



ORANGEHUMPED MAPLEWORM

Symmerista leucitys Franc.

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The orangehumped mapleworm, *Symmerista leucitys* is a native species which occurs throughout the state, mostly under forest conditions, and only occasionally becomes a problem. Outbreaks of this and associated species did occur however in 1956 when roughly 23,500 acres of northern hardwoods were defoliated and again in the same area of central Maine and ranged into eastern Maine between 1986 and 1990.

Outbreaks of northern hardwood defoliators such as this seem to consist of a complex rather than single species. Over 25 different insects were recorded in noticeable numbers from infested stands in central Maine during the period from 1986 to 1990. Two species, the orangehumped mapleworm and the variable oakleaf caterpillar, made up the major destructive component on sugar maple and beech aided by the birch sawfly on white and gray birch. Throughout the infestation the ratio of one species to another changed somewhat from year to year.

Although caterpillars of this complex can be found in northern hardwood stands throughout the state, defoliation seems to be most frequent and widespread across central and eastern Maine. Hill tops and ridges seem to be first to show severe feeding damage. In Maine the activities of this species are often associated with those of the variable oakleaf caterpillar, *Lochmaeus manteo*.

Hosts

The orangehumped mapleworm is recorded from a variety of deciduous tree hosts but seems to prefer sugar maple and beech throughout most of its range.

Life Cycle and Habits

Moths of this and two closely related species have a 1.2-1.5" wingspan and are ash-grey in color with a few darker markings but with a prominent, irregular but distinctive whitish band along the outer two thirds of the front margin of each of the front wings. This white band has one or more tooth-like projections to the rear. The head and collar of this species are yellowish and the hind wings lighter and more even brownish grey.

Moths are active in Maine from early June through July with the peak of activity in July.

Eggs - The tiny light greenish yellow, keg shaped, eggs of this species are laid in single layered clusters of about 50 each on the underside of sugar maple leaves in July. These eggs may darken and appear mottled or spotted with pink before they hatch in roughly 12 days. Black eggs are usually parasitized.

Larvae or caterpillars of this species are very colorfully marked and easy to see on twigs and foliage. There are commonly six instars in the larval development cycle.

After hatching from the egg the first instar larvae feed gregariously on the underside of the foliage. These tiny larvae are very pale with dark heads and few other markings. Within a week the first molt takes place and more typical light lemon yellow second instar larvae with faint markings appear. The next molt (to the third instar) takes place roughly one week from the first. In the third instar the head and hump on the eighth abdominal segment darken and body stripes become more apparent, especially scarlet lateral stripes. Third instar larvae still have a distinct yellow general coloration. The molt to the fourth instar may take from 7 to 14 days. Fourth instar larvae darken further and the head and abdominal hump turn distinctly orange. Although some larvae still remain gregarious, most larvae have dispersed as single individuals by the end of the fourth instar. The three characteristic longitudinal black dorsal lines (this characteristic separates this from related species) are now distinct and are separated by whitish grey. Bright yellow lines are still present but larvae have lost the general yellow hue. The fifth instar resembles the fourth. The sixth instar is quite different and the yellow colored stripes have usually disappeared, replaced by orange stripes of the same color as the head and abdominal hump. Coloration between all of the lines is now whitish grey. Mature larvae which are about 1.5" long, drop to the leaf litter to pupate beginning in late August and peaking in September.

Where populations are heavy, larvae of this species may mass on tree trunks, rocks and stumps. A wilt disease and parasitism may also take its toll.

Pupae are 75"long, without spines, and are a dark chestnut brown. Except for somewhat more distinct segmentation they resemble pupae of *Heterocampa*. They are usually found between a tied mat of leaves above the mineral soil and are often hard to locate. Overwintering occurs in this stage.

Control

Normally populations of these late season defoliators drop out after two or three years without a serious impact. The lateness of their feeding has also prevented serious injury in past outbreaks. As a result, controls have not usually been recommended or necessary and have not been developed.