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GYPSY MOTH

Lymantria dispar

INJURY: The gypsy moth is one of the most invasive forest pests in the Northeast. The caterpillar feeds on leaves of forest, shade, ornamental and fruit trees and shrubs. A single defoliation can kill some evergreens, but usually two or more defoliations are needed to kill hardwoods.

Besides causing destruction or decline of the trees, loss of aesthetic, recreational and watershed values of ornamental trees, parks and forests occurs, caterpillars cause a public nuisance. The favored hosts include the white and red oak groups, willows, some poplars, speckled alder, basswood, fruit trees (especially apple) and gray and river birch. Small larvae chew pin holes in the leaves whereas larger larvae either partially or completely consume the leaf from the outer margin inward.

DESCRIPTION: The 1 - 1/2-inch-long by 3/4-inch-wide (38 x 19) eggs masses are covered with a dense mat of buff colored hairs. They are often found on trunks of trees or underside of larger branches. Current year egg masses have a good buff tan color and are hard and velvety to the touch; older ones are faded, and soft to the touch as the eggs have hatched.

Small larvae are dark brown to black and very hairy. As they reach maturity they become slate colored and have 2 rows of blue spots (5 pairs) followed by 6 pairs of red spots on the back. Fully grown larvae are 2 to 2 - 1/4 inches (50 - 56 mm) in length. Pupae are brown and teardrop shaped. A few threads of brown silk hold the pupae in place on the tree trunk. Male moths are brownish with black markings and have a wingspan of 1 - 1/4 inches. Females are heavy bodied and do not fly.

LIFE HISTORY: There are four distinct stages to the development of the Gypsy moth – egg, larva, papa and adult (moth). The eggs are round, black and brown in color, and deposited in masses of 100 to 600 eggs in July and August. The masses are covered with a dense mat of tan or buff colored hairs from the female's body. The tiny caterpillar overwinters inside the egg shell but does not hatch until the following April or May. When the eggs hatch, the ¼ inch (6-8mm) long caterpillars remain on the egg mass for a few days before climbing the tree to feed.

The young caterpillars also spin silken threads and hang down from the tree branches. Wind often breaks the threads and carries the caterpillars to nearby trees and shrubs. This is called "ballooning". Long range dispersal is aided by man – egg masses or pupae may be inadvertently carried on vehicles, outdoor furniture, plants and the like.

The female passes through 6 caterpillar growth stages, the male 5 stages. Each time the larva grows it sheds its skin and a new larger skin forms. The larval stage lasts for about 7 weeks. In June and early July full-grown larvae may leave the host plant and seek out protected places from the pupa or resting stage. At this time, the large caterpillars may be seen crawling across walkways or roads, or up the side of a house. The pupal stage lasts about two weeks. Moths emerge from the pupae – the males usually emerge first.

Males are strong fliers and may be seen flying in a zig-zag pattern during the daytime. The female does not fly, but remains near the pupation site and releases a sex attractant (pheromone) which attracts males. After mating, she deposits her eggs in a single mass and then dies. There is one generation per year.

Male (darker, left) & Female (lighter, right)

MANAGEMENT: Before mid-April look for overwintering egg masses on the tree trunks, rock outcroppings, fences, sides of buildings and woodpiles. Destroy the eggs by scraping the fuzzy buff colored egg masses into a container of soapy water.

<u>Young caterpillars may be controlled by spraying</u>. If needed, spray foliage in May after larvae hatch (90-448GDD), with Bt (*Bacillus thuringiensis* ssp. *Kurstaki*), lambda-cyhalothrin, or cyfluthrin, before larvae reach 1 inch in length. Or use carbaryl (Sevin) or spinosad. Do not use carbaryl on Boston Ivy or Virginia Creeper. **<u>CAUTION:</u>** Sevin is highly toxic to bees.

Small trees and shrubs can be sprayed by the homeowner, but larger trees should be done by a professional arborist. READ and FOLLOW the manufactures instructions when using any pesticides.

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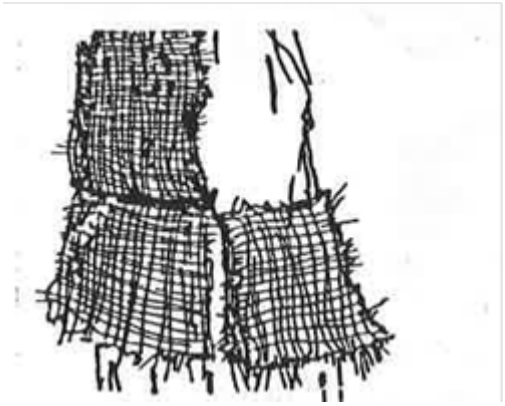
<u>Older caterpillars can be controlled to a degree by banding the trees.</u> The older larvae move up the trees in the evening to feed and back down at dawn to seek shelter during the day.



1. A burlap strip 12-18 inches wide can be cut and tied around the trunk of the tree with twine. Fold the top half of the band down and over the lower half to provide a sheltered area for the caterpillars to hide under during the day. Collect and destroy caterpillars daily.
2. A 6-12-inch band of nonporous material can also be wrapped around the trunk and smeared with a sticky substance such as Tanglefoot (available at garden supply centers). The caterpillars will stick to the Tanglefoot as they try to move over it. Remove caterpillars by raking the band with a comb whenever they become numerous, and destroy them.

It is not practical to try and control the adults. The females might be collected by hand and destroyed, but trapping the males or trying to catch them in flight is not effective for control in areas of high populations.

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