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THE OTTAWA NATURALIST

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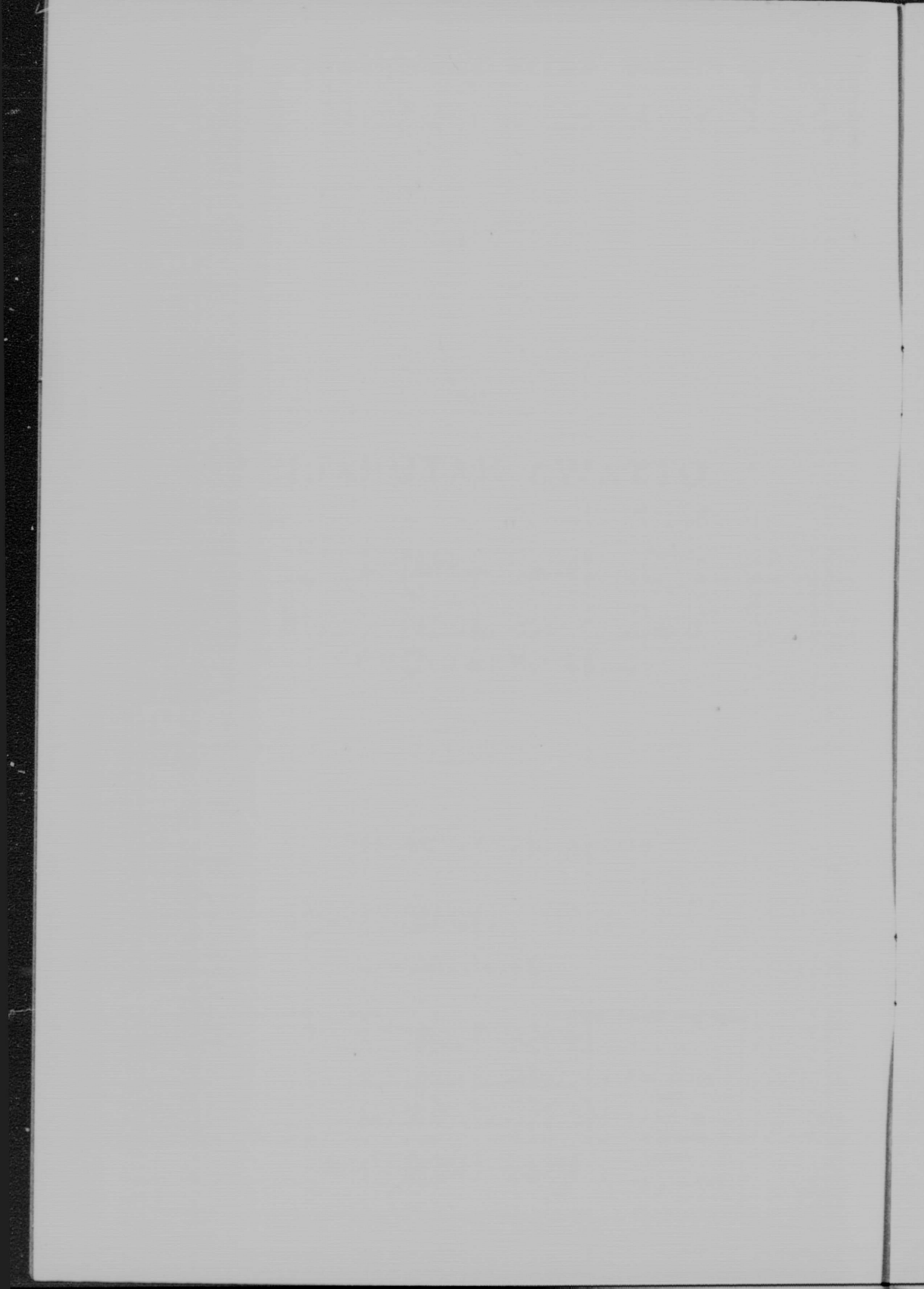
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THE OTTAWA NATURALIST

Vol. XXVII.

APRIL, 1913

No. 1

ANNUAL REPORT OF THE OTTAWA FIELD-NATURALISTS' CLUB, 1912-13.

