

WE NEED YOUR HELP!

We are glad to provide these materials for free. In order for us to continue receiving funding for new materials, we need to collect information on how they are used.

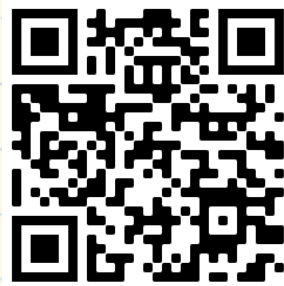
Thank you for taking the time to answer the following one-minute survey.



There are three ways to complete the survey:

1

Scan this code with your smartphone camera



2

Type the following link into your web browser:
<https://plantheroes.org/educator-survey>

3

Email your answers to:
plantheroes@publicgardens.org



- 1) Job title
- 2) Name of organization you belong to
- 3) What kind of educator are you?
 - Teacher
 - Summer camp counselor
 - Home schooler
 - Public garden educator
 - Informal educator
 - Other (please describe)
- 4) What grade level do you teach?
 - Elementary (K-5)
 - Middle School (6-8)
 - High School (9-12)
 - Other (please describe)
- 5) Specify what subject area you teach:
 - Science
 - Math
 - Language Arts
 - Social Studies
 - Other (please describe)
- 6) How many students do you teach in a school year?



Field Guide:

Gypsy Moth

The caterpillars of this moth are leaf-eating machines! They can completely strip every leaf off a tree.



Plant
Protection
Program

AMERICAN PUBLIC GARDENS ASSOCIATION



Photo: Franco 1961, Flickr.com

GYPSY MOTH

Identification



A UGA5081033

The larvae (caterpillars) can grow to about 2 inches long. They have a mottled yellow to gray pattern with tufts of bristlelike hairs. A unique color pattern of five pairs of blue dots followed by six pairs of red dots runs along their backs.

Gypsy moth egg masses are usually 1.5 inches long and about 0.75 inches wide. They can contain up to 1,000 eggs and are covered with tan hairs.



C 5550961



B UGA2652080

<< Male gypsy moths (*Lymantria dispar*) are brown with a darker brown wing pattern, and have a 1.5-inch wingspan. Females are almost white, have dark saw-toothed patterns on their wings, and are slightly larger.

∨ Male gypsy moths also have feathery antennae!



D 5471656



E 5371142

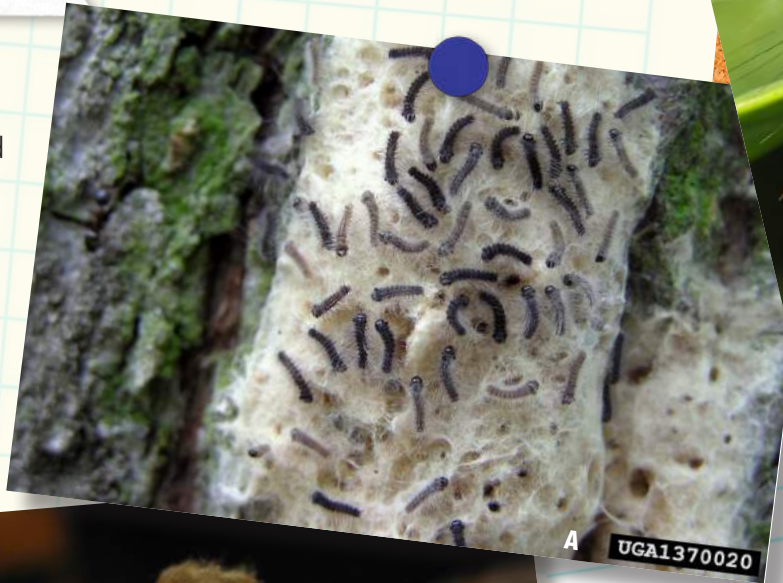
<< The female gypsy moths do not fly. They can only crawl and lay eggs. Here we see an egg mass covered with yellowish hair (or "buff") from the abdomen of the female.



