

FEBRUARY 1916

VOL. XXIX, No. 11

# THE OTTAWA NATURALIST

---

Published by The Ottawa Field-Naturalists' Club

---

**Editor:**

ARTHUR GIBSON,

ENTOMOLOGICAL BRANCH, DEPARTMENT OF AGRICULTURE,  
OTTAWA.

**Associate Editors:**

HARLAN I. SMITH,  
*Anthropology.*

M. O. MALTE, PH. D.  
*Botany.*

PROF. JOHN MACOUN, M.A.  
*Conchology.*

W. H. HARRINGTON,  
*Entomology.*

H. M. AMI, D.Sc.  
*Geology.*

OTTO KLOTZ, LL.D.  
*Meteorology.*

P. A. TAVERNER,  
*Ornithology.*

L. M. LAMBE, F.G.S.,  
*Palæontology.*

C. GORDON HEWITT, D.Sc.  
*Zoology.*

---

**CONTENTS:**

The Genera of the Odontopleuridae. By Percy E. Raymond	-	135
Prenanthes mainensis. Notes on the Morphology, Taxonomy and Distribution of this Hybrid Form. By Bro. M. Victorin	-	140
Birds of Algonquin Park. By W. E. Saunders	- - -	145

---

THE ROLLA L. CRAIN CO., LIMITED

ISSUED MAR. 6, 1916

Entered at Ottawa Post Office as second class matter.

WE DEAL WITH OUR ADVERTISERS

**GEO. E. PRESTON & SONS,**

**MERCHANT TAILORS**  
217-219 RIDEAU ST., OTTAWA

WE MAKE EVERYTHING WE SELL AND GUARANTEE EVERYTHING WE MAKE.

THE BUSY STORE  
ON THE BUSY CORNER

**A. H. JARVIS,** THE BOOK STORE

Respectfully solicits your inspection  
of his stock. No pressure to buy to  
Book Lovers.

157 Bank St.--near Laurier Ave.

P.S.—Books ordered promptly and carefully.

**ALLEN & COCHRANE**

THE RED CROSS DRUGGISTS  
FIVE STORES

All as near as your nearest phone or  
post office

**THE R. J. DEVLIN CO., LTD.**

LEADING HATTERS

**SMART=WOODS,**

LIMITED

SLEEPING  
BAGS

OTTAWA AND WINNIPEG,

SILK TENTS

Factory - HULL.

Wholesale Manufacturers  
Lumbermen's and Contractors' Supplies,  
Outfitting Survey Parties,  
Exploration and Outing Parties of any kind

**A Specialty**

BLANKETS

CLOTHING

For Quotations Phone Queen 722

**PIANOS** 9 MAKES  
ALL PRICES

**C. W. LINDSAY, Limited**

189 SPARKS ST., OTTAWA

**THE BANK OF OTTAWA**

ESTABLISHED 1874

Capital paid up and Res - - - \$8,750,000  
Total Assets over - - - - - \$2,000,000

The time to build up a reserve, a safe-  
guard for the future, is now, when you  
are strong and able to work and sacrifice.

Many a man has lost good business  
opportunities by not being prepared,  
financially, to grasp them.

**DR. MARK G. McELHINNEY**

BOOTH BLDG., OTTAWA

PHONE QUEEN 2531

Dentist to certain of the cognoscenti.

THIS SPACE FOR SALE

CLEAN AND  
ALWAYS RELIABLE

**A. E. KELLY**  
GROCER

Cor. Florence and Lyon  
Sts. Phone Queen 7090

THE 2 MACS, LIMITED

# THE TOPLEY COMPANY

PHOTOGRAPHIC MATERIAL  
SCIENTIFIC APPARATUS

132 SPARKS ST., OTTAWA

THIS SPACE FOR SALE

Apply to

THE EDITOR, OTTAWA NATURALIST  
(Entomological Branch, Dept. Agr., Ottawa)

## The Rolla L. Crain Co., Limited

Printers, Bookbinders and Loose Leaf Manufacturers

145 Spruce St., Ottawa

## THE MORTIMER CO. LIMITED

OTTAWA - MONTREAL - TORONTO

Designers, Illustrators, Photo Engravers, Printers, Lithographers  
Bookbinders, Makers of Fine Catalogues, Manufacturers  
and Devisers of Loose Leaf Systems

Business  
Man's  
Lunch  
Full Course  
Special 50c.

## MURPHY-GAMBLE LIMITED

Phone Queen 6-2-0-1

Smoking  
Room  
Annexed  
To Tea  
Room

Pure Spring  
Water used  
in  
Tea Room  
Kitchen

Modern Tea Room Distinguished

for the Variety and Quality of  
its Menues and its Dainty Service

Murphy-Gamble Limited

Pure Spring  
Water  
served on  
Tea Room  
Tables.

# THE OTTAWA PAPER BOX CO.

132 QUEEN STREET

OTTAWA

---

Manufacturers of Riker Specimen Mounts,  
Natural History Specimen Trays, Glass Topped Boxes,  
Millboard Mailing Boxes, Tubes, etc.

## C. A. OLMSTED & SON

Jewellers : Opticians : Watchmakers and Engravers

---

Dealers in Fine Diamonds, Sterling Silver,  
Electro Plated Ware and Rich Cut Glass.

