

REPORT OF THE ALBERTA NATURAL HISTORY SOCIETY

ENTOMOLOGICAL REPORT, 1919, BY F. C. WHITEHOUSE

Weather conditions (luring 1919 were similarly favourable for insect pests as in 1918 in that the month of June was virtually devoid of rain: and in this sixth annual report the most serious crop losses for some years must be recorded.

FIELD CROPS.

Cutworms were reported as causing trouble in the Spring from all over the province, and much re-seeding had to be done. In the central section, Calgary to Edmonton, two species were chiefly responsible, of which the Red-backed was the worst offender. Mr. Strickland, of the Dominion Entomological branch, Lethbridge, came north to investigate, i.e. to determine the species at work, and advise respecting methods of control, poisoning, etc. In the southern portions of the province, however, farmers had to contend not only with the Red-backed cutworm and other well known offenders, but also an assortment of the new ones.

GARDEN PESTS

Cutworms. — The Red-backed cutworm (*Euxoa ochrogaster*) is reported above as being the chief offender in destroying field crops during 1919, and since it is the species particularly addicted to gardens it goes without saying that gardens suffered severely. As a matter of fact hundreds of farmers after sowing gardens a second and third time gave up in disgust and dispensed with gardens altogether. If dry seasons favourable to cutworms are to continue farmers might be well advised to delay seeding gardens until the ground can be first treated with poisoned bait, i.e. to kill off the cutworms in the soil as a preliminary measure.

Beet Webworm (*Loxostege sticticalis*.) — This pest was mentioned in last year's report as causing damage to gardens in Alberta. During the past season it was even more troublesome. One case of total destruction close to Red Deer was reported to me, and in another I saw thousands of the caterpillars on a large patch of several acres of 'lamb's quarters' adjoining the garden. To permit such a patch of weeds near a garden was to invite trouble. This pest is a caterpillar about an inch in length, greenish in colour, with yellow stripes on the back and sides.

The Hop Flea beetle (*P. sylliodes punctulata*.) — In Red Deer this pest was in evidence on garden beets, and the leaves of young plants were badly eaten off in some cases. The beetle is bronze black in colour, and about one-twelfth of an inch in length. Where the insect is troublesome on hops the usual method of control is to place tarred paper or canvas beneath the vines and then brush the vines with a feather duster. The beetles jump and are caught on the tar. The same idea could be followed in gardens by placing sheets of 'tangle-foot' on two shingles close to the stems of the plants on either side of the row, and then tapping the plants.

TREES

The Forest Tent Caterpillar (*M. disstria*.) — As stated in my report of last year, the Dominion Entomological Department has had the outbreak of this pest at Sylvan Lake under observation for the past two or three years. An attempt is now to be made to introduce a parasite from British Columbia — a tachina fly — and the first supply of the flies in the pupal stage were taken to the lake this fall by two officers of the Department. In the spring an officer will again visit the lake, and check the emergence of the adult flies, it being of course essential to know whether the imported parasite can survive the winter under natural conditions. Whereas some species of tachina flies lay their eggs on the caterpillars, and other species again deposit larvae within the caterpillar. The particular variety being introduced at Sylvan Lake operates in yet a third manner; it lays its eggs on the foliage of the trees where the caterpillars are feeding, and the caterpillars in consuming the leaves take also the eggs of the death-dealing parasite. Almost needless to state, should the experiment prove successful, the new parasite will spread: and not only Sylvan Lake district, but all central Alberta where the pest occurs, will benefit.

Spruce mite. This pest was mentioned in my report of last year as being in evidence in Red Deer both on transplanted spruce and also on the native spruce in the parks. Though the summer was dry and favourable to the

mites, injury to transplanted spruce was much less apparent than in 1918; the pest, however, was again noticeable on the large native trees, and it appears to be fairly well established.

Bark beetles. — Specimens of white spruce from Red Deer district showing bark beetle injuries were forwarded to Mr. J. M. Swaine of the Dominion Entomological Department in the spring, and were identified by him as (*Ips hudsonicus*) and (*Ips perturbatus*,) which species he stated are the common bark beetles in white spruce throughout the whole region of north and western Alberta. It is probably not generally known that according to competent authorities the annual loss caused by bark beetles and other pests in our forests is greater than that caused by fires, — truly, an appalling thing to consider.

