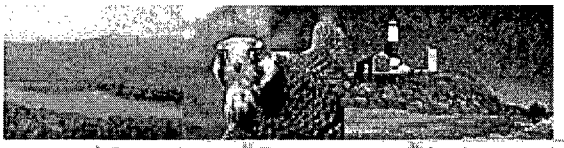

Caterpillars

Forest Tent Caterpillar (*Malacosoma disstria*), Eastern Tent Caterpillar (*Malacosoma americanum*) and Gypsy Moth (*Lymantria dispar*)

More information from this division:

Division of Lands and Forests
Bureau of Private Land Services

Helpful documents:

Aerial Pesticide Applicators - Registered with NYSDEC
Comparison Chart for Forest Tent Caterpillar, Eastern Tent Caterpillar and Gypsy Moth
NYS DEC Forest Tent Caterpillar Defoliator Report 2005 (pdf, 517kb)
Field Protocol for Sampling Forest Tent Caterpillar Egg Masses (pdf, 218kb)
Field Protocol for Sampling Gypsy Moth Egg Masses (pdf, 227kb)
Forest Tent Caterpillar Egg Mass Sampling Protocol Presentation (pdf, 773.32 kb)
Forest Tent Caterpillar Presentation (pdf, 646.84 kb)
Gypsy Moth Egg Mass Sampling Protocol Presentation (pdf, 478.35 kb)
Gypsy Moth Presentation (pdf, 1 mb)

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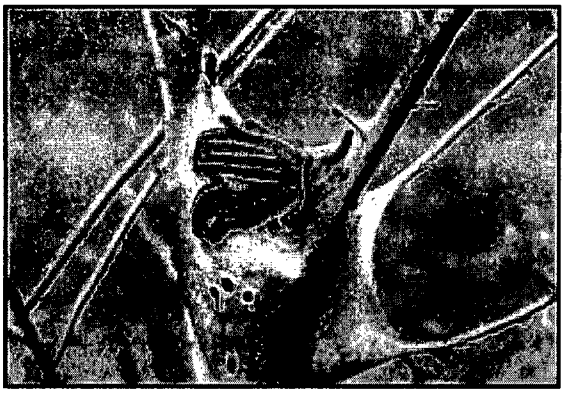
Other Links of Interest...

Of the thousands of caterpillar species in New York State, three have been particularly noticeable and unwelcome in our yards, towns and forests: the forest tent caterpillar, eastern tent caterpillar and gypsy moth. All three are similar in that they hatch when flowers and leaves begin to unfold in the spring, feed as caterpillars (larvae), spin cocoons so they can emerge as moths (pupate), and then mate and lay eggs that will hatch the following spring.

Forest tent caterpillars (FTC) and eastern tent caterpillars (ETC) are native to the United States; the gypsy moth was accidentally introduced in 1869 when it was brought to the U.S. in the hope that it could breed with silkworms. Even though it failed as a textile producer, some of the gypsy

moths escaped and successfully established a population in Medford, Massachusetts. Population numbers of all three caterpillars vary over the years from very few and not noticeable to many and very noticeable defoliation of trees. The ETC is not a major forest threat, as it prefers fruit trees including ornamental crabapples and pears; it is more of a pest in urban and suburban areas.



eastern tent caterpillars on tent

forest tent caterpillars on trunk
James Solomon, USDA Forest Service,
www.forestryimages.org

Numerous previous outbreaks of both gypsy moths and FTC have been recorded. (See link to NYS DEC Forest Tent Caterpillar Defoliator Report 2005.) The current outbreak of FTC in New York began in 2002. Areas which have experienced two to three years of heavy defoliation (removal of leaves) should soon be experiencing a decrease in FTC population numbers. Since the 1990s, gypsy moth populations have generally subsided and when defoliation does occur it is often restricted to relatively small areas, such as oak forests in the Catskill region, the Thousand Islands, and the vicinity of Lake George. Gypsy moth populations may be reaching outbreak levels in some of these areas of New York.

Some of the most common questions and answers about these insect pests follow:

Frequently Asked Questions

Q: What is eating my tree?

A: If you notice dark hairy caterpillars eating the leaves on your trees, you may have forest tent caterpillars, eastern tent caterpillars or gypsy moths. See the question, "How do I know which type of caterpillar is eating my tree?" below and the link to the Comparison Chart for Forest Tent Caterpillar, Eastern Tent Caterpillar and Gypsy Moth for distinguishing

characteristics.

branch stripped by gypsy moth Landesforstprasidium Sachen Archives, www.forestryimages.org

Q: Will they hurt or kill my tree?