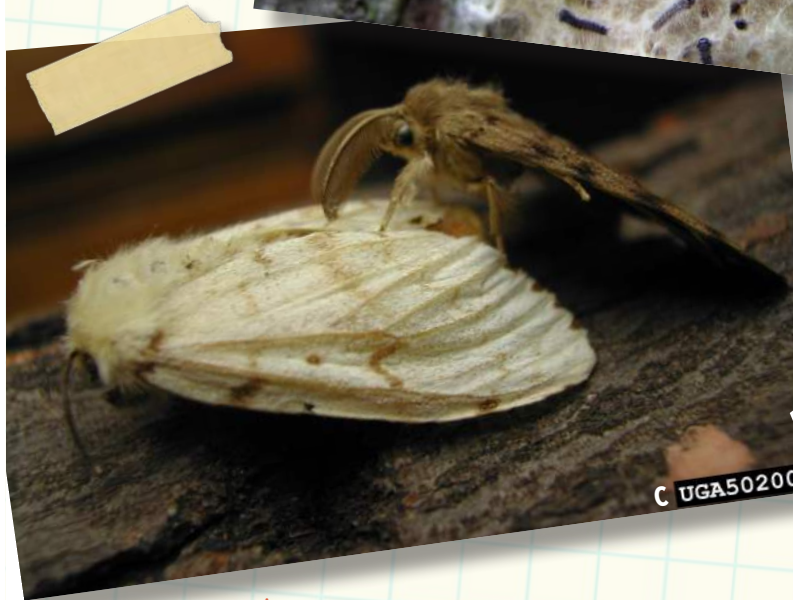
GYPSEY MOTH

Life Cycle

Gypsy moth egg masses can be found between August and April. After eggs hatch in the spring, the caterpillars (larvae) feed on tree leaves. >>



^ The larvae grow in stages called "instars" and must molt in between each stage. Male gypsy moths have five instars and females have six. The larva is the life cycle stage that damages trees by eating leaves, and these caterpillars are active from May to June.



^ Here we see an adult male and female ready to reproduce late in July.



After the final instar stage, the larva pupates before becoming an adult moth. Gypsy moth pupae can be found in early to mid-July. >>



GYPSY MOTH

Host Trees

Host trees are trees that the gypsy moth lives and feeds on.



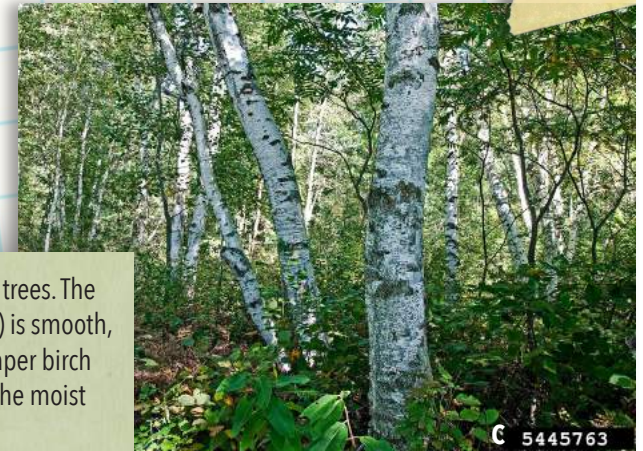
^ Gypsy moths can feed on over 100 species of plants, but oak trees are one of their favorite foods.

>> Oaks tend to grow large and round, reaching heights of 100 feet or more. Acorns are a sure sign you have spotted an oak tree.



<< Aspen is a favorite of the gypsy moth. The big tooth aspen (*Populus grandidentata*) shown here has alternating, oval-like, shiny leaves with flattened petioles (the stalks between the leaf and the twig), making them easily ripple in the wind. As its scientific name suggests, it has "big teeth" on the edges of its leaves.

Gypsy moths also feed on several types of birch trees. The outer bark of this paper birch (*Betula papyrifera*) is smooth, thin, and white. The inner bark is orange. The paper birch grows along stream banks, lakeshores, and on the moist slopes of hills. >>



