

members for reference. There is also the obvious risk of fire. Recently, however, an offer has come from the Provincial Library to house the books there. I have been assured by the librarian that not only will the books be catalogued and cared for as they should be, but the library will undertake to issue them to members at a distance in conformity with the rules of the Society. I understand that the Natural History Society is making the same arrangement with regard to their library. I commend this plan to you as a most desirable one, and suggest that the Society give the offer of the Provincial Library their consideration and approval.

W. DOWNES, Hon. Secretary-Treasurer.

### PRESIDENTIAL ADDRESS, 1921

By E. H. Blackmore, F.E.S.

Gentlemen,—I did not intend to inflict an address upon you at this meeting, but being the twentieth anniversary of the founding of our Society, it is perhaps appropriate that I should say a few words on the progress of entomology in the Province during the last few years. As our worthy Vice-President, Mr. R. C. Treherne, is giving a review of economic entomology in B. C. during the same period, I will confine myself to the systematic side.

Mr. G. O. Day, in his presidential address in January, 1914, gave a rather comprehensive account of the work of the earlier entomologists in B. C., and also of the activities of the Society from its inception up to the end of the year 1913. His very interesting address is printed in full in No. 4 of our Proceedings, and it is an address that is well worth reading a second time, as it contains much valuable information, and I would like to recommend its perusal to our more recent members. I will take up, in as brief a manner as possible, the progress of systematic entomology since that date to the present time, including the part that the Society, through its active members, has played during that period. Before doing so, however, I would like to add a few remarks on the earlier days of entomology in B. C., which were not included in Mr. Day's paper.

The first scientific collector of insects on Vancouver Island of which we have any authentic record was a Mr. G. R. Crotch, who collected in the vicinity of Victoria in the month of July, 1871, some fifty years ago. After leaving Victoria Mr. Crotch went to California, where he collected extensively for the Museum of Comparative Zoology, at which institution many of his Vancouver Island captures are still to be seen. In 1876 Adolpheus S. Packard published his "Monograph of the Geometridae of North America," in which he described as new many of the species that were taken by Mr. Crotch at Victoria, so that Victoria and

Vancouver Island were well to the front in the first great work written on this family of moths in North America. Over forty species of Geometers are mentioned by Packard as being taken in Victoria by Mr. Crotch on that trip.

The work of the late Rev. G. W. Taylor, from the time he settled on Vancouver Island in 1877 until the formation of the B. C. Ent. Socy. in 1901, and of which Mr. Taylor was the first president, is fully treated of in Mr. Day's paper already alluded to, as is also the valuable work of the late Capt. R. V. Harvey.

The next active collector that we have record of was the late Mr. W. H. Danby, who came here from New York about the year 1888. He collected a number of species in and around Victoria and Goldstream, specimens of which were sent to his old time New York friend, Mr. B. Neumogen, who was himself a well known entomologist at that time, and who described many of Mr. Danby's captures as new, naming two of them after Mr. Danby, viz., **Diacrisia danbyi** and **Gluphisia danbyi**.

In 1896 the Rev. Geo. Hulst published a work on the "Classification of the Geometrina of North America," which was the first revision of this family since Packard's Monograph in 1876, just twenty years previous. In this publication Hulst described a number of new species, several of them being species sent to him by Mr. Danby from Victoria, one of which was named **Paraptera danbyi** in honour of the collector. (As regards this particular geometer it is a most singular thing that although it was described nearly twenty-five years ago, it has not been found in any other locality than Victoria, B. C., and even there is only taken in a somewhat limited area. It is called the big winter moth and emerges about the middle of November. The females are wingless.) In 1897 Mr. Danby moved to Rossland, B. C., where he collected actively for several years. Amongst his captures in this district there were many that were naturally new to B. C., and included several new to science, amongst which was **Jubarella danbyi**, named by Dr. Hulst in 1898.

In passing I may say that Mr. Danby died at his home in Victoria last May. He had been in failing health for some years, in fact for the three years preceding his death he had been partially paralyzed, the result of several strokes.