A: Tent caterpillars and gypsy moths eat leaves in the spring. Deciduous trees (trees that lose their leaves each fall) can regrow a new set of leaves by July and can usually withstand 2-3 successive years of defoliation (removal of leaves) without being killed. However, defoliation does reduce the vigor and resistance of the tree; it becomes more susceptible to pests and diseases. Mortality can occur when other stresses such as disease or other insect outbreaks attack trees in the same year. Evergreens are eaten when populations of gypsy moths are very high. Evergreens do not regrow leaves as easily as deciduous trees and can die as a result of complete defoliation.

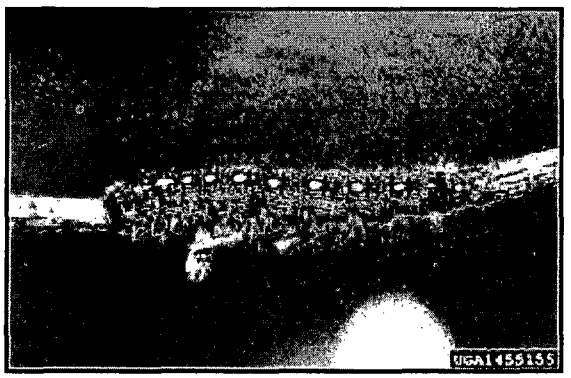
tree defoliated by forest tent caterpillars James Solomon, USDA Forest Service, www.forestryimages.org

Q: My tree has no leaves. Is it dead?

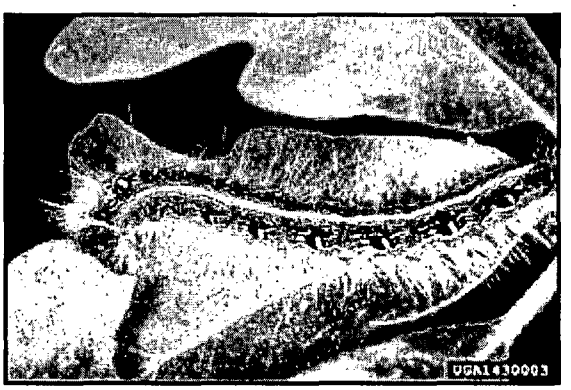
A: Not necessarily. Healthy deciduous trees can survive 2-3 successive years of defoliation without mortality (dying). Trees defoliated early in the season often grow a new, smaller set of leaves in July once tent caterpillars and gypsy moths stop feeding.

Q: How do I know which type of caterpillar is eating my tree?

A: The easiest way to tell them apart is by the patterns on the caterpillars. The gypsy moth caterpillar has five pairs of blue spots followed by six pairs of red spots along its back. The eastern tent caterpillar has a white line down its back with light blue and black spots on its sides. The forest tent caterpillar has white footprint-shaped marks down its back and light blue stripes on its sides.



forest tent caterpillar

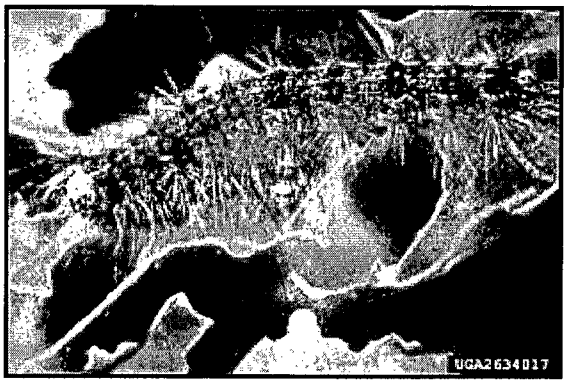


eastern tent caterpillar

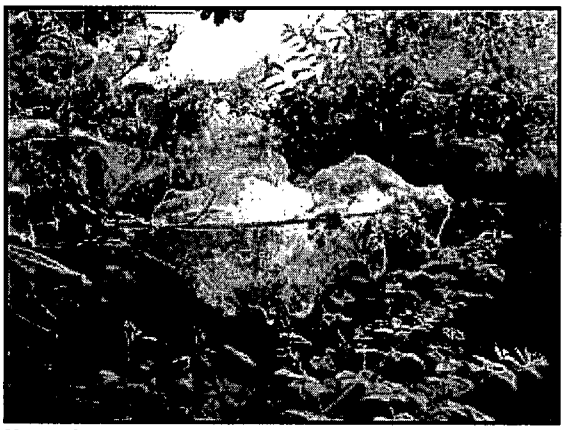
Whitney Cranshaw, Colorado State University, www.forestryimages.org