---

"THE STORE OF MODERATE PRICES"

208 SPARKS ST., OTTAWA

Phone Queen 1430

## E. R. WATTS & SON, CANADA LIMITED

Microscopes, Magnifiers and other Naturalists' Supplies

Repairs to all instruments promptly executed at either address

45 Bank St., Ottawa

65 Albert St., Winnipeg

## L. C. SMITH & BROS. TYPEWRITER

BUILT LIKE A WATCH

MOST POPULAR TYPEWRITER TO-DAY

OTTAWA TYPEWRITER CO. Limited

Copies of back numbers of the Ottawa Naturalist  
(15 cents each) may be had on application to the  
Librarian, Ottawa Field-Naturalists' Club, Seed Branch,  
Department of Agriculture, Ottawa.



# THE OTTAWA NATURALIST

VOL. XXIX.

FEBRUARY, 1916.

No. 11

## THE GENERA OF THE ODONTOPLEURIDAE.

BY PERCY E. RAYMOND.

*Odontopleura* (*Acidaspis* auct.) is essentially a Bohemian genus, as may be seen if one contrasts the 40 species listed by Barrande with the 2 species of Esthonia, the 12 or 15 species of Scandinavia, and the same number in Great Britain.

Practically the only attempt at a subdivision of the Odontopleuridae is that of Dr. John M. Clarke.\* He recognized six subgenera of the genus *Ceratocephala*, viz., *Ceratocephala* s. s., *Acidaspis*, *Odontopleura*, *Dicranurus*, *Selenopeltis* and *Ancyropyge*. I adopted this classification in the second edition of the Eastman-Zittel text book (1913), raising the subgenera to generic rank, and grouping them under Burmeister's family name Odontopleuridae. Recently I have had occasion to study the very large collection of trilobites of this family in the Museum of Comparative Zoology, and while I have been able to continue the use of the names listed above, I find that the definitions and limits of the genera *Odontopleura*, *Ceratocephala* and *Acidaspis* must be very considerably modified.

Dr. Clarke's definitions of the three genera were as follows: *Odontopleura*, occipital ring smooth or with a central tubercle; *Acidaspis*, occipital ring with a single straight median spine; *Ceratocephala*, occipital ring with two straight divergent spines. This scheme was, of course, simplicity itself, and, so long as applied to the American species alone, seemed to work very well. If, however, one turns to plate 38 of Barrande's "Système Silurien du Centre de la Bohême," and looks at the three figures (22, 25 and 30) at the bottom of the plate, he sees at once that this classification is not a natural one. The figures represent *Acidaspis dormitzeri* Hawle and Corda, *A. dujrenoyi* Barrande, both from the Silurian, and *A. hoernesii* Barrande, from the Lower Devonian of Bohemia. In glabella, free cheeks, thorax and pygidium, these species are exceedingly alike, yet the first has a neck tubercle, so would be called *Odontopleura*, the second

\*Notes on the Genus *Acidaspis*. 10th Rept. N.Y. State Geologist, 1891, p. 61.

has two long neck spines, and would be a *Ceratocephala*, while the third has a single long neck spine, and would have to be called *Acidaspis*. Except for these spines, the species show no important differences, and it is evident that in any natural classification they would be congeneric. Compared with the type-species of *Ceratocephala* and *Acidaspis*, *Acidaspis dufrenoyi* and *A. hoernesii* show marked differences in all parts except in the spines on the occipital ring.

*Ceratocephala*, Warder, Am. Jour. Sci. 34, 1838, p. 377. Type, *C. goniata*, ibidem, p. 378, fig. The typical species was badly described and figured by Warder, but all parts are now known. Among the striking features of this trilobite one may note the coalescence of the free and fixed cheeks, accompanied by the obliteration of the facial suture, the almost complete obliteration of the dorsal furrows on the cephalon, and the position of the eyes, far from the glabella, and half way to the front of the cephalon. On the thorax the horizontal furrow on the pleural lobe of each segment is weak, and the two low ridges separated by this furrow are equal. The pygidium has long subequal barbed spines.

*Acidaspis*, Murchison. Silurian System, 1839, p. 658. Type, *A. brighti* Murchison, ibidem, pl. 14, fig. 15. The glabella of the typical species is roughly triangular in outline, tapering rapidly forward. The eyes are situated far back and close to the glabella, and the whole neck ring is prolonged backward into a long heavy spine. No more than the cephalon of the typical species is definitely known. In the American *A. anchoralis* and *A. onealli*, which have the same sort of a cephalon, the thoracic segments are narrow, and the linear horizontal furrow separates a high narrow posterior ridge from a low narrow anterior one on the pleural portion of each segment. In these same species, the pygidium has two long lateral spines, between which are short spines, and outside of which are small spines. A similar pygidium has been referred to *A. brighti*.

*Odontopleura*, Emmerich. De Trilobitis, 1839, p. 53. Type, *O. ovata* Emmerich, ibidem, pl. fig. 3. The type, an entire specimen, is characterized by its broad form, an oval glabella which does not taper much toward the front, and the central position of the elevated ridge on the pleural lobe of each thoracic segment. The pygidium is not unlike that ascribed to *Acidaspis*, except that the spines are more nearly equal in size.

