The Connecticut Agricultural Experiment Station

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GYPSY MOTH 2016 OUTBREAK MAY BE OVER
Natural Fungus Causing Widespread Mortality

New Haven, CT – The Connecticut Agricultural Experiment Station (CAES) announced today that there has been widespread reports of dead and dying gypsy moth caterpillars (*Lymantria dispar*), which we have confirmed to be caused by the gypsy moth fungus *Entomophaga maimagia*. In 2015, Connecticut had widespread gypsy moth activity with over 175,273 acres impacted by this pest, particularly across areas of Middlesex, New London and parts of New Haven and Windham counties. Unfortunately, with a very dry spring in 2015 in eastern Connecticut, there was no control of caterpillars by the gypsy moth fungus. However, the fungus did eliminate many caterpillars in parts of western and central Connecticut in 2015, due mainly to some early-summer rains.

This year many homeowners have reported many trees completely stripped of leaves and the caterpillars were also feeding on less favored species. Moisture is required for the fungus to infect the gypsy moth caterpillars. With recent rains, we are now seeing widespread caterpillar mortality from the fungus. “It is likely that this pathogen will knock back the gypsy moth population and help prevent another large outbreak in 2017” said State Entomologist Dr. Kirby Stafford. Observed tree defoliation in coastal New London County, however, is also due to a different forest pest, the winter moth, *Operophtera brumata*.

The gypsy moth was first detected in Connecticut in Stonington in 1905. Fortunately, the high level gypsy moth activity this year and last year shouldn’t mark a return to multiple years of widespread gypsy moth defoliation and the tree mortality experienced in the early 1980s. In 1981, 1.5 million acres were

defoliated in Connecticut. Christopher Martin, Director of Forestry at the Connecticut Department of Energy and Environmental Protection, noted that in general, “partial or even complete defoliation of a tree in any one year does not mean the death of the tree. Healthy trees can tolerate some defoliation”. However, some older, mature oaks may have more difficulty recovering from a complete defoliation. During a large outbreak in 1989, scientists at CAES discovered that the entomopathogenic fungus *Entomophaga maimagia* was killing the caterpillars. This fungus has been the major agent suppressing gypsy moth activity since then. However, as seen these past two years and ten years ago, the fungus is not expected to prevent all outbreaks and occasional outbreaks can continue to occur, particularly in years with little rainfall during the spring and early summer. The last outbreak of gypsy moth activity in Connecticut was in 2005 and 2006. For comparison, the widespread outbreak in 2006 caused 251,946 acres of defoliation, largely in Middlesex, New Haven, and New London counties. This outbreak also was eventually brought under control by the fungus with the arrival of early summer rains; a pattern similar to this year.

There is only one generation of the gypsy moth each year. The caterpillars hatched from the buff-colored egg masses in late April this year. An egg mass may contain 100 to more than 1000 eggs laid in several layers. A few days after hatching, the ¼ inch long caterpillars will ascend the trees and begin to feed on new leaves. These young caterpillars deposit silk trails as they crawl and, as they drop from branches on these threads, may be distributed on the wind. Larger caterpillars generally crawl up and down tree trunks and feed mainly at night. They seek cool, shaded protective sites during the day. However, under outbreak conditions with dense populations of caterpillars, they may feed continuously day and night and crawl at any time. The caterpillars generally complete their feeding sometime around the end of June, pupate, and transform into an adult moth in about 10 to 14 days. Male moths are brown and can fly. The female moths are white and cannot fly. Each female moth will lay a single egg mass and die. These eggs will pass through the winter and larvae will hatch the following year in late April or early May.

Questions can be addressed to Dr. Kirby Stafford at (203) 974-8485, Dr. Victoria Smith at (203) 974-8474 or to Dr. Gale Ridge in our insect information office at (203) 974-8600.

Figure 1. White oak defoliated by the gypsy moth (Photo courtesy Bob Standish, Hadlyme, CT).

Figure 2. Close-up of gypsy moth caterpillars with many dying or dead from the fungus, *Entomophaga maimagia* (Photo courtesy Bob Standish, Hadlyme, CT).

Figure 1. 

Figure 2. 

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