Lacy L. Hyche, Auburn University, www.forestryimages.org

Another caterpillar that is sometimes confused with the eastern tent caterpillar because it also makes tents in trees and eats leaves is the fall webworm. The fall webworm differs from the eastern tent caterpillar in several ways: its tent always begins at the tips of branches and gradually extends down the branch toward the trunk; fall webworms feed on foliage inside the tent (eastern tent caterpillars make their tents in the forks of branches and feeds on leaves outside the tent); the fall webworm is hairy, pale green or yellow, and has black or reddish spots along its back and there is usually more than one generation each year. Fall webworms make their tents in July and August, while eastern tent caterpillars make their tents in spring. Fall webworms are usually not considered harmful to trees, except for the aesthetic quality of the tents. Fall webworms are harmful when they feed on the regrowth of trees that were defoliated earlier in the season by other caterpillars.



gypsy moth
Minnesota Department of Natural Resources Archives, www.forestryimages.org



fall webworm tent on end of tree branch

Q: I have caterpillars and tents in my trees in July. Are they eastern tent caterpillars?

A: They are most likely fall webworms. See the previous question, answer and photo.

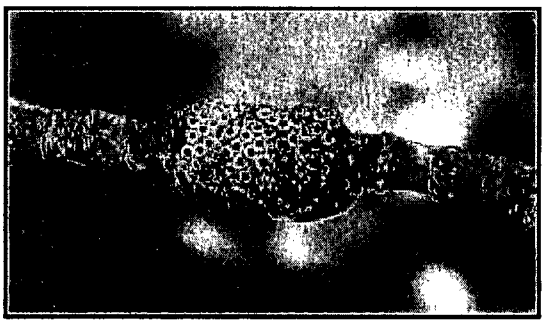
Q: Are they harmful to children or pets?

A: Contact with these insects is generally not harmful with a few exceptions. Some individuals may develop skin rashes or irritations from contact with gypsy moth hairs, including those on the outside of egg masses. Researchers have found that ingestion of eastern tent caterpillars only by pregnant horses can cause them to miscarry (mare reproductive loss syndrome). There is no evidence that ingestion of eastern tent caterpillars is harmful to humans or other animals.

Q: Is there a State program or is there State funding to help get rid of these caterpillars?

A: There is currently no State program in New York to spray for tent caterpillars or gypsy moths on State or private property. There are no State funds available to property owners for managing tent caterpillars or gypsy moths. NYS DEC does provide information through its website and regional foresters. (See link to DEC Regional Offices below.)

forest tent caterpillar new egg mass



forest tent caterpillar old egg mass

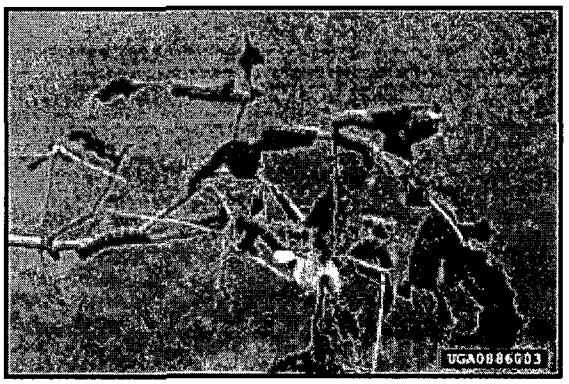
Q: How can I control these caterpillars?

A: For homeowners, the first option to consider is to do nothing. Healthy deciduous trees usually survive defoliation and grow back a second set of leaves in July. Manual control on individual trees includes hand removal of egg masses, inhabited tents and pupa, and installation of sticky tree wraps on trunks to capture caterpillars as they move up and down trees. Do not leave egg masses on the ground; drop them in a container of detergent. Do not attempt to burn tents while they are on trees. This is hazardous to the health of the tree.

Q: Should I spray my trees?