During the past year a good deal of quiet, steady work has been done by the officers and members of the Club. The Council has held six meetings during the year. The following is a brief synopsis of its work. At the first the various committees were appointed, and arrangements were made for an extra lecture by Mr. C. Leden on "Our Neighbours of the North." At the second the spring outings were arranged for, a delegate was appointed to attend the meetings of the Royal Society in May, and a committee of four was appointed to consider the advisability of publishing the Constitution. This, as you have seen, was done in the October number of THE OTTAWA NATURALIST. In September a meeting was held to arrange for some fall excursions. At this meeting twelve new members were elected. At the next meeting the programme of winter lectures, as proposed by the indefatigable chairman of the Lectures Committee, was received and ordered to be printed. And, at the last meeting the reports of several committees and branches were received, and a vast amount of routine work dealt with, including some valuable suggestions for the next Council, and the election of seven more members.

MEMBERSHIP.

In all 21 new members have been elected, 12 have resigned, leaving a total of 330 members now on the books. One of the corresponding members, the Rev. G. W. Taylor, has died, as reported in the September issue of THE OTTAWA NATURALIST.

PUBLICATIONS COMMITTEE.

As no matters of a sufficiently important nature to warrant the calling together of the Committee arose during the past year no special meetings were held. The chief work of the Committee, namely, the publication of THE OTTAWA NATURALIST, has proceeded very satisfactorily, thanks to the careful work of our Editor, Mr. Arthur Gibson, to whom we wish to express our indebtedness and appreciation of the regular manner in which our journal has appeared. It has contained a number of interesting and important papers which have not been confined to our local fauna and flora.

The Librarian, Mr. A. E. Currie, has arranged the back issues of THE OTTAWA NATURALIST so that we now know definitely what numbers are available.

The report of the Librarian is as follows:—

A short while ago the surplus copies of THE OTTAWA NATURALIST, issued since April, 1910, were transferred from the residence of Mr. Arthur Gibson to the Osgoode St. School, and placed along with the older numbers.

About a year and a half ago, while first arranging the back numbers of the NATURALIST in an accessible position, there were five parcels found, each bearing the legend, "Nos. required to complete this set, Sept., 1891; April, 1892; Jan., 1895; Feb., 1895, and March, 1896." Recently, while examining these parcels and loose numbers more closely, it was found that the five numbers were never issued. There are, therefore, five complete sets of THE OTTAWA NATURALIST still available and no doubt at least another two sets could be compiled from the loose numbers.

During the year the various publications received through exchange have been placed, with the library of the Club, on the north-west stack of the second floor of the Carnegie Library.

EXCURSIONS COMMITTEE.

As the experience of the preceding season seemed to indicate that a programme of fortnightly excursions did not give a sufficient number of excursions after the deduction of those inevitably cancelled through bad weather or other unforeseen circumstances, it was decided to revert to the practise, previously followed by the Club, of holding an excursion every week during the earlier part of the season. A programme of weekly excursions was accordingly arranged for. The first excursion was on April 27th to Beechwood, and the two succeeding ones on May 4th and May 11th to Blueberry Point and Britannia respectively. Notwithstanding the backward season these were well attended and in every way successful. Detailed reports of them will be found in THE OTTAWA NATURALIST.

An excursion was held on Saturday, June 1st, to Chelsea, at which several leaders and a large number of members took part. While waiting for the return train the leaders gave an instructive account of the botanical and geological specimens that were observed and studied. No account of this was published.

The excursion to Ironsides on June 8th was spoiled by a deluge of rain, which rendered it impossible to make observations. On June 22nd a few members held an enthusiastic and successful excursion to the Mer Bleue.

On October 5th an excursion was held to the Experimental Farm, but, owing perhaps to the lateness of the date, only a small number of members attended. And the following Saturday a small but very enthusiastic party did some explorations near MacKay's Lake. It would seem that if the attempt to revive fall excursions is to be successful they must be arranged for dates a little earlier in the season.

LECTURES COMMITTEE.

During the winter season five public lectures were held, all of which were well attended. All of the lectures were held in the Assembly Hall of the Normal School.

