TREES & SHRUBS

Gypsy Moth no. 5.539

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Quick Facts...

Gypsy moth is one of the most destructive defoliators of trees and shrubs in the United States.

Oaks are the preferred hosts, but gypsy moths also eat aspen, willow, apple and almost 500 other trees, shrubs and vines.

Severe defoliation reduces tree vigor, allowing for secondary infection and possible death.

Females lay their egg masses on outdoor objects such as lawn furniture and vehicles and can be transported quickly over long distances.

Eradication of discovered gypsy moth populations in Colorado may be possible through the integrated use of chemical and biological controls.

Colorado State University Extension

In 1869, gypsy moth was introduced into the Boston area from France for experimental cross-breeding with silkworms. Some escaped and became established on the surrounding vegetation. Without their natural enemies to keep them in check, they soon became a major pest in the northeastern United States.

The insect has continued to spread. Infestations have been found throughout the United States. The principle means of transport is by accidental movement of the egg masses. Because the females lay their eggs on outdoor articles such as lawn furniture, vehicles and nursery stock, they can be transported over long distances. This ability to hitch hike makes the gypsy moth a continued threat to ornamental and native trees and shrubs.

Since 1970, defoliation in the U.S. typically occurs on hundreds of thousands of acres annually. In 1984, the first gypsy moth was found in Colorado and it was erradicated. Gypsy moth has been detected a few times after 1984, but with successful erradication each time due to early detection efforts.

Description and Life Cycle

First appearing in late April or early May, the young caterpillars can be blown several miles on the wind. They are black with five pairs of blue dots and six pairs of red dots along their back (Figure 1). A mature larva is 1 1/2 to 2 inches long. Larval hairs, while irritating and a possible cause of rashes in some people, are not normally considered poisonous. In July, the caterpillars enter the pupal or cocoon stage. Pupae are dark brown with buff-colored clumps of hair. Adult moths emerge within two weeks.

Adult male moths are dark brown with black wavy lines across their forewings and are most easily identified by feather-like antennae (Figure 2). Adult females are nearly white with wavy dark bands across the forewings. Females do not fly but will crawl short distances. Males have a wing span of 1 1/2 inches; the wing spans on females can reach 2 inches. Adults do not feed and live only about a week, when occurs. Females lay eggs in August and early September.

Hosts

Any area below 10,000 feet in elevation that has broadleaf trees is thought to be a potential infestation site. Preferred hosts in Colorado include oaks, aspen, poplars, willow, apple, birch and mountain ash. Gypsy moths also eat almost 500 other species of trees, shrubs and vines. The areas of concern for Colorado (listed in order of decreasing risk) are urban shade trees and ornamental shrubs, tree nurseries, low-elevation aspen, “oak brush” or Gambel oak, vegetation along rivers and streams, and West Slope orchards.

Conifers, such as Douglas-fir and some pines, also have been attacked

Figure 1: Nearly full-grown gypsy moth caterpillar. Actual size is about 1 1/2 to 2 inches long.

Figure 2: Male gypsy moth. Note feathery antennae.

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in certain western infestations. The mostly pure stands of evergreens typical of Colorado, however, are unlikely to be seriously damaged.

Damage

In urban areas, gypsy moth caterpillars are nuisances as they feed on shade and ornamental trees and shrubs. The caterpillars and debris from their feeding get into pools, on sides of houses, on patios, etc. Severe defoliation reduces plant vigor, which allows for secondary pest infection. During a long-term outbreak, repeated defoliation can result in host death.

Extensive defoliation of forested areas is unsightly and costly. Heavily damaged park and forest lands are not attractive to tourism. Industry that depends on aspen for raw material and firewood also may find supplies reduced.

Gypsy moth defoliation can alter wildlife habitats. Defoliation reduces both cover and forage for many wildlife species.

Areas declared by regulatory agencies to be infested with gypsy moth are subject to quarantines that could be both costly and inconvenient.

Controls

Detection is the first step to control the gypsy moth. This can be done by visual inspection, but by far the most effective means has been the use of pheromone traps. These traps mimic the scent of female moths and attract male moths. Once an infestation is detected, use traps the next year at higher densities to pinpoint the area needing treatment. They can also serve as a partial control by catching large numbers of males.

Infestations usually are treated by spraying with ground equipment or aircraft. Sprays must combine environmental safety and effectiveness. They normally are applied in May.

Experimental methods, such as the release of irradiated egg masses that yield sterile moths, have been used successfully in Colorado. Future techniques will probably integrate all of the above, as well as new materials and/or natural controls, such as parasites and predators that may evolve.

Eradication of introduced populations is possible in Colorado but depends on early detection. Trapping is a key to success in managing this insect pest safely and inexpensively.

Figure 3: Pheromone trap.

Anyone who believes they have detected the gypsy moth in any stage should contact the Colorado State Forest Service.

Related Fact Sheet.

See Colorado Exotic Insect Detection and Identification fact sheet series for *Gypsy Moth in Colorado - Identification of Insects and Damage of Similar Appearance*, http://www.ext.colostate.edu/pubs/insect/Woodwasp.pdf.

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