

SPONGY MOTH

(*Lymantria dispar dispar*)



Department of
Environmental
Conservation

What are spongy moths?

Spongy moths are defoliating insects native to France that were first introduced to the United States in 1869. They are now widespread in the Northeast and considered "naturalized," meaning they will always be a part of our ecosystem. Spongy moth populations rise and fall in cycles, varying over the years from very few (most years) to large numbers, which cause very noticeable leaf damage and tree defoliation. In New York, we tend to see regional outbreaks, or large spikes in population numbers, every 10–15 years. Outbreaks usually end when disease and predator populations increase to a level at which they can naturally control the spongy moth population.

New Common Name

The Entomological Society of America removed the former common name from its *Common Names of Insects and Related Organisms* list in July 2021 due to it being a derogatory term for the Romani people.

Identification

Spongy moth caterpillars (larval stage) can be seen starting in early to mid-May, grow to about 2.5 inches in length, and are black and hairy, with five pairs of raised blue spots followed by six pairs of raised red spots along their backs. Adult moths can usually be seen starting in July. Females are white with brown markings, have a 2-inch wingspan, and cannot fly. Males are brownish, have a 1.5-inch wingspan, and have feathery antennae.

Egg masses are light brown and covered with a dense mat of fine hairs. They are often laid on tree trunks and branches, but can also be found on sheltered surfaces, from firewood to lawn furniture.

What Do They Do?

Spongy moth caterpillars feed on more than 300 species of trees and shrubs, eating the young, tender leaves in the spring. In New York, they are known to feed on oak, maple, apple, crabapple, hickory, basswood, aspen, willow, and birch, although oak is their preferred species. When populations of spongy moths are high, or when oak and other preferred trees are limited, they will eat conifer species, including pine, spruce, and hemlock. During outbreaks, they can damage thousands of acres of trees.

Can Trees Recover?

While the caterpillars pupate and turn into moths, a healthy tree that has been fed on will grow new leaves and have a full canopy again within a few weeks. However, defoliation (loss of leaves) can reduce the health and vigor of a tree, causing it to become more susceptible to other stressors such as extreme drought, flooding, or attacks by disease or other insects. Tree death can occur when one or more of these stressors is present at the same time as spongy moth caterpillars. Long-term damage depends on the type of tree, as well as the amount of defoliation.

- **Conifers:** If a needle-bearing tree loses more than 50% of its needles, it probably won't recover. Check it for new needle growth in the months after the caterpillars are gone.
- **Hardwoods:** If there are no other stressors, deciduous/hardwood trees can usually withstand 2–3 successive years of defoliation, though new leaves will probably be smaller than usual. If a tree loses ALL its leaves and does not grow any new ones in late summer, it could still be alive. Check it in the spring, and if it still does not leaf out, it has died.



Caterpillars start off completely black, with the blue and red spots showing up after their second molt. Photo by Karla Salp, Washington State Department of Agriculture, Bugwood.org



Adult female moths lay egg masses on trees and other hard surfaces.

Control Options for Landowners

Note: Although these options may help protect individual trees or small areas, they will not eliminate a local spongy moth population. In most cases, spongy moth outbreaks end naturally as disease becomes more prevalent and predator populations increase in response to the larger amount of available host/prey.

Squishing and Scraping

You can help decrease future spongy moth populations by squishing the caterpillars and moths and destroying egg masses when you see them. To make sure an egg mass is destroyed, scrape the mass into a bucket of warm, soapy water and then leave it overnight before discarding it in the trash.

Using Traps

In late April, before spongy moth eggs hatch, you can place sticky/barrier bands around a tree's trunk to prevent the caterpillars from crawling up the tree and into the canopy. You can buy these bands or make them at home using common household materials. Check sticky/barrier bands often, in case unintended wildlife, such as birds and small mammals have been caught; to remove debris that would act as a bridge for caterpillars over the band; and to replace as needed, such as after rain events. The hairs on the caterpillars can cause skin irritation, so wearing gloves is recommended when handling used traps.

In mid-June, when caterpillars are larger, replace sticky/barrier bands with a burlap trap. These traps do not prevent the caterpillars from going into the canopy but provide excellent shelter when they rest during the day, making it easier to collect and destroy the caterpillars, pupae, adults, and eggs found in the burlap. This should be done at least several times a week so that the trap doesn't just become a shelter for them. Detailed instructions for making your own sticky/barrier bands and burlap traps are available on DEC's website: <https://www.dec.ny.gov/animals/83118.html>.

Insecticide Options

Treating an individual property with an insecticide is unlikely to impact a larger, regional outbreak, but may impact other invertebrates. **Carefully consider these potential impacts prior to application.**

Microbial insecticides are biopesticides made from naturally occurring bacteria, viruses, fungi, or protozoans that can be targeted to a specific pest. The most common of these is *Bacillus thuringiensis* (Bt), which occurs naturally in soil and on plants. The Bt subspecies *kurstaki* (Btk) is the most appropriate to use for spongy moth control and works best on young caterpillars since they become more resistant to treatment as they mature. When a caterpillar eats Btk, it becomes paralyzed, stops feeding, and dies of starvation. Btk is harmless to people, animals, and plants, but does affect other young moth and butterfly larvae. Proper timing of application will help limit exposure to non-spongy moth larvae.

Horticultural oil insecticides (aka dormant oils) are solutions refined from petroleum or plants, and when applied, can smother insects or disrupt the protective coating around their eggs. Horticultural oils will impact any insects that they are sprayed on, not just spongy moths, but they are relatively safe for humans and other wildlife. The oils should be applied to egg masses in late March–early April before caterpillars emerge, and again in October–early November after adults have ceased activity.

Chemical insecticides are contact poisons. These chemicals can have a serious impact on a variety of beneficial, native insects (such as bees), as well as nesting birds and other wildlife, **so use should be limited.** Spraying is not effective against spongy moth pupae or egg masses, and it is less effective once caterpillars reach one inch in length.

More Information

Visit DEC's spongy moth webpage for more information, including how to help trees recover from spongy moth damage, how to help predict next year's caterpillar populations, and annual outbreak updates: <https://www.dec.ny.gov/animals/83118.html>.

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Egg masses can contain 600–700 eggs, so destroying them when you see them can have a big impact. Photo by Karla Salp, Washington State Department of Agriculture, Bugwood.org