The following printed programme was carried out:—

- November 29, 1912—"School Gardens as a Factor in Education,"
Prof. H. L. Hutt, B.S.A., Professor of Horticulture and
Landscape Gardening, Ontario Agricultural College,
Guelph, Ont.
- December 10th, 1912—"Short Talks on Local Natural History,"
by members of the Club.*
- January 28th, 1913—"Modern Museum Work for the Scientist,
the Teacher and the Public," Mr. Harlan I. Smith,
Archæologist, Geological Survey, Ottawa.
- February 11th, 1913—"Heredity: Its Meaning and Application,"
C. Gordon Hewitt, D.Sc., Dominion Entomologist, Central
Experimental Farm, Ottawa.
- February 25th—"Some Conditions of Progress in the Plant
World," Prof. W. T. MacClement, D.Sc., Professor of
Botany, Queen's University, Kingston, Ont.
- March 18th, 1913—ANNUAL MEETING. President's Address.
L. H. Newman, B.S.A., Secretary, Canadian Seed Growers'
Association, Ottawa. (Carnegie Library).

In addition to these there was one lecture in the spring, shortly after the last annual meeting. It was delivered by Mr. Christian Leden, on the Esquimaux, and was illustrated by views, and also by phonographic reproductions of their weird music.

*At the meeting on December 10th, the following members took part: (1) J. W. Gibson, "On some Problems in Animal Ecology, with special reference to Insects"; (2) J. W. Eastham, "The Life History of a Slime Mould, and Notes on some Ottawa species"; (3) E. E. Lemieux, "Notes from Blueberry Point, and Observations on Fish and Game on the Petewawa"; (4) J. M. Swains, "Some Forest Insects in Clark's Bush"; (5) F. E. Buck, "The Rose".

BOTANICAL BRANCH.

There have been eight meetings of this branch held during the past year. Two meetings have been held at the residences of the following members: Messrs. W. T. Macoun, R. B. Whyte and G. H. Clark; and one at the residences of Messrs. A. E. Attwood and J. J. Carter. A synopsis of three of these have been published, one will appear next month, and one will be published in full. It is hoped that a report of the other meetings will be obtained and published.

The subjects presented at these meetings were: Problems in Horticulture of Interest to Botanists, by W. T. Macoun; A Summer in Britain, illustrated with lantern slides, by R. B. Whyte; Nature Study of Plants in Relation to their Identification, by Dr. M. Oscar Malte; The Ottawa Flora from an Ecological Point of View, by J. M. Macoun; A Trip to Bermuda in January, by R. B. Whyte; Common Fungi on Wood, by J. W. Eastham; Elevator Screenings as a Means of Plant Dispersal, by J. R. Dymond; The Shade Trees of Ottawa, by Dr. E. H. Blackader; The Effect of Temperature on Fruit and Trees, by W. T. Macoun; Hardiness from a Physiological Standpoint, by L. H. Newman.

The attendance has been good and the interest sustained at all these meetings.

ENTOMOLOGICAL BRANCH.

During the past year considerable field work was accomplished by members interested in this branch of the Club's activities. Large numbers of insects were collected throughout the Ottawa District and some of these have been found to be new to science. Certain groups were sought after particularly, and many of these have been determined, and definite records for the locality obtained.

The most important outbreak of an insect which has occurred for many years was that of the Forest Tent Caterpillar, *Malacosoma disstria*, which devastated miles of forest country in the Gatineau Valley, north of Ironsides. The foliage of certain trees, particularly poplar and birch, was entirely eaten by the caterpillars and for a certain period the trains leaving Ottawa for Kazabazua and Maniwaki were unable to make the grade between Ironsides and Chelsea, owing to the thousands of caterpillars which were present on the rails.

The Treasurer's report shows a balance on hand of \$9.79.

The thanks of the Club are due to Principal White for the use of the Normal School Hall, to the Library Board and the Librarian of the Carnegie Library for the use of the lecture and

committee rooms on several occasions, to the gentlemen who have so kindly and willingly assisted us in our course of winter lectures, and to the press of the city for the free insertion of notices of meetings and publication of the lectures and excursions of the Club.

All of which is respectfully submitted,

E. H. BLACKADER,
Secretary.

TREASURER'S STATEMENT FOR YEAR ENDING 18TH MARCH, 1913.

RECEIPTS.

Balance from year 1911-12.....	\$ 13.85	
Subscriptions:		
Arrears.....	\$ 34.00	
1912-13.....	178.45	
1913-14.....	26.00	
		238.45
Advertisements in OTTAWA NATURALIST		109.50
OTTAWA NATURALIST sold.....		.15
Author's Extras sold.....		16.20
Government Grant.....		200.00
		<u>\$578.15</u>

EXPENDITURE.

