

Common Tent Caterpillars

By Douglas C. Allen

The caterpillar stages of moths and butterflies produce silk in modified salivary glands. This material is used for a variety of purposes: orientation (everywhere the caterpillar goes it lays a single strand of silk, which allows it to “backtrack” to a nest or to relocate food, or the silk may provide a trail for siblings to follow); as a “parachute” that facilitates wind dispersal of small caterpillars; moth caterpillars build a cocoon of silk to protect the immobile and defenseless pupal stage within which the caterpillar transforms into an adult (raw silk for cloth comes from the silkworm cocoon, which is composed of a single stand over 1000 yards long!); and, finally, silk is used by a few species to build conspicuous nests that provide shelter from adverse weather and many natural enemies.

Eastern Tent Caterpillar

The most common tent maker in New York is the eastern tent caterpillar. The caterpillars of this species are gregarious and spend daylight hours in a dense silken “tent” that the colony spins in a stem or branch crotch (Figure 1), usually on cherry, apple, or flowering crabs. The white tents first become visible in late April or early May in central areas of the state. Larvae leave the nest to feed at dusk and through the evening hours.

Forest Tent Caterpillar

The closely related forest tent caterpillar does not build a nest, so its common name is misleading. During the day, these caterpillars aggregate on a matt of silk spun on the bole of the host tree, often near the ground. Unlike its cousin the eastern tent, which is primarily a pest of ornamentals and shade trees, in the northeast forest tent can be a serious defoliator of sugar maple, black cherry, and aspen.

Description

Caterpillars of both species are 1.5" to 2.0" long when full grown. Each is sparsely clothed with long, fine, light brown hairs. The hairs do not arise from wart-like spots (as in the gypsy moth) nor do the hairs occur in tufts (like those of tussock moths). Fully grown caterpillars are often marked



Figure 1. Typical shelter spun by a colony of eastern tent caterpillars.

with distinct blue and orange lines. Figure 2 illustrates the most conspicuous difference in the appearance of these two pests. Eastern tent caterpillar (Fig. 2) has a solid white to cream stripe along the center of its back; the back of the forest tent caterpillar (Fig. 2) is distinguished by a row of “foot-step” or “keyhole” markings.

Eggs are deposited in shiny, cylindrical, compact masses that encircle twigs (Figure 3). Both species overwinter in the egg stage. Eggs hatch and larvae initiate feeding in early spring shortly after host foliage begins to expand. Hence, defoliation occurs

very early in the growing season. Usually, feeding is completed by late June. Heavy defoliation in early summer often stimulates the host to produce another complement of leaves. This second attempt to grow foliage stresses the tree and makes it very susceptible to drought, lethal secondary agents, such as root rot fungi, and other disturbances.

The Damage

If an outbreak of forest tent caterpillar threatens your woodlot, a decision to take

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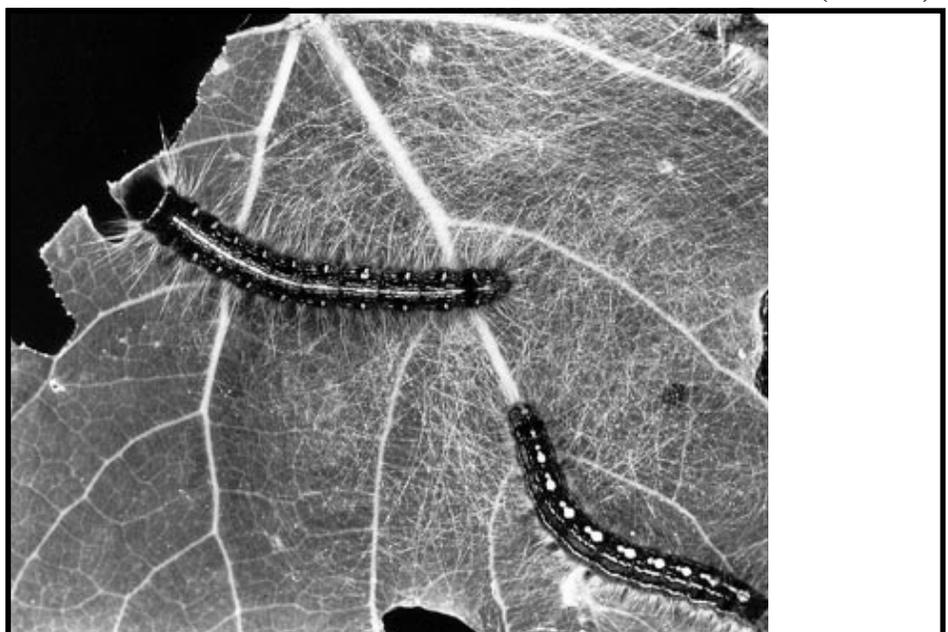


Figure 2. Full grown tent caterpillar larvae: Left: eastern tent; Right: forest tent.