Associated with Mr. Danby in entomological work was Mr. C. de Blois Green, who had a ranch at Fairview. Mr. Green collected diurnals almost exclusively, and it was from this district that our first records from the Interior were obtained. In those early days there does not seem to have been any collections made in the other orders of insects, excepting perhaps Coleoptera, at any rate no reference is made to them in any of the local literature of that time. The first record of Coleoptera that I can find is a list by the late Rev. G. W. Taylor in 1885, entitled

“Notes on 76 species of Cicindelidae and Carabidae collected near Victoria.” Forty of these were apparently new to the Canadian Fauna. The next reference to this order was a list of beetles collected by the Rev. J. H. Keen at Masset, Queen Charlotte Islands. They comprised 142 species and were presented by him to the Provincial Museum in 1897. No further lists in any order appear to have been published until the appearance of the Quarterly Bulletins of this Society, which commenced in March, 1906. Ten of these Bulletins were issued, the last one bearing the date of June, 1900. Much interesting information is contained in them, and partial lists of many orders were given, apparently the work of one man—the late Capt. R. V. Harvey. I would like to see these lists revived, as our knowledge of the species in many orders is woefully deficient, but I am glad to say that in a few orders in which some of our present members are working, very useful and valuable records are being compiled, and I sincerely hope that the day is not far distant when we shall be able to publish fairly complete lists of the chief orders of insects occurring in the Province. While speaking of lists and before taking up the more recent work of our members, a few brief words on those that have been published in the past will probably be of interest. To my mind a comparison of lists of different dates is a fairly accurate indication of the work accomplished between the times of their compilation. At any rate a comparison of our B. C. lists shows this to a marked degree. The following notes refer to Lepidoptera exclusively—this order being the one which has the largest number of students and is also the one which first attracts the attention of the young collector.

The first list that I can find that is devoted to B. C. insects was published in 1891. It is contained in a publication entitled, “Papers and Communications read before the Natural History Society of British Columbia,” Vol. 1, No. 1. It contains a list of 29 species of butterflies taken in Victoria in the preceding year.

In 1893 the same society published another Bulletin, which contained a “Report on the Entomology of British Columbia by W. H. Danby and C. de Blois Green.” Some progress had been made in those two years, as the 29 species of Butterflies had grown into 90, along with 71 species of moths, which included 2 sphingids, 9 arctiids and 53 noctuids. The geometers taken at that period were not named, owing to the difficulty of getting them determined.

In 1898 the late John Fannin published a “Preliminary List of the Collections of Natural History and Ethnology in the Prov. Museum.” Apparently very little entomological work had been done during those five years, as the butterflies had only been increased by four species and the noctuids by two. The geometers still remaining unlisted.

In 1903 Dr. H. G. Dyar visited the Kaslo district where, under the guidance of one of our old members, Mr. J. W. Cockle, he made large

and extensive collections of Lepidoptera during the entire summer. In the fall he paid a visit to Vancouver Island, where he made the acquaintance of many of our old members and continued his collecting activities. In 1904 he issued his "List of the Lepidoptera of the Kootenai District," and that gave a great impetus to systematic collecting in the Province.

Following upon this was a "Check List of B. C. Lepidoptera," compiled by Mr. F. Kermode with the assistance of Mr. E. M. Anderson, and issued under the auspices of the Provincial Museum. It was made up from specimens in the Museum collection with the additions contained in Dr. Dyar's "Kootenai List." This was a distinct advance and served as a basis for future work. It contained the names of over 1,000 species and contained the first list of Geometridae and Micro-lepidoptera published in the Province; one hundred and eighty-seven species of geometers were recorded and 226 species of micros.

Naturally there were many errors in it—misidentifications and duplication of names, that is to say, in some cases the same insect was listed under two or more names. Much valuable work was done during the next two years, and a large number of species in the different families were added to the ever-growing list, and it was finally decided by the officers of this Society to bring out a new Check List of B. C. Lepidoptera. It was eventually issued in the fall of 1906, under the auspices of the Provincial Department of Agriculture. It was a great improvement on the previous list, as many of the most glaring errors had been removed and a number of new additions were recorded. No less than seventeen species of geometers and 51 species of micros being added in those two seasons. Since then no further Check List has been published, although additions and corrections in many of the families have been noted from time to time. These are to be found in (1) the Bulletins of the B. C. Ent. Socy. 1906 to 1908, (2) the Proceedings of our Society from 1914 up to the present issue, and (3) the Annual Reports of the Provincial Museum from 1915 to date, the latter having been especially useful, as it regularly contains two half tone plates representing new or rare species of Lepidoptera, many of which have not been figured elsewhere.

Just to show the amount of work that has been accomplished during the last few years, I have taken the following figures from my manuscript list of B. C. Lepidoptera.