Printing OTTAWA NATURALIST, Vol. XXVI, nine numbers with covers	\$342.76	
Illustrations.....	18.22	
Author's Extras	46.30	
Miscellaneous Printing: circulars, mailing envelopes, etc.....	32.76	
		\$440.04
Postage on OTTAWA NATURALIST.....	33.14	
Editor.....	50.00	
		<u>523.18</u>
Lecture expenses.....		24.82
Sundry Expenses: postage, envelopes, etc.....		20.36
Balance.....		9.79
		<u>\$578.15</u>

W. T. MACOUN,
Treasurer.

Examined and found correct.
J. BALLANTYNE,
E. C. WIGHT,
Auditors.

MEETINGS OF THE BOTANICAL BRANCH.

Feb. 1st, at the residence of Mr. R. B. Whyte, members present: Messrs. F. E. Buck, L. H. Newman, F. Jones, W. T. Macoun, G. O. McMillan, W. Dreher, E. D. Eddy, A. E. Attwood, J. J. Carter, G. H. Clark, J. R. Dymond, C. J. Tully, Dr. Blackader and the host, Mr. Whyte, who gave a very interesting account of his impressions of Bermuda after a short visit there in January.

The Bermudas consist of five large islands, bridged together, viz.: Bermuda, St. George, St. Davids, Somerset and Ireland. The total length is 25 miles, and from half to three wide. The highest point is 260 feet above tidewater. To the north-west there is a long, low coral reef, and the entrance to the harbor is from the east. One of the pleasure trips is to take a glass-bottomed boat and go out towards the reef, and see the marine organisms at a depth of 5 to 50 feet below through the clear water. The temperature of the water is 71°.

Bermuda is entirely of coral formation, resting on a substratum of limestone. The temperature in January was 65-68°. The minimum for the year is 57° and the maximum 80°. The rain falls on an average 200 days in the year, with a total rain-fall of 65 or 70 inches. Nearly all the drinking water is collected from the roofs of the houses, and conducted and stored in cemented cisterns. Some few wells are sunk into the coral rock, but if sunk too deep the water is salty.

The total area is 12,378 acres, of which 2,300 is in cultivation; of this 1,000 is good, 1,000 fair, and 300 poor. Agriculture is very primitive. The farms are all small, and cultivation is done mostly by hand and with the spade, quickly followed by the rake. The soil is red and very friable, and has to be fertilized after every second or third crop. The chief crops are onions, potatoes, lily bulbs and flowers, parsley, carrots, beets, radishes, arrowroot, beans, tomatoes and peas.

Animal life is scarce, excepting introduced and more or less domesticated species. The native birds are the Ground Dove (*Chaemepelia passerina bermudiana*), Redbird (*Cardinalis cardinalis cardinalis*), Bluebird (*Sialia sialis sialis*), Catbird (*Dumetella caroliniensis*) and Bermuda Vireo, or Chick-of-the-village (*Vireo griseus bermudianus*). The crow, partridge and English sparrow are also common. The white-eyed vireo is also seen.

The indigenous plants are the cedar (*Juniperus Bermudiensis*), palmetto (*Sabal umbraculifera*), mulberry (*Morus rubra*), seashore grape (*Cocoloba uvifera*), mangrove (*Rhizophora mangle*), argemone (*A. mexicana*), creeping sorrel (*Oxalis virginica*), bay

bean (*Dolichos roseus*), butterwood (*Conocarpus procumbens*), Burrbush (*Triumfetta althaeoides*), passion flower (*Passiflora minima* and *P. coerulea*), fennel (*Foeniculum vulgare*), prickly pear (*Opuntia vulgaris*), vervain (*Stachytarpheta jamaicensis*), sage bush (*Lantana crocea* and *L. odorata*), bindweed (*Polygonum convolvulus*), spurge (*Euphorbia buxifolia*), pigeon-berry (*Duranta plumieri*), Spanish bayonet (*Yucca aloifolia*), aloe (*Aloe soccotrina*).

There are 27 ferns, including a very pretty Maiden-hair.

A list of plants which had escaped from gardens, noticed during the visit was presented as well as one of introduced weeds. Numerous specimens and views were shown by the speaker as well as some fruit, but unfortunately this latter had not kept well. Several questions were asked by members present, and altogether it was a most interesting meeting.