As one looks over the various *Odontopleuridae* which have been described, it is seen that there are a few which agree with the type of *Ceratocephala* in having the fixed and free cheeks in symphysis, eyes well forward, and pleura of thoracic seg-

ments without a pronounced ridge; there are also a few which agree with the type of *Acidaspis* in having a triangular glabella and a broad stout nuchal spine; a few others which have the characteristics of *Dicranurus*, *Selenopeltis*, or *Ancyropyge*, but the great majority have an oval glabella and a prominent median ridge on the pleural portion of each thoracic segment, as in *Odontopleura*. Hence, the name given to the family by Burmeister is not only the oldest, but is particularly appropriate.

It is quite possible that the species which I have grouped under *Odontopleura* can and will be arranged in other subgenera or genera. The type is a very broad form, and a row of tubercles on each of the thoracic segments is a prominent feature of the ornamentation. With it could be associated *O. prevosti* Barrande, and *O. hughsi* (Salter). Another group, with a narrower form, fewer tubercles on the thorax, and fewer and longer spines on the pygidium, is exemplified by *O. dujrenoyi*, *O. hoernesii*, *O. roemeri*, and other Bohemian species. A third group, with thick, subequal pygidial spines, would include *O. pectinifera* Barrande, and *O. cornuta* (Salter). Then there is the exceedingly spinose *O. mira* Barrande, with very numerous and small pygidial spines, barbed lateral thoracic spines, and very tall eyes. For the present, however, it seems useless to break up the genus into such small groups.

To replace my definitions in the Zittel-Eastman text book, I would suggest the outline of the family which follows:—

#### FAMILY ODONTOPLEURIDAE BURMEISTER.

Opisthoparia with large free cheeks and eyes (usually), far back and close to the glabella. Lateral lobes of the glabella reduced to two or one. Thorax of 8 to 11 segments. All parts of the test usually very spinose, the spines usually of the horizontal type.

*Odontopleura*, Emmrich. Glabella oval in outline. The pleural lobe of each segment of the thorax has a narrow, strongly elevated median ridge. Ordovician to Devonian. Cosmopolitan.

*Acidaspis*, Murchison. Glabella roughly triangular in outline, tapering towards the front. The pleural lobe of each segment is divided by a linear furrow into a low anterior and an elevated posterior ridge. Ordovician and Silurian. Europe and North America.

*Ceratocephala*, Warder. Free and fixed cheeks ankylosed, eyes far forward and far from the glabella. The pleural lobe of each thoracic segment is divided by a shallow median fur-

row into equally elevated portions. Silurian, Europe and North America.

*Dicranurus*, Conrad. Dorsal furrows weak on cephalon, but the free and fixed cheeks not anchylosed. Occipital ring with two very long spirally curved spines. Pygidium with only a single pair of spines. Lower Devonian, Europe and North America.

*Ancyropyge*, Clarke. Margin of pygidium with 12 very long slender curved spines. Devonian, North America.

*Selenopeltis*, Hawle and Corda. Eyes half way to the front of the cephalon. The pleural lobe of each thoracic segment is crossed diagonally by a ridge which is extended into a very long spine. Pygidium with only a single pair of spines. Ordovician, Bohemia.

*Glaphurus*, Raymond. Probably does not belong to the Odontopleuridae.

#### NOTE ON DICRANURUS.

The *Dicranurus monstrosus* (Barrande) of Bohemia is exceedingly like our *D. hamatus* Conrad, of New York. The collection in the Museum of Comparative Zoology contains many fine specimens of the Bohemian form, including the originals of figures 1-3, plate 15, of the supplement to volume 1 of the "Silurian System." The original of figure 3 is an indeterminate fragment, but certainly has nothing to do with the pygidium of this species. The pygidium was unknown to Barrande, but our collection contains an example from Lochkow, where the species seems to be rather common. It is of the same type as that described by Barrande as *Acidaspis spoliata* (Suppl. 1872, p. 82, pl. 14, fig. 46). The type of this latter species is from Mnienian, Bohemia, and it also is in the Museum of Comparative Zoology. The pygidium is short, triangular, and there are two strong spines which arise from the upper surface of the test, and not from the margin. The spines arise in the same way in *Selenopeltis*, the spines in that genus being of considerable length, but seldom preserved, even on excellent specimens. It is interesting that the oldest genus (*Selenopeltis*), and the youngest (*Dicranurus*), of the Odontopleuridae, should both have a pygidium with an aspinose margin, while the other members of the family all have numerous spines on the pygidium.

#### AMERICAN SPECIES.

In the following list I have attempted to arrange the American species in accordance with the above definitions. It is not

necessary to give references to the place of publication of the Ordovician and Silurian species, since they may readily be found in Bassler's recent and exceedingly valuable "Index of American Ordovician and Silurian Fossils."\* In cases where I have had to change the name, I have added in brackets the name under which it is to be found in Bassler's catalogue: —

- Ancyropyge romingeri* (Hall), Pal., N.Y., vol. 7.  
*Acidaspis anchoralis* Miller (*Ceratocephala*).  
*A. ceralepta* (Anthony) (*Ceratocephala*).  
*A. cincinnatiensis* Meek (*Ceratocephala*).  
*A. crosota* (Locke) (*Odontopleura*).  
*A. obsoleta* Van Ingen.  
*A. onealli* Miller (*Odontopleura*).  
*A. parvula* Walcott (*Odontopleura*).  
*A. quinquispinosa* Lake.  
*A. trentonensis* Hall (*Odontopleura*).  
*A. vanhorni* Weller.  
*Ceratocephala depauperata* Van Ingen.  
*C. goniata* Warder.  
*Dicranurus hamatus* Conrad. Pal., N.Y., vol. 3.  
*Odontopleura arkansana* Van Ingen.  
*O. callicera* (Hall).  
*O. coalescens* (Van Ingen) (*Ceratocephala*).  
*O. halli* (Shumard).  
*O. horani* (Billings) (*Ceratocephala*).  
*O. illinoisensis* Weller.  
*O. narrawayi* Raymond (*Ceratocephala*).  
*O. nodulata* (Van Ingen) (*Ceratocephala*).  
*O. ortonii* (Foerste).  
*O. perarmata* (Whiteaves) (*Acidaspis*).  
*O. robina* (Clarke). Mem. N. Y. State Mus. Memoir 9.  
*O? brevispinosa* (Foerste)† (*Acidaspis*).  
*O? fimbriata* (Hall)† (*Ceratocephala*).

