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THE OTTAWA NATURALIST.

VOL. XIV.

OTTAWA, OCTOBER, 1900.

No. 7.

NOTES BEARING ON THE DEVONO-CARBONIFEROUS PROBLEM IN NOVA SCOTIA AND NEW BRUNSWICK.

(Based on Dr. David White's recent Report entitled:—
“*The Stratigraphic Succession of the Fossil Floras of the
Pottsville Formation in the Southern Anthracite Coal Fields of
Pennsylvania.*”)

By H. M. AMI, of the Geological Survey of Canada.

From recent studies pursued with great care and diligence, extending over a period of many years in the Floral zones of the Pottsville formation in Pennsylvania and the Eastern States, Dr. David White, Palæozoic palæobotanist to the United States Geological Survey, has given to the world a most elaborate and comprehensive report in Part II. of the 20th Annual Report of the United States Geological Survey—General Geology and Palæontology—in which the results there given have considerable bearing upon and are closely in line with the results obtained in Canada during the last few years by the writer.

In May, 1898, I had the good fortune of visiting the Anthracite coal-fields of Pennsylvania, in company with Dr. David White, and of examining several of the sections in the Carboniferous system of that state, with a view of obtaining evidence that would tend to throw light upon the Devono-Carboniferous problem in Nova Scotia and New Brunswick. Near the town of Pottsville, at Maunch Chunk, Tremont, Brookside, and many other localities, typical sections were observed, and a number of

characteristic fossils obtained. The succession of strata in the Pottsville Gap gave the following series of formations in descending order :

Carboniferous	}	Coal Measures.
		Pottsville.
		Maunch Chunk.
		Pocono.
Devonian	}	Catskill.
		Chemung.

The above constitutes an unbroken though somewhat tilted series which, if followed down, would be found to be continuous with the Silurian system without any apparent unconformity or break, and presenting a series of estuarine and terrigenous deposits of the Carboniferous system, from the Coal Measures proper down to the Pocono, (the probable equivalent of the Horton formation of Nova Scotia according to Sir William Dawson, Dr. White and other authorities), followed by the terrigenous and estuarine Catskill series, and in close contact with, but preceding in point of time the marine sediments of the Chemung and earlier Devonian strata, with their brachiopod and crinoidal faunas.

The Pottsville formation underlies the productive Coal Measures* of Pennsylvania just as the so-called "Millstone grit" of Nova Scotia underlies the productive Coal Measures of that province. Workable seams of coal occur in the Pottsville (Lykens series) as well, yet not so extensively, as in the Coal Measures of Pennsylvania. In Canada, the Millstone Grit (or Westville formation of the Pictou coal field) is held to be for the most part barren of productive coal seams. A detailed study of the fossil floras which accompany and characterize the productive Coal Measures of both the Upper and Lower Coal Measures of Pennsylvania and elsewhere, by Dr. White, has enabled him to locate definitely the horizon of the various seams met with, and I have no doubt that similar detailed palæobotanical studies in Canada would also yield important and definite results.

* The term Coal Measures is not by any means a good formational name, it is one conveying economic and petrographical relations, and should not be used in nomenclature.

In the present volume and report by Dr. White, among the "Pottsville" plants described and recorded by him are noticed quite an array of species characteristic of that formation, which were however originally described from the "fern ledges" of New Brunswick, and for the most part, referred to the "Middle Devonian." This reference was very probably based more on apparent metamorphic and petrographic grounds than for any other reason. The importance of this finding of Dr. David White's cannot be too strongly emphasized, and in calling attention to the forms in common between the Pottsville formation and the Lancaster formation, at this juncture, the writer presents it as an additional argument in favour of the Carboniferous age of the New Brunswick deposits known as the Mispeck Group, Cordaites shales, "Fern ledges," the "Little River Group" the "Dadoxylon sandstone" and the "Bloomsbury conglomerate." The strata constituting these "fern ledges" containing a large and abundant flora and fauna has been recently designated by the writer as the Lancaster formation.

