experiments with these species will be more successful.

HYMENOPTERA.—Satisfactory advance has been made in our knowledge of such members of this order as inhabit this region, and the number of forms which have been collected exceeds probably even that of our Coleoptera, the smaller parasitic species being remarkably numerous. Collections during the past summer were not so extensive as in some former seasons, but such an amount of undetermined and unarranged material has accumulated in our cabinets that there has been no lack of forms to study and to profitably employ the winter evenings. A preliminary list has been prepared of the species belonging to the family Proctotrypidæ : the first portion of which was printed in the December issue of the OTTAWA NATURALIST, while the remainder is now in type and will appear in the March number. These minute insects have in the past been greatly unmolested by Canadian collectors, so that new and interesting species have proved very numerous, as will be seen by the list which contains in all over 150 species. A case is exhibited this evening containing examples of all the species except such as are known only by type specimens in the collection of Mr. Ashmead, who has described nearly all the species. It will be observed that these insects are all very small, and with few exceptions require a microscopical examination for their identification. They are all parasitic in their mode of life, infesting the eggs and larvæ of other insects, but only a small proportion of the species has yet been bred, so we have yet to ascertain upon what insects many of the most common species are parasites.

One very remarkable instance of the manner in which such minute parasites destroy other insects has been recorded in a

recent Bulletin (No. 7, New Series) of the Division of Entomology of the U. S. Dept. of Agric. The author, Mr. L. O. Howard, under the title "A Case of Excessive Parasitism," relates the fate of some scale-insects, *Lecanium fletcheri* Cockerell, which had been obtained in June upon one of the cedar hedges at the Ottawa Experimental Farm. From 80 scales there were obtained 127 parasites; others, however, had previously issued so that 97½ per cent. of the scales were infested. Six species of intruders were presented, viz.:—*Coccophagus cognatus* How., *C. fletcheri* n. sp., *Aphycus pulvinaria* How., *Encyrtus flavus* How., *Chiloneurus albicornis* How., and *Blastothrix longipennis* How. Other scale-insects, such as the Elm Lecanium, have also been found very much infested by similar tiny foes, by which the balance of Nature is kept finely adjusted, and the spread of the very injurious scales is rapidly checked. A very interesting little Braconid has again been reared from puparia of a small fly named *Phytomyza geaulis* Loew. The larvæ of this fly are miners in the leaves of our common Columbine (*Aquilegia Canadensis*) and much disfigure them by causing large white irregular streaks and blotches. Mr. Ashmead, who found the parasite to be undescribed has named it *Mesora phytomyza* and will publish its description in his forthcoming monograph of the Braconidæ.

MISCELLANEOUS.—In other orders little or no work, at least of a systematic nature, has been done, but the Leaders have endeavoured to make arrangements by which these, at present, neglected groups may receive more attention and may have the species belonging to them gradually collected and determined. This must be done if the Club desires to fulfill the object for which it was specially organised, viz., the accumulation and publication of a full knowledge of the geology, flora and fauna of the district.

Injurious insects in the Ottawa district were not particularly noticeable during last year. Cabbage and radish maggots were

probably the species most complained of. The army-worm, which last year did serious damage to crops in almost every county of Ontario, was at Ottawa only represented by a few of the moths taken by collectors. In other districts they are reported as having occurred in myriads. A local outbreak of the Tussock moth on the shade trees of Toronto created much interest. It was not a new attack, having been watched by the Leaders from time to time for the last ten years when passing through Toronto to attend the annual meeting of the Entomological Society of Ontario. The sudden increase in the numbers, however, attracted the attention of the City Council, and mainly through the energy of Alderman John Hallam, steps have been taken to destroy the eggs during this winter. In this way there is no doubt the beautiful shade trees for which Toronto is celebrated will be saved.

Among interesting insects sent in for identification, mention may be made, as illustrating unexpected foods for insects, of a small beetle received from Mr. E. Carew Gibson, of Victoria, B.C. This is *Trigonogenius furetus* and was found feeding in both the larval and perfect form in a tin of Cayenne pepper. Another species with the same habits, *Sitodrepa punicea*, called the bread beetle, was also received a few years ago from Mr J. F. Whiteaves of the Geological Survey.

*Lasioderma serricorne*, the cigarette beetle, as its common name indicates, has a penchant for chewing tobacco and is occasionally very injurious in cigar and cigarette factories.

Among general work done during the year may be mentioned the determination of specimens sent in by collectors in various localities from Newfoundland to British Columbia ; work which, although it occupies time which might be given to the study of our own insects, is cheerfully performed in order to encourage those taking up entomology. A considerable knowledge is at the same time attained of the distribution of our insects.

Two short lists of Ottawa spiders have been published, as a commencement toward a knowledge of our clever little spinners, whose habits are well deserving of study, and will be found to vary greatly in different groups.

No collections have been entered for the prize which was offered by the Council at the opening of the season as a stimulus toward collecting by our younger members.

In conclusion we desire to acknowledge the receipt from our learned corresponding member, Miss E. A. Ormerod, of her Twentieth Report, which is a most valuable and interesting record of her observations upon Injurious Insects in Great Britain during the year 1896. Her work is of a most instructive and admirable character.

