

REPORT OF THE ALBERTA NATURAL HISTORY SOCIETY
Red Deer, December 31st, 1920.

Sir, — I beg to submit herewith the Annual Report of the Alberta Natural History Society for 1920.
Respectfully submitted,

C. H. Snell,
Secretary-Treasurer.

ENTOMOLOGICAL REPORT FOR 1920.

(By F. C. Whitehouse)

In this, my seventh annual report, I am able to state that so far as central Alberta is concerned, insect pests during the past season (1920), caused less trouble than usual. Spring opened very late, and weather conditions were not favourable for cutworms. It was cold and wet when the "worms" were in their early stages, so Nature in her own way headed off the multiplication of the insects promised in 1918 and 1919.

Beet Web-worms. — In Alberta they appear to be widening their range. South of Red Deer they were reported by several farmers, and in one garden, to my personal knowledge, very considerable damage was done. The food-plant of this pest is lamb's quarters, for which reason it is a dangerous weed in the vicinity of gardens. By the kindness of the Dominion Entomologist, Mr. Arthur Gibson, I am able to add the following interesting report of insects of the year in Alberta prepared by Mr. E. H. Strickland. Owing to an unusually wet and cold spring there was practically no insect activity in any part of Alberta before the middle of May, when a few hibernating adults, such as *Yanexsa antiopa* Lucillid and Carabid species were in evidence. With the approach of summer, however, insects became unusually abundant, and the season was marked by severe outbreaks of several insects of economic importance.

Grasshoppers. — The most severe outbreak of grasshoppers since Alberta became an agricultural province was experienced this year. The worst infected area was in the western half of the Province and south of the C.P.R. main line, though a local outbreak of *M. atlanin*, together with other less abundant species, at High Prairie in the Peace River district, was investigated by Mr. D. E. Mackie.

The Pellucid or Road-side grasshopper (*Camnula pellucida* Scud.) and the Less Migratory grasshopper (*Melanoplus atlanis* Riley) were responsible for about 90 per cent, of the damage. Other species, however, were unusually abundant. Most noticeable were the two-striped [*M. bivittatus* Say], Packard's (f. *packardii* Scud.) and the Carolina (*Dissostiera Carolina* Linn.) grasshoppers.

From the excessive numbers of eggs found in the autumn — at several places these exceeded 1,750 to the measured square foot — it can be assumed that we may have a more serious outbreak in 1921.

Cantharid and Bombyliid larva; were moderately numerous, feeding on these eggs in the extreme south, but north of line running east and west through Claresholm no enemies of the grasshopper have been found.

Crickets. — The large repulsive-appearing Coulee Cricket (*Peranabruscabrae ollis* Thom.) was unusually abundant in the foot-hill country and it extended farther eastward than is usual. It has deposited numerous eggs in grain fields and in sod.

Field Crickets (*Gyrillus pennsylvanicus* Burm.) were very numerous in the autumn.

Cutworms. — The red-backed cutworm (*E. ochragaster* Gn.) which is frequently a serious pest, was rarely present in destructive numbers. This was due, probably, to heavy parasitism by the Hymenopteron *Amhlyteles suturalis* and by Tachinidae in 1919" The pale western cutworm (*P. orthonia* Moir), however, took heavy toll of grain crops in the open prairie, though the height of the present outbreak has apparently been passed.

In the fall larvae of *Euxoa tristicula* were taken in numbers from summer fallow at Retlaw. In 1918-19 this species caused considerable alarm, though they did no damage. Over 33 per cent, of the hibernating larvae were killed in the spring by the polerabyronic Chaleid, (*Berecynthus hakeri* How), of which an average of 824 adults escaped from every parasitised larva.

