ries, had an informal interview with some of the members of the Council in regard to the work of the Club.

In addition to the ordinary work of the Club, as set forth above, certain work of an educational character has also been carried on. Considerable progress has been made in the naming and arranging of botanical specimens donated to various schools in the Province of Ontario—the ambition of the Club being to as far as possible aid in establishing a complete herbarium in the Normal School, Ottawa, and sister institutions. A special course of afternoon lectures, largely attended by the children of the Public Schools, was given in the Y.M.C.A. Hall, by Messrs. Fletcher, Prof. Macoun, Prince, and Ami. A special course of lectures was delivered at the Experimental Farm to students of the Normal School, by Dr. Saunders and the following four members of the Council : Messrs. Fletcher, Shutt, Craig, and W. Macoun. These lectures were on scientific topics, agriculture, and some other subjects of educational interest and value. Thus, outside its special work as a Naturalists' Society, the Club has continued to do active educational work in various directions, with, it is not too much to claim, results of a substantial character.

ANDREW HALKETT, *Secretary.* EDWARD E. PRINCE, *President.*

REPORT OF THE ENTOMOLOGICAL BRANCH, 1897.

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

The leaders have unfortunately to report that comparatively little was accomplished by members of the Club in this branch of its work, and few records of important, or even interesting captures have been handed in from the Ottawa district. Collections of considerable interest have, however, been made in different parts of Canada and submitted to the leaders for identification. Dr. Robert Bell, F.R.S., etc., Assistant Director of the Geological Survey, made a small but most interesting collection of Lepidoptera in Baffin Land, which greatly increases our

knowledge of that little visited region. Mr. A. W. Hanham, of Winnipeg, Mr. E. Firmstone Heath, of Cartwright, and Mr. Boger, of Brandon, have continued their studies of Lepidoptera in Manitoba, and have made records of great value in determining the geographical distribution of many species. At Qu'Appelle, Assa., Mr. W. E. H. Porter has commenced the collection of Coleoptera, and at Boucher, Mr. Coubeaux has made some very interesting captures, chiefly coleoptera.

Mr. T. N. Willing, of Sylvan Glade, near Olds, Alta, for several years a member of the Club, is now making a systematic study of lepidoptera, both diurnal and nocturnal. He has already added much to our knowledge of some rare species. During the past summer Mr. H. B. Sanson, curator of the Museum of the National Park at Banff, Alta, has taken up the insect fauna of the Rocky Mountains. Although his time was very much occupied by his official duties, he collected more than thirty species of butterflies, as well as some moths. One of the latter—*Brephos infans*—was of particular interest, as it occurs at Ottawa, and had not previously been recorded so far west. Mr. W. H. Danby, formerly of Victoria, B. C., has sent in two collections consisting of beetles, butterflies, moths and a few hymenoptera. These collections were made at Rossland, B. C., where Mr. Danby now lives.

In Vancouver Island excellent work has been done among the local insects, and the Leaders are delighted to welcome back again to the ranks of the active working entomologists our old friend Rev. G. W. Taylor, who has done more than any other man to work out the natural history of the Island, not only in Entomology and Conchology, in connection with which his name is so well known, but also in many other branches. Among many interesting insects captured by him may be specially mentioned a rare butterfly, *Thecla Siva*, and the curious wasp parasite, *Trigonalys Canadensis*, regarding which Mr. Taylor has published important observations in the "Canadian Entomologist" (Vol. XXX, p. 14, Jan. 1898).

In the Queen Charlotte Islands the Rev. J. H. Keen, probably the most westerly resident American collector, has con-

tinued a critical study of the coleoptera of those little known islands, where, in spite of the remarkable fact that it rains at least for some part of almost every day in the year, he has made a large collection of extreme interest. Several species, previously only know by one, or very few specimens, have been obtained in large series. Among such may be mentioned the curious *Liparocephalus brevipennis*, Mack., *L. cordicollis*, Lec., and *Tanyrhinus singularis*, Mack. Some species new to science have also rewarded his painstaking researches, such as *Haida Keeni*, Fauvel, and *Platycerus Keeni*, Casey.

Regarding the different orders of insects, there are a few records of general interest, as follows :

COLEOPTERA.—Since the last report a valuable contribution to entomological literature, "Coleopterological Notices, VII," has been received from the author, Capt. Thos. L. Casey. Among the new species described in this volume are several which occur more or less abundantly at Ottawa. With one exception they are all minute beetles belonging to the Scydmænidæ and Pselaphidæ, and occurring usually in the damp mosses of swamps, or in the nests of ants. The following is a list of the species mentioned as inhabiting Canada :

CARABIDAE.

Brennus insularis, n. sp. Queen Charlotte Islands (Keen).
Diplochila alternans, n. sp. A form occurring with *D. impressicollis*, Dej. (Ottawa, etc.), in which the alternate intervals of the elytra are dark red.

SCYDMÆNIDÆ.

Lophioderus biformis, Makl.—Queen Charlotte Islands (Keen).
Euconnus clavipes, Say.— Toronto.
fatuus, Lec.— Ottawa. Common in Dow's Swamp.
Pycnophus rasus, Lec.— Ottawa, etc. Not rare in colonies of *Lasius alienus*.
Connophron gandens, n. sp — Ottawa. Moderately abundant.
fossiger, Lec. — " Common in swamp moss.
pectinax, n. sp.— " Rather rare ; a very small sp.
Scydmænus badius, n. sp.— " One specimen.
corpusculum, n. sp.— " Somewhat common in moss.
californicus, Mots.—Queen Charlotte Islands (Keen).