W. H. HARRINGTON,  
J. FLETCHER,  
W. SIMPSON.

17th March, 1897.

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REPORT OF THE GEOLOGICAL BRANCH OF THE OTTAWA  
FIELD NATURALISTS' CLUB FOR 1896-97.

*To the Council of the Ottawa Field-Naturalists Club :*

In presenting the fifteenth Annual Report of this Branch of the Club's work for 1896-97, your leaders have to announce that considerable progress has been made and renewed vigour is evident from the number of papers written on the geology of this district and also from the interest manifest whenever excursions or sub-excursions of the Club are held.

During the early part of the season a number of geological sub-excursions were held to objective points about the Capital on both sides of the Ottawa River. The quarries and cuttings along the railroad track in Hull, Que., were visited, and an interesting series of fossils obtained. Upwards of thirty species were recorded from the "dump" along the Aylmer electric road.

Your leaders also report special interest taken in the geological section at the three general excursions of the Club held during the year.

*Chelsea, Que.*—The first place visited was Chelsea, Que., a station along the Ottawa & Gatineau Valley Railway. Both Dr. Ami and Mr. W. J. Wilson were present and took part in the discussions and gave addresses after the day's outing on re-assembling in Gilmour's Grove. The marine shells of the terraces which flank the Laurentide hills at this point were carefully described and specimens of *Saracina rugosa*, *Macoma fragilis* and *Balanus crenatus*, were exhibited and distributed to many who were not fortunate enough to join the geologists. General notes on the Archæan rocks were also given by the leaders. The altitude of the Chelsea station, above tide or sea level is        feet, and the marine shells came from about the same level.

*Rockland Quarries.*—The second general excursion of the Club was essentially a geological one, when the Rockland quarries were visited. Messrs. D. B. Dowling and W. J. Wilson, of the Geological staff, led the party and answered the various questions put to them by the members and excursionists present. The large amount of rock-material excavated from the quarries was greatly admired and the large and beautiful blocks of fine-grained and compact limestone were examined. To Mr. A. Stewart and W. C. Edwards, Esq., M.P., the Club again owes a debt of gratitude for favours received during the day; to Mr. Edwards for kindly placing his steamer at the disposal of our Club *gratis*, and to Mr. Stewart for permission to inspect his quarries as well as for refreshments served to all on arriving at the quarries.

*Galetta, Ont.*—This excursion was truly a naturalists' field-day, and the results of the geological researches have already been embodied in the OTTAWA NATURALIST, Vol. X, No. 7, p. 142, for October, 1896, so that it will not be necessary to go into any further details at this time.

During the month of October a very interesting and never-

to-be-forgotten excursion to Besserer's Grove was held in search of Pleistocene fossils, nodules, &c., in the marine clays of that locality. Dr. Adams's geology class, at McGill, was in attendance, and a number of local geologists were also present.

Numerous and fine specimens of *Mollotus villosus* were obtained, besides numerous fragments of plants, *Equiseta*, *Populus balsamifera*, *Fucus sdigitatus*, Penhallow, besides mollusca: *Macoma fragilis*, *Saxicava rugosa*, *Natica affinis*, and *Leda (Portlandia) arctica*, Gray. Some of the undetermined plant material has been laid aside for future examination by Prof. Penhallow, of McGill University.

In the foregoing volume of THE OTTAWA NATURALIST, published during the season of 1896-97, and elsewhere, several interesting papers were published or noted as bearing upon the geology of Ottawa and vicinity; Prominent amongst these is a very interesting paper on "The Geology along the Ottawa and Parry Sound Railway," by Dr. R. W. Ells.\* In this paper Dr. Ells has described the leading geographical features of a new tract of country that has been but recently opened to excursionists and travellers, and we trust that this excellent contribution to the geological history of the eastern section of the Parry Sound Railway will be followed by another upon the western section, which no doubt includes great many points of paramount interest both from an economic and a scientific standpoint, as the rock-formations belong to what has been termed the great "Archæan Complex."

Principal Dresser's paper on the "Petrography of some of the rocks of Chelsea, Que.," is also an important contribution to the geological fund of knowledge of that interesting series of Archæan rocks associated with the old "Ottawa gneiss."

H. M. AMI,	}	Leaders.
R. W. ELLS,		
W. F. FERRIER,		

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\*OTTAWA NATURALIST, Vol. X, No. 9, pp. 165-173, Ottawa, December, 1896.

CONTRIBUTION TO THE PALEONTOLOGY OF THE POST-PLIOCENE DEPOSITS OF THE OTTAWA VALLEY.

By HENRY M. AML, M.A., D.Sc.

In connection with the Pleistocene fossils of the Ottawa district, the writer has brought together a few notes which may be deemed of service to those who wish to carry on further investigations in this promising field. The evidences of fossil marine organisms in the sands, clays and gravels about Ottawa are as follows :--

(1) In his "*Contributions to the Pleistocene flora of Canada*"\* Prof. D. P. Penhallow has noted the occurrence of many species of trees and plants in the concretionary nodules found in the marine clays of Green's Creek, Besserers, &c, in the Lecla Clay formation (Pleistocene) of the Ottawa Valley. From the collections of nodules recently made at Besserer's Grove and sent to Prof. Penhallow for examination he has recognised the following interesting flora as may be also gathered from a letter by Dr. Penhallow.

