



Spongy Moth: A Potential Threat to Georgia's Forests

Elizabeth McCarty, *UGA Warnell School of Forestry and Natural Resources*

Lynne Womack, *Georgia Forestry Commission*

TAKE HOME POINT: Spongy moth is an invasive insect that can damage forests. Often, spongy moth infestations in new areas are caused by people transporting outdoor items (such as firewood and lawn furniture) that contain spongy moth egg masses. Please contact your local Georgia Forestry Commission Office if you suspect a spongy moth infestation in your area.

SPONGY MOTH IN GEORGIA

The spongy moth (*Lymantria dispar*) is an invasive forest insect capable of causing severe damage to hardwood trees, especially oaks. Damage is caused by spongy moth caterpillars (Figure 1) chewing on leaves, which can defoliate (remove the leaves) entire forests. The Georgia Forestry Commission, in cooperation with the United States Department of Agriculture, places approximately 200 traps per year to detect whether spongy moth is present in Georgia. There are currently no known spongy moth infestations in Georgia. However, it is important to diligently monitor for spongy moth. Rapid detection and response are key to preventing spongy moth from establishing in our state.

SPONGY MOTH SPREAD IN THE UNITED STATES

Spongy moths were purposefully introduced to the Boston, Massachusetts area of the United States from Europe in 1869. Caterpillars produce silk, and the intent was to use them for silk production. However, the moths escaped captivity and moved out into the surrounding woodlands. Early efforts to eradicate spongy moth populations were unsuccessful.



Figure 1: *Spongy moth caterpillar*. Photo: Jon Yuschock, Bugwood.org

Until 2021, the spongy moth was called the “European gypsy moth.” The Entomological Society of America voted to rename it “spongy moth,” which emphasizes the biology of the moth—its spongy-looking egg masses.

Many northeastern, mid-Atlantic, mid-western, and central Appalachian states now have established spongy moth populations. In Georgia, spongy moth populations have been detected and eradicated in White, Fannin, and Rockdale Counties. These isolated populations were detected in the 1990s and were quickly eradicated by state and federal forestry officials. Spongy moth populations in new areas are likely started by people moving outdoor items that had egg masses attached to them. Female spongy moths do not fly, so natural dispersal is accomplished by the caterpillar stage. Spongy moths disperse naturally by “ballooning,” which is when young caterpillars hang from strands of silk and are then lifted and carried on wind currents. The dispersal is usually short distance, often to a neighboring tree. It will be many years before spongy moth spreads naturally into Georgia.

IDENTIFICATION & LIFE CYCLE

The spongy moth has four developmental stages: egg, larva (caterpillar), pupa, and adult (moth). In summer, a female moth can lay up to 1,000 eggs in an egg mass that is approximately 1.5 inches long. She covers the eggs with buff-colored hairs that she pulls from her abdomen (Figure 2a). Females lay eggs on almost any stationary outdoor surface, such as tree trunks, the undersides of branches, cars, firewood, lawn furniture, etc. The egg stage is the longest period of spongy moth development, lasting from the summer to the spring. In the south, eggs begin hatching in late-March.

Spongy moth larvae, or caterpillars, may be difficult to identify when they are very young (Figures 2b and 2c), but identifying characteristics become distinct as they develop. Caterpillars have five pairs of blue dots followed by six pairs of red dots down their back (Figure 2d). The larval stage lasts approximately six to eight weeks and is the destructive phase of the spongy moth lifecycle, as caterpillars feed on tree foliage.

Caterpillars enter the pupal stage in May (Figure 3a). Adults will emerge 10-14 days later. Adult moths are difficult to distinguish from other similar moths. However, male and female spongy moths can be distinguished from each other by color. The larger female is a light brown buff color, and the male is darker and smaller (Figure 3b). Females remain near where they emerged, while male moths fly off searching for females. Natural spongy moth range expansion is generally very slow because females do not fly. However, spongy moth can be unintentionally spread into uninfested areas by humans moving objects with egg masses from infested areas.

SPONGY MOTH DEFOLIATION

Spongy moth caterpillars feed on young woody plant leaves and are mostly active at night. Several hundred different tree species can be larval hosts. Some of the favored hosts include oaks, basswood, river birch, hazelnut, hornbeam, pear, sweet gum, and willows. Spongy moth defoliation occurs early in the growing season. Feeding earlier and causing defoliation is often more damaging than late-season defoliation. Trees damaged early in the growing season will put energy into trying to refoliate, or produce new leaves.

Spongy moth populations can increase to outbreak levels where entire forests are stripped of their leaves. Healthy trees usually recover from a single defoliation event, but defoliation for several years in a row can cause tree mortality. Trees that are also stressed by environmental factors such as drought can be particularly hard hit by defoliation. The impact of spongy moths would be felt by Georgia timber growers, wildlife managers, and homeowners should populations establish and spread in the state.

SLOW THE SPREAD PROGRAM OR SPONGY MOTH MONITORING

The Slow the Spread (STS) Program is a spongy moth management program that was piloted in 1992 and became the national management program in 2000. The STS program is an effort between the USDA Forest Service, state agencies, and the STS Foundation, a non-profit foundation that coordinates the program. The purpose of the STS program is to:

1. Reduce the rate of spongy moth range expansion into non-infested areas,
2. Eradicate populations that are detected outside of spongy moth's known range, such as the populations eradicated in Georgia, and
3. Suppress outbreaks of spongy moth populations in the established range.

Trapping (Figure 4) is used to detect spongy moth populations and make the appropriate management decisions based on the population locations. If a spongy moth population was detected in Georgia it would be eradicated since the spongy moth range has not yet naturally expanded into the state.

Signs of a spongy moth population include 1) egg masses, especially if someone recently moved from within spongy moth's known range and 2) the presence of caterpillars and defoliation in the spring. Please contact your local Georgia Forestry Commission office if you suspect a spongy moth population in your area (www.gatrees.org).



Figure 2a: *Spongy moth females with egg masses.* Photo: Robert Jetton, North Carolina State University



Figure 2b: *Small spongy moth caterpillars shortly after hatching.* Photo: Bill McNee, Wisconsin Dept of Natural Resources, Bugwood.org



Figure 2c: *Small spongy moth caterpillar feeding on a leaf.* Photo: John Ghent, Bugwood.org



Figure 2d: *Mature spongy moth caterpillar.* Photo: Bill McNee, Wisconsin Dept of Natural Resources, Bugwood.org



Figure 3a: *Spongy moth pupa*. Photo: USDA APHIS PPQ, Bugwood.org



Figure 3b: *Spongy moth female (right) and male (left)*. Photo: USDA APHIS PPQ, Bugwood.org



Figure 4: *Spongy moth pheromone trap*. Photo: Georgia Forestry Commission



LITERATURE CITED

- Davidson, C. B., K. W. Gottschalk, and J. E. Johnson. 1999. Tree mortality following defoliation by the European gypsy moth (*Lymantria dispar* L.) in the United States: A review. *Forest Science* 45: 74-84.
- Entomological Society of America. 2022, March 2. “‘Spongy Moth’ Adopted as New Common Name for *Lymantria dispar*” [Press release]. Retrieved from <https://entsoc.org/news/press-releases/spongy-moth-approved-new-common-name-lymantria-dispar>
- Kauffman, B. W., W. K. Clatterbuck, A. M. Liebhold, and D. R. Coyle. 2017. Gypsy moth in the Southeastern U.S.: Biology, ecology, and forest management strategies. Southern Regional Extension Forestry, SREF-FH-008.
- Liebhold, A. M., K. W. Gottschalk, R. M. Muzika, M. E. Montgomery, R. Young, K. O'Day, and B. Kelly. 1995. Suitability of North American tree species to the gypsy moth: A summary of field and laboratory tests. USDA Forest Service, Northeastern Forest Experiment Station, GTR NE-211. 34 p.
- United States Forest Service. 2022. *Lymantria dispar* Digest. <https://apps.fs.usda.gov/nicportal/lldigest/cfm/dsp/dsplddigesthome.cfm>, released on January 12, 2022.

This publication was modified from the GFC 2013 Gypsy Moth Publication.
Header created by Cassandra Waldrop, University of Georgia.

SUGGESTED CITATION:

- McCarty, E. and L. Womack. 2023. Spongy Moth: A Potential Threat to Georgia's Forests. Georgia Forestry Commission and University of Georgia Warnell School of Forestry and Natural Resources, WSFNR-23-1a. 5 Pages.

The University of Georgia Warnell School of Forestry and Natural Resources offers educational programs, assistance, and materials to all people without regard to race, color, national origin, age, gender, or disability.

The University of Georgia is committed to principles of equal opportunity and affirmative action.