The following species from the Pottsville formation of Pennsylvania also as identical or allied species in New Brunswick, whilst a number of them have also been recorded from Nova Scotia.

1. *Trigonocarpon Dawsonianum*, D. White.

On page 910 Dr. White describes this new species and writes: "it agrees so completely with the fragments figured by Dawson from the 'fern ledges' at St. John as 'fruit or bracts of uncertain nature,' that I have ventured to include a portion of the latter material as well as the same species." Dr. White further adds: "The figures given in the 'Devonian Flora' will serve to illustrate the Pottsville material which I name in honour of the late distinguished Palæontologist of America."

2. *Cardiocarpon obliquum*, Dawson.*

3. *Cardiocarpon cornutum*, Dawson.*

4. *Cardiocarpon Girtyi*, D. White. (Allied to *Cardiocarpon Baileyi*, Dawson.)*

* The species marked with an asterisk (*) were described by Sir William Dawson in Q. J. G. S., Vol. XVIII, 1862, pp. 296-330, London, Eng.

5. *Cordaites angustifolius*, Dawson (possibly young leaves of *C. Robbii*, Dawson).*
6. *Cordautes Robbii*, Dawson.*
7. *Annularia latifolia*, (Dawson)* Kidston.
8. *Annularia acicularis*, (Dawson)* Sp. (Under this species I note that Dr. White employs the term "Lancaster formation" suggested for the strata described as "Middle Devonian" from the "fern ledges" of Lancaster, New Brunswick.)
9. *Asterophyllites parvulus*, Dawson.*
10. *Neuropteris Pocahontas*, var. *inæqualis*, n. var. Allied to *Cardiopteris Eriana*, Dawson,* and *Odontopteris squamosa*, Dawson, which, by the bye, has been called *O. Dawsoniana* by S. A. Miller. Dr. White adds that it deserves a special comparison with the *Neuropteris Pocahontas* group of Pottsville forms.
11. *Megalopteris plumosa*, D. White, n. sp. This species closely resembles *M. Dawsoni*, Hartt, from the so-called Middle Devonian of New Brunswick.
12. *Alethopteris discrepans*, Dawson.* This species, originally described from the "fern ledges" of New Brunswick occurs in the Pottsville formation at the New Lincoln Mine. Of specimens from this place, Dr. White says: they "appear to agree in all respects with specimens from the 'fern ledges' at St. John." "The occurrence of this species," he adds, "together with *Sphenopteris Harttii*, *S. pilosa* and *Pecopteris serrulata*, Hartt, in the Upper Lykens division of the Pottsville formation points strongly to the close relationship between the flora of the latter and that of the supposed Middle Devonian beds at St. John, a relationship so close as to convince me that no appreciable difference in age exists between the plant beds at the two localities." (p. 886.)
13. *Pecopteris serrulata*, Hartt.
14. *Sphenopteris pilosa*, Dawson.*
15. *Sphenopteris Harttii*, Dawson.*

Besides the above 15 Canadian so-called Devonian species recorded by Dr. White from the Pottsville formation in Pennsylvania in his description of the species from the southern Anthracite coal field, he also records additional evidence, which in the writer's judgment, points clearly to the view advocated in referring the Lancaster formation of New Brunswick with its abundant flora of ferns and with insects, etc., to the Carboniferous and not to the Devonian System.

16. *Annularia laxa*, Dawson, sp. (*Asterophyllites laxus*, Dawson*), referred to in a subsequent paragraph, adds another species to the list of forms common to the Pennsylvania Carboniferous and the New Brunswick strata.

In his summary of conclusions regarding the floral zones of the Pottsville formation Dr. White devotes paragraph 14 to the following statement, which will be of special interest to the students of systematic geology, not only of America, including the United States and British North America, but also of Europe. He thus writes :

“The flora of the Pottsville formation is so far identical, in both its genera and specific composition, with that from the supposed Middle Devonian beds of St. John, New Brunswick, as to leave no room for a great difference in the age of the latter. In fact, the plants from the ‘fern ledges’ include a flora essentially equivalent to that of the Sewanee zone, which appears to be represented by a portion of the section at St. John.”