Museum of Comparative Zoology,  
 Cambridge, Mass.

\*Bull. U.S. National Museum, 92, 1915.

†Not adequately described.



## PRENANTHES MAINENSIS:

NOTES ON THE MORPHOLOGY, TAXONOMY AND DISTRIBUTION  
OF THIS HYBRID FORM.

By BRO. M. VICTORIN, Longueuil College, Longueuil, Que.

Up to the present time very little attention has been devoted in this country to the study of natural hybrids. The subject, however, is of the utmost importance, not only to students of Mendelism, but also to the average systematist. "In fact," says De Vries, "the majority of authors agree that systematic and sexual affinity are essentially parallel, as they are really no more than two manifestations of one and the same thing; but we have not yet succeeded in explaining the apparent exceptions to this parallel." (\*) If some light is ever to be thrown on the subject, it will doubtless be through observations on natural hybrids, in widely separated groups of the plant kingdom.

We have in a previous paper (†) studied quite extensively a cross of two distant species of *Lysimachia*: *L. terrestris* (L.) B.S.P. x *L. thyrsoflora* L., and hinted that the recently proposed genus *Naumburgia*, created to account for *L. thyrsoflora*, was not founded in nature, since the plant hybridizes freely with other *Lysimachia* species. The writer knows such hybrid to occur constantly in Chateauguy, Que., and Professor M. L. Fernald, of the Gray Herbarium, states that he has collected it in Maine, and also in Prince Edward Island.

The present paper will deal with another interesting hybrid in the genus *Prenanthes* (Compositæ), which is of rare occurrence and has never received close study.

In a detailed botanical survey conducted during the summers of 1913 and 1914 along the coastal portion of the county of Temiscouata, Que., our attention was called to various forms of *Prenanthes* growing intermingled in a salt marsh at Anse à Persi, near Rivière-du-Loup. Specimens were collected and a preliminary study showed the bulk of the crop to be typical

\*Hugo de Vries, "Mutation Theory," II., 593-599 (English translation).

†Fr. Marie Victorin, "Notes sur Deux Cas d'Hybridisme Naturel." Nat. Can. XXXIX., 177-189.



but stunted *P. trifoliata* and *P. racemosa*, whilst the rest appeared somewhat puzzling and intermediate between the two. We determined to prepare a large series of specimens to facilitate a thorough study, but, alas! the next morning the marsh was found neatly mowed, and the *Prenanthes* were no more.

Later study and comparison with type in the Gray Herbarium have shown our doubtful forms to be equivalent to *P. mainensis* Gray. There can be hardly any doubt now that the so-called *P. mainensis* is a natural hybrid: *P. racemosa* x *P. trifoliata*. Gray's text reads as follows: "About two feet high, leafy up and into the panicle; leaves nearly those of *P. racemosa*, but thinner and less glaucous; the radical ovate, commonly with abrupt or rounded base; upper, subtending clusters of the interrupted narrow thyrus; heads all drooping both before and after anthesis, resembling those of the following species (*P. virgata* Michx). Shore of the St. John's River at St. Francis, North Maine, Pringle. Growing with or near *P. racemosa*. And a looser form of the latter, "very common on the St. John's River," (Goodale) is somewhat between the two; so that this may be a hybrid between *P. racemosa* and *P. serpentaria*." (\*)

It should be borne in mind that when these lines were written (1886), *P. trifoliata* had not yet been separated from *P. serpentaria*. From the description of Gray it appears that the plant named by him *P. mainensis* was an extreme form of the hybrid, differing from the "looser form of *P. racemosa*" only quantitatively, and that both are but distant terms of a Mendelian series.

We will now give the result of our own study based on the comparison of 15 specimens of *P. racemosa*, 20 of *P. trifoliata*, and 8 of *P. mainensis*.

#### STEM.

An important reduction in size is first noticeable, which is doubtless a response to the semi-halophytic habitat. In normal conditions *P. racemosa* reaches fully 2m., whilst here its maximum is 30cm. *P. trifoliata* generally grows to a height of 1.50m., and exceptionally to 3m.; in this locality no specimen higher than 32cm. was found.

It is well known to breeders, as well as to students in hybridism, that crosses between nearly related forms are more vigorous than either parent. The following tabulation will emphasize the law as applied to the present case:—

\*Gray, Asa, "Synoptical Flora," I., 433, 1886.

COMPARED SIZE OF  
*P. racemosa*, *P. trifoliata*, *P. mainensis*.