- |                                |                                    |
|--------------------------------|------------------------------------|
| 1. <i>Betula lutea.</i>        | 8. <i>Potamogeton perfoliatus.</i> |
| 2. <i>Cyperaceæ.</i>           | 9. " <i>pusillus.</i>              |
| 3. <i>Equisetum limosum.</i>   | 10. " <i>rutilans.</i>             |
| 4. <i>Fucus digitatus.</i>     | 11. <i>Potentilla Anserina.</i>    |
| 5. <i>Hypnum fluitans.</i>     | 12. <i>Vallisneria sp.</i>         |
| 6. <i>Populus balsamifera.</i> | 13. <i>Typha latifolia (?)</i> .   |
| 7. " <i>grandidentata.</i>     |                                    |

(2) In "*Geological History of Plants*"† Sir William Dawson has recorded the following species of fossil plants from the nodules found at Green's Creek by himself and other collectors :

- |                                  |  |
|----------------------------------|--|
| 1. <i>Potentilla Canadensis.</i> | 7. <i>Potamogeton perfoliatus.</i>                       |
| 2. <i>Drosera rotundifolia.</i>  | 8. " <i>pusillus.</i>                                    |
| 3. <i>Acer spicatum.</i>         | 9. <i>Equisetum scirpoides.</i>                          |
| 4. <i>Gaylussaccia resinosa.</i> | 10. <i>Fontinalis, sp.</i>                               |
| 5. <i>Populus balsamifera.</i>   | 11. <i>Fucus</i> or <i>Ulva, sp.</i>                     |
| 6. <i>Thuja occidentalis.</i>    | 12. <i>Carices</i> and <i>Gramineæ, several species.</i> |

Regarding these plants Sir William argues (p. 232) : " I regard the plants above-mentioned as probably belonging to the

\*Trans, Royal Soc. Canada, Vol. II, New Series, Sect. IV, pp. 59-77, Ottawa, 1896.

†Intern. Scientific Series, Vol. LVI, 1892.

period of greatest refrigeration of which we have any evidence," and then goes on to say : " of course, not including that mythical period of universal incasement in ice of which I have elsewhere endeavoured to show in so far as Canada is concerned, there is no evidence whatever."

(3) From Green's Creek Prof. Penhallow records the following species of fossil plants (pp. 74 and 76, loc. cit. supra.)

- |                                   |                                      |
|-----------------------------------|--------------------------------------|
| 1. <i>Acer saccharinum</i> .      | 12. <i>Fucus digitatus</i> .         |
| 2. <i>Algae</i> sp.               | 13. <i>Gaylussacea resinosa</i> .    |
| 3. <i>Brasenia peltata</i> .      | 14. <i>Gramineæ</i> , sp.            |
| 4. <i>Bromus ciliatus</i> .       | 15. <i>Oryzopsis asperifolia</i> .   |
| 5. <i>Cyperaceæ</i> .             | 16. <i>Populus balsamifera</i> .     |
| 6. <i>Carex Magellanica</i> .     | 17. <i>Populus grandidentata</i> .   |
| 7. <i>Drosera rotundifolia</i> .  | 18. <i>Potamogeton pectinatus</i> .  |
| 8. <i>Equisetum limosum</i> .     | 19. <i>Potamogeton perfoliatus</i> . |
| 9. <i>Equisetum scirpoides</i> .  | 20. <i>Potamogeton pusillus</i> .    |
| 10. <i>Equisetum sylvaticum</i> . | 21. <i>Potamogeton rutilans</i> .    |
| 11. <i>Fontinalis</i> ? sp.       | 22. <i>Potentilla Anserina</i> .     |

Taking these lists and putting them together we have altogether a series of no less than twenty-six species of fossil plants from the calcareous nodules of Green's Creek and Besserers, a few miles below Ottawa City.

We are confident in stating that this number will probably be doubled before many years if the members of the Geological section of the Club make it a point to visit the localities in question and obtain more material. We have a number of other collections which have afforded the following species.

(4) STEWART'S COLLECTION—A.—Collected along the banks of Green's Creek, near the bridge at Cyrville, Russell, Ontario, by John Stewart, 1893.

- |   |   |
|---|---|
| 1. <i>Saxicava rugosa</i> , L.                              | 3. <i>Balanus crenatus</i> , Bruguière. |
| 2. <i>Leda</i> ( <i>Portlandia</i> ) <i>arctica</i> , Gray. | 4. <i>Mallotus villosus</i> , Cuvier.   |

B.—Collected along the banks of Green's Creek and the Ottawa River near the mouth of the Creek, Gloucester, Russell County, Ont. John Stewart, 1893.



- |   |   |
|---|---|
| 1. <i>Macoma fragilis</i> , Fabricius.                    | 5. <i>Balanus crenatus</i> , Bruguière. |
| 2. <i>Saxicava rugosa</i> Linn.                           | 6. <i>Mallotus villosus</i> , Cuvier.   |
| 3. <i>Leda</i> ( <i>Portlandia</i> ) <i>arctica</i> Gray. | 7. <i>Cottus uncinatus</i> , Reinhardt. |
| 4. <i>Cylichna alba</i> or <i>C. minuta</i> .             |   |

(5) *Graham's Brickyard, Ottawa East*, collected by H. M. Ami, 1893.

