

## REPORT FROM OKANAGAN DISTRICT.

The purpose of this paper is to take a more or less rough survey of the Okanagan district, not confining myself necessarily to last season, as I have not had time to do any collecting worth speaking of during 1911.

I hope, however, that the paper may not be altogether uninteresting to the members present. I feel that a list of my captures would not be of much particular interest. I shall, therefore, begin by giving notes on those species which have been, during the last few years, of some economic importance, with notes on other species that may be of use to those who are working on the distribution and life histories of the insects of the Province.

The past few years have not been marked by any serious outbreak of injurious insects, but certain species have done a good deal of harm. Among these the Fall Webworm has been quite troublesome in some districts. Hand picking or burning the webs with a torch has been found the most simple and effective means of destroying them; but where spraying has to be done for fungous troubles, Paris Green may be mixed with the Sulphate of Copper solution to advantage.

The Caterpillar of the Diamond Back Moth, which is very numerous at all seasons, was found to be attacked by a parasite, a species of Ichneumon which emerged in large numbers from the chrysalids in breeding jars. The Diamond Back Moth is becoming as serious an enemy to cabbage growing in the open as *Pieris rapae*, but as the same remedy, the mixture of flour and insect powder destroys both, there is not much danger for the crop where steps are taken in time.

The larvae of *Datana ministra* attracts some attention by stripping the leaves from young fruit trees during the summer, but this species never appears in sufficient numbers to cause any great harm.

During the summer of 1908 there was a somewhat interesting attack on prune trees, by a small larva to which I have applied the name the "Prune Twig Borer." My attention was attracted by noticing that the terminal shoots were in many cases drying up for no apparent reason. On examination, however, it was found that these twigs were being bored by a small brown caterpillar eating the pith of the young shoot. By and bye I noticed that these shoots broke off with the contained larva, which no doubt enters the ground to pupate. I have so far been unable to discover to what species the damage is due.

The beetle, *Otiorynchus sulcatus*, the Strawberry weevil, which does considerable damage to strawberry plantations by depositing eggs in the crowns of the plants, the larvae boring into and destroying the plants, was very common during the past season, appearing in houses in some numbers. This beetle is very often found in early spring under stones and in other sheltered places. Another *Otiorynchid* that is always found in large numbers during the months of May and June is *Peritilopsis globiventris*, a small grey snout beetle which feeds upon the leaves of the so-called wild sunflower. The beetle is quite troublesome and is readily taken when one is sweeping with the net among the leaves of the food plant, which grows thickly over wide tracts of open country around Vernon. I have so far been unable to discover anything of the breeding habits of this beetle.

*Rhynchites bicolor* is another snout beetle that does some damage to cultivated and also to wild roses, by boring into the blooms, before they are fully expanded.

The Apple Tree Tent Caterpillar has not been of any importance for the last two years, its place being taken by the Fall Webworm, of which I have already spoken.

*Corymbites inflatus* is an Elater that has during the last few years been the cause of some considerable damage to newly planted fruit trees, by eating out the buds during the early summer. Reports have also appeared of their destroying the bloom in some cases, but by far the most harm is done to the leaf buds. These beetles are extremely numerous during most years, and the harm they do has been remarked by many orchardists. As soon as the blue lupine begins to bloom they congregate on the stalks in great numbers. They are mostly seen around the blossoms, as many as fifteen to twenty occurring on one stem. Of the breeding habits of this beetle I know nothing, but it is probable that it passes the larval stage in the ground near the food plant.

I have in my notes details of an interesting case of a clergyman who some few years ago, whilst working in the open, felt a fly enter his ear. After some trouble he managed to remove it. Some time later, however, he began to feel great pain in the ear, which increased to such an extent that he felt sure, that in removing the fly, some eggs had been deposited in his head. Assistance was secured and a quantity of warm oil was poured into his ear, from which was eventually expelled a number of maggots. After some hours work a number more were removed, and after a time the pain subsided. I did not hear of this till some days after it had happened, so was unable to try and rear any of the flies, to discover the species. Similar cases have been recorded in entomological papers at various times, and these have been considered to be due to flies of the genus *Sarcophaga* or *Calliphora*. It would be interesting to hear of other cases of this kind.