Height in cm.	RACEMOSA		TRIFOLIATA		MAINENSIS	
	Number	Product	Number	Product	Number	Product
15	2	30	..	..	..	..
16	..	..	..	..	..	..
17	2	34	2	34	..	..
18	2	36	..	..	..	..
19	2	38	2	38	..	..
20	..	..	4	80	..	..
21	2	42	1	21	..	..
22	..	..	1	22	..	..
23	..	..	4	92	..	..
24	3	72	1	24	..	..
25	..	..	..	..	..	..
26	..	..	2	52	..	..
27	1	27	..	..	1	27
28	..	..	1	28	..	..
29	..	..	1	29	1	29
30	1	30	..	..	..	..
31	..	..	..	..	..	..
32	..	..	1	32	1	32
33	..	..	..	..	..	..
34	..	..	..	..	..	..
35	..	..	..	..	..	..
36	..	..	..	..	1	36
37	..	..	..	..	..	..
38	..	..	..	..	1	38
39	..	..	..	..	1	39
40	..	..	..	..	..	..
41	..	..	..	..	2	82
Total.....	15	309	20	452	8	283
Mean.....	20.6 cm.		22.6 cm.		35.3 cm.	

The series of specimens is not numerous enough to show very clearly a curve of Quetelet, but what stands prominently is the fact that *P. mainensis*, the hybrid, is taller by 63 per cent. than the parent species (figuring on the means). What are the causes of this increased luxuriance? They are yet a matter of research. Tischler and Jost (\*) agree that it is probably due to a "poisoning" effect of one species on the other.

#### LEAVES.

We have not been able to see the radical leaves of *P. mainensis* of which Gray makes so much in the above-mentioned description, but we observe that the lowest stem leaves taper into a winged petiole which sometimes reaches 10 cm. Most re-

\*"Arch. Zellforschung," I., 33-151, 1908.

P. TRIFOLIATA

P. MAINENSIS

P. RACEMOSA



[Leaves and bracts of *Prenanthes trifoliata*, *P. racemosa* and their hybrid *P. mainensis*. Bracts much enlarged.]

markable is the tendency some of the leaves exhibit to lobate after the manner of *P. trifoliata*. But this tendency is checked in some way in its action, as it succeeds in affecting only one-half of the leaf, thus showing that the elementary characters of *P. racemosa* are dominant over those of *P. trifoliata*.

In the three plants the leaves are bordered with glandular teeth.

#### FLOWER AND FRUIT.

The color of the ray-flowers of *P. mainensis* is evidently intermediate between the pale purple of *P. racemosa* and the straw yellow of *P. trifoliata*.

The inner bracts of the involucre are about the same in outline in the three plants, but they differ much in the amount of pubescence. In *P. trifoliata* these bracts are perfectly glabrous; in *P. racemosa* they are covered with very long ribbon-like flattened hair tipped with a spherical gland; *P. mainensis* shows a pubescence much like that of *P. racemosa*, but very scarce, the evident result of the fusing of opposed characters.

The bract of *P. mainensis* ends in a somewhat fimbriate obtuse point bearing septate hair, very different from those described above; they are much shorter, and consist in a single line of hyaline cells. The bracts of *P. trifoliata* and *P. racemosa* show the same peculiarity.

The bracts of *P. racemosa* and *P. mainensis* are covered with truncate conical papillae, inclined towards the point of the bract. Every cell being papilla-bearing, their number can be estimated in round figures to 10,000 per sq. mm. None of the twenty specimens of *P. trifoliata* from the halophytic habitat of Anse à Persi showed these papillae, but we found them in smaller numbers, and different in form, on a giant specimen collected on the quartzite rocks of the "Gros Pelerin," one of the islands off the Kamouraska coast.

The akene of *P. mainensis* is slightly longer than that of *P. racemosa*, and much longer than that of *P. trifoliata*, even when giant specimens of the latter are considered.

#### DISTRIBUTION.

We do not believe that *P. mainensis* has been before noted outside of the type station on the St. John's River, neither do we think it can be found frequently on account of the distribution of the parent species and their different habitat.

*P. racemosa* is very widely distributed in North America, from Eastern Quebec to Alberta, whilst *P. trifoliata* is distinctly eastern and boreal. In the Province of Quebec there is no sure record west of "Gros Pelerin" island, though some of Macoun's

localities under *P. serpentaria* may belong here. The distribution of *P. trifoliata* is therefore restrictive as regards the possible occurrence of *P. mainensis*.

Moreover, *P. racemosa* is a riverside and prairie species, and *P. trifoliata* a plant with xerophytic preferences, so that the two are rarely to be met together, except in such habitat as the halophytic, or more exactly the semi-halophytic, where water is to be found, but which at the same time is physiologically dry.

---

### BIRDS OF ALGONQUIN PARK.\*

BY W. E. SAUNDERS, LONDON, ONT.

On August 11th, 1915, Mr. E. M. S. Dale and the writer started from Joe Lake on an investigation of the birds and mammals, chiefly the former, of Algonquin Park. It is probably unnecessary to give any description of the character of the country, in which spruce, pine, poplar and birch alternate, as is usual in the northern parts of Ontario.

The fauna of this region should be more northern than would be called for by latitude only, because of the altitude, which is nearly two thousand feet.

After packing our dunnage in bags and loading it into the canoe, we got away to a favorable start. During the first day we saw nothing of moment until we reached Island Lake, where our ears were assailed by the calling of two hawks, which proved to be Goshawks. Their calls were of rather a peculiar character. They were in descending thirds, as is the case with the Marsh Hawk, and more particularly the Sharpshin, but they had two different calls. In one the phrases were repeated about every second and a half, and in the other, which was about half an octave higher, they were repeated about four times each second. We paddled over near where they were sitting in some dead timber, and one of them flew over us with a scissor-tail effect, opening and shutting the tail.