Such a statement, coming from so eminently qualified a worker in and student of Palæozoic floras, taken into consideration with the report of Mr. R. Kidston, of Sterling, Scotland, on fossil plants, from strata belonging to the Riversdale formation of Nova Scotia (the recognized equivalent of the Lancaster formation of the New Brunswick “fern ledges”) compels me to re-affirm the statement made in the “Summary Report of the Director of the Geological Survey Department for the year 1897” (p. 135), that these formations “hold plants and animals which in their broad general character resemble those of the Eastern American Carboniferous.”

This statement was intended to convey the idea that the Riversdale and Union formations had a Carboniferous facies and

were, in addition, the equivalents of those fossil plants from Lancaster in New Brunswick, "held to be of Devonian age," thus implying that whatever one series was, the other must be also, and hence the Lancaster "fern ledges" must also have a Carboniferous facies though coloured Devonian.

Later, in the "Summary Report of the Director of the Geological Survey Department for 1898" (p. 181), I made the following statement: "Regarding the general results of this Devonian-Carboniferous problem from a palæontological standpoint it would appear, in reviewing the value and amount of the evidence afforded by fossils obtained during the past three seasons, that, in so far as the faunas are concerned, they clearly indicate a 'Carboniferous facies.'"

Subsequently, in the "Summary Report of the Director of the Geological Survey Department for the year 1899" (pp. 201-203), the writer gives the result of an examination made by Mr. R. Kidston, F.G.S., of the material collected from the so-called "Devonian" strata of Nova Scotia, and as regards the rocks of the Horton formation he says they "appear to be undoubtedly Lower Carboniferous:...." "there is no evidence at all to support the opinion that they are of Devonian age".... "all the evidence derived from the study of these fossils points very strongly against this view." Of the Riversdale series of plants, Mr. Kidston gives them "a pronounced Upper Carboniferous facies, and markedly possess the characteristics of a coal measure flora. Judged from a European comparison, no other conclusion can be arrived at."

Such evidences, relative to the Devonian-Carboniferous problem and the various results given, all seem to indicate that both in Nova Scotia and New Brunswick we find a series of fossil plants which in one province had been assigned to the Carboniferous and in the other to the Devonian, but whose characters and affinities as adduced and understood respectively necessarily place them both in the Carboniferous system.

For brief notes upon the succession of the strata in the Carboniferous of certain portions of Nova Scotia with special reference to the Union and Riversdale formations the reader is referred to the writer's paper on that subject in the Transactions of the Nova Scotian Institute of Science, Vol. 10, 1900, pp. 162-

178, and in the various summary reports of work carried on by the writer during the seasons of 1896-7-8-9, issued by the Geol. Survey.

The writer desires to emphasize the fact that he has done his utmost to search for evidence in support of the Devonian age of the strata in question. He has failed to do so except in the case of the strata constituting the *Knoydart formation*—a term used to designate the red shales, sandstones, marls and impure calcareous beds such as are developed in McArras Brook, Knoydart Brook, etc., and coloured Upper Devonian on the map prepared by the Geological Survey Department—in which remains of *Pteraspis*, *Cephalaspis*, *Pterygotus* and *Onchus*—examined by Dr. Henry Woodward and Mr. Arthur Smith Woodward, of London, England, and pronounced by them (as palæontological evidence warrants) as belonging to the base of the Old Red Sandstone type of the Devonian, and very similar in faunal as well as lithological character to strata of Devonian age in Herefordshire, England, and in Spitzbergen, as has been pointed out to the writer by these gentlemen.

Ottawa, 3rd Sept., 1900.

FAUNA OTTAWAENSIS.

DIPTERA.

By W. HAGUE HARRINGTON, F.R.S.C.