- |   |   |
|---|---|
| 1. <i>Macoma fragilis</i> , Fabricius.                      | 4. <i>Cylichna alba</i> , Brown.        |
| 2. <i>Macoma calarea</i> ? Chemnitz.                        | 5. <i>Balanus crenatus</i> , Bruguière. |
| 3. <i>Leda</i> ( <i>Portlandia</i> ) <i>arctica</i> , Gray. | 6. <i>Natica affinis</i> , Gmelin.      |

(6) *Nepean, Ont.* right bank of the Rideau River and Canal, Manotick Road. Collected by R. H. Campbell, 1891-92.

- |   |  |
|---|--|
| 1. <i>Macoma fragilis</i> , Fabricius.            | 5. <i>Balanus crenatus</i> , Bruguière.      |
| 2. <i>Saxicava rugosa</i> , Linnæus.              | A large variety of this species or a         |
| 3. <i>Saxicava rugosa</i> , var.                  | form intermediate between <i>B. crenatus</i> |
| 4. <i>Mytilus edulis</i> , Linn. (Very abundant). | and <i>B. Hameri</i> .                       |

(7) About two miles from Metcalfe, Ontario, collected by G. H. Wilson, Ottawa, August 20th, 1895.

- |   |                                 |
|---|---------------------------------|
| 1. <i>Macoma fragilis</i> , Fabricius.  | 3. <i>Mytilus edulis</i> , Linn |
| 2. <i>Balanus crenatus</i> , Bruguière. |                                 |

(8) *MacGregor's Lake*, two miles north of Perkin's Mills, Que. 450 above sea level, collected by Dr. Ells, 1893.

1. *Saxicava rugosa*, Linn.—In great numbers, and with a remarkably thick test.

(9) *Near Cantley, Que.*: collected by Dr. R. W. Ells, 1893.

- |  |   |
|--|---|
| 1. <i>Macoma fragilis</i> , Fabricius. | 3. <i>Leda</i> ( <i>Portlandia</i> ) <i>arctica</i> , Gray. |
| 2. <i>Saxicava rugosa</i> , Linn.      |   |

(10) *Besserer's Grove, shore of Ottawa River in calcareous nodules Ontario side.* Collected by Dr. R. W. Ells, 1893.

- |   |                                      |
|---|--------------------------------------|
| 1. <i>Mallotus villosus</i> , Cuvier.                       | 3. <i>Saxicava rugosa</i> , Linnæus. |
| 2. <i>Leda</i> ( <i>Portlandia</i> ) <i>arctica</i> , Gray. | 4. <i>Populus balsamifera</i> .      |

And a number of other fossil plants which are no doubt similar to these described by Prof. Penhallow from the same locality.

(11) *Chelsea, Que., about 1500 paces north of Chelsea Station along the Ottawa and Gatineau Valley Railway*, May 26th, 1894. Collected by members of the Ottawa Field-Naturalists' Club.

- |  |   |
|--|---|
| 1. <i>Macoma fragilis</i> , Fabricius. | 3. <i>Balanus crenatus</i> , Bruguière. |
| 2. <i>Saxicava rugosa</i> , Linnæus.   |   |

(12) *Carp Station, Ottawa, Arnprior & Parry Sound Railway, Carp Village, Ontario.* In a coarse, stratified gravel deposit. Collected by H. M. Ami, 1894.

- |  |   |
|--|---|
| 1. <i>Saxicava rugosa</i> , Linnaeus.  | 3. <i>Balanus crenatus</i> , Bruguière. |
| 2. <i>Macoma fragilis</i> , Fabricius. |   |

(13) *Odell's brickyard, Ottawa East, in the Leda clay formation.* Collected by W. S. Odell, Esq., H. M. Ami etc. 1889-1896.

- |  |  |
|--|--|
| 1. <i>Craniella Logani</i> , Dawson sp.  | 5. <i>Polystomella crispa</i> .                              |
| 2. <i>Thuja occidentalis</i> .—Branches of the cedar tree fairly well preserved. | 6. <i>Dentalina</i> sp.                                      |
| 3. <i>Macoma fragilis</i> , Fabricius.   | 7. <i>Nonionina</i> sp.                                      |
| 4. <i>Saxicava rugosa</i> , Linnaeus.  | 8. <i>Discorbina</i> sp., and other species of foraminifera. |

In the Geology of Canada 1863, the chapter on "Superficial Geology" contains interesting remarks upon the post-tertiary formations of the Ottawa Valley, and amongst the species of fossil organisms recorded on pp. 916-917, from Green's Creek\* are the following: †

(14) Green's Creek, Ottawa River, collected by members of the Geol. Survey Staff.

