

BROWNTAIL MOTH

Euproctis chrysorrhoea (L.)

History



Browntail moth caterpillar

The browntail moth was accidentally introduced into Somerville, Massachusetts from Europe in 1897. By 1913, the insect had spread to all of the New England states and New Brunswick and Nova Scotia. The population then dropped, for reasons that are not entirely clear, until there was just a residual population limited to Cape Cod and a few islands off the Maine coast in Casco Bay. Occasional outbreaks occurred on the mainland during twentieth century until the 1990's when browntail became a perennial problem along the southern Maine coast.

Damage

The larval stage (caterpillar) of this insect feeds on the foliage of many hardwood trees and shrubs particularly: oak, shadbush, apple, cherry, beach plum, and rugosa rose. Larval feeding causes reduction of growth and occasional mortality of valued trees and shrubs.

While feeding damage may cause some concern, the primary human impact from the browntail moth is the result of contact with poisonous hairs found on the caterpillars. Contact of these hairs with human skin causes a rash similar to poison ivy that can be severe on some individuals. People can also experience respiratory distress from inhaling the microscopic hairs that blow around in the air.

Description and Life History

The browntail moth produces one generation a year. It has four life stages; egg, larval, pupal, and adult. The larval stage lasts for nine months, from August through June. In the fall, colonies of larvae build winter webs in trees constructed from a single leaf wrapped tightly with large amounts of white silk. A colony consists of 25 to 400 or more larvae. The larvae overwinter within two to four inch long winter webs situated far out on branch tips. Webs are found most often on red oak or apple trees.

Aside: Fall webworm nests, often confused with the browntail moth winter webs, are loose, further in on the branches and more often found in ash trees. Eastern tent caterpillar tents are found in crotches and forks of apple and cherry tree branches during the spring.

In the spring, as soon as the earliest leaf buds open, the larvae become active and crawl out of their webs to feed on the tender new leaves. They may devour the foliage as fast as it develops. For a time the larvae crawl back into the web at night, but as they become larger they remain out on the leaves. By late June, larvae are full grown. Large larvae, about 1 1/2 inches long, are dark brown, have a broken white stripe on each side of the body and conspicuous, two reddish spots on the posterior end of the back.

These should not be confused with larvae of the eastern tent caterpillar which has a single, solid, white stripe down its back or the gypsy moth which has paired blue and red spots on its back.

In late June, the larvae spin rough cocoons in which to pupate. Pupal cocoons are full of toxic hairs and should be removed from buildings or trees only with great caution. The pupae develop into moths which emerge from the cocoons in July. The moths have a wingspread of about 1 1/2 inches and are strongly attracted to light. Wings and midsection are pure white while the abdomen (rear part of the body) is brown with a conspicuous tuft of brown hairs at the tip.

After emerging, the females lay eggs in masses on the underside of leaves and cover the eggs with brown hairs from their bodies. Each female lays 200 to 400 eggs. The eggs hatch during August or early in September and the young larvae feed for a short time on the leaves before building their winter webs. This fall feeding does little damage to the trees.

Control

Non-chemical: Control of browntail moth populations in isolated areas may be obtained by clipping the overwintering webs and destroying these webs by either soaking in soapy water or burning them. This control should be undertaken in the winter and very early spring - September to mid-April.

Cocoons or caterpillars crawling on buildings can be removed with water from a high pressure hose.

Chemical: Webs and larvae are generally high up in trees and are difficult for a home owner to effectively control. Seek professional help from an arborist who is a licensed pesticide applicator if considering pesticide control. Pesticides should be applied when caterpillars are small and feeding; usually before the end of May. **Timing of pesticide treatment is critical, treatment before the end of May will prevent the development of the toxic hairs, treatment after the end of May will result in dead caterpillars and toxic hairs.** Undertake control measures as early as possible to reduce the exposure to the irritating caterpillar hairs. Contact a licensed pesticide applicator well before May to plan a control strategy. **Note:** A licensed pesticide applicator is required for applications of non-biological insecticides to control browntail moth within the 250 of the high tide mark.

The Maine Forest Service maintains a list of pesticide applicators licensed and certified to treat browntail moths and other tree pests. It is available upon request by calling (207) 287-2431, emailing Patti.Roberts@maine.gov or on the website at:

http://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_pesticide_applicator_info.htm

For more information on pesticides, both chemical and biological contact the Board of Pesticides Control at 207-287-2731