

Winter Moth Presentation

Help is on the way!



Maine Forest Service entomologist Thomas Schmeelk tells a captivated audience the story of how an introduced fly, the size of a house fly, is beginning to reduce the population of the destructive and much-hated winter moth. (Photo by Paul Schlein)

On November 12, the Arrowsic and Georgetown conservation commissions hosted Maine Forest Service entomologist Thomas Schmeelk to give an informative and most illuminating presentation on the winter moth (*Operophtera brumata*). This invasive species, since about 2012, has been attacking and defoliating a variety of trees and shrubs in Maine, much to homeowners' consternation. The event was held at the Georgetown Historical Society and was attended by 109 area residents, with 26 in person and a whopping 83 online—clearly a sign of great interest in this subject!

As most of us in Arrowsic well know, the island experienced a major winter moth outbreak last summer, with many, many trees affected. Schmeelk began his talk by saying entomologists have had to learn to cultivate a sense of humor to more easily communicate what is most often bad news. But with the winter moth, he said with a big smile, this was absolutely not the case. He then told the success story of how the parasitic fly *Cyzenis albicans* has been systematically released in 13 towns around the state experiencing high infestation, including, as of the day of the presentation, in Georgetown.

The fly kills winter moths by laying eggs on leaves, which the caterpillars then eat. The fly eggs hatch when the caterpillars turn into pupae, with the fly larvae growing within it, eventually causing the pupae to die in the soil before becoming a moth. Before release, intensive research was done to ensure the fly attacks only the winter moth, and nothing else, mitigating any concerns the fly may cause unwelcome new problems.

The areas where the flies have been released are closely monitored, and this has revealed that not only are the flies reproducing and killing winter moths, but they are also spreading out at least five miles from the initial release sites. This is excellent news for other nearby towns, such as Arrowsic, where releases may not be needed. While this is a huge success story, it does take a few years for the fly's range to expand. Some patience is needed.

There are several other important takeaways to consider from Schmeelk's presentation:

- Browntail moth and spongy (formerly gypsy) moth typically consume entire leaves. However, in moderate winter moth infestations, the leaves are only perforated, which means photosynthesis can still continue to nourish the trees. In addition, defoliated trees can flush out another set of leaves once the caterpillar feeding has ceased.
- Because leaves are not completely defoliated by the winter moth, it is unlikely a tree will die with repeated partial defoliation. However, in the case of additional stressors like drought, pathogens, or defoliation from other insect species, tree mortality may