- |   |                                      |
|---|--------------------------------------|
| 1. <i>Cyclopterus lumpus</i> .                            | 8. <i>Potentilla tridentata</i> .    |
| 2. <i>Cottus</i> sp.                                      | 9. <i>Potentilla Canadensis</i> .    |
| 3. <i>Tellina Groenlandica</i> ( <i>Macoma fragilis</i> ) | 10. <i>Arcostaphylos uva-ursi</i> .  |
| 4. <i>Saxicava rugosa</i> , L.                            | 11. <i>Populus balsamifera</i> .     |
| 5. <i>Drosera rotundifolia</i> .                          | 12. <i>Potamogeton perfoliatus</i> . |
| 6. <i>Trifolium repens</i> .                              | 13. <i>Potamogeton natans</i> .      |
| 7. <i>Potentilla Norvegica</i> .                          | 14. <i>Mallotus villosus</i> .**     |

(15) At Grenville, on the Lower Ottawa, 120 feet above the level of the sea, the following species were found and are recorded on p. 917 of the "Geology of Canada," 1863:

- |  |                              |
|--|------------------------------|
| 1. <i>Saxicava rugosa</i> ,                                | 3. <i>Balanus Hameri</i> .   |
| 2. <i>Tellina Groenlandica</i> ( <i>Macoma fragilis</i> ). | 4. <i>Balanus crenatus</i> . |

(16) Amongst the earliest records of discoveries of fossils in the Ottawa Valley is that of a species *Phoca*, bones of which were

\* Green's Creek enters the Ottawa at 118 feet above sea-level.

† Many of which were recorded from observations made by Principal (now Sir Wm.) Dawson. To these may be added a species of *Gasterosteus*, sp. indt.

\*\* Also found at Lake Chaudière, 183 ft. above tide; on the Madawaska, 206 ft. above tide, and at Fort Coulonge, 365 ft. above tide.

found by the late Mr. E. Billings and sent to Prof. Leidy, of Philadelphia, who described the same and illustrated them in the Proceedings of the Academy of Sciences for 1856.\* The bones of the posterior extremities discovered were also figured in Vol. 1 of the Canadian Naturalist and Geologist, by Mr. Billings. There is also a portion of the pelorcard of a *Phoca* in the collections of the Geological Survey.

*Feather of Bird.*—Several feathers of birds have been found during the past sixteen years.

In 1881, the Marquis of Lorne, presented to the Geological Museum at Ottawa a magnificent specimen of fossil feather, (genus and species of the bird unknown), and since then several specimens were collected and recorded by the writer from the nodules of the clays both at Green's Creek or along the Ottawa River at Besserers.

(17) Wright's brick-clay pits, north of Moore's property, Aylmer Road, Tétreauville, Que., collected by H. M. Ami and Ruggles Wright, 1889.

In a sandy layer about 30 feet below the surface of the ground in hill side :

1. *Saxicava rugosa*.

2. *Phoca* sp. probably young of *Phoca vitulina*.

Amongst the specimens recently acquired by the Peter Redpath Museum from the Pleistocene of the Ottawa Valley is that of a portion of the lower jaw of a young seal, *Pagophilus Greenlandicus*. This species was recorded in the Report of the Geol. Branch for 1893-94,† and formed part of the collection of fossil organic remains which Sir James Grant had in his possession.

(18) *Dundas Co., Ont.*—Found in the front part of lot 9, concession V., township of Matilda. Collected by members of the Iroquois High School Natural Science Association, 1895-1896 :

1. *Macoma fragilis* Fabricius.

2. *Saxicava rugosa* Linnaeus.

\* See also Can. Nat. & Geol. 1858, paper by Principal J. Wm. Dawson "On the newer Pliocene and post-pliocene deposits of the vicinity of Montreal, with notices of fossils recently discovered in them."

† Ottawa Naturalist, Vol. VIII., No. 7, pp. 103-104, Ottawa, Oct., 1894.

This record from Dundas is, as far as we know, the most westerly one made of the occurrence of marine shells from raised beaches along the valley of the St. Lawrence between Montreal and Kingston; but bones of the *Beluga Vermontana* (a white whale) have been recorded from near Cornwall and in the Rivière Beaudette gravel beds.

(19) At the last locality mentioned, the late N. J. Giroux obtained the following species of marine organisms:

- |   |  |
|---|--|
| 1. <i>Macoma fragilis</i> , Fabricius.      | 5. <i>Balanus crenatus</i> , Burguière.  |
| 2. <i>Macoma calcarea</i> , Chemnitz.       | 6. <i>Balanus Hameri</i> , very large and fine individuals in a beautiful state of preservation. |
| 3. <i>Saxicava rugosa</i> , Linnaeus.       |  |
| 4. <i>Leda (Portlandia) arctica</i> , Gray. |  |

(20) *Fossil Insects*.—Green's Creek and Besserer's Grove, Ottawa River, in calcareous nodules:

- |  |                                       |
|--|---------------------------------------|
| 1. <i>Tenebrio calculeus</i> , Scudder.  | 3. <i>Forax ledensis</i> , Scudder.   |
| 2. <i>Byrrhus Ottawaensis</i> , Scudder. | 4. <i>Phryganea ejecta</i> , Scudder. |

Of these, No. 3 was collected at Green's Creek by Sir Wm. Dawson, and Nos. 1, 2, and 4 were obtained in nodules from the same locality by the writer.

Further researches will no doubt reveal an interesting insect fauna. So far, all our fossil insects from Green's Creek are forms which are not known as existing species to-day.