The first night's trapping for mice yielded nothing but one *Sorex personatus* and several of the northern deer mice. While passing over the portage and through the Otter Slide lakes it rained so hard that we sought shelter at the point where the creek leaves for White Trout lake, and spent the night in a tumbledown lumberman's building. Next morning we had a call from an Olive-sided Flycatcher, of which we

\*Read at the December meeting of the McIlwraith Ornithological Club.

met a good many on the trip. They were not using their whistling call but the *Ku-Ku-Ku* which some of them repeated endlessly; in fact there were two which we concluded must have made a bet as to which could say it the most times in a day, and one of them stuck to it almost all day. Being an exceedingly monotonous note, we both felt that we got very well acquainted with it indeed and should not forget it in a hurry. At this point we saw the only solitary Sandpiper on the trip. It was rather a surprise not to see more of these birds, as a great deal of the country is well suited to them. The trip down the stream into White Trout lake provided rather more walking than we appreciated, as the portages were long and somewhat arduous, but we met here our first Ruffed Grouse, Black-backed Woodpecker, and Duck Hawk, the latter flying high overhead while we were on one of the portages right opposite a high cliff, which, however, did not look very suitable for nesting on account of recent devastation by fire.

On these portages we found numerous runs of field mice, and subsequent trapping succeeded in getting a couple of them. They seemed rather too reddish to be our southern form, but this has not yet been definitely determined. The creek is wide and well filled with stumps and grass for the last half mile before it enters into the lake, and the banks are covered with dead and dying timber, which made a very attractive spot for woodpeckers. Here we became very well acquainted with a good many notes of the Black-backed Woodpecker. Once or twice we heard some genuine Blackbird notes, from a Rusty at this point, but all the rest of the notes of that character were from the woodpecker. Here, also, we met our first Canada Jay or Whiskey Jack, a pair of which came flying down to interview us at the end of one of the portages. We tried to make friends with them, but they were not to be cajoled, and the bread which we laid on top of a burnt stump remained there untouched. As usual they were very quiet, but later on we heard from them quite a variety of notes, mostly of a very liquid character, and for the writer, not very easily described. Their flight resembles that of the Blue Jay to a considerable extent, but there were differences which would make them readily identifiable by one who was well acquainted.

Paddling around the left corner of the entrance into the White Trout lake we found the most beautiful camp of the trip in a sandy bay which made excellent bathing. The level of the woods was only about ten feet above the lake, and a beautiful location was all ready for our tent, with a sun parlor overlooking the bay. Here we stayed for two nights while we trapped on the last portage and explored the nearby islands.



which contained nothing of very great interest. Our next stop was at the northern end of White Trout lake, where we slept in the shelter hut on the portage into Longer lake. The traps were set on a small island which had been burnt over about ten years before, and now contains a beautiful stand of young red pine five to ten feet high. We were interested to investigate the mammal inhabitants of this little islet, and found, as we expected, that nothing was on it excepting deer mice, and very few of them, both the cover and the food having been burnt off by the fire, and replacement not having progressed to any great extent.

The ranger who was located at this portage had a boy who was somewhat interested in the trapping industry, and wanted not only to catch some mice for himself but to see how they were prepared, and we spent an evening in the house illustrating the operation. The boy had set a trap which we gave him, on top of a cupboard in the one room of the house, and twice during the evening the trap was sprung and each time caught a deer mouse, in spite of the fact that the room was lit and contained five people, who were making no effort to be quiet.

A short exploration of Longer lake and one of the beaver streams leading into it completed this end of our trip. From the middle of the lake we saw a fine nest of the Osprey, located some four or five hundred yards back from the shore. It was exceedingly conspicuous, being placed, as usual, high up in a dead tree. Retracing our steps to White Trout lake we spent another evening in the shelter hut, and in the early morning, while preparing breakfast, the writer had a call from a beautiful large skunk which was not at all aggressive, but rather timid, and immediately retreated on being discovered. These animals are said to be very common in the park.

Launching again on White Trout lake, we turned our bow towards the north-west corner, and paddling through the narrows, went down through Grassy bay to the mouth of the Petewawa river.

Here there is a good deal of shallow water and some grass showing through it. There was an attractive point which overlooked the bay from quite a nice elevation. Here we landed and stayed some time, the most interesting part of which was spent in admiring the antics of three otters which came to the surface about a hundred yards away, and were at first taken for beaver, but the style<sup>of</sup> swimming with the head elevated, as is the habit of a mink, not held level on the water as is the habit of the beaver and muskrat, at once identified them. As this animal was a new acquaintance for both of us we watched

with great interest their movements. When swimming underneath the water they had a most interesting habit of following each other on every little deviation. When one would come to the surface, breathe and go down, the one immediately after did the same thing at the same place, and then the third following; they soon went into the grasses where they were not clearly visible, but they began working towards a little opening near us in which sat a Pied Bill Grebe. She kept a watchful eye on the motions of the otters, and when they were within twenty or thirty yards, disappeared and re-appeared some thirty yards to one side, and it happened that they did not go any nearer to her. They soon caught some fish and, fortunately for us, there were some stranded stumps and roots on which they climbed out and ate their catch. They also played with each other, and quarreled in a friendly way, which led us to suppose that they were young, or at most a mother and two young, though we could see no difference in their size.

