

FOREST TENT CATERPILLAR

INTRODUCTION:

The forest tent caterpillar, *Malacosoma disstria*, is an insect defoliator that is native to North America. It has historically caused extensive defoliation of hardwoods throughout Canada except in Newfoundland, the Northwest Territories, the Yukon, and Nunavut. It feeds primarily on trembling aspen, oak, ash, maple (except red maple), white birch, and many other deciduous trees and shrubs as well. Widespread outbreaks occur at intervals of 10 to 12 years. When outbreaks occur, they usually last from 3 to 6 years, depending on natural control factors.

LIFE CYCLE:

The forest tent caterpillar overwinters in an egg band on the twigs of host trees. The eggs are extremely hardy and easily survive Canadian winters. Eggs hatch in the early spring about the time of bud break when the leaves unfold. The caterpillars have five growth stages called instars, each stage lasts 7 to 10 days. Mature caterpillars are about 45-55 mm long and develop a deep blue velvet coloration with a sparse covering of long brown hair. A line of white to cream-colored keyhole-shaped spots run down the back. Once feeding has finished, the caterpillars spin silk cocoons with white/yellow threads in which they begin to pupate. These cocoons are



Forest tent caterpillar larvae

usually located in trees, but can often be found on other stationary objects such as buildings and fences. Adult moths emerge 7 to 10 days later. The adult moth is buff colored and has a broad band across the front wings. They have a wingspan of 35-45 mm. After mating, the female moth lays from 150 to 200 eggs in a 1.3 cm band around a twig. Before the cool fall weather starts the tiny first instar caterpillars are present inside the eggs, completing the life cycle.

DAMAGE AND NUISANCE:

In the forest, defoliation by the forest tent caterpillar causes little permanent damage to tree health. Two or more years of heavy defoliation can cause a severe reduction in radial growth and may cause considerable branch and twig mortality. Normally, there is very little tree mortality directly attributable to complete defoliation because the trees refoliate and produce enough new leaves to carry on essential photosynthesis. Defoliation does weaken trees and makes them more susceptible to attack from a variety of other pests or stresses such as drought. In a managed sugar bush, one season of heavy defoliation may reduce the quantity and sugar content of the sap in the year following the damage. This becomes more acute if there are subsequent years of insect attack. Urban trees may be at a greater risk of damage than forest trees; they are often subjected to many other stress factors. During outbreaks, larvae can number from one



Forest tent caterpillar eggs

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to four million caterpillars per hectare. They create an extreme nuisance to people living or vacationing in forested areas.

Young caterpillars spin threads (they do not make a tent) and fall from the trees onto picnic tables, patios, cars, etc. Large, mature caterpillars wander widely in search of food and migrate across roads and open areas. This caterpillar is often mistakenly called the armyworm. Resting larvae commonly form large clusters of thousands of caterpillars on buildings, tree stems, campers, and other stationary objects. Caterpillars often emit a greenish-black fluid when disturbed, which stains paint and cloth.

NATURAL CONTROL:

Natural control mechanisms help terminate the cyclic outbreaks. After a year or two of severe defoliation, the large number of caterpillars require more foliage than is available. This typically leaves the insects in a weakened state, prone to starvation. Several species of flies and wasps parasitize the eggs, larvae, and pupae of the forest tent caterpillar. One of the most important is a native parasite called a flesh fly, *Sarcophaga aldrichi*. The population levels of this large gray fly often increase to the point that it also becomes a nuisance to people. Bacteria, fungus, protozoan and virus diseases become important natural control measures late in the outbreak cycle. Unfavorable weather conditions can sometimes play a role in reducing insect populations. The occurrence of a severe frost shortly after the eggs hatch can kill the new leaves and result in the starvation of many young caterpillars. Predatory beetles, ants, spiders, and small birds and mammals also feed on caterpillars and pupae, but the extent to which they control this pest is unknown.

WHAT CAN I DO?:

For the homeowner, dealing with high populations can be very frustrating. They do not pose a health risk to humans, but the presence of hundreds of thousands of caterpillars can be a real annoyance. As a first line of defense a homeowner

should check their trees in late winter or early spring for the presence of eggs. If practical, hand-pick all the egg masses off the trees and shrubs to reduce the insect's population. Once the caterpillars have begun to feed, consider removing them by hand and disposing of them. If spraying is warranted, the use of an insecticide registered for use against forest tent caterpillar could be considered. It is important to remember that care in handling insecticides is essential, and manufacturer's instructions should be strictly adhered to at all times.

SOURCES OF RELEVANT INFORMATION:

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