The foregoing species were found in the marine beds of the Ottawa or St. Lawrence valleys; but amongst the newer overlying deposits—of fresh water and estuarine origin,—marl deposits form a conspicuous and interesting group, and hold fossil shells, &c.

Among the interesting species recorded from shell-marl deposits in the Ottawa Valley are the following:

(21) Lake Clear, near Eganville,\* Ontario.

- |                                    |                                |
|------------------------------------|--------------------------------|
| 1. <i>Physa heterostropha</i> .    | 5. <i>Cyclas orbicularis</i> . |
| 2. <i>Planorbis campanulatus</i> . | 6. <i>Unio complanatus</i> .   |
| 3. <i>Planorbis bicarinatus</i> .  | 7. <i>Anodon fluviatilis</i> . |
| 4. <i>Paludina decisa</i> .        |                                |

\* Report of Progress, Geol. Surv. Can., p. 149, Montreal, 1857.

(22) Hemlock Lake, New Edinburgh, east of Ottawa, Ontario. Collected by H. M. Ami, 1881 :

- |  |  |
|--|--|
| 1. <i>Valvata tricarinata</i> .                        | 9. <i>Limnæa desidiosa</i> .                         |
| 2. <i>Ammicola porata</i> .                            | 10. <i>Mesodon albolabris</i> .                      |
| 3. <i>Physa heterostropha</i> .                        | 11. <i>Mesodon albolabris</i> var <i>dentifera</i> . |
| 4. <i>Planorbis campanulatus</i> .                     | 12. <i>Mesodon Sayi</i> .                            |
| 5. <i>Planorbis bicarinatus</i> .                      | 13. <i>Patula alternata</i> .                        |
| 6. <i>Planorbis parvus</i> .                           | 14. <i>Hyalina indentata</i> .                       |
| 7. <i>Limnæa galbana</i> , Binney. An extinct species. | 15. <i>Hyalima arborea</i> .                         |
| 8. <i>Limnæa stagnalis</i> .                           | 16. <i>Conulus fulvus</i> .                          |
|  | 17. <i>Pisidium abditum</i> .                        |

These shells are found imbedded in a soft white calcareo-argillaceous matrix which has been utilized in the manufacture of white brick in the Ottawa Valley.

#### THE LATE PROFESSOR GEORGES VILLE.

It is with sincere regret that we chronicle the death of Professor Georges Ville, which resulted from heart disease on the 22nd February last at his home in the Jardin des Plantes Paris.

Professor Ville's life-work was the study of problems in vegetable physiology as applied to agriculture, and the success that attended his scientific investigations—and his no less scientific and eminently practical teachings—have made his name to be honorably known and revered, not only in his native country but throughout the civilized world.

Agriculture, during the past quarter of a century, has advanced greatly ; it may now rank with the sciences. This has been due to such men as Ville—men naturally endowed with the qualities of observation and research and whose minds and methods have been trained by years of careful work under the guidance of scientific principles. Georges Ville was at once strictly scientific and truly practical, and it was for that reason

his results have proved of such permanent and immediate value to agriculturists.

Ville established the value of artificial fertilizers in keeping up the fertility of soil. By trial-plot and vegetative experiments carried on in pots, he was able to demonstrate to the eye the effect, on certain soils and with certain crops, of suitable forms of nitrogen, phosphoric acid, potash and lime on plant growth. This method of making the crops show the deficiencies, or otherwise, in plant food—or, as it has been tersely put, “making the plant analyse the soil,” is now recognized as the only infallible guide to rational and economic manuring—and it is in vogue wherever progress in farming is being made.

Professor Ville was born at Port Saint Esprit in 1824, and at the time of his death occupied the Chair of Vegetable Physiology in the Muséum d'Histoire Naturelle, Jardin des Plantes. He has been called the Lavoisier of Agriculture, for what that great man did for chemistry that did Ville for scientific agriculture. He has introduced exactness; he has explained underlying principles; he has illustrated in the most graphic ways the truths of agriculture. In this way Ville has helped farmers to help themselves, for he has shown them how their work may be carried on with true economy.

His published works are many and cover many of the branches of modern agriculture. Certainly one of his chief is “L'Analyse de la Terre par les Plantes,” a classical work, giving the results of many years' careful investigation in pot experiments with various fertilizers.—F. T. S.

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#### NOTES FOR THE MONTH OF MARCH, OTTAWA, 1897.

By H. B. SMALL, Esq.

Although March set in exceedingly cold, the generality of of the month was marked with faulty high temperature. More snow, however, fell in this district than all through the previous part of the winter. Spring birds arrived earlier than usual.

*Crows*.—On 6th instant, first flight of crows passed over. Although some of these birds winter around the Experimental Farm and the slaughter-houses up the Rideau river, they do not seem to extend their flight till the mild weather evidences itself, when they apparently wing their way to the ice on the Ottawa

river, where they find abundant food in the refuse deposited there.

*Song sparrow.*—This bird seldom appears before the 27th instant, but one was heard and afterwards seen by three different people on 18th instant, in a garden between Wilbrod and Theodore streets. In 1894 this bird was seen on March 11th, in 1895 on April 3rd, in 1896 on April 10th. Its advent depends on the weather south, and this year a warm south wind had been blowing two days and nights prior to its appearance.

