



# Gypsy moth (*Lymantria dispar*)

## Invasive Species Fact Sheet

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John Ghent

Male (left) and female (right)

**Gypsy moth (*Lymantria dispar*)** is an exotic insect whose caterpillars feed on 500 tree and shrub species, including both hardwoods and conifers. Two subspecies threaten forest resources. The **European gypsy moth, or EGM, (*L. dispar dispar*)**, is native to temperate forests of western Europe and was introduced to the eastern U.S. in 1869. It has since spread to 20 states and four Canadian provinces. The **Asian gypsy moth, or AGM, (*L. dispar asiatica*)** is native to southern Europe, northern Africa, Asia and parts of the Pacific. AGM is not established anywhere in the United States. Both EGM and AGM would cause long-lasting effects on Oregon's forest economy and ecology if they were to establish in the state.

### History & impacts

EGM was introduced in 1869 in Massachusetts as a potential silk-producing species. By 1889 it began causing significant damage to hardwood forests of the northeastern U.S. Attempts to eradicate the pest in the 1920s were unsuccessful.

Between 1970 and 2013, more than 80 million acres of forests were defoliated by EGM in the eastern U.S. Programs to suppress outbreaks and eradicate satellite populations have been successful. A national *Slow the Spread* program has reduced the westward expansion by 70 percent, to about three miles per year.

Gypsy moth surveys have been conducted by the Oregon Department of Agriculture (ODA) and its cooperators since 1979 using synthetic pheromone trapping. EGM has been detected nearly every year. In 1984, more than 19,000 EGM moths were captured in Lane County. Although AGM is not established in the U.S., Oregon officials captured single AGM moths in 1991, 2000, and 2006, and two AGM moths in 2015.

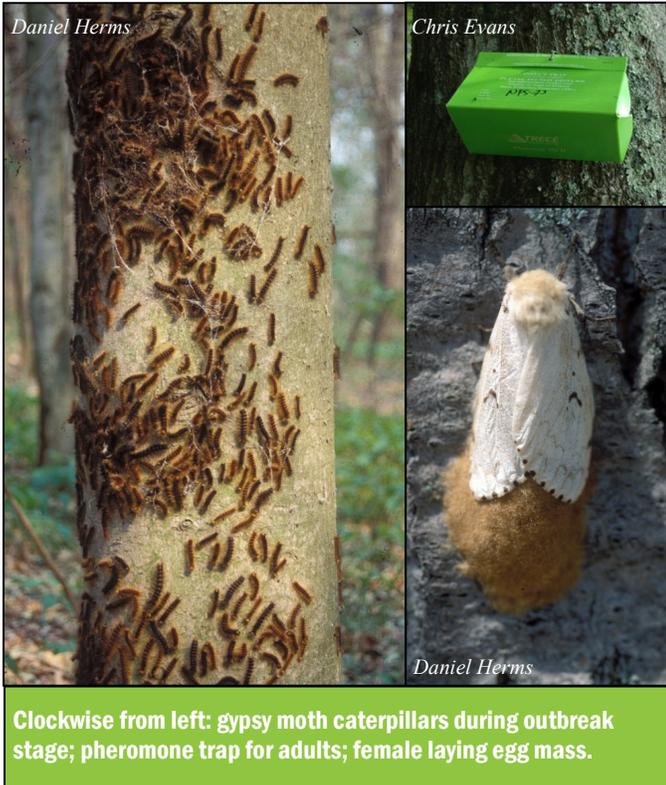
Because of its good record of catching populations early, **Oregon has been 100 percent successful** in eradicating both EGM and AGM. Today, no quarantines for EGM or AGM exist in Oregon.



Daniel Hems

Late stage caterpillars (1.5-2.0" long). Caterpillars congregate in vast numbers during an outbreak.

# Gypsy moth, cont.



## Biology & spread

Caterpillars hatch from eggs in April-May. The larvae spin silken threads and can disperse up to three miles on wind currents. Preferred hosts include oaks, alders, willows and others. Older larvae will also feed on conifers, such as hemlock, pines, and Douglas-fir. Caterpillars pupate in bark crevices and on the ground. Adults emerge usually in July, depending on climate, and live about one week. Females lay sticky egg masses on items near the ground.

**EGM females have wings but cannot fly**, instead relying upon “ballooning” larvae for dispersal. Long range dispersal occurs when humans move household articles, vehicles and other items with egg masses attached.

**AGM females can fly**; thus, AGM has a higher risk of dispersing and establishing in Oregon. AGM arrives to Oregon through international cargo and vessels contaminated with egg masses and adults.

## References & further reading:

**Oregon Department of Agriculture:**  
[www.oregon.gov/ODA](http://www.oregon.gov/ODA)  
**U.S. Forest Service:**  
[www.na.fs.fed.us/fhp/gm](http://www.na.fs.fed.us/fhp/gm)  
**USDA Animal and Plant Health Inspection Service**  
[www.aphis.usda.gov/](http://www.aphis.usda.gov/)

## Management approach

Unlike most invasive forest pests, a very effective treatment option exists for eradicating EGM and AGM populations. An organic biopesticide, Btk, that occurs naturally in a common soil-dwelling bacterium, has been used to eradicate gypsy moth on more than four million acres in the U.S. since 1980.

Btk is applied aerially when gypsy moth larvae are young. Trapping grids are then used in the area throughout the summer to detect adult gypsy moths that may have escaped the spring pesticide applications.

Inspections of international cargo and vessels for AGM are conducted by U.S. Customs and Border Protection. ODA continues to survey for EGM and AGM annually.

Using this approach, **Oregon has prevented gypsy moth from establishing in the state**, thus protecting the state’s forest ecology and economy.

## More information:

**Oregon Dept. of Forestry**  
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[www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx](http://www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx)