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SYDNEY

APPLE ERMINE MOTH IN SOUTHWESTERN BRITISH COLUMBIA

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Forest Insect and Disease Survey

The apple ermine moth, Yponomeuta malinella (Zeller), introduced to North America from Europe, is a serious pest of apple trees. It was first detected in British Columbia in a nursery at Duncan in 1981. Since then, this pest has been found throughout southern Vancouver Island, in greater Vancouver, throughout the Fraser Valley, and, in 1988, near Pemberton.

In 1989, staff of the Forest Insect and Disease Survey (FIDS), Forestry Canada, have collected larvae of the apple ermine moth on apple and Pacific crabapple in the greater Victoria area, throughout the Saanich Peninsula, near Ganges on Salt Spring Island, in North Vancouver, at D'Arcy north of Pemberton, north of Powell River, on the Sechelt Peninsula, throughout Fraser Valley and north to Boston Bar in the Fraser Canyon. Survey collections for this pest are still in progress, thus its distribution is not fully known. Information is being released at this time to aid a planned pheromone trapping program.

Life Cycle, Damage and Recognition

As the leaves flush in the spring, first-instar larvae emerge from a hibernacula formed from the covering of the egg mass laid the previous year. In the first-instar, larvae of the apple ermine moth mine the foliage. Second and later instars feed gregariously within webs spun on branches. As the colonies feed and mature they expand the webs, producing nests along the length of the branches. Larval feeding can completely defoliate branches.

Early-instar larvae have black heads, a black thoracic shield and a creamy-yellow body with a pair of black spots on each segment. Mature larvae are 1 to 1.2 cm long and generally have black heads and thoracic shields and a grayish body with a pair of black spots on each segment.

At maturity (early to mid-June), the larvae within a colony spin white-spindle shaped cocoons (1 to 1.2 cm in length) loosely joined within the larval webbing and pupate. The pupal period lasts about 2 weeks.

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The adults are small moths, about 1 cm long at rest with a wing span of 1.8 to 2.2 cm. The forewings are white and have black spots. The hindwings are gray. Females feed on nectar for about one week before beginning to lay eggs.

Near the end of June, the females lay eggs in masses on bark and cover them with a secretion which forms a hard covering. Newly laid egg masses are red with yellow spots, about 0.5 cm in diameter. The larvae hatch in about two weeks and remain in the hibernacula (formed from the covering secreted by the female) over the winter. Hibernaculæ (hatched egg masses) are very difficult to detect. They are silvery in color and resemble the bark on which they are laid.

Other defoliators, including western tent caterpillar (Malacosoma californicum pluviale (Dyar)), forest tent caterpillar (Malacosoma disstria Hubner), ugly nest caterpillar (Archips cerasivorana (Fitch)) and fall webworm (Hyphantria cunea (Drury)) also form tents on various deciduous trees which, when found on apple and crabapple, may be confused with those of the apple ermine moth.

Control

Tents containing larvae or cocoons should be removed from infested apple and crabapple trees and burned. For alternate control methods contact the nearest office of the B.C. Ministry of Agriculture and Fisheries.

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