*Robins.*—The first reliable appearance of this bird was on March 22nd, on a telegraph wire on Theodore street where it was in full song. It was reported as seen on the Glebe property, Mutchmor street, a few days prior to this, but it may have been a shrike which was mistaken for it, as my informant said it was chasing sparrows.

*Thunder.*—On 20th instant the first thunder shower occurred at 3 p.m., two vivid flashes of lightning and heavy peals of thunder being noticed, with a heavy down-pour like a summer shower.

*Earthquake.*—A heavy earthquake shock was experienced at 6 h. 2 m. p.m., felt east as far as Father Point and west in the Kingston district. Montreal seems to have felt the heaviest shock.

*Grossbeak.*—An unusually large number of these birds, known in England as the Hawfinch, have visited Ottawa during February and March, the attraction apparently being the abundant berries of the mountain ash, as that tree has been largely planted in grounds surrounding public buildings, and the trees are gaining maturity, the crop of berries is larger than in former years. This may account for the preponderance in the number of these birds over years ago.

*Redpole.*—Quite a number of these birds have been seen in and around Ottawa during the winter. Their song is suggestive of spring, and unless the bird is seen it might easily be mistaken for one of our spring emigrants.

*Purple finch.*—I am not certain if a flock of birds seen in the Park one day early in March consisted of these birds, but from the notes I heard I am much inclined to think they were this finch. I could not get within sufficient distance to see them plainly, as they were very shy and took flight at approach.

*Shrike or Butcher Bird.*—One of these birds was seen for several days on Daly avenue, near King street, in the locality where it has appeared several winters. Whether the same bird, or some of its progeny, or a fresh arrival cannot be ascertained.

Frequenting the one locality would give colour to the first theory.

*Swallows.*—On the 28th instant, white-breasted swallows were observed on the Ridean river, between Cummings' bridle and the falls. I could not determine whether they were the white-breasted or the bank swallow.

*Bluebirds.*—Although I have not seen any of them myself, I have reliable authority that they have been seen in the closing days of the month, but I could not get the actual date of their arrival. Probably 27th or 28th.—H. B. SMALL.

---

## ORNITHOLOGY.

Nature has provided us with no more delightful or interesting objects for study than the birds. They are our "feathered poets of the grove" each with his own peculiar strain of melody; now sweet, now sad, now boisterous, now seeming to tell in long and varied song some tale that thrills us as we listen. What wonderful and beautiful markings they have! There are few who can fail to enjoy the sight of a brilliantly coloured or delicately marked bird, or when the hidden nest is found, the eggs unrivalled in colouring even by the bird which laid them. To watch them building their nests, catching their food, hopping about from branch to branch apparently with no object, or stretching their wings for a long flight, is a pleasure which can be shared by all. But half the joy is lost unless we have learned the songs and calls of the different birds; unless we recognize them whenever seen and in whatever plumage they are dressed, be it in that of the full-grown male, the less brightly marked female, the young bird, or in that of the winter season; unless we can tell them from their habit of flight even when too distant for the colour of the bird to be ascertained; or unless when we find the tiny nest in the thicket, or the large one in the lofty tree we know what bird has built the nest or what bird has laid the eggs.

It is hoped that throughout this year a greater interest will be manifested in our birds. Here is a field for the young people with untold pleasure in store for all who are eager for it. The leaders of the Club will most gladly assist any who desire to begin the study of our birds.



## BIRD NOTES FOR JANUARY, FEBRUARY AND MARCH.

The following persons have kindly consented to co operate in order to make the records of the arrivals, departures, nesting and other habits of our birds more accurate: Miss G. Harmer, Mr. H. B. Small, Mr. Geo. White, Mr. A. G. Kingston, Dr. J. Fletcher, Mr. W. A. D. Lees and Prof. J. Macoun. The assistance of all others who are interested in birds is earnestly requested.

**CROW.**—This is a winter bird at Ottawa. A few forsake the dense woods at intervals throughout the winter in search of food. They have been seen all winter at the Experimental Farm. A flock was observed by Mr. Small on the 6th of March, and by Mr. White on the 11th of March.

**PINE GROSBEAK.**—For the past few winters this bird has visited Ottawa in large numbers. In the opinion of Mr. Small the reason they have been so abundant of late years is that the European mountain ash, of which many have been planted about Ottawa, are now fruiting heavily, thus providing this bird with food. They seem to enjoy eating the buds of the spruce, and the fruit of the green ash at the Experimental Farm. The first flock of these birds, recorded, was one of ten seen by Mr. White on the 1st of January. They were shot by Mr. G. Muirhead in the Rideau Hall grounds on the 30th of March. Dr. Fletcher contributes the following interesting notes on this bird:

“The winter of 1896-97 must undoubtedly be characterised as having been a remarkably mild one and yet the large numbers of the beautiful Pine Grosbeaks which enlivened our streets were a conspicuous feature of the season. The usual statement with regard to these birds is that they frequent cities most in cold winters. During January and February the mountain ash trees in the city attracted large flocks of these pretty, gentle birds, and, owing to their well-known tameness, which is referred to by several writers, large numbers were caught or killed by thoughtless boys and idle men. This is much to be regretted, for, although these winter visitors have a very sweet plaintive song, they are not at all suitable birds for domestication in cages. They are greedy and untidy feeders, scattering their food through the bars of their cages, and besides this they live, as a rule, only a few months in captivity, generally getting thinner and pining away during the hot summer months.”