The publication of the following list of some Ottawa Diptera has been made possible through the courtesy of Dr. L. O. Howard, the Chief of the Division of Entomology, in the Department of Agriculture, Washington, U.S. By his kind permission the determinations of the species were made by Mr. D. W. Coquillett, an eminent specialist and authority in this order. The specimens submitted to him had gradually accumulated in my cabinets, but they were taken only as "extras," during the collecting of Coleoptera and Hymenoptera. The list is, therefore, only a fragmentary contribution toward a knowledge of the Ottawa fauna, and is presented with the hope that at some future time others

may make systematic collections and studies of these insects, so numerous both as regards species and individuals. The minute and delicate forms of which the order of flies is largely composed, as well as many of the larger forms which have long fragile legs, require special care and skill in collecting and preserving. For these reasons a list such as the following is by no means typical of the fauna, as whole groups of the most common species may be entirely lacking.

I have tried to group the species in agreement with the classification published by Dr. Williston, so as to indicate the families represented.

When sending my flies for determination I requested Dr. Howard to retain for the U. S. National Museum's unrivalled collections any specimens which might prove to be of special value, and I was gratified to find that about fifty were deemed to be worthy of retention. The remark "U. S. Nat. Mus." after any species denotes that its representative is to be found there.

CECIDOMYIDÆ.

- Cecidomyia*, sp. Very common on willows.
Diplosis pini-inops, O.S. Bred from puparia upon pine-twigs.
Diplosis, sp. One specimen,

MYCETOPHILIDÆ.

- Sciophila*, n. sp. ? U. S. Nat. Mus.

CULICIDÆ.

- Culex impiger*, Walk. A very abundant and obtrusive pest.

CHIRONOMIDÆ.

- Chironomus cristatus*, Fabr. Common early in May.

TIPULIDÆ.

- Limnophila macrocera*, Say. One specimen.
Limnophila rufibasis, O.S. One specimen.
Tipula angustipennis, Loew. A very common species.
Pachyrrhina lugens, Loew. Also common.
Amalopis inconstans, O.S. One specimen.
Ctenophora, n. sp. ? U. S. Nat. Mus.
Ctenophora, n. sp. ? U. S. Nat. Mus.

RHYPHIDÆ.

- Rhyphus alternatus*, Say. One taken 28th June.
Rhyphus punctatus, Fabr. Two specimens.

BIBIONIDÆ.

- Plecia heteroptera*, Say. Several at Hull 24th September.
Dilophus serraticollis, Walk. A very common species.
Bibio pallipes, Say. Everywhere in early spring.
Bibio albipennis, Say. Equally common with above.
Bibio gracilis, Walk. U. S. Nat. Mus.

LEPTIDÆ.

- Xylophagus fasciatus*, Walk. One specimen.
Cœnomia ferruginea, Fabr. This large species is rare.
Atherix variegata, Walk. One specimen.
Leptis mystacea, Macq. Very common on tree-trunks on margin of woods.
Leptis vertebrata, Say. One specimen.
Chrysopila quadrata, Say. Somewhat abundant in June and July in damp woods.
Chrysopila flavida, Bigot. One specimen.
Chrysopila proxima, Walk. A common species in June.
Xylomia, n. sp. ? U. S. Nat. Mus.

STRATIOMYIDÆ.

- Nemotelus nigrinus*, Fall. Common in May.
Euparhyphus bellus, Loew. Abundant in June.
Allognosta fuscitarsis, Say. Two specimens in August.
Allognosta obscuriventris, Loew. This species is common.
Beris viridis, Say. Less abundant.
Sargus viridis, Say. Moderately abundant in May.
Sargus decoris, Say. Occasionally taken, from May to September.
Odontomyia interrupta, Oliv. Apparently not common.
Odontomyia pubescens, Day. Very abundant. Several dead ones in *Cyripediums*.
Odontomyia cincta, Oliv. Upon flowers in June; not common.
Odontomyia virgo, Wied. Occurs with preceding species.
Odontomyia vertebrata, Say. Two specimens of this smaller species.
Stratiomyia barbata, Loew. A common frequenter of flowers.
Stratiomyia apicula, Loew. One specimen 18th May.
Stratiomyia discalis, Loew. Common; our largest species.
Stratiomyia badius, Walker. One specimen.