I have been able to work out the life history of the butterfly, *Lemonias anicia*, up to the third stage, but on reaching this stage the larvae refused to eat the food plant provided and they all died. Below is given a summary of what I have myself observed.

May 31. Found several females ovipositing on the leaves of the common snow berry bush. Out of ten egg clusters examined, all were laid on the under side of the leaf, with the exception of one egg which was placed above. Egg period, in one cluster, from May 24 till June 12. The remainder, taken 31st May, hatched June 12th to 14th. When newly laid the eggs are of a slight lemon yellow color, changing after a few days to a dull purplish-red, which again with time changes, just before hatching, to a dull ash color.

On hatching the larvae devour the egg shells and spin a mass of silk in which they congregate. In the first stage the larvae are 3mm in length; general color grayish-green, lighter beneath. Head dark brown, almost black, with a few short straggling hairs, segment behind head brown dorsally. Thoracic tubercles 1, 2, 3, large, brown, 4, 5, 6, smaller but same color, 7 and fore-legs brownish black. Fore-legs with a few short hairs. Abdominal tubercles 1, 2, 3, large brown, 4, 5, 6, smaller, 7 the same as prolegs, which are greenish. Last abdominal segment, gray-brown at apex, body not tapering. After feeding a few days the body shows a decided greenish tinge owing to the food showing through the skin. The young larvae are gregarious in habits and cover the leaf, on which they feed, with a dense silky web.

2nd Stage. Head bilobed, length 4mm, segment behind head dark brown. Head black, shining, no markings. General color of body dull black shading into a light brown at anal extremity. Underside light brownish-green; the whole body becomes lighter after a few days. Body armed dorsally and laterally with rows of stout spines, bearing six or seven hairs each, apical ones longest and curved. Owing to color of spines the skin appears brownish. Face hairy. Prolegs dirty brown. Fore-legs darker. Just before moulting a tinge of yellow appears on the dorsal surface of abdominal segments.

Moult 2. Head black, shiny, hairy. General color of body dull black. Three segments behind head marked with a double dorsal row of dull whitish blotches with no definite arrangement. These are continued on each segment to the end of the body. Scattered spots of the same color appear on sides. Abdominal segments 1-8 each bear a dorsal spine of orange yellow. Fore-legs black. Prolegs pale green. Larvae still gregarious in habits eating out the leaf and leaving the veins.

Moult 3. Length a little over 7mm but stouter than before. Color of skin bluish black clothed with fine diverging black hairs. Markings as before, except that the dorsal tubercles are duller. Larvae do not spin so much silk, but are gregarious.

The larvae refused the food plant at this stage and were evidently wanting to hibernate. I was unable to bring them through the winter.

Owing to want of time many details of the life history were not noted, but perhaps some of our members will have the opportunity of completing in a more extended manner what I have begun.

As I am leaving this country in a few weeks and shall be in England when this paper appears, I shall, I am afraid, not be able to take any part in the meeting, but I most sincerely hope that the B. C. Society will take on a new lease of life and not be allowed to lose foothold, now that the members have got together again. I also hope that this short, and I am afraid uninteresting paper, will be the beginning of a regular series of reports and addresses by the members, and that its dull character will not deter others from doing something far better and more detailed, and that our new secretary will arouse interest, as did our old secretary, Mr. R. V. Harvey.

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Mr. Chairman—If there is any discussion on this paper we should be glad to hear it.

Mr. Cunningham—I believe the Prune Twig Borer mentioned in the paper is in reality the Peach Twig Borer, *Anarsia lineatella*.

Mr. Treherne—The fly described as depositing eggs in the head of the clergyman resembles the "screw worm fly" *Lucilia* of the Southern United States.

Mr. Wallace stated he had once been attacked by a fly in the same way.

Mr. Chairman—We will now proceed with the programme and I will call on Mr. Bush to give his paper. Mr. Cockle has written saying he will not be able to be with us to-day, so I will ask the Secretary to read his report from the Kootenay when Mr. Bush has presented his.

#### REPORT FROM VANCOUVER DISTRICT.

During the season of 1911 I have not been able to do much collecting, but I will endeavour to give a short account of some of the insects I have noticed on the lower Mainland of British Columbia.