E. H. B.

Feb. 15th, at the home of Mr. Geo. H. Clark, the following members being present: Messrs. G. H. Clark, R. B. Whyte, H. T. Gussow, J. W. Eastham, J. R. Dymond, H. A. Honeyman, A. Eastham, E. D. Eddy, J. J. Carter, D. Freeman and J. W. Gibson. Two topics were presented, (1) "Elevator Screenings as a Means of Plant Dispersal," by Mr. J. R. Dymond, of the Seed Branch of the Department of Agriculture. (2) "Common Fungi in Wood," by Mr. J. W. Eastham, Chief Assistant Botanist of the Experimental Farm. Both topics were treated by the respective leaders in a thoroughly capable manner and were discussed by the members present.

Mr. Dymond, who has made a thorough investigation of the uses as well as the dangers connected with elevator screenings, having spent some time at the large elevators at Fort William, first dealt with the great menace to agriculture arising out of the rapid spread of noxious weeds in Canada. He gave some figures that cannot but challenge the attention of everybody interested in our leading industry—agriculture. He stated that no less than 10,000 tons of weed seeds were screened from western grain handled at the elevators at Fort William annually, and estimated that the cost of harvesting, threshing, freighting and screening weed seeds was in the neighbourhood of half a million dollars per year. These seeds, however, were not entirely worthless, and sometimes represented quite a considerable revenue to the elevator companies, who shipped them in car load lots to Chicago and other American cities, where they were used as fodder. From \$10 to \$12 a ton is paid for such elevator screenings at Fort William, so that the con-

sumer has to pay from \$15 to \$18 a ton for them. Such screenings frequently contain seeds injurious to the health of animals, but it has been found that sheep are able to eat them without any apparent injury, and indeed thousands of sheep are fattened on such screenings every year. The feeding value of such screenings depends largely upon the character of the fodder grains found in them. For example a composite sample of wheat screenings was found to give the following analysis:— 20 per cent. wheat and barley; 12 per cent. oats and wild oats; 30 per cent. buckwheat screenings; 12 per cent. lamb's quarters; 3 per cent. tumbling mustard; 2 per cent. other mustards; 2 per cent. other weed seeds; 19 per cent. chaff, etc.

It was explained how, that on account of this gigantic waste the present system of grain inspection has been evolved. All grain, practically, coming to Fort William, is docked. The average dockage in wheat is $2\frac{1}{2}$ per cent., and on flax is 5 per cent. to 7 per cent. As a rule the elevator companies get whatever revenue comes from the sale of all screenings. The total dockage for 1911-12 was as follows:— wheat, 23,000 tons; flax, 14,000 tons; oats, 1,500 tons; barley, 750 tons.

In conclusion Mr. Dymond pointed out the importance of doing two things: (1) To provide some means whereby grain screenings could be devitalized on a commercial basis, and (2) to take out such seeds as are injurious to stock, and to dispose of the saleable part to Canadian stock men rather than to Americans.

In discussing fungi, Mr. Eastham first reviewed some general characteristics of the class, such as absence of chlorophyll, parasitism and saprophytism. He referred to the injurious nature of parasitic fungi in causing many diseases in plants and to the equally beneficial nature of saprophytic fungi in reducing fallen leaves, trees and other organic debris to simpler materials which at once become the food of growing plants again. He stated that there was no hard and fast line separating saprophytic from parasitic fungi, as for example, when a certain species of parasitic fungus had worked the destruction of a living tree it might still continue to exist upon the wood of the dead tree (saprophytic). He pointed out that the part that one sees above the substratum on which it grows is but the fruiting body, whereas the part which actually destroys the wood, viz., the mycelium, is buried out of sight and is found penetrating the fibres of the wood sometimes for several feet from the point where the external fruiting body is located. He traced the evolution in the structure of the fruiting body from the simplest of freely exposed plate-like discs to the more complex gill-bearing and tube-forming species. In this connection it was also noted

that each species had its own peculiar adaptation for the successful distribution of its spores. In one case, viz., that of the common polypore which grows on the sides of trees, it was admirably shown by an excellent specimen that the vertical position of the spore-bearing tubes is essential to distribution of spores and that when the position of the fruiting body had been altered by the falling of the tree that a re-adjustment of the plane of the fruiting body through 90° had taken place the succeeding season. Another specimen exhibited showed the effects of the mycelium in changing the colour of the wood fibres from the normal shade to a brilliant green.