TABANIDÆ.

- Chrysops celer*, O. S. A common and aggressive fly in woods.
Chrysops exitans, Wied. One specimen.
Chrysops niger, Macq. One specimen.
Chrysops fugax, O. S. Rather common.
Chrysops vittatus, Wied. Common in midsummer in woods.
Chrysops obsoletus, Wied. Less abundant and not so troublesome.
Atylotus bicolor, Wied. One specimen 21st July.

Theriopectes lasiophthalmus, Macq. One of our commonest species of Horse-fly.

Theriopectes septentrionalis, Loew. Rare.

Theriopectes affinis, Kirby. One example of this larger form.

ASILIDÆ.

Laphria pubescens, Will. Not very abundant.

Laphria sericea, Say. A common and rapacious insect.

Laphria gilva, Linn. Almost as abundant.

Laphria canis, Will. Common.

Dasyllis flavicollis, Say. Abundant.

Dasyllis posticata, Say. Not so common.

Dasyllis sacrator, Walk. A large and abundant species.

Dasyllis grossa, Fabr. The largest of our Bumble-bee mimics.

Leptogaster testaceus, Loew. This slender species is common in June.

Cyrtopogon chrysopogon, Loew. Also common.

Nusa fulvicauda, Say. One specimen.

Asilus notatus, Wied. Not common.

Asilus annulipes, Macq. Abundant.

Asilus novascotiæ, Macq. Rare.

Asilus callidus, Will. One specimen.

BOMBYLIIDÆ.

Anthrax tegminipennis, Say. Our largest Bee-fly; not common.

Anthrax fulviana, Say. Abundant in midsummer.

Anthrax alternata, Say. One specimen.

Anthrax lateralis, Say. Not common.

Argyramœba analis, Say. Our commonest species.

Argyramœba œdipus, Fabr. One specimen of this pretty fly, 30th July.

Bombylius major, Linn. One taken 18th May.

Systœchus vulgaris, Loew. Common but difficult to capture.

THEREVIDÆ.

Psilocephala hæmorrhoidalis, Macq. Several in June and July.

Psilocephala munda, Loew. One specimen 18th May.

ACROCERIDÆ.

Pterodontia flavipes, Gray. U. S. Nat. Mus.

Opsebius pterodontinus, O. S. U. S. Nat. Mus.

Oncodes costatus, Loew. U. S. Nat. Mus.

EMPIDIDÆ.

Syneches rufus, Loew. Abundant.

Empis varipes, Loew. U. S. Nat. Mus.

Empis otiosa, Coq. Two specimens.

Rhamphomyia rustica, Loew. Two specimens.

Rhamphomyia pulla, Loew. Two specimens.

Rhamphomyia lævigata, Loew. U. S. Nat. Mus.

DOLICHOPODIDÆ.

- Psilopus caudatulus*, Loew. U. S. Nat. Mus.
Psilopus patibulatus, Say. A very common species.
Dolichopus laticornis, Loew. Less often observed.
Dolichopus albiciliatus, Loew. U. S. Nat. Mus.
Dolichopus incisuralis, Loew. U. S. Nat. Mus.

CONOPIDÆ.

- Physocephala furcillata*, Will. Common upon goldenrods.
Myopa vesiculosa, Say. Two specimens.
Myopa obliquefasciata, Macq. One specimen.
Zodion fulvifrons, Say. One specimen.
Oncomyia abbreviata, Loew. One specimen.
Dalmannia nigriceps, Loew. U. S. Nat. Mus.

SYRPHIDÆ.