This was perhaps the rarest sight of our trip, and we were exceedingly gratified that it lasted nearly an hour.

We then proceeded up McIntosh creek as far as the first portage, where we decided to retrace our steps. We followed the portage trail up through the woods, and had the pleasure of seeing there our only pair of the Pileated woodpecker. They were not very tame, and gave us little opportunity for observation, but it was a joy to see these big birds again. They are said to be quite common in some parts of the park. Two boys from Toronto camping on Lake LaMuir told us that they were frequently seen near their camp. A ranger with whom we talked told us that they inhabited the big timber only, which means the districts where the pine has not been cut off, and it was in a region of large trees that these two birds were seen.

Next morning we began our return trip through White Trout lake.

After paddling two or three miles we came to the high bluff facing the lumber camp on the north side of the lake, where we had climbed on the preceding day hunting for ferns. This time we found something much better than the ferns, in the person of a Duck Hawk, which gave us one of the most beautiful illustrations of sailing with motionless wings that either of us had ever seen. Evidently he was keeping watch over something, and as the location was entirely suited to their needs as a nesting place, we thought it not improbable that the young were nearby. After we had passed the cliff we heard him scream, and looking back found that he had been joined by his mate, but we gathered no more information regarding their habits or location.

When lunch time arrived we landed on an island separated by a narrow stretch of water from the shore, and while we were busily engaged, a large, black, hawk-like bird came sailing up the narrow channel, and was promptly identified as a Raven. He rose over the banks on the other side, and while passing gave out two or three of his characteristic notes. He was followed by two others, which did not come quite as far before turning, but still gave us a fair view of their flight.

There are times when a Raven and a Crow might puzzle an observer, but when flying they can be easily identified; the flight of the larger bird is very hawk-like and entirely different from that of the crow.

No other rarity was noted until we had passed up the five portages to Otter Slide lake again, where we camped at the entrance of the stream. Here we were in great luck in choosing the very spot used by the local troop of warblers as one of their promenades.

While setting traps across the stream that evening we heard, but failed to find, a Hudsonian Chickadee. Next morning he passed with the Warblers, Chickadees, Nuthatches, etc., over the route right around our camp, but succeeded in getting by without giving us a chance to see him; but before we left that camp the warblers passed us again, and this time the Hudsonian came out in the open and settled in the top of a little balsam tree close by, giving us every opportunity for examination. From this camp also we heard the Barred Owl, thanks to the sleeplessness of my companion. The bird was at a considerable distance, but his notes were unmistakably not those of the Great Horned Owl.

During the first night's camp at this spot our slumbers were interrupted by a Porcupine, which was apparently eating up the canoe. An expedition in undress uniform was made to scare him away, but he was sitting out in the far end of the canoe and was not inclined to be interrupted, and when we spoke to him he chattered his teeth as if in defiance, and it was not until we hit him with a little stick that he ran down the length of the canoe at a surprising speed and disappeared in the woods. These animals are tolerably common, but are easy victims to the destructive instincts present in many persons, and we found the remains of one that had been recently and uselessly killed on Otter Slide lake. Even the rangers are said to kill this animal, although it is not only against the law, but it is indefensible destruction, as the worst harm that can be charged against the Porcupine is that he injures a few trees during the winter, and if the damage done were calculated on a basis of a percentage value of the standing timber, it would be so small as

to be almost invisible. It seems a pity that the rangers cannot be imbued with the spirit of protection which ought to be one of the great features of such a reserve as this park.

Many persons who visit the northern woods complain of the small number of birds seen, and the limited number of species, but the truth seems to be that their faculties have not been trained to observe the birds under altered conditions. On this trip we noted never less than 35 species each day, and the smallest number of individuals was 160, while for the whole trip we saw exactly 90 species. And when it is remembered that the song season was over and most of these birds had to be seen to be recognized, ninety is not such a small number for a short two weeks trip.

Coming from a region where rock ferns have no existence, we were both much interested in meeting a number of unaccustomed species, and besides the Common Polypody, we brought home roots of *Dicksonia*, *Woodsia ilvensis* and *Aspidium noveboracense*, which, though it is not strictly a rock fern, appeared in large clumps in some of the deeper woods. A few other plants which were unusual or unknown to us were *Hieracium aurantiacum* and *Trillium erythrocarpum*. A gentleman from Toronto whose acquaintance we made in the park told us this was *Trillium cernuum*, but reference to Gray's Manual shows that our surmise was correct, and it is *erythrocarpum*, the proof being in the long, attenuated points of the leaves.

The last day was spent in walking along the railway track for the sake of possible additions to our bird list, as there were a number of common species, such as the Crow, Vesper and Chipping sparrows which we did not see when canoeing.

We heard from Ranger Robinson of the occurrence of Spruce Partridge near Joe Lake station, and made a little walk through the region indicated, but without success.

It seemed strange that on the return journey we should meet a brother botanist at the station at Scotia Junction, in the person of Mr. Stevenson of Oshawa, who had been devoting special attention to the ferns, and was just then making a journey with the hope of finding the *Dicksonia*, of which we had seen such beautiful patches.

This little trip into the park left us filled with the desire to visit it again in the springtime, when all these interesting northern species would be nesting, and we could enjoy and study their songs and their home life. The songs of the Thrushes alone would probably repay any interested person for the time spent.