I am able to add the following additional notes through the kindness of the Dominion Entomological Department: Western Blister beetle (*Cantharis nuttalli* Say.) — This strikingly beautiful beetle, which is present in more or less noticeable numbers almost every year, was again destructive to the foliage of caraganas, English broad, and other beans. It is frequently referred to locally as "The Caragana Beetle."

Locusts. — In some localities, particularly in the south, these insects are very abundant. The Pellucid Locust (*Camnula pellucida* Scud.), and the Lesser Migratory locust (*Melanoplus atlantis* Riley,) were present in such large numbers that they constituted a serious menace to the crops. Other locusts which were present in unusual abundance were the Two-striped (*M. bivittatus* Say,) Packard's (*M. packardii* Scud) and Carlin's locust (*Circotettix carlinianus* Thom.)

Diamond-back moth (*Plutella maculipennis* Curt.) — In some sections this pest was very destructive to cabbages and cauliflowers. In the Edmonton district it was exceptionally injurious, its work being noted particularly where cauliflowers were grown.

Aspen Leafroller (*Caeoecia conflictana* Walk.) — Early in June nearly every geometrid were present in large numbers on a half mile strip of Manitoba maples at Lethbridge. By June 17th the trees were entirely defoliated, and the caterpillars were feeding on neighbouring elms and poplars. The destroyed leaves were replaced later in the season by a second growth of foliage. The female moth is wingless, and it resembles, superficially, a spider.

Aspen Leafroller (*Caeoecia confliciant* Walk.) — Early in June nearly every leaf of the aspens in various sections of the province, especially around Blackfalds, enclosed a larva of this moth. About a month later a very large flight of the adults was attracted by the city lights of Calgary, where they were mistaken for "cutworm moths."
Currant Span-worm (*Cymatophora ribearia* Fiteh.) — ^The larva of this moth defoliated all varieties of cultivated and native currants at Coaldale and Lethbridge.

Sugar Beet Webworm (*Loxostege sticticalis* L.) — The moths of this well known pest were enormously abundant during 1919, and appeared in large numbers, and their presence in fields and gardens caused considerable anxiety among farmers. They do not, however, injure grain crops, but in the fields feed almost exclusively upon lamb's quarters and Russian thistle. When these are exhausted they may feed to some extent on alfalfa or flax, though there is practically no garden grown vegetable or flower that will not be eaten down to the ground by a passing swarm of these larvae.

Cutworms. — Several species of these noctuid larvae were unusually abundant this year, and they destroyed hundreds of acres of crops in widely scattered sections of the province.

The Palo Western Cutworm (*Porosagrotis orthogoniua*, Mort.) which is the most destructive species in the province, was particularly numerous in the area south of Calgary.

The Red-backed Cutworm (*Kuxoa oclirogaster* (In.) occurred in destructive numbers in many sections throughout the province.

The Black Army Cutworm (*Xoetua fennica* Tauseli) was found in large numbers travelling with *K. oclirogaster*, at Blackfalds.

A new cutworm (*Kuxoa tristicula* Morr) was reported in the fall of 1918 from Stettler. Lougheed and Retlaw. The hibernating larvae were nearly all mature before the 1919 crops were above ground.

EXECUTIVE REPORT FOR 1920

In the Society's Report of a year ago mention was made of the anticipated release from military service of Mr. F. H. Wolley Dod. and his return to the province: and it is with deep regret that his death of enteric must now be recorded. The late Mr. Dod, for many years a rancher in the Midnapore district, was an old time member of the Society and the pioneer worker in Alberta in entomology. A copy of the obituary notice which appeared in *The Canadian Entomologist*, October issue, will be forwarded for publication with the Society's report.

In January last, at the suggestion of Mrs. Root, a meeting was held in the school at Wetaskiwin and papers were given by the following members: Mrs. W. A. Cassels, "Waterfowl;" Dr. H. George, "Carnivorous mammals of Alberta;" and Mr. F. C. Whitehouse, "Fishes of Alberta" and "Faunal Zones." Interesting discussions followed the papers, and the meeting, due to Mrs. Root's enthusiastic management, was undoubtedly a success.