The Beet Webworm (*Loxostege sticticalis* L.) This year probably witnessed the most widespread outbreak of this insect that has ever occurred in Alberta. Of the two generations, the second, of which the larvae appear in September, usually far exceeds the first in point of numbers. During the first half of June adults were very abundant, and eggs could be found frequently on Lambs-quarters (*Chenopodium album* L.) By the middle of July larvae of the first generation appeared in unprecedented numbers throughout the south-western portion of the province, and were recorded as unusually numerous as far north as Edmonton. Gardens disappeared almost overnight. On July 10th two trains on different lines running south from Calgary were stopped by migrating larvae, and a few days later the city of Calgary itself was invaded to an extent that seriously annoyed and alarmed the citizens. The outbreak of webworms was, however, decidedly beneficial to Alberta. Graii fields for hundreds of square miles, had their value enhanced by anywhere up to 100 per cent, by these larva?. The late season had necessitated excessive "stubbling in" and many fields contained far more weeds than wheat, with insufficient moisture to develop this multiple crop. In such fields hungry swarms of webworms destroyed all classes of weeds while their feeding on the grain crop was confined to an occasional nibble at the upper epidermis of a blade.

The second flight of moths exceeded anything ever experienced before. A trap hung under an ordinary porch light at Lethbridge overflowed on several occasions in August, having captured its capacity limit of 15,000 moths. Rains in July caused a rapid growth of weeds that were soon plastered with eggs. A subsequent total drouth of many weeks duration accompanied by hot winds, dried up these egg-infested weeds. With them perished a generation of newly-hatched webworms which given favourable conditions, would probably have caused 1920 to be long remembered in Alberta as "the worm year."

A few larvae apparently underwent a forced development owing to lack of food, for on September 14 a few v'ery much undersized adults, representing a partial third generation, were taken at Lethbridge.

Wheat Stcjin Sawfly. — Larvae of what is probably the Western Wheat Stem Saw-fly (*Ceplnix occidentalis* R. & M.) were found at Brooks where they had cut off a number of maturing wheat stems. The injury was confined to small areas around the edges of a field, but this is the first record in Alberta of tin- presence of a pest that has caused up to 70 per cent, damage in individual fields in, Manitoba.

The currant worm (*Ptcrorns ribe.tii* Scop.) was noticed at Lacombe, as was also the Diamond Backed Moth (*Plutella maciilipcniiix* Curt.) which attracted somewhat widespread attention and was occasionally considered as a wheat pest on account of larvae from weeds ascending to the grain heads for pupation. Potato beetles (*heptinotarsa dcccmlincata* Say) cleaned out most of the wild tomato found in grain fields and waste places, but were not exceptionally numerous on potatoes.

Shade trees in the south were unusually free from insects. The noetuid (*Ifynchagrotis placida* Grote) was bred from larva- collected on cottonwoods. The sphingid (*Pavln/.iphynx modesta* Ilarr.) did little damage to cottonwoods while one leaf only of these trees was found with a hlackened area indicating that it contained a larva of the leaf mining beetle (*Zetigopliora scutHlaris* Suffr.)

The dung beetle (*Aphodiiis ivguinatus* Abst.) attracted some attention in the fall by settling in dense masses on and rapidly triturating all horse droppings on country roads.

House flies and the clothes moth (*Linca peUienella* Linn.) have been unusually abundant, the latter having spread to many villages that were previously uninfested.

It is with much regret that we have to report some serious losses from the personnel of the society's executive during the past year. Mr. F. C. Whitehouse,

for several years manager of the Red Deer branch of the Canadian Bank of Commerce, has been moved to Nelson, B. C. He has been a member of this society for some years and its president since January, 1917. An enthusiastic naturalist, particularly interested in Entomology, he devoted much of his time to the study of insect pests, publishing many articles and reports which have proved of great value to the farmers of this province. His pamphlet on the Dragonflies (Odonata) of Alberta was published by this Society in 1918, and attracted wide interest. The society's entomological report, originated and prepared by him, has become one of the most valuable features of our annual report.

We have also to report the resignation of Miss R. E. Fyson from the position of Secretary- Treasurer, on her return to England.

In August last this society published Mr. V. S. Carr's annotated list of the Coleoptera of Northern Alberta. As noted by Mr. Carr, in his introduction, this is the first "Beetle" list published for any region west of Toronto. It is proving of great interest and usefulness to collectors and students of this important order.