PSELAPHIDÆ.

Batrisus Harringtoni, n. sp. Ottawa.
Decarthron laurenticum, n. sp. "
Reichenbachia corporalis, n. sp "
borealis, n. sp. "
binodifer, n. sp. Vancouver Island.
spatulifer, n. sp. Ottawa.

Pilopius saginatus, n. sp. Ottawa.
Tyrus humeralis, Aubé. "

CURCULIONIDÆ.

Copturodes dispersus, n. sp. Ontario.

An excellent monograph of the North American species of Bembidium, one of the largest and most difficult groups of the Carabidæ, has been published by Mr. Roland Haywood, and will be of great assistance to students in this hitherto perplexing genus. During the preparation of this paper a series of Ottawa specimens was forwarded to the author for examination, and among them was found one new species, which received the name *Bembidium Canadense*. The only two examples known of this pretty little beetle were taken at Brown's Wharf, opposite Buckingham, on 24th May, 1891. Another interesting species which occurs here, generally in swamp moss, and which had passed in collections as *B. lampros*, Herbst., was found to be distinct from that European species, and was named *B. muscicola*.

American coleopterists, as indeed all entomologists, have to lament the death, on 24th Nov., 1897, of Dr. Geo. H. Horn, who for many years has been recognized as the most eminent exponent of the insects of this great order. His collection of beetles was probably unequalled by any in America, and in the groups which he specially studied he is stated to have been unsurpassed by any in the world. His numerous papers always gave evidence of careful and skilful work, and of a remarkable faculty for recognizing important structural characters, and of making critical comparisons of the various members of any group investigated.

LEPIDOPTERA—Some work has been done during the past season in tracing out the life-histories of native lepidoptera Eggs of the bright and active little moth *Brephos infans*, were received from Montreal, through the kindness of Mr. H. H. Lyman, President of the Entomological Society of Ontario. The caterpillars were reared on the leaves of the canoe-birch. They proved very interesting pets. During the whole larval period several leaves, around the

one on which the caterpillar was feeding, were held together by single silk threads ; not abundant enough to permit of the enclosure being termed a nest, but sufficient to give much protection, and to steady the leaves at the tips of the slender twigs. Perhaps the most interesting observation on these caterpillars was with regard to their behaviour when ready to pupate. Owing to the large amount of silk spun over the food during the caterpillar stage, it was expected that the larvæ would spin cocoons, but instead they wandered restlessly about their cages, sometimes entering the earth at the bottom, but always coming out again, after a short time, and resuming their wanderings, very much in the same way as had been observed of the larvæ of the Cornel Sawfly (*Harpiphorus tarsatus*). Profiting by experience with the latter, a piece of rotten wood was supplied to them and they immediately burrowed into it and were no more seen. It is therefore probable that this is the natural method of pupation for this species. The pretty little moth flies very early in the spring, and sometimes is seen before the snow is off the ground,

Of injurious insects particular mention must be made of the Forest Tent-caterpillar (*Clisiocampa disstria*), which, for miles along the Ottawa river, stripped the aspen groves of every vestige of foliage, and also attacked more or less seriously several other varieties of trees. Much attention was attracted by their depredations upon the trees on, and around, Parliament Hill and elsewhere. During a part of July the moths from these caterpillars, as will be remembered, were so remarkably abundant throughout the city for several evenings as to cause considerable inconvenience to pedestrians. This was especially the case in the vicinity of electric lights, and shopkeepers suffered much annoyance from their swarming upon and inside their windows, and flying in through every opening. Immense numbers were destroyed in the arc lamps, and by being trodden under foot as they crawled upon the pavements. It is hoped that these obnoxious moths may not be so abundant next season.

A visit to the Mer Bleue, in the middle of June, resulted in

the capture of two specimens of *Argynnis Triclaris* and one of *Thecla Augustus*, and in the woods near the railway station a pair of *Phyciodes Batesii* were captured.

HEMIPTERA.—But few specimens were collected in this order, but mention may be made of the rather unusual abundance of *Corimelæna nitiduloides* and *Pentatoma juniperina*. The former occurred upon Turtle-head and Goldenrod, and the the latter swarmed upon the White Cedars at the Experimental Farm. At a recent meeting of the Club an account was given of the San José scale, and specimens of this insect were exhibited. As was then stated, this minute insect, which has such enormous powers of injuring fruit trees, has occurred at five points in Western Ontario and at three in British Columbia. Vigorous efforts are being made by the Provincial and Federal Governments to stamp out this pest.

HYMENOPTERA.—An unusually wet spring was apparently the cause of a noticeable scarcity of at least the larger forms of hymenoptera. This scarcity was particularly marked among the social bees and wasps, whose colonies are started by solitary hibernated fertilized females, styled queens. If unfavorable weather prevents the mother bee or wasp from obtaining food for the first brood, it must follow that the growth of the colony is greatly retarded, or that it may even perish, Micro-hymenoptera seemed abundant on the comparatively few collecting outings, but these minute forms are so numerous, and so varied in their habits, that they may be obtained under almost any conditions. A very nice series, including several additions to our lists, was taken even as late as 3rd Oct., on the occasion of the Club Excursion to Chelsea. The Ottawa representatives of the genus Ichneumon have been recently re-studied and rearranged and are found to number over seventy species, which may serve to indicate the immense number of forms belonging to the order Hymenoptera.

JAMES FLETCHER,
W. H. HARRINGTON,
WILLIBERT SIMPSON,
} *Leaders.*