Late instar gypsy moth caterpillar.

A native of Europe, the gypsy moth (Lymantria dispar) was accidentally released in Massachusetts in 1869. Infestations of the pest have gradually spread, leaving behind millions of acres of defoliated trees. Since 1980, the gypsy moth has defoliated more than one million acres in Maryland. During this period, the Gypsy Moth Cooperative Suppression Program sprayed the trees on another 1.6 million acres statewide. The suppression spray program has protected the trees from severe leaf loss on an average of over 97 percent of the acreage treated each year.

From the early 1980s to the early 1990s in Maryland, infestations of gypsy moth caterpillars and the resultant defoliation occurred primarily in Allegany, Anne Arundel, Baltimore, Carroll, Cecil, Frederick, Garrett, Harford, Howard, Kent, Montgomery, Prince George’s, and Washington counties. Most of the Maryland Department of Agriculture’s gypsy moth suppression activities were conducted in these counties. By 1994, the northern infestations had collapsed, but on the Eastern Shore and in Southern Maryland, the caterpillars were very active and the suppression spraying was conducted largely in those areas. Between 1996 and 1999, gypsy moth suppression spraying was limited to a few small infestations in isolated areas across the state because gypsy moth populations were generally low. During this period the Department’s annual survey program detected and monitored several increasing populations in the western, central and northeastern counties.

In the spring of 2000 and again in the spring of 2001 gypsy moth populations rebounded. Conditions seem to have been especially favorable for gypsy moth caterpillars to survive and some of the factors that usually reduce populations did not have the expected effect. The fungus, Entomophaga maimaiga, for example, was very effective in reducing populations during the previous five years, but had only limited effect in 2000 and 2001. The large, healthy caterpillar populations fed voraciously on oaks and other hardwood trees in Maryland, defoliating the trees on 22,824 acres in the spring of 2000 and on 46,183 acres in the spring of 2001. The most extensive defoliation in 2001 occurred in four counties: Allegany (25,194 acres), Washington (5,079 acres), Dorchester (12,150 acres), and Wicomico (1,459 acres). In 1999, by contrast the pests had defoliated the trees on only 1,197 acres statewide.

In May 2001, the MDA responded to population data gathered in the fall of 2000 during its annual gypsy moth egg mass surveys, by spraying the trees on 48,588 acres with carefully selected insecticides. In 2000, the suppression program sprayed the trees on 16,971 acres; the 1999 program sprayed the trees on 6,306 acres.

Gypsy moth caterpillars do all the harm. They hatch in large numbers - an egg mass can contain more than 1000 eggs - and the caterpillars feed ravenously. Additionally, because they are not native to North America, they have few natural enemies and feed and reproduce in relative safety. Where populations are high and no control measures are taken, trees can be heavily defoliated.

Trees that lose more than 60 percent of their leaves are under severe stress and are vulnerable to attack by diseases and other damaging insects. The combination of defoliation, refoliation, and disease or insect activity, complicated by other factors such as drought or soil compaction, often kills the tree in one to three years. To protect valuable forest and shade trees, the Maryland Department of Agriculture maintains a monitoring and control program to manage the pest. Natural enemies have been introduced statewide, but the most effective suppression results from spraying trees in infested areas with carefully selected insecticides to destroy the caterpillars early in their development.

In the more than 100 years since gypsy moth was introduced into North America, it has steadily spread in spite of man’s best efforts to control it. No one agency can hope to eliminate it, but by combining efforts and employing a variety of controls, property owners, neighborhood organizations, businesses, and government agencies can hope to limit its effects.

Suburban yard in late June - trees were defoliated by gypsy moth caterpillars.
Trees preferred by gypsy moth

- All oaks
- Apple
- American Beech
- Birch
- Sweetgum

Trees not preferred by gypsy moth

- American Holly
- Catalpa
- Red Spruce
- Sycamore
- Red Cedar
- Tulip Poplar
- Locust
- Hawthorn
- Willow

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**Note:** there are many trees, such as maple, elm, cherry, hickory, blue spruce and white pine, as well as several shrubs and ornamental plants that are less desirable to gypsy moth but are still attacked and often defoliated.

Gypsy moth defoliation – the grey section in the center was defoliated by gypsy moth caterpillars.

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