Our Society in March last published Mr. K. Bowman's "Annotated Check List of the Macrolepidoptera of Alberta." This list will prove most valuable to students of Lepidoptera, (i.e. Butterflies and moths.) not only of today but for many years to come, as it is an epitome of all that has been accomplished in the Order in the province to the date of publication. Reports upon the list from outside sources have been most complimentary.

For the past seven years another member, Mr. F. S. Carr, of Edmonton, has been working upon a Check List of the Coleoptera (beetles) of the province. It is the aim of our Society to publish the list as soon as it is ready, for the Order is of the greatest economic importance and a wider knowledge concerning it is most desirable. In the September issue of the *Canadian Field Naturalist* an article appeared by Mr. Whitehouse "Notes on some of the Fishes of Alberta and Adjacent Waters." In this article the province of Alberta is included in the range of three well known fishes, excluded in the Dominion Government Check List of 1919, viz.: Goldeyes, Pickerel and Perch: and general information is given concerning the range, habitats, etc., of our western fresh-water fishes.

The Entomological Record for 1918 bears witness to the activities of our Edmonton members, the lists of new records of Lepidoptera by Messrs. Bowman and Mackie; and Coleoptera by Mr. Carr, being gratifyingly lengthy. At the request of the Red Deer Horticultural Society prizes were offered by our Society for named collections of leaves of trees and shrubs. The classes did not fill, and but one prize was awarded. In the spring the name of the publication *The Ottawa Naturalist* was changed to *The Canadian Field Naturalist*: and Natural History Societies throughout Canada were invited to affiliate. This offer our Society readily accepted as co-operation in work in Natural History is highly desirable. The publication, established thirty-two years ago, deals with all branches of Natural history, and has an editorial staff of the highest order. The names of officers and corresponding members of affiliated Societies appear in each number issued, and other privileges include the publication of reports of annual meetings, special papers, etc.

During the cutworm outbreak in the spring advice was gladly given by our members when requested by farmers, and articles upon the subject appeared in the local papers. Fuller information concerning the insect pests of 1919 is given, as in past years, in Mr. Whitehouse's Entomological Report.

NOTE. — Students of entomology within the province can obtain copies of the Society's publications upon application to the secretary. Red Deer, viz: Mr. K. Bowman's "Annotated Check List of the Macrolepidoptera of Alberta" and Mr. F. C. Whitehouse's "Dragonflies (Odonata) of Alberta."

OBITUARY. F. H. WOLLEY DOD. On the 24th July, of enteric, at 49 Hospital, Chanak, Frederic Hova Wolley Dod, of Midnapore. Alberta, Sec. Lieut., Yorkshire Light Infantry, attached Macedonian Labour Corps.

Naturalists are born, not made, and if ever there was an enthusiast — a zealous seeker of scientific truths, it was our good friend who is gone. But to F. H. Wolley Dod even his beloved study of entomology had to take second place in his thoughts after the outbreak of war. He must go, and serve' and handicaped by his years, and his unfitness as a fighting man, he finally overcame all obstacles: obtained a commission: and served as a lieutenant in a Labour Battalion in Macedonia.

His last letter to me was joyous in the Allied victory, and full of plans for the future. 'He must set up his Macedonian material, do a little collecting in England for old times sake; and then for Canada, and a trip into the mountains for alpine stuff. Would I go with him?" Aye, gladly would I go!
Dod was the pioneer worker in Alberta on the Lepidoptera, with a special leaning to the Noctnidae. For many years

He contributed regularly to The Canadian Entomologist, the first of his long series of paper "Preliminary List of the Macrolepidoptera of Alberta" appearing in June, 1901. Five or six years ago he again went through his list, publishing additions and corrections. He also published papers in The Entomological News.

