Tent Caterpillar

Malacosoma californicum, western tent caterpillar, is most common in the Puget Sound area. *Malacosoma disstria*, forest tent caterpillar, is more rare. The apple ermine moth and the fall webworm also spin cocoons that may be confused with those of tent caterpillars.

Host/Site

Caterpillars spin their webs on the branches of many types of trees and shrubs.

Identification/appearance

Western tent caterpillar has checkered yellow appearance with blue dashed line down center of back, and is up to 3 inches long. The most visible indication of tent caterpillars is their large tents in spring. Visible damage consists of chewed leaves and may include defoliated twigs and branches. Tents are white, silky webs that cover the tips and forks of tree branches. Egg masses, visible on bare twigs in winter, are gray or brown frothy material about an inch in length, circling the twigs and hardened resembling styrofoam.

Tent caterpillar and typical tell-tale damage to leaves

Tent caterpillar cocoon

Life Cycle

Eggs hatch in early spring (April or May) when new buds are emerging. Caterpillars immediately begin feeding on leaf tissue, and tents appear on the tips of branches. Caterpillars feed out on leaves during the day but return to the tent at night. They are less active and stay closer to the tent when the weather is cool or wet. After molting four times over their 5 to 6 week growing period, they stop eating. Soon they select a site and spin their cocoon. Adult moths emerge after about two weeks, mate immediately, lay eggs, and die within a few days. The eggs winter over until the following spring.

Natural Enemies

Birds in gardens help generally with all pest control. Chickadee, junco, nuthatch, and bush tit all eat tent caterpillars. Tachinid fly deposits visible white eggs on caterpillar body, and maggots bury into body after hatching. Other predators include braconid wasps and ground beetles.

Monitoring

Monitor in spring when small tents begin to appear near the end of branches. Observe the number of tents and how much of the tree is affected. Monitor leaf damage as caterpillars emerge. Presence of white eggs laid on caterpillars indicates predation from tachinid fly. Hunt for egg masses when pruning leafless trees.

Action Threshold

Tent caterpillar populations follow cyclical patterns of unknown duration. Pests may persist in high numbers for several years and then recede almost to zero. Most trees can stand up to 25% loss of leaves without permanent damage, and some will recover from nearly 100% defoliation in a single year. The trees will leaf out again in summer after an infestation. Several tents in a tree should not be a problem unless aesthetic standards absolutely prohibit it.

Cultural/Physical Controls

Individual tents can easily be removed by pruning in the early morning or evening when the weather is still cool and caterpillars are inside. A pole pruner is recommended to reach high branches. Immerse pruned out nests in a bucket of soapy water or seal in a plastic bag and stomp them. Individual caterpillars can be hand picked. Egg masses may be hand stripped or pruned out of plants in winter.

Biological Controls

Bacillus thuringiensis (B.t.) bacteria are effective as a stomach poison if applied to leaves when caterpillars are young and feeding. Timing is critical because caterpillars must eat B.t. while feeding in order for it to work. Follow label directions and thoroughly coat the foliage in the vicinity of tents. Caterpillars may appear healthy forseveral days after the spray but will have stopped feeding and become inert. B.t. is selectively toxic to caterpillars and will also kill non-pest caterpillar species. Control the spray so that it stays off plants without caterpillar damage.

Chemical Controls

Not recommended and should not be necessary. The commonly used insecticides are broad spectrum chemicals that will kill beneficial insects and can harm birds.