Caterpillar Update

Heather Faubert has some good news about the caterpillar outbreaks. See her two June updates below. And you can sign up to receive future updates at: http://web.uri.edu/ipm/2017/06/june-1st-caterpillar-update/

June 27, 2017 Caterpillar Update

It’s a beautiful thing! Gypsy moth caterpillars have been dying by the thousands all over Rhode Island! We can thank a fungal pathogen, *Entomophaga maimaiga*, and a wet spring. Gypsy moth caterpillars started dying from *Entomophaga* mid-May. More died each week until the grand finale which occurred around June 23rd. It was getting a little scary – it looked like we had too many caterpillars in mid-June. Then, thankfully, we received 5 wet days June 16-20. It takes about 7 days for a gypsy moth caterpillar to die once it gets infected by the fungus; so 7 days after June 16 we started seeing massive numbers of gypsy moth caterpillars dying.

Entomophaga Maimaiga – killed gypsy moths

Gypsy moth killed by *Entomophaga maimaiga*. 
Some caterpillars have pupated. Some pupae may still die of Entomophaga if the caterpillars were infected before pupating. I’m hoping that most of the surviving pupae will emerge as male gypsy moths. Male gypsy moth caterpillars tend to pupate earlier than female gypsy moth caterpillars because the males molt 4 times and the females grow larger and molt 5 times. Since females take longer to mature, most females were still caterpillars when the wet weather started June 16th. Remember – male gypsy moths are dull brown and can fly. Female gypsy moths are white with dark markings and don’t fly.

Gypsy moth pupae.

Male and female gypsy moths from 2016.

Forest tent caterpillars defoliated many acres of RI forests in 2017. This native insect is also attacked by different fungal pathogens, but, sadly, these pathogens did not cause the forest tent caterpillar population to crash. Forest tent caterpillar moths started emerging this week and will soon be laying egg masses to overwinter and hatch next spring.
Forest tent caterpillar cocoon wrapped in leaf.

Forest tent caterpillar cocoon leaf unwrapped.

Forest tent caterpillar moth on window screen.
Forest tent caterpillar egg masses will be deposited over the next few weeks.

**June 1, 2017 Caterpillar Update**

Many of your gypsy moth questions can be answered on the excellent DEM gypsy moth website: [http://dem.ri.gov/programs/forestry/gypsy-moths/](http://dem.ri.gov/programs/forestry/gypsy-moths/)

I know this wet weather has been depressing and stopping everyone from working outside, but I’m feeling grateful. Wet weather is making gypsy moth caterpillars susceptible to the fungal disease, *Entomophaga maimaiga*. Spores of this fungus blow around and land on gypsy moth caterpillars. Gypsy moth caterpillars must be wet for the spores to germinate and then infect gypsy moths. Once a caterpillar is infected it takes about a week for the caterpillar to die and then produce spores to spread to other gypsy moths. I saw my first dead gypsy moth caterpillar on May 22nd and now (June 1st) I think about 1% of gypsy moth caterpillars have died. I haven’t done an actual count – 1% dead is a rough estimate. It can be difficult to distinguish between a dead caterpillar and an empty, shed caterpillar skin. See pictures below.

Gypsy moth caterpillars dead from fungal disease. Caterpillar on far right is alive.
Entomophaga maimaiga usually kills most of its victims when gypsy moth caterpillars are full-sized, so after gypsy moths have done most of their feeding damage. With this extensive wet weather we have been experiencing, we hope many gypsy moth caterpillars will die before reaching full size. We will find out over the next several weeks. Gypsy moth caterpillars are usually full-sized and finished feeding in late June.

Most gypsy moth caterpillars I’m seeing now are about one inch long, though many have molted to a larger size. Larger caterpillars are more difficult to control with insecticides than smaller caterpillars (1 inch and smaller). I don’t expect Bt insecticides such as DiPel and Thuricide to be very effective controlling gypsy moth caterpillars after this week, though cooler, coastal areas may still have many small caterpillars susceptible to Bt insecticides.

Larger caterpillars can be controlled with a spinosad product such as Conserve (commercial applicator), Delegate (commercial fruit production), Entrust (certified Organic production) or Captain Jack’s Deadbug Brew (plant owner). There may be other products available to commercial applicators that effectively control large caterpillars. Do not apply insecticides near plants in flower so as not to kill bees.
Blueberry flowers seem to be particularly susceptible to gypsy moth feeding. Gypsy moth caterpillars chew on flower stems (pedicels) and have killed many blueberry blossoms over a very short period of time. Similar symptoms have been seen in CT and MA. Unfortunately the damage is done and some blueberry crops have been ruined.

Blueberry blossoms destroyed by gypsy moth caterpillar feeding.

Many communities have been experiencing outbreaks of forest tent caterpillars. I’ve received reports about large populations of forest tent caterpillars from South Kingstown, Richmond, Exeter, Coventry, Saunderstown, Coventry, Rumford, Providence, and several reports from Newport. Forest tent caterpillars have also reported in Voluntown, CT. Forest tent caterpillars hatch about 2 weeks earlier than gypsy moths, and most forest tent caterpillars are very large now. I expect forest tent caterpillars to be full grown and start forming cocoons next week. Last year most forest tent caterpillars had formed cocoons by mid June.

Forest tent caterpillar on left and Eastern tent caterpillar on right. Both are native insects and have been found in large numbers the last couple of years.

Eastern tent caterpillars are nearly finished for the season, but not before defoliating many black cherry trees. Eastern tent caterpillars are dramatic, but don’t cause much damage.
Winter moth caterpillars are finished for the year. We did not find any defoliating populations of winter moths in RI in 2017! Next time winter moths appear will be when male moths are flying to our porch lights in November.