During the discussion which followed Mr. Eastham's address Mr. Gussow referred to several peculiar uses of the tissue produced by the fruiting bodies of certain fungi that grow on wood. He cited an instance which had come under his own observation where the silk-like fibres from the under or spore-bearing surface of a polypore had been used in the making of a remarkably good cap. He also referred to the peculiar way in which rude fire-arms were discharged at the time of the Thirty Years' War in Europe. Some of the dry and spongy fibres collected from the fruiting bodies of certain wood fungi were used somewhat after the manner of a fuse. This was ignited by sparks from a steel and flint and "eventually" the gun went off.

J. W. G.

NOTES ON THE OCCURRENCE OF INTERESTING FORMS OF CYPERACEÆ IN QUEBEC.

BY BRO. VICTORIN, LONGUEUIL COLLEGE, LONGUEUIL, QUE.

Very little is known of the distribution of our local Cyperacæ. Being of slight or no economic value, these plants are of no interest to the average man, and even botanists themselves frequently overlook them.

Apart from any utilitarian consideration, the sedges play an important part in nature. It is by means of this type of organism that plant life takes hold of marshes, shoals, river-banks and damp places generally. If the finality of the multitude of individuals appears obvious, that of the immense number of species is yet an unsolved problem. It is to be remembered that the study of the *Carex* species alone, numbering about 1,000, constitutes a whole science by itself, and demands the labour of numerous specialists.

The object of these notes is to make known several species, or varieties, of this family, collected by the writer, in Quebec, which are, he believes, mostly new for that province, if not for Canada.

1.—*Cyperus Schweinitzii* Torr.: Collected at Oka, P.Q., on the alluvial barrens bordering the Lake of Two-Mountains. It was hitherto known in Canada only from the Great Lakes region, southern Ontario and the Northwest. The limits of this *Cyperus* are, therefore, considerably extended; it will probably prove to be fairly abundant in the Lower Ottawa Valley, when properly separated from common *C. esculentus* L. In the field, *C. Schweinitzii* can be readily distinguished from *C. esculentus* L. by its much more slender culm.

2.—*Scirpus Torreyi* Olney: Collected at St.-Eustache, P.Q., in the Ottawa River, near the outlet of the Lake of Two-Mountains. This large Bulrush belongs to the group of common *Scirpus Americanus* Pers. Up to the present time, the northern limit of *Scirpus Torreyi* was not supposed to intersect the boundary line between Canada and United States. The present discovery would lead us to conclude that it occurs throughout the waterways of western Quebec. *Scirpus Torreyi* fruits later than any other tall Bulrush in the east. In early August, the St-Eustache specimens were yet poorly developed though sufficiently mature to permit certain identification.

3.—*Scirpus pedicellatus* Fernald: St-Bruno, P.Q. In clearings, on peat, August, 1912. Recently separated by Prof. Fernald, of the Gray Herbarium..

4.—*Scirpus atrocinctus* Fernald: Alluvial banks, Lake Nominigüe, P.Q., August, 1912. Also recently separated. Will prove abundant in Quebec. Many herbarium specimens labelled *S. cyperinus* are likely this species.

5.—*Scirpus atrocinctus* Fernald, var. *brachypodus* Fernald. Châteauguay, P.Q., July, 1912. Spikelets in dense, irregular clusters, the boreal form of the species.

6.—*Scirpus cyperinus* (L.) Kunth, var. *pelius* Fernald. Alluvial banks, Lake Nominigüe, P.Q., August, 1912. Growing intermingled with *S. atrocinctus*. The very long involucre bracts characterize the species as does the deep colour of the involucre for the variety. The plant begins to fruit when *S. atrocinctus* is already mature.

7.—*Scirpus subterminalis* Torr.: Aquatic, nearly submerged species. First collected in 1908, in Megantic Co. (Nat. Can. XXXVI, No. 5; mai, 1909). Found again in a small lake near St-Jerome, Terrebonne Co. This interesting species must range throughout Quebec.

That further investigation will add much to our knowledge of the Cyperaceæ in Quebec, is beyond doubt. More material, however, and a close study of collections already made, are necessary before a complete treatment of the subject can be undertaken.

BOOK NOTICE.