James Hope & Sons Booksellers, Stationers  
Bookbinders, Printers 61 Sparks St. Ottawa

THIS SPACE FOR SALE

Apply to  
THE EDITOR, OTTAWA NATURALIST  
(Entomological Branch, Dept. Agr., Ottawa)

THE C. C. RAY CO. Ltd.

BEST QUALITY **COAL** LOWEST PRICE

3 SPARKS ST. Phone Queen 461

The **TORONTO GENERAL TRUSTS CORPORATION.**

CAPITAL \$1,500,000  
RESERVE 1,600,000

Successful administration of ESTATES ranging in value from \$500 to \$5,000,000 each, is the best guarantee that you may confidently name as your EXECUTOR and TRUSTEE this Corporation.

JAMES DAVEY, Manager

OTTAWA BRANCH:

Cor. SPARKS and ELGIN STS.

J.G. BUTTERWORTH & Co.

ALL-RAIL SCRANTON COAL  
HAS NO EQUAL

86 SPARKS STREET, OTTAWA

**WARD'S NAT. SCIENCE ESTABLISHMENT**

ROCHESTER, N. Y.

Successors to the  
American Entomological Company  
of Brooklyn

We have the largest stock of insects of any dealer in this country. We make a specialty of collections and life histories of insects of economic importance.

Sole manufacturers of the genuine Schmitt Insect Boxes, cases and cabinets, also of the American Entomological Company's Insect Pins.

Supply Catalogue No. 30. Life history circular No. 125 and many others free upon request.

R. McGIFFIN  
MEN'S FINE FURNISHINGS

3 STORES { 76 Rideau St.  
106 Sparks St.  
305 Bank St.

THIS SPACE FOR SALE

THE SMITH PREMIER AND  
REMINGTON TYPEWRITERS

The World's Two Best Typewriters  
THE FEDERAL TYPEWRITER CO.

Dealers

200 Queen St. Phone Queen 6267 & Q. 2918.  
Ottawa

Demonstrations gladly given

HENRY J. SIMS & Co.

Hatters—Phone Queen 1244

110-112 SPARKS ST. - OTTAWA.

WEAR

MASSON'S



SHOES

72 Sparks Street, Ottawa

INSPECTED  
MILK

ICE  
CREAM

Ottawa Dairy

FRESH  
BUTTER

BUTTER-  
MILK

MULHALL HARDWARE LTD. 4 STORES (281-283 Bank St.  
806 Somerset St.  
1107-1109 Wellington St.  
791 Bank St. OTTAWA

JUN 1 3 1966

# The Ottawa Field-Naturalists' Club.

## Patron:

HIS ROYAL HIGHNESS THE DUKE OF CONNAUGHT,  
GOVERNOR-GENERAL OF CANADA.

## Council 1915-16

### President:

Mr. Arthur Gibson.

### Vice-Presidents:

Mr. H. I. Smith.

Dr. C. Gordon Hewitt.

### Secretary:

Mr. Andrew Halkett.  
(Fisheries Museum)

### Treasurer:

Mr. G. LeLacheur, B.S.A.  
(Seed Branch, Dept. of  
Agriculture)

### Editor:

Mr. Arthur Gibson.  
(Entomological Branch,  
Dept. of Agriculture)

### Librarian:

Mr. J. R. Dymond, B.A.  
(Seed Branch, Dept.  
of Agriculture)

Dr. M. Y. Williams.

Mr. P. A. Taverner.

Mr. L. H. Newman.

Dr. M. O. Malte.

Mr. L. D. Burling.

Mr. E. D. Eddy.

Miss F. Fyles, B.A.

Miss D. Stewart.

### Standing Committees of Council:

*Publications:* Dr. C. G. Hewitt, A. Gibson, J. R. Fryer, H. I. Smith, E. D. Eddy, G. O. McMillan.

*Excursions:* E. D. Eddy, Dr. M. Y. Williams, Dr. M. O. Malte, A. Halkett, J. R. Dymond, G. O. McMillan, G. LeLacheur, Miss F. Fyles, Miss D. Stewart.

*Lectures:* H. I. Smith, Dr. C. G. Hewitt, Dr. M. Y. Williams, L. H. Newman, P. A. Taverner, L. D. Burling.

### Leaders at Excursions:

*Archæology:* H. I. Smith, F. W. Waugh, T. W. E. Sowter, J. Ballantyne,  
*Botany:* W. T. Macoun, J. M. Macoun, L. H. Newman, Dr. M. O. Malte, Miss F. Fyles, J. R. Dymond, E. C. Wight, G. O. McMillan, F. L. Drayton.

*Entomology:* A. Gibson, W. H. Harrington, Dr. C. G. Hewitt, J. M. Swaine, F. W. L. Sladen.

*Geology:* W. J. Wilson, Dr. H. M. Ami, Dr. M. Y. Williams, H. McGillivray, L. D. Burling, E. Poitevin, Dr. Schofield.

*Ornithology:* P. A. Taverner, Dr. M. Y. Williams, A. G. Kingston, A. E. Kellett, C. Patch.

*Zoology:* A. Halkett, E. E. Lemieux, E. A. LeSueur, C. H. Young.

### Auditors:

J. Ballantyne.

E. C. Wight.

**Membership Fee to O.F.N.C., with "Ottawa Naturalist," \$1.00 per Annum.**