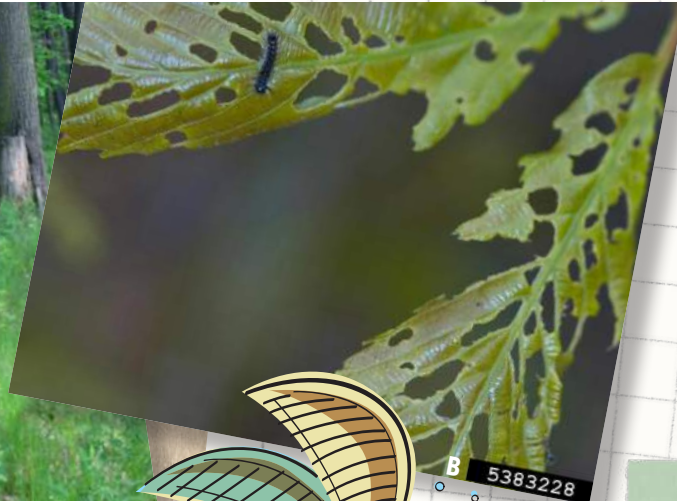
^ Sweet gum (*Liquidambar styraciflua*) is also preferred by gypsy moths. These trees can reach 100 feet tall, have star-shaped leaves with 3-7 points, and a distinctive spiky fruit. Sweet gum leaves are green most of the year but can turn many different colors in the fall.

GYPSY MOTH

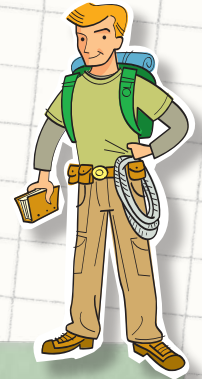
Symptoms

Symptoms are visible clues that a tree might be suffering from a pest or disease issue.

Keep alert for egg masses on trees, logs, stones, walls, and other objects in the outdoors. An egg mass can contain up to 1,000 eggs and is covered with tan-colored hairs. They average 1.5 inches long, and 0.75 inches wide. >>



<< Damage from larvae on chestnut oak leaves.



Gypsy moth larvae feeding on leaves—caught in the act!



A 5378770

B 5383228



D 5569668



C UGA2168011

<< Close-up of leaves that have been skeletonized (stripped down to the veins) by gypsy moth larvae.



E 5558976

^ Branch that has lost all its leaves from larval feeding.



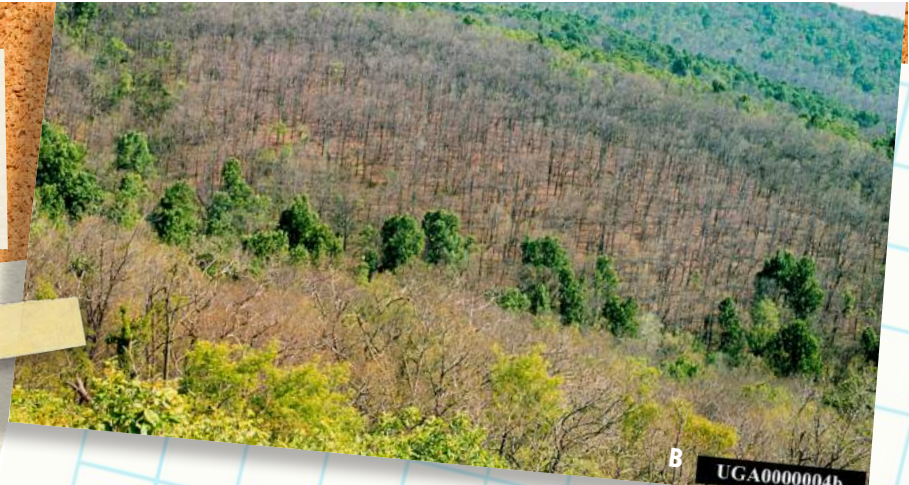
GYPSEY MOTH

Damage

<< Entire trees can be defoliated (or lose their leaves) by gypsy moths.

