Forest Tent Caterpillar...

by Dr. Robert Holmberg  
Biolomist  
Athabasca University

In case you haven't noticed, those insects, caterpillars, that were eating up the poplar trees and crawling all over your house and sidewalks are now preparing to become moths. They are commonly known as Forest Tent Caterpillars or, more technically, Malacosoma disstria.

If you forced yourself to get close to these caterpillars, you would see that they are really quite pretty. Under all those bristles they are mostly blue with white, black and yellow bands. Along the middle of their backs are white spots that may help disguise them from people.

If the caterpillars are disturbed, they stand on their back 10 legs and sway their front end back and forth. Pretty scary to some creatures, perhaps even you. I am not sure, but their bristles may actually be quite dangerous as many caterpillars have spines on their skin and eyes. So only pick them up with a stick or piece of paper.

When the trees are full of eggs, these insects start out as eggs. The eggs are laid in dark, hairy bands on the twigs by the female, a rather nondescript moth in July and early August. The larvae, or caterpillars, start developing in the eggs but do not emerge until next spring when the sap starts to flow and the insects emerge on their host tree.

The caterpillars start feeding on the leaves in late spring and some communal groups as but as they get older, they strike out on their own. Unlike most caterpillars that actually build silken tents to which they retreat during inclement weather, these caterpillars only spin some silk on which to travel around their nursery.

In food becomes scarce, or they have reached their full size as larvae, the caterpillars leave their tree and start looking for more food or a place to pupate. If there are enough of them, they can make huge migrations. This usually happens five to eight weeks after hatching, this year weeks earlier than usual. As with all moths, these caterpillars spin a cocoon in which they form a pupa that then metamorphoses into an adult. The adults mate, the females lay their eggs, and then they die.

The caterpillars prefer to feed on Trembling Aspen (White Poplar), but when hungry, they will eat Balsam Poplar (Black Poplar), various birches, and nearly anything else that is green. Usually defoliation of such trees will not kill them because they have to grow a new set of (stunted) leaves and acquire enough nutrients to allow a full set of leaves to be set at the next spring. (That fast heavy rain will alleviate a lot of the damage done by caterpillars.)

When the caterpillars are severely attacked for two or more years in a row, they will not have enough food supplies to reach maturity. In this case many of the caterpillars can be scraped off. For small numbers, the caterpillars can be picked off. Use gloves to protect yourself from any reaction to their bristles.

During the fall, the caterpillars will feed on the leaves of the tree. They will then make a cocoon around themselves. The cocoons will contain the pupal stage of the insect. The cocoons are very resistant to adverse weather conditions and can remain intact for several years. The caterpillar will then emerge as an adult moth.

Populations of this species can be managed by biological control methods including the use of Bacillus thuringiensis, or B.t., for short. This is a bacterium that is especially good at killing lepidopterous larvae (caterpillars and butterflies). It is not dangerous to most other living things. The bacterium is usually sold as a powder that is mixed with water and sprayed over other insects.

The tent caterpillar is a pest in outdoor gardens and orchards. It is a major pest of poplar trees, but it can also be found on other trees such as birch and aspen. The caterpillar feeds on the leaves of the tree, causing significant defoliation. The adult moth is a small brown and black insect with a wingspan of about 3 cm.

Prevention and control of the tent caterpillar can be achieved through the use of insecticides. The most common insecticides used for this purpose are Bacillus thuringiensis (B.t.) and carbaryl (Sevin). B.t. is a bacterium that is highly toxic to insects and other arthropods, while carbaryl is a broad-spectrum insecticide that is effective against a wide range of pests. However, the use of these insecticides should be done with caution as they can also harm beneficial insects such as bees and butterflies.

In addition to chemical controls, mechanical methods such as removing the nests and hand-picking the caterpillars can also be effective. The use of pheromones to disrupt the mating behavior of the adult moths can also be an effective method of control.

For more information on the tent caterpillar and other pests, please contact your local agricultural extension service or pest control agency. They can provide advice on the most effective methods of control for your area.

Information and options

- Low toxicity for mammels, methoxychlor (in the same chemical group as DDT), highly toxic to insects and fish, low toxicity to birds and mammals and carboxyl (nervous system), very toxic to insects - especially bees, low toxicity to mammals.
- Chemicals usually should be applied, using appropriate precautions; in early June when the young caterpillars are still feeding in groups.
- To remove masses of larvae that may have moved onto the walls of your house, try washing them off with the garden hose or sucking them up with a shop vacuum. For large masses, a shovel may have to be used. The body should be composed of a chemical that is toxic to insects and fish, but burning is usually used for disposal.
- Years you have only one generation per year. Maybe, just like winter, they must be tolerated until they go away.

For further chemical information, contact Alberta Agriculture in Athabasca or Northerns Forest Research Centre, Edmonton. More on this information came from "Pest Leaflet" put out by the latter institution. The leaflet is available free from both agencies.