CANADIAN ALPINE JOURNAL; Special Number; pp. 96, with map and many plates. This special number of the Canadian Alpine Journal is made up of reports on the mammals, birds and plants collected and noted by the naturalists who accompanied the Alpine Club expedition to Jasper Park, Mount Robson, and the Yellowhead Pass, in July and August, 1911, and forms a supplement to the detailed, fully illustrated report of the Topographical Section of the Alpine Club published in Vol. IV of the Canadian Alpine Club Journal. Copies of both the Journal and the special number here reviewed may be had from the Secretary-Treasurer of the Alpine Club, Sidney, B.C., the price of the latter being \$1.00.

About half of the special number is made up of Mr. N. Hollister's report on the "Mammals of the Alpine Club Expedition to the Mount Robson region," which is prefaced by a short itinerary and the delimitation of the life-zones represented in the region covered by the expedition. Six new mammals are described, two bats (*Myotis pernox* and *Myotis altifrons*), a marmot (*Marmota sibirica*), a chipmunk (*Eutamias ludibundus*), a spermophile (*Callospermophilus lateralis tescorum*) and a caribou (*Rangifer fortidens*). Very full descriptive and other notes make this list of mammals the most valuable one that has been published on the Canadian Rocky Mountain region. It is followed by a short list of the Reptiles and Batrachians.

In his paper on the birds collected or observed on the expedition, Mr. J. H. Riley enumerates seventy-eight species, and while no new forms are described not the least valuable part of Mr. Riley's contribution is his notes on the habits of some of the more important birds, and the plumage and other variations noted. Altogether his list will be of great value to visitors to Jasper Park and will serve as a basis for future work in that region. As no species are enumerated which were not collected or noted by the Alpine Club party the list is not complete, but is all the more valuable on that account, as no doubtful species are included.

Messrs. Hollister and Riley made in connection with their work a small collection of plants, 147 in all. These plants have been determined, and four species described, by Mr. Paul C. Standley. It is unfortunate that Mr. Standley should have prefaced his paper by saying that: "It was to be expected that plants from this particular area, where previously no botanical collections had been made, would contain many things of interest." As a matter of fact many of Drummond's types were collected in or near this very area, and, in 1898, Mr. William Spreadborough, of the Geological Survey staff, spent the whole

collecting season in the Jasper Park region. No complete list of Mr. Spreadborough's plants was published, but many new species were described in *Pittonia*,* by Dr. Greene, and notes on interesting species by the writer in THE OTTAWA NATURALIST.† Drummond's plants are all labelled "Rocky Mts. between Lat. 52° and Lat. 56°," but it is known that he went west from Edmonton to the Rocky Mountains and worked north. All four of the species described by Mr. Standley (*Carex atosquama*, *Vagnera pumila*, *Gaillardia bracteosa* and *Artemisia levigata*) were collected by Spreadborough and are in the herbarium of the Geological Survey. None of them were thought worthy of specific rank or even of separation from well known species, although *Carex atosquama*, now described by MacKenzie, may stand as a segregate from the *C. atrata* group. Of *Vagnera pumila* it may be said that none of the characters given by Mr. Standley as separating it from *V. trifolia* are peculiar to the Jasper Park plant, many of our northern Canadian specimens exhibiting all of them; the best that can be said of this proposed species is that if separable from *V. trifolia* of the United States it extends from Newfoundland to the Northern Rockies; among Spreadborough's specimens we find the long-exserted raceme and those barely longer than the leaves among plants of the one collecting. An attempt was made by Prof. John Macoun in 1884‡ to separate the forms of *G. aristata*, but they so intergraded that it was found to be impossible. An examination of some thirty sheets from western Canada shows a wide range of variations and Spreadborough's specimens from Maligne River and from near Henry House give *between them* all the characters used by Mr. Standley to separate *G. bracteosa* from *G. aristata*. Without comparison with a large series of Canadian specimens *G. bractea* might stand as a species, but after comparison it must be considered to be only one of the many intergrading forms of *G. aristata*. *Artemisia levigata* may be all right, but it also belongs to a very variable group from which many segregates have been described. It was first collected by Drummond in the Rocky Mountains in Lat. 52°. Drummond's plant was referred to *A. Norvegica* by Hooker and to *A. arctica* by Torrey and Gray. Spreadborough collected it in the Yellowhead Pass. The list of plants, notwithstanding the above criticisms, is a most useful one and the only one available for the Jasper Park region.

This special number of the Alpine Club Journal brings together just the kind of information that will be wanted by visitors to Jasper Park and should be in the hands of everyone who goes there.