- Chrysogaster pictipennis*, Loew. Common in May.
Chrysogaster pulchella, Will. Also common.
Paragus angustifrons, Loew. U. S. Nat. Mus.
Paragus bicolor, Fabr. Occurs from May to September.
Xylota anthreas, Walk. One bred from puparium found under stone.
Xylota pigra, Fabr. A common and handsome species.
Xylota curvipes, Loew. This fine insect is less abundant.
Xylota ejuncida, Say. Several specimens.
Syrphus arcuatus, Fall. Rare.
Syrphus torvus, O. S. Rare.
Syrphus ribesi, Linn. Four specimens taken in June and July.
Syrphus disjectus, Will. One specimen.
Syrphus umbellatarum, Schin. One specimen.
Melanostoma mellinum, Linn. Rather common.
Melanostoma obscurum, Say. Two captured in July.
Platychirus quadratus, Say. Common.
Pyrophæna ocymi, Fabr. Only two specimens observed.
Sphærophoria cylindrica, Say. Very common.
Mesogramma parvula, Loew. Rare; July and August.
Mesogramma geminata, Say. Two specimens, June and July.
Neoscia globosa, Walk. Several in middle of June.
Syrpita pipiens, Linn. Somewhat abundant May and June.
Rhingia nasica, Say. Common in May; taken also in August.
Helophilus conostomus, Will. Common. Found dead in *Cyripedium*.
Helophilus lætus, Loew. One specimen in June.
Helophilus bilinearis, Will. One specimen in May.
Helophilus similis, Macq. Three specimens of this large species.
Helophilus, n. sp. ? U. S. Nat. Mus.

- Helophilus latifrons*, Loew. More abundant.
Helophilus chrysostomus, Wied. Several dead in *Cyripedium* blossoms.
Criorhina analis, Macq. One taken near Hull, June 2nd.
Baccha fascipennis, Wied. Two of this slender species; middle of August.
Brachyopa notata, O. S. One specimen.
Microdon tristis, Loew. Rare.
Sphegina Keeniana, Will. U. S. Nat. Mus.
Brachypalpus inarmatus, Hunter. U. S. Nat. Mus.
Ceria abbreviata, Loew. U. S. Nat. Mus.
Spilomyia 4-fasciata, Say. This fine fly is moderately abundant.
Spilomyia fusca, Loew. Two only of this large and handsome species.
Sericomyia militaris, Walk. One specimen only.
Sericomyia chrysotoxoides, Macq. Three in July.
Temnostoma alternans, Loew. Three in June.
Temnostoma æquale, Loew. One taken near Hull, June 14th.
Temnostoma bombylans, Fabr. Several in June.
Volucella evecta, Walk. One specimen.
Eristalis flavipes, Walk. One specimen, May 31st.
Eristalis bastardi, Macq. Common during the summer.
Eristalis tenax, Linn. Also a common species.
Eristalis dimidiatus, Wied. Less abundant.
Eristalis Brousi, Will. A few taken in May.
Pipiza pisticoides, Will. One specimen.

TACHINIDÆ.

- Ocyptera carolinæ*, Desv. Common in June and July.
Ocyptera dosiades, Walk. Several in May and June.
Cistogaster immaculata, Macq. One specimen July 30th.
Gymnosoma fuliginosa, Desv. One specimen August 22nd.
Bombyliomyia abrupta, Wied. Common in July.
Echinomyia algens, Wied. One only in my collection.
Melanophrys insolita, Walk. Common, as is probably the preceding.
Peleteria tessellata, Fabr. One specimen.
Frontina Frenchii, Will. One specimen.
Exorista vulgaris, Fall. One specimen.
Tachina rustica, Fall. One specimen. These species may all be common.
Hypostena ænea, Coq. U. S. Nat. Mus.
Cestrophasia clausa, Br. & Berg. U. S. Nat. Mus.
Exoristoides, n. sp. ? U. S. Nat. Mus.
Alophora diversa, Coq. U. S. Nat. Mus.

SARCOPHAGIDÆ.

- Sarcophaga ægra*, Walk. One specimen.
Sarcophaga, sp. Two specimens.
Helicobia helicis, Town. One specimen, May 24th.

MUSCIDÆ.