His great trait was thoroughness: and a bookcase of his notes on the type specimens, made on the occasions of his periodical visits to South Kensington, etc., not to mention his fine private collection, bear witness to his diligence. In the end he would take nothing for granted; and believe nothing unless substantiated by proofs. Nor can he be blamed for his incredulity when his own side of the case was told, viz., the confusion and added difficulties of his work in the early days, due to the snap judgments and incorrect identifications of the specialists of that time. So thoroughness begat real knowledge and in the end he enjoyed an international reputation as an authority. if not the greatest authority, on the North American Noctuidae?.

A member of a well-known English family, and of excellent education, he loved his Alberta ranch at Midnapore next only to the Empire, and the science to which he devoted his leisure hours for so many years. As a scientist leaving an irreparable gap in the ranks, his death could be deplored, and as a friend I could find it in my heart to bitterly begrudge his loss. But neither of these would be worthy nor characteristic of the man — of the sacrifice he so gladly made, and the life lie was so ready to give. He, I know, would have but one request to us all: "Continue the good work!"
F. C. W.

SECRETARY-TREASURER'S REPORT FOR THE YEAR ENDINO NOVEMBER 30th. 1919.

The annual meeting of the Society for 1915. which should have been held as usual in the month of November, hid of necessity to bepostponed on account of the influenza epidemic, it was finally held on Friday, Dec. 27th of that year, in the Public Library, Red Deer.

At this meeting the following officers were appointed for the year 1919:

Hon. President. — The Hon. Duncan Marshall.

1st Hon. Vice-President. — Mmr. J. J. Gaetz, JLP.P.

2nd Hon. Vice-President. — Jlr. H. A. Craig.

President. — Mr. F. C. Whitehouse.

1st Vice-President. — Mrs. W. A. Cassels.

2nd Vice-President. — Dr. Henry George.

Secretary -Treasurer. — Miss Fyson.

Directors. — Mrs. George, Mr. Iv. Wilton, Mrs, Pamelv. Mi. K. Bowman. Mrs. Root. Mr. F. S. Carr. Miss Cole. Mr. 1). Mackie, Miss Goudie.

At the evening meeting.. The executive report for the year was read by Mrs. Cassels, and the Entomological report dealing with insect pests, etc., by Mr. Whitehouse.

This was followed by a very interesting paper on Mammals of Alberta by Dr. George, which was illustrated by many specimens from Dr. George's collection.

Mr. Whitehouse gave a very interesting paper on Faunal Zones which also was illustrated by maps and by specimens of insects belonging to the different Alberta zones.

The meeting was very well attended and real interest was shown by the audience.

During the year 1010, eight monthly meetings took place with an average attendance of nine members. There were not many set papers or lectures, the meetings being used more for the informal discussion of various natural history subjects. The lectures given were as follows :

Feb. 21st. — Notes of a survey tour down the Peace River and through the Peace Delta in 1916. by Mr. H. C. Snell.

Mar. 28th. — Demonstration of the use of the Balopticon by means of specimens from his collection of butterflies and dragonflies, by Mr. F. C. Whitehouse.

Sept. 26. — Some account of various kinds of mushrooms hitherto considered unsafe for food, by Mrs. Powell.

A Field Day was held on June 25th, an expedition to the Tamarack Swamp west of Red Deer, which was much enjoyed by those members who were able to be present.

The monthly meetings were suspended during July and August as in 1918.

New members who have joined during the year are: Mr. and Mrs. J. J. Gaetz; Miss Bentley, of Lethbridge: Mr. Thos. Baird, of High River: Mr. and Mrs. Parker: Mrs. Powell; Mr. W. F. Harris.

FINANCIAL REPORT

RECEIPTS: EXPENDITURE:

1918. Dec.1,	Balance in Hand .\$.	104.91
	Printing, etc	\$ 10.75
	30th Govt. Grant for 1918.	\$100.00
	Railway fares	7.20
	Member's Fees	\$6.50
	Livery	4.00
	Subs.to "Ottawa Naturalist	4.00
	Secretary's salary	20.00
	Aff. Fee "Ottawa Nat." . .	5.00
	Esdale Press	68.00
	Rubber stamp	.75
	Prize at Horticul.Show	1.50
	Stamps, note-book	2.10
	Cash in Hand	.15
	Balance in Bank	95.96
		\$215.41 .

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Audited Nov. 27th. 1010, by S. Pameley