RED POLL.—This bird has been quite abundant during the months of January, February and March. They are usually seen feeding on the fruit of the birch."

WHITE-WINGED CROSS-BILL.—A flock of these birds was observed by Miss Harmer on the 5th of January, and were also noticed by her at different times throughout the month.

The following notes on the Cedar-bird and Bohemian wax-wing have also been kindly contributed by Dr. Fletcher:—

"CEDAR WAX-WING: (*Ampelis cedrorum*). In occasional years during the winter months flocks of wax-wings have been seen feeding with the Pine grosbeaks upon the mountain ash berries in Ottawa. These have been supposed to be the Bohemian wax-wing because they came in the winter time. On March 2nd, 1880, and on February 23rd, 1885, I made a note in my diary that flocks of wax-wings were seen at Stewarton, which were decidedly smaller than the Bohemian wax-wing and lacked the chestnut colour beneath the tail and the white bars on the wing, both conspicuous marks of the Bohemian wax-wing (*Ampelis garrulus*). During the present winter large flocks of wax-wings consisting of both species were abundant, from the middle of January until the beginning of April. Mr. George White having had his attention called to the matter, kindly shot some specimens of the smaller species, which he identified as undoubtedly true *cedrorum*."

PINE SISKIN.—Quite abundant up to the end of March. One shot by Mr. G. Muirhead near Rideau Hall on the 30th of that month.

AMERICAN GOLDFINCH.—Observed by Mr. Lees during the month of January.

SHRIKE OR BUTCHER-BIRD.—One of these birds was seen by Mr. Small for several days on Daly Avenue, near King St. during the month of March. He says it has appeared in that locality for several winters.

HORNED LARK.—A small flock of horned larks was seen near the office at the Experimental Farm on the 22nd of February by Dr. J. Fletcher, Mr. H. S. Marsh and Mr. W. T. Macoun. They continued in small flocks throughout March.

PURPLE FINCH.—One was seen by Mr. White at the pump-house near Pooley's bridge, on the 2nd of March. A flock of birds which he thinks by their notes was this finch, was observed by Mr. Small in Major's Hill Park early in March. Dr. Fletcher saw them on the 5th of March.

SONG SPARROW.—The records for the arrival of this bird for the past few years as given by Mr. Small are, 1894, 11th of

March ; 1895, 3rd of April ; 1896, 10th of April ; 1897, 18th of March, which is the earliest date recorded this year, although heard by Mr. H. S. Marsh, Experimental Farm on the 17th of March, but it was not seen there until 22nd March, and by the 24th Dr. Fletcher reports it as abundant.

ROBIN.—The robin was observed by Miss Harmer, Mr. Lees, Mr. Small, and Dr. Fletcher on the 22nd of March ; the latter says that Mr. T. J. McLaughlin told him he heard one on the 21st of March.

PURPLE GRACKLE.—The earliest date is that given by Mr. White. He observed three males on the 22nd of March and females on the 29th of March. It was seen by Mr. Lees on the 23rd of March and by Dr. Fletcher on the 24th of March.

RED-WINGED BLACKBIRD.—Seen by Miss Harmer on 23rd of March, and by Dr. Fletcher on the 24th of March. Other records are some days later.

JUNCO.—First date recorded is by Dr. Fletcher on 23rd of March.

WHITE-BELLIED SWALLOW.—Both Mr. White and Mr. Small record the arrival of this bird on the 28th of March. Five were seen by Mr. White. On the 29th, Mr. Young saw a flock near Hurdman's Bridge.

VESPER SPARROW.—One specimen of this bird was seen by Dr. Fletcher at the Experimental Farm on the 23rd of March, but was not seen again until April.

WILD GOOSE.—Two large flocks were seen by Mr. White passing over the city on the 31st of March. It was observed by Miss Harmer on the 1st of April.

EVENING GROSBEAK.—The visit of Mr. G. Muirhead, F.R.S.E., F.Z.S., to Rideau Hall, will be remembered by all lovers of birds. While hunting for birds near Rideau Hall on the morning of the 30th of March he had the good fortune to shoot two female specimens of the rare and beautiful evening grosbeak, never before recorded at Ottawa, and but very seldom in any other part of Ontario. The usual range of this bird is "Pacific coast to Rocky Mountains ; Northern America east to Lake Superior." Mr. Muirhead is the author of "Birds of Berwickshire," a large work in two volumes in which are given the descriptions, habits, arrivals and departures of all birds known to occur as residents, migrants, or casuals.

W. T. MACOUN,

*Associate Editor.—Ornithology.*

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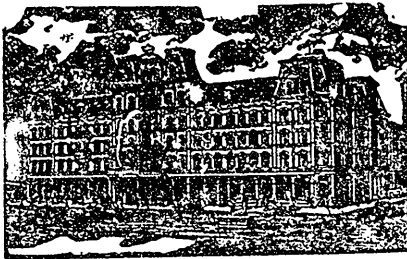
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