

WESTERN HEMLOCK LOOPER

Lambdina fiscellaria lugubrosa (Hulst)

DISTRIBUTION

This species primarily occurs south of 56 degrees latitude and is most common along the coast and in the interior wet belt of BC. Outbreaks have occurred on stands from sea level to 1400 m elevation.



Figure 38. Mature larva of Western Hemlock Looper on larch. Note intricate pattern of markings.

TREE SPECIES ATTACKED:

Western hemlock is the preferred host, but during outbreaks the looper feeds on almost any foliage, including broad-leaved forest trees and shrubs. All ages are susceptible.

INSECT DESCRIPTION & DAMAGE SYMPTOMS:

Larvae are typical "inch worm" loopers and are approximately 3.0 cm in length when mature. Young larvae are marked with light grey and black bands. Mature larvae are mottled grey to dark brown with an intricate pattern of darker markings. Each abdominal segment is marked with four prominent dark spots, which roughly form a square.

Larvae emerge in late spring and begin feeding in newly opened buds in the upper crown. Later, the larvae feed on foliage of any age and disperse throughout the crown. The larvae are wasteful feeders. Many needles are only partially chewed; some are severed at the base and accumulate below an attacked tree. Mature larvae are quite mobile and produce an abundance of silk webbing, which is very evident in defoliated stands. The larvae pupate in late summer in bark crevices, moss, lichen, or in debris on the forest floor. The pupae are a mottled greenish-brown, 1.1 to 1.5 cm long. The crowns of

heavily attacked trees turn yellowish-red at first and eventually reddish-brown. Defoliation occurs most commonly on sites located in valley bottoms with a major western hemlock component, and is often in distinctive elevational bands.

DAMAGE:

Western hemlock is intolerant of defoliation; thus, mortality can occur following only one year of heavy defoliation and may continue for up to four years after the collapse of a western hemlock looper infestation. Most hemlock can recover from less than 50% defoliation.

The wasteful feeding habit of this insect greatly increases the amount of damage relative to most other defoliators. Older hemlock, amabilis fir, and Sitka spruce are most vulnerable to damage, while young Douglas-fir appears to suffer more than older. Outbreaks generally last for three years. Serious damage has occurred in hemlock/true fir mixes on the coast and hemlock/cedar stands in the interior wet belt of the province.

SIMILAR DAMAGE:

Damage may be similar to other defoliators, such as the western blackheaded budworm, but the larvae are distinctive.



Figure 40. Detail showing wasteful feeding habit of western hemlock looper.



Figure 39. Western hemlock looper usually begins feeding on current growth in late spring.