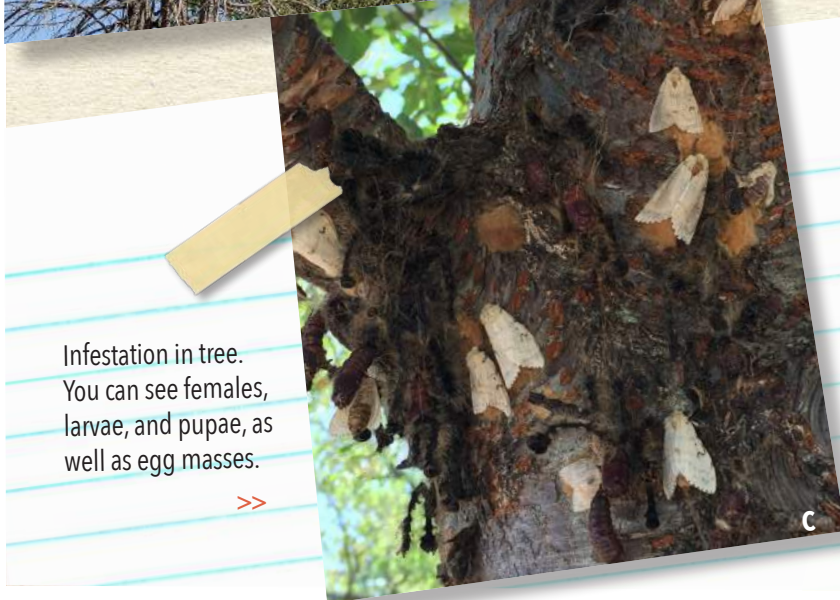


A 5569660



B UGA0000004b

⤴ Defoliated forested area in late spring.



Infestation in tree. You can see females, larvae, and pupae, as well as egg masses.

>>

C



D 5502834

⤴ Summer defoliation caused by an extensive gypsy moth infestation.



GYPSY MOTH

Control

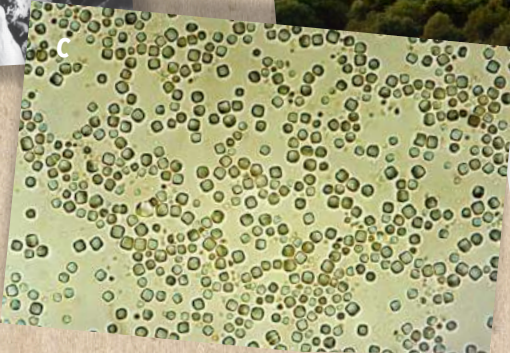


<< Pheromone (scent) lure traps are used to detect male adult gypsy moths. If there are male moths in the traps, scientists know that nearby trees are at risk of a gypsy moth invasion!

Entomophaga maimaiga, a fungus introduced to control the gypsy moths in the early 1900s, has dramatically reduced the gypsy moth population over the years. √



>> Nucleopolyhedrosis virus (NPV) is a naturally occurring virus specific to gypsy moths. It spreads like the common cold and is very effective at reducing high-density gypsy moth populations but not as effective when there are only a few of them in an area.



Spraying pesticides is considered only if trees of great value are affected. √



⤴ Gypsy moth populations can only reach high numbers if there are many host trees nearby; otherwise their populations tend to crash because of starvation and disease. However, in certain situations they can strip other trees nearby like pines and hemlocks.



⤴ Deer mice are an important native and natural enemy of the gypsy moth.



Join our team of Plant Heroes and learn about trees, forests, and the natural world around you!

PLANTHEROES.ORG

You can be a Plant Hero!

Are you curious about plants and animals? Do you like asking questions about nature? Do you enjoy being outdoors and having fun, climbing trees, balancing on logs, or finding a new butterfly or beetle? If so, you are already on your way to becoming a Plant Hero! We invite you to join forces with Nate, Laura, Aponi, and Frankie to protect the plants and ecosystems we all love.

How can you become a Plant Hero?

Join our team and go on a journey with Nate, Aponi, Laura, and Frankie. As a Plant Hero, you will learn to notice when plants are in trouble. You will also find out ways you can act quickly to help find solutions in your own neighborhood. Follow their adventures and learn how they help plants and ecosystems stay healthy.

On the Plant Heroes website, you will find materials to help you learn about plants, forest health, and ecosystem balance. The more you know, the more you can help protect plants and ecosystems in your own yard, neighborhood, and community!

Plant Heroes strives to spark curiosity about nature and science in all children.

Our program provides hands-on, nature-based learning materials for educators to engage children in topics of plant health, ecosystem balance, and forest health. We also spotlight the amazing work our public gardens do in protecting the plants and ecosystems we all depend on through our website and printed materials. Visit plantheroes.org today to learn more!

Plant Heroes is brought to you by the American Public Gardens Association, founded in 1940.

Over the last eight decades, the Association has supported the work of public gardens in North America and beyond. Our mission is to champion and advance public gardens as leaders, advocates, and innovators in the conservation and appreciation of plants. Our vision is "A world where public gardens are indispensable" as they provide botanic, conservation, community, education, and economic resources to their community.

The Association is committed to increasing the knowledge of public garden professionals throughout North America through information sharing, professional development, networking, public awareness, and research, so that they have the tools to effectively serve visitors and members.



**American
Public Gardens
Association**

PublicGardens.org

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