A: Maybe. Remember, tent caterpillars are native and a natural part of our ecosystem, and gypsy moths have "naturalized" in our forest communities. These caterpillars will always be around, sometimes in small, unnoticeable

numbers. If dense concentrations of tent or gypsy moth caterpillars cause a decline in the trees' health or threaten an economic resource such as a sugar bush, spraying may be an option.



gypsy moth feeding on branch
Tim Tigner, Virginia Department of Forestry, www.forestryimages.org

Various insecticides for tent caterpillars and gypsy moths are available at garden centers. Insecticides are divided into two general groups: microbial/biological and chemical. Microbial and biological pesticides contain living organisms that must be consumed (eaten) by the pest. They are most effective on small, young caterpillars. As they mature, caterpillars become more resistant to microbial pesticides. The most common microbial and biological insecticide is Bacillus thuringiensis (Bt). Bt occurs naturally in soil and on plants. It is harmless to people, animals, and plants, but does affect young moth and butterfly larvae. When Bt is eaten, the caterpillar becomes paralyzed, stops feeding, and dies of starvation or disease.

Chemical insecticides are contact poisons. These chemicals can have a potential impact on a variety of beneficial insects (such as honeybees), so they should be used wisely.

Professional pesticide applicators can be found in the yellow pages under Tree Service. In order to use restricted insecticides, applicators must be certified. For a list, see the link to NYS certified pesticide applicators.

In certain cases it may be economically feasible to spray large areas. Maple syrup producers may be interested in aerial spraying since severe defoliations can reduce maple syrup production.

Spraying is not effective against pupae or egg masses, and is less effective once caterpillars reach 1 inch long. Nesting birds, beneficial insects, and other animals could be endangered by use of chemical insecticides.

Q: Will these caterpillars ever go away?

A: The short answer is no. FTC and ETC are a natural part of our forest ecosystem. Gypsy moths have "naturalized" and are not likely to disappear. The good news is that their populations fluctuate and after a few years of high numbers, their populations usually drop. Populations of tent caterpillars reaching highly noticeable levels run approximately on 10-year cycles and usually last 2-3 years. Gypsy Moths have not developed regular

gypsy moth adults and eggs

cycles but they seem to cause visible defoliation for 2-4 years before their populations drop.

newly hatched gypsy moth larvae on egg mass

Natural Control: Caterpillars are attacked by birds, rodents, parasites, and diseases. Extremes in temperature can also reduce population numbers.

Q: I have a woodlot. Should I harvest my trees?

A: We recommend delaying timber harvests in defoliated areas for two or three years after an outbreak to minimize additional stress on trees. Time will also allow you to see which trees remain healthy and alter harvesting plans if necessary. (See link to NYS DEC Forest Tent Caterpillar Defoliator Report 2005.)

forest tent caterpillar larvae on trunk
Herbert A. "Joe" Pase III, Texas Forest Service, www.forestryimages.org

Q: I have a sugar bush. Will my tapping harvest be affected?

A: Defoliated trees have decreased food storage. Sugar maple sap flow and sugar content may decrease in the year following defoliation.

Q: Is there a way to predict next year's defoliation?

A: Yes. If you are interested in sampling your woodlot or forest to determine the likelihood of defoliation by FTC or gypsy moths for the following growing season, sampling protocol for both is provided. (See related links.) If you do sample your woodlot or forest, your data is valuable to us for tracking annual populations. We would appreciate if you mailed or emailed you sampling data to:
NYSDEC
Division of Lands and Forests, Forest Health and Protection
625 Broadway
Albany, NY 12233-4253

Telephone: 518-402-9425 Fax: 518-402-9028
Email (please type "To the Attention of Forest Health" in the subject line):
lands@gw.dec.state.ny.us

Other Links of Interest

DEC Regional Offices

DEC list of NYS certified pesticide applicators

Eastern Tent Caterpillar, US Forest Service Pest Alert (leaving DEC's site)

Tent Caterpillars fact sheet, SUNY ESF (leaving DEC's site)

Forest Tent Caterpillar in the Upper Midwest, US Forest Service Information Sheet (leaving DEC's site)

Forest Tent Caterpillar, US Forest Service Pest Alert (leaving DEC's site)

Forest Tent Caterpillar, US Forest Service, Forest Insect and Disease Leaflet 9 (leaving DEC's site)

The following two sites from Minnesota include information about the friendly fly (*Sarcophaga aldrichi*), a parasite of the forest tent caterpillar:

Friendly fly: Forest tent caterpillar parasite, Minnesota DNR (leaving DEC's site)

Forest Tent Caterpillars in Minnesota, U. of MN Extension Service (leaving DEC's site)

Gypsy Moth, US Forest Service Pest Alert (leaving DEC's site)

US Forest Service, Forest Insect and Disease Leaflet 162 (leaving DEC's site)

Sequential Sampling Plans for Estimating Gypsy Moth Egg Mass Density (Fleischer, Carter, Reardon, Ravlin) (leaving DEC's site)

More Gypsy Moth Information (leaving DEC's site)

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