A branch of the Alberta Natural History Society was formed in Medicine Hat in March last. Keen interest is being taken in field work and some assistance has been rendered in the formation of a museum in the Medicine Hat high school.

In the spring of this year some consideration was given to the question of the better protection of our wild birds in this province. As a result of this, several of our members applied for, and received, appointments as Honorary Bird Wardens under the Migratory Birds Convention Act.

The Red Deer School Fairs Association held its first annual fair in Red Deer on October 1st. Our Society offered prizes at that event in the following classes: Collection of Insects, named; Collection of Plants, named; Collection of Noxious Weeds with Seeds. Although these classes were not as well filled as we could have wished, much interest was shown and there is every prospect of a much keener competition if these classes should be continued in next season's fair.

Prizes were again offered at the Red Deer Horticultural Society's show, but the class did not fill and but one was awarded.

In June last two of our members, Mr. F. C. Whitehouse and Mrs. W. A. Cassels, were invited to Edmonton to assist in the university extension work amongst young farm people. In spite of inclement weather, some useful work was accomplished. The society's publications are attracting wide attention and much favourable comment. Students or organizations desiring copies of any of the following can obtain them by applying to the Secretary, Red Deer.

Annotated Check List of the Macrolepidoptera of Alberta by Kenneth Bowman,
Dragonflies (Odonata) of Alberta by F. C. Whitehouse, Annotated List of Coleoptera of Northern Alberta by F. S. Carr.

Secretary-Treasurer's Report for the Year Ending November 30th, 1920

The fourteenth annual meeting of the Alberta Natural History Society was held in the Public Library, Red Deer, on Friday, November 28th, 1919. At the business session in the afternoon the following officers were elected for the year 1920:

Hon. President — The Hon. Duncan Marshall.

First Hon. Vice-President — Mr. J. J. Gaetz. M.P.P.

Second Hon. Vice-President — Mr. H. A. Craig.

Hon. President — Mr. F. C. Whitehouse.

First Vice-President — Mrs. W. A. Cassels.

Second Vice-President — Dr. Henry George.

Secretary-Treasurer — Miss R. E. Fyson.

Directors— Mrs. H. George, Mrs. S. Pameley, Mrs. G. F. Root, Mr. E. Wilton, Mr. K. Bowman, Mr. F. S. Carr, Mr. D. Mackie, Mr. C. H. Snell, Mr. W. F. Harris.

At the well-attended evening session the executive report was read by Mrs. VV. A. Cassels and the entomological report by Mr. F. C. Whitehouse.

These reports were followed by an interesting paper on the Crow family by Dr. George, supplemented by a number of specimens of birds and eggs from the doctor's museum.

This was followed by an excellent talk on the Birds of Flagstaff, Alberta, by Professor Fleming of Edmonton.

The following papers were given at other meetings during the year:

January 30. — "Insects and Civilization," by Mrs. S. Pameley.

February 27. — "Conservation of Wild Life," by Mr. W. F. Harris.

March 24. — "Insect Camouflage," by Mr. F. C. Whitehouse.

April 30.— "Through Life's Windows," .by Mr. H. J. Snell.

A very enjoyable field day was held on July 1st — a trip to the canyon of the Red Deer river, about seven miles east of the city.

The monthly meetings were suspended as usual during the summer months.

FINANCIAL REPORT

Receipts : Expenditures :

Balance in Hand Dec. 1, 1919	\$ 96.11
Printing and Stationery	\$ 11.75
Members' Fees	4.75
Railway Fares	9.15
Government Grant for 1919.	100.00
Canadian Field Naturalist..	4.00
Government Grant for 1920.	100.00
Stamps	1.15
Livery	7.50
Prizes at Horticultural Show	2.50
Hamly Press	91.80
War Memorial Committee (Donation)	25.00
Prizes at Red Deer Schools Fair	14.00
Donation to Geo. L. Cook. . .	10.00
Secretary's Salary (9 mos.)	16.25
Balance in Bank	107.76

Total 300.86 Total \$300.86

O. H. Snell,
Secretary-Treasurer.
Audited November 24th, 1920, by S. Pameley.