Pollenia rudis, Fabr.
Pseudopyrellia cornicina, Fabr.
Calliphora erythrocephala, Meig.
Cynomyia cadaverina, Desv.
Musca domestica, Linn.
Stomoxys calcitrans, Linn.
Myospila mediatubunda, Fab.

Probably all the species of this family are common, although with the exception of the common House-fly they are only represented in my collection by single specimens.

ANTHOMYIDÆ.

Homalomyia canicularis, Linn. Two specimens.
Phorbia fuscipes, Zett. Two specimens.
Mydæa ansoba, Walk. Common.
Mydæa diaphana, Wied. One specimen.
Hyetodesia nigripennis, Walk. One specimen.

SCATOMYZIDÆ.

Scatophaga stercoraria, Linn. Our common species.
Scatophaga furcata, Say. Also abundant.
Neuroctena anilis, Fall. One specimen.
Cordylura setosa, Loew. U. S. Nat. Mus.
Cordylura pleuritica, Loew. U. S. Nat. Mus.
Cordylura munda, Loew. U. S. Nat. Mus.
Cordylura varipes, Walk. This interesting species is common.
Cordylura gracilipes, Loew. Two specimens.
Orthochaeta gilvipes, Loew. One specimen.

PSILIDÆ.

Loxocera cylindrica, Say. Common in July.
Loxocera pectoralis, Loew. U. S. Nat. Mus.
Psila bicolor, Meig. One specimen.

HELOMYZIDÆ.

Helomyza longipennis, Loew. U. S. Nat. Mus.
Leria pubescens, Loew. U. S. Nat. Mus.

MICROPEZIDÆ.

Calobata alesia, Walk. Common.
Calobata antennipes, Say. Rare.
Calobata univitta, Walk. Three specimens.

SCIOMYZIDÆ.

Tetanocera Boscii, Desv.
 Tetanocera saratogensis, Fitch.
 Tetanocera decora, Loew.
 Tetanocera ambigua, Loew.
 Tetanocera arcuata, Loew.
 Tetanocera pictipes, Loew.
 Tetanocera canadensis, Macq.
 Tetanocera plumosa, Loew.
 Sepedon fuscipennis, Loew.
 Sepedon armipes, Loew.
 Sepedon pusillus, Loew.

These flies, many of which have the wings very prettily mottled, are all poorly represented in the collection, although some of the species are probably quite common.

DIOPSISIDÆ.

Sphyracephala brevicornis, Say This curious fly is not often observed.

SEPSIDÆ.

Nemopoda cylindrica, Fabr. Two specimens.
 Sepsis violacea, Meig. Two specimens.

TRYPETIDÆ.

Trypeta longipennis, Wied. Common; May and June,
 Trypeta sparsa, Wied. One specimen, August 22nd.
 Trypeta solidaginis, Fitch. Galls common on goldenrods.
 Trypeta tabellaria, Fitch U. S. Nat. Mus.
 Trypeta florescentiæ, Linn. U. S. Nat. Mus.

ORTALIDÆ.

Rivellia flavimana, Loew. Two specimens.
 Chætopsis ænea, Wied. Our commonest species; May and June.
 Seoptera vibrans, Linn. Also common.

SAPROMYZIDÆ.

Sapromyza notata, Fall.
 Sapromyza philadelphica, Macq.
 Sapromyza lupulina, Fabr.
 Lauxania cylindricornis, Fabr.

The members of this family are poorly represented in the collection.

OSCINIDÆ.

Chlorops proxima, Say.
 Chlorops assimilis, Macq.
 Chlorops variceps, Loew.
 Eurina exilis, Coq.

The foregoing remark applies equally well to this family.

DROSOPHILIDÆ.

Drosophila ampelophila, Loew. A large number bred from grapes.
 Drosophila colorata, Walk. U. S. Nat. Mus.

AGROMYZIDÆ.

Phytomyza, sp. Mines in leaves of *Thalictrum*.

Agromyza æneiventris, Fall. One specimen.

PIPUNCULIDÆ.

