

## FIELD OBSERVATIONS ON THE FOREST TENT CATERPILLAR, MALACOSOMA DISSTRIA VAR. EROSA STRETCH

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The following account is based on field notes made in the course of a Provincial Museum field trip in the vicinity of Lac la Hache, Caribou District, British Columbia.

A very noticeable feature of the landscape was the devastation wrought by the forest tent caterpillar on the deciduous trees and shrubs. The extent of the territory affected was not fully determined. My notes record evidence of its work from 100 Mile House to Williams Lake, a distance of over 60 miles along the highway. Side trips that took us off the main road always revealed its presence, so that it is probable that the outbreak extended laterally for an equal distance, an area of at least 50 square miles\*.

The aspen trees (*Populus tremuloides* Michx.) were completely defoliated with only isolated exceptions. When no aspen leaves were left the hungry hordes then attacked the adjacent shrubs, willow, alder, birch, dogwood and rose. The odd spectacle of roses apparently suspended in mid-air became a common one, for the blossoms were left untouched. One of the willows, *Salix exigua* Nutt., presented a strange combination of juvenile and adult characters in the leaves. In the young stage the leaves are silvery pubescent, becoming glabrate in age. When the old leaves were consumed by the caterpillars, the plant put forth a secondary growth so that the silver and green were side by side in those instances where the older leaves still remained. A noticeable exception was seen in the bushes of the buffalo berry, *Shepherdia canadensis* Nutt., and the silverberry, *Elaeagnus argentea* Pursh., which though growing

\* Mrs. Elsie Bowyer reported from Salmon Valley, about 15 miles north of Prince George, B.C., that in 1942 tent caterpillars were extremely numerous, and invaded her young orchard "in two-foot wide streams from several directions, in the manner of army worms." Ed.

with the other herbage attacked, were completely ignored by the caterpillars as a food substance, though freely employed as a support for their cocoons. According to reports of the local inhabitants, the preceding year, 1941, witnessed an even more severe attack. At the height of the outbreak the fence posts and wires were continuous sheets and ropes of caterpillars. Their crushed bodies made the railroad metals at times too slippery to permit the locomotive wheels to obtain traction.

By June 24, 1942, the date of our arrival in the vicinity, the caterpillars were nearly all fully grown; already the bare wintry look of the aspen trees was rendered still more striking by the clusters of white cottony cocoons that covered every twig, giving a very effective simulation of snow, especially when viewed against a background of sombre fir trees. The cocoons were by no means confined to the food plants; everything in the neighborhood supported them. Juniper, fir and even the buffalo berry bushes were laid under tribute for their support, not to mention our tent and personal belongings. For the first few days the full-fed larvae were wandering everywhere, into and over everything, a steady stream continually ascended table, chair and other legs; even the surface of the lake bore numerous wriggling caterpillars, extending in some places far out from shore. Many never reached the cocoon-spinning stage, as a result of attack by parasites either bacterial or insect in origin; scores of empty larval skins were draped over the bushes or flattened on the tent roof and other objects in the vicinity.

At the beginning of July, an unusual and increasing number of Brewer's blackbirds and bluebirds were noticed in the aspen wood near which we were en-

camped, particularly at dawn and dusk. At the same time quantities of large yellow dipterous maggots were found in and among our pots and pans. This discovery gave a clue to the intermittent tattoo that had been heard on the tent roof during the night and early morning. Investigation proved the sound to be due to these maggots falling from the cocoons spun up in the over-hanging branches. Further observation led to the discovery that the blackbirds and bluebirds were feeding on the abundant and easily procured maggots before they could burrow out of sight into the ground for pupation. The blackbirds were occasionally seen to rip open a cocoon, possibly having first seen a maggot wriggling to get out, as no evidence was obtained to prove that they were deliberately consuming the pupae of the moth.

A census was taken of the cocoons in order to ascertain what percentage contained parasitized pupae or larvae. One hundred were gathered at random and carefully examined and recorded. While it is obvious that one count cannot be taken as conclusive evidence for the whole district, it gives an idea as to what might be expected. Forty-four cocoons contained parasitized larvae, each in-

habited by from one to five maggots of various sizes. Twenty-six pupae were parasitized in like manner. Thirty pupae were free of large dipterous maggots, although some of them were very feeble and lifeless.

Summed up, the result of examination demonstrated that in the case of those caterpillars that spun cocoons, 44 per cent were unable to pupate, 26 per cent contained parasites after reaching the pupal stage and the remaining 30 per cent appeared to be normally healthy although in a varying degree of vigour. Unfortunately no adults were reared from the pupae which were retained hence no figures are available as to the final effect of parasitism. Examination of cocoons in situ showed many of them with the round escape holes of the mature dipterous larvae, others bore evidence of being ripped open by the blackbirds, as previously observed.

Several adult dermestid beetles were taken or seen flying about the camp and while the preserved skins of drying mammals and birds no doubt had something to do with their presence, there is the possibility that they were attracted by the large numbers of dead and rotting *Malacosoma* larvae.

## ON THE OVIPOSITION HABITS OF THE AUSTRALIAN COCKROACH, *PERIPLANETA AUSTRALASIAE* (FAB.)

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During the last week in November some years ago a firm of local grocers sent me a gravid Australian cockroach. The roach was placed in a glass-covered beechwood rearing box about 14"x10"x3"; the box already contained a few domestic crickets with their food and shelter. It was observed for a few minutes daily during the next three months and its habits recorded; the following notes are extracted from these records:

**Dec. 1.** 10 a.m. carrying a partly extruded egg pod which was fully extruded by 12:30 p.m.

**Dec. 3.** Still carrying the egg pod.

**Dec. 5.** Pod deposited on the floor and later the same day partly devoured by the roach or by the crickets.

**Dec. 7.** 2 p.m. A 2nd pod was just appearing so the roach was removed to another similar cage which was butted up against a radiator for heat, and supplied