J. M. M.

**Pittonia* Vols. IV and V.

†*Ottawa Naturalist*, Vol. XII, p. 161 et seq.; Vol. XIII, p. 166 et seq.; Vol. XV, p. 269 et seq.; Vol. XVI, p. 217 et seq.

‡*Cat. Can. Plants*, Vol. I, p. 250.

PRELIMINARY LIST OF OTTAWA SPHÆRIIDÆ.

In the NATURALIST for March, 1890, the late Revd. Geo. W. Taylor and the writer published a catalogue of the recent Mollusca of Ottawa, as recorded in the publications of the Club up to that time. The list included five *Sphæria*—*sulcatum*, *striatinum*, *stamineum*, *rhomboideum* and *occidentale*; four *Musculia*—*partumeium*, *securis*, *rosaceum* and *truncatum*; and five *Pisidia*—*virginicum* (as *adamsi*), *compressum*, *abditum*, *ventricosum*, and *rotundatum*. Three of the *Pisidia* are listed with a (?), indicating doubtful identification.

In many of the years that have since elapsed, but little work was done. Not much leisure until recently fell to the lot of any of the remaining few who were disposed to interest themselves in things so uncommercial as our inland shells. During the past three summers, however, opportunities afforded for the first time were taken advantage of. The hunting grounds of other days and manners were revisited, and new ones sought farther afield. A very large quantity of material was collected—some species in thousands—and submitted to Dr. V. Sterki of the Carnegie Museum, who is recognized the world over as the supreme authority in the *Sphæriidæ*. The list which follows has in every case the sanction of his identification. I am under the deepest obligation to him. I also desire to acknowledge my indebtedness to Mr. C. W. Johnson, of the Boston Museum of Natural History, for his kindness in comparing specimens from Ottawa with Prime's types, or with shells bearing Prime's labels. Dr. Sterki has in addition generously presented me with co-types of many of the species which he has described.

While the list which follows is intended to be merely preliminary, it is believed to be correct as far as it goes. No species has been included from localities not in the Ottawa Valley, and with few exceptions the shells have been found within or near the limits of the Capital City.

SPHÆRIUM.

1. *S. sulcatum*, Lamck.
2. *S. striatinum*, Lamck.
3. *S. stamineum*, Con.
4. *S. rhomboideum*, Say.
5. *S. occidentale*, Prime.
6. *S. aureum*, Prime.
7. *S. crassum*, Sterki.
8. *S. emarginatum*, Prime.
9. *S. flavum*, Prime.
10. *S. torsum*, Sterki.

MUSCULIUM.

11. *M. partuncium*, Say.
12. *M. securis*, Prime.
13. *M. rosaceum*, Prime.
14. *M. truncatum*, Linsley.
15. *M. transversum*, Say.
16. *M. parvum*, Sterki.
17. *M. ryckholti*, Norm.
18. *M. winkleyi*, Sterki.
19. *M. declive*, Sterki.

PISIDIUM.

20. *P. virginicum*, Gm.
21. *P. compressum*, Prime.
22. *P. abditum*, Held.
23. *P. ventricosum*, Prime.
24. *P. rotundatum*, Prime.
25. *P. acquilaterale*, Prime.
26. *P. affine*, Sterki.
27. *P. glabellum*, Sterki.
28. *P. milium*, Held.
29. *P. minus*, Adams.
30. *P. novborascense*, Sterki.
31. *P. ohioense*, Sterki.
32. *P. pauperculum*, Sterki.
33. *P. politum*, Sterki.
34. *P. rotundatum*, Prime.
35. *P. sargenti*, Sterki.
36. *P. splendidulum*, Sterki.
37. *P. streatori*, Sterki.
38. *P. strengi*, Sterki.
39. *P. subrotundum*, Sterki.
40. *P. succineum*, Sterki.
41. *P. variabile*, Prime.
42. *P. walkeri*, Sterki.

There is a quantity of material still under consideration and much more will, it is hoped, be secured during next summer. Several additions will, I think, be made to the list of Sphæria and Musculia, and many to the already lengthy catalogue of our Pisidia. These minute shells occur everywhere throughout the district in such great numbers and variety that their determination is a matter of extreme difficulty. When Dr. Sterki has further studied the specimens now before him and the collections of 1913, a fairly complete list might be published, with the localities in which they are found, and figures of the larger or more beautiful species.

L.

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