Pipunculus nitidiventris. Loew. One specimen, June 2nd.

EPHYDRIDÆ.

Ochthera mantis, DeG. Three specimens, July and August.

(Families, 37; Genera, 134; Species, 234.)

 THE FINDING OF A FLAMINGO'S NEST.

The Mangrove tree is one of the characteristic growths of Florida, and a Mangrove swamp is perhaps the hardest travelling in the world. The tree sends forth drooping horizontal roots from the trunk, even as high as four or five feet, and these eventually grow down into the mud beneath. My friend Captain S. D. Kendall, of Tarpon Springs, gave me a keen insight into the difficulties of Mangrove travel in the following anecdote. He was cruising near the southern extremity of Florida, and happened on a place where Flamingoes fed abundantly on a wide tide-flat. Now one of these birds stands about five feet high, is clear pink throughout, and is an ornithological prize; and their nest is seldom seen, being placed in almost inaccessible localities. However, my friend thought these birds were breeding, and not being in a hurry (as is the contented manner of a Floridian) nor yet afraid of any obstacle that might exist, he spent some time watching these birds, feeding, then flying in, flying out, and feeding. After watching a good while, and making a line on the breeding grounds from all possible points, he settled on one point as being closest to the breeding ground, and in the early morning left his comrade, telling him, "If I don't come out in three days, you needn't wait," and started in. The swamp was a mass of Mangrove roots from entrance to centre, and in that whole day of hard labour he covered only about four miles. All through the long night the mosquitoes swarmed, and the bull Alligators roared near by; he could only sit, and smoke, and fight mosquitoes. Next morning he started at daylight and proved the correctness of his alignment by arriving at the nesting ground in a short time. It was an

open glade in the swamp, and here were many Flamingoes, coming, going, and brooding the eggs. The nests, instead of being tall cones of mud, as usually pictured, were large structures of sticks, and the bird curled her ungainly legs until the bones protruded horizontally far behind the nest, wherein were two chalky eggs. After completing his examination, and killing a single specimen, he started to retrace his steps, carrying this additional burden with him, and by dint of hard labour and good judgment, sharpened by experience, he reached open water the same night. The bird made a very fine specimen, and some time later, when he had it and several other choice specimens at New York, it excited much admiration. One visitor took a special fancy to it and asked the owner to set a price on it. Not wishing to sell, he named a figure which he thought far above its commercial value, and was chagrined beyond measure when the enquirer promptly paid the money, thus losing to him a specimen for which he had performed so much toil.

W. E. SAUNDERS, London, Ont.

ENTOMOLOGICAL NOTES.

COLIAS EURYTHEME.—A remarkably unusual number of the above beautiful orange-coloured *Colias* have been taken and observed around Ottawa during the latter part of September and the first week in October. This is a rare butterfly in this district, only an occasional specimen having been observed each season in years past. On October 1st, five nice examples were taken on and close to the Experimental Farm by Dr. Fletcher and the writer, and as many as a dozen others have been observed. Mr. C. H. Young has also taken over twenty specimens on his farm on the Rideau River, near Hurdman's Bridge. Among the specimens caught three of the recognized forms, viz., *Eurytheme Eurytheme*, *Eurytheme Keewaydin* and *Eurytheme Eriphyle* were represented. Many of the specimens when taken were in a fresh condition and looked as if they might have just emerged from the chrysalis. A number of examples of this butterfly have been also taken by collectors in Toronto, and it is probable that this species was fairly prevalent in many parts of Ontario this fall. Owing to the fact that it is a western species occurring commonly throughout Manitoba and the North-west Territories, its presence in such numbers so far east as Ottawa is interesting and worth recording.

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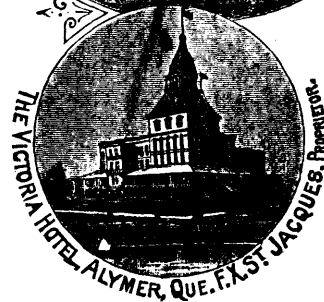


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