12 action depends on: i) whether or not the stand has been stressed recently; ii) growing conditions that season; and iii) landowner objectives.

Protecting foliage (i.e., spraying with a chemical or biological insecticide) may be critical if the woodlot was subjected to another major stress factor during the past 2-3 years. Heavy defoliation that occurs immediately before, in concert with, or following another disturbance such as drought, a late spring frost that kills the young foliage, or a silvicultural activity such as thinning will at a minimum reduce diameter growth and cause crown dieback. Often, a combination of these events will kill a tree.

Typically, light to moderate defoliation occurs for a year or two before an outbreak mushrooms and removes 75% or more of the foliage. A vigorous stand ordinarily will tolerate this sequence of events. Usually, it is only after the second or third years of severe defoliation that significant crown dieback and, eventually, mortality of some trees occurs. A major reduction in annual diameter growth will occur after a single year of severe defoliation. Owners of an operating sugarbush or a northern hardwood stand that has been exposed recently to another major stress factor should protect foliage **before** the first year of severe defoliation.

Control Options

Two tools are registered for use against forest tent caterpillar in woodlots and operating sugarbushes: a synthetic organic insecticide called carbaryl and a microbial insecticide, the bacterium *Bacillus thuringiensis* ("B.t."). Carbaryl (trade name Sevin) is a relatively inexpensive contact insecticide that consistently provides high

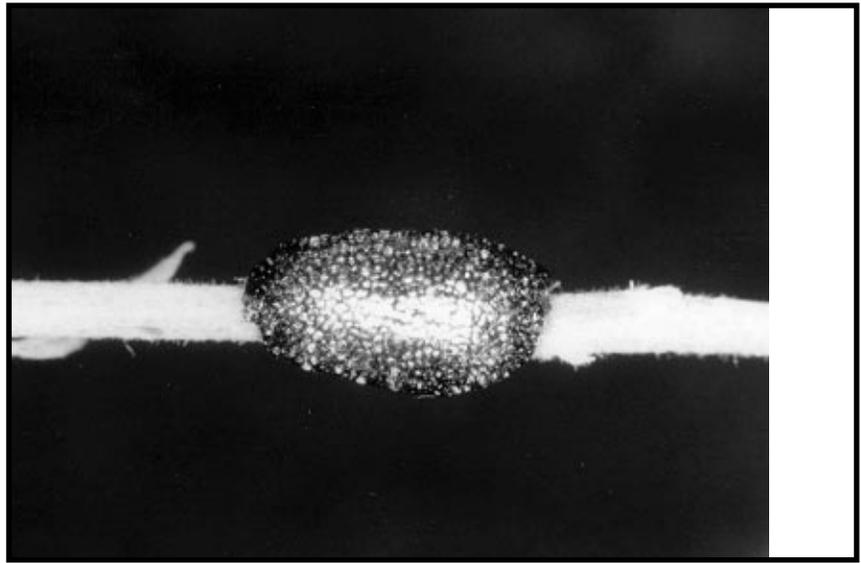


Figure 3. Tent caterpillar egg mass (actual length 0.4 to 0.5 inches).

levels of caterpillar mortality. It can, however, temporarily depress populations of nontarget insects, including beneficial predators and parasites. B.t., sold under various trade names, such as Thuricide and Dipel, usually is more costly to apply on a per acre basis compared to chemicals. The microbial also is less reliable. That is, it is difficult to predict results because many events related to weather, foliage condition, insect vigor, and timing determine how successful an application will be. The bacterium will not affect natural enemies, but it is lethal to other caterpillar species that consume it - and B.t. must be consumed, it has no contact toxicity. If applied at the proper dose, at the correct time, and under suitable weather and pest population conditions, it will do a good job of protecting foliage. Carbaryl, on the other hand, has achieved high levels of caterpillar mortality and foliage protection consistently un-

der a wider range of conditions.

Several other chemical insecticides are registered for aerial or ground application against both tent caterpillars on forest (non-sugarbush) and shade trees. Should you desire to take action, consult with your regional office of DEC, county extension agent or call the Extension Office at the SUNY, College of Environmental Science and Forestry in Syracuse (315-470-6751).

I thank L. P. Abrahamson for reviewing this article and providing helpful suggestions. ▲

Douglas C. Allen is Professor of Forest Entomology in the Faculty of Forestry at the State University of New York, College of Environmental Science and Forestry (SUNY/ESF); 146 Illick Hall, One Forestry Drive, Syracuse, NY 13210. All photos are by Professor Allen unless acknowledged otherwise.