At present I have listed 189 diurnals, 518 noctuids, 310 geometrids and over 400 species of micros. I have left out the figures of the other families, as they are comparatively small. These figures show a large increase over the number of species recorded in the 1906 list. To be exact, they show an addition to our fauna during this period of 57 butterflies, 129 noctuids, 106 geometers and 125 micros.

There are a large number of past and present members who have contributed in a greater or lesser degree to this knowledge of our lepidopterous fauna. Some of them have passed away, others have given up active collecting through various reasons, but the majority, I am pleased to say, are still with us. Their names in alphabetical order are: E. M. Anderson, W. B. Anderson, T. Bryant, the late A. H. Bush, W. R. Carter, J. W. Cockle, A. J. Croker, G. O. Day, W. Downes, A. W. Hanham, the late Capt. R. V. Harvey, L. E. Marmont, A. W. Phair, R. Sherman, the late Rev. G. W. Taylor, R. C. Treherne, the late Tom Wilson, and I suppose that I may also add my own name, as I have done a little towards discovering some new species, especially amongst the Geometridae.

Turning to the other orders, I would like to acknowledge the great amount of good work accomplished in the order Diptera by Mr. R. Sherman, who has proved himself a worthy successor to the late Capt. R. V. Harvey. In recent years Mr. Sherman has made a special study of the family **Mycetophilidae** or Fungus gnats, and the result of his labours is shown in the magnificent list of species given in No. 14 of our Proceedings, which has recently come to hand; 139 different species are listed, 35 of which are new to science, and are being described by him. I am especially pleased to see this, and I sincerely hope that we shall have similar lists in various other orders in the near future.

In the other two large orders, Coleoptera and Hymenoptera, apparently very little work has been recorded. Mr. A. W. Hanham still keeps adding to his large collection of B. C. Coleoptera, and I am sure that a list of the specimens in his cabinets, together with the new species that have been described in recent years, would make a fairly complete record of our coleopterous fauna.

The order Hymenoptera seems to have been altogether neglected of late years, which is to be regretted, as I am confident that we have a large and practically untouched field in which to work, especially in that section known as Parasitic Hymenoptera. Mr. W. B. Anderson, whose duties take him to all parts of the Province, has, however, collected considerable material in this as well as in other orders of insects. This material is now being worked over in Ottawa, and I shall be very much surprised if many species new to science are not amongst it.

During the last three seasons Mr. W. Downes has been applying himself very diligently to the study of that hitherto much neglected order Hemiptera and with most satisfactory results. This order is divided into two sections, the Heteroptera and the Homoptera. In the former group 129 species new to B. C., including six species new to science, have been added to our former somewhat meagre list; in the latter group (the Homoptera) 42 species new to B. C. have been recorded. These additions bring the total of known Heteroptera in this Province to some 206 species and the Homoptera to about 70.

Much of the material in this latter section is as yet unidentified, but when thoroughly worked over, there will probably be found amongst them several new to science as well as many new to B. C. The collectors who have assisted Mr. Downes with material, etc., are: E. M. Anderson, E. R. Buckell, A. W. Hanham, Mrs. W. W. Hippisley, A. W. Phair, M. H. Ruhman, R. Sherman, R. C. Treherne, E. P. Venables and R. C. Woodward.

Mr. E. R. Buckell, who has been making a special study of the grasshopper outbreak in the Chilcotin country, has added considerably to our knowledge of the order Orthoptera, and has recorded several species new to British Columbia.

The order Thysanoptera is one of the most neglected orders in Canada, but Mr. R. C. Treherne has made an exhaustive study of one of its chief families, i.e., the **Aeolothripidae**. In No. 12 of our Proceedings (Feb. 1918) Mr. Treherne gave a very interesting paper on this family, which was of great taxonomic value. It contained references to all the known species, with keys to the genera and species, also a plate of diagrammatic outlines of the wing and female antenna, shaded to show the specific characters of 10 different species.

In a further article in the *Can. Ent.*, August, 1919, Mr. Treherne described a new species of Thrips from Vernon, under the **Aeolothrips auricestus**. As some of the species of this family are of great economic importance, Mr. Treherne's work in this group is very valuable.

I think, gentlemen, that you will agree with me that this Society has justified the twenty years of its existence, and that we have a record of which we can be justly proud.

In conclusion I wish to thank you for giving me so patient a hearing, but as this is probably the last time that I shall address you as your President, I would like to say that this recapitulation of our past efforts should be a stimulus to every one of us to do his best in his own selected field, for much work yet remains to be done.