REPORT OF THE ENTOMOLOGICAL BRANCH,

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

17th March, 1897.

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

To the Council of the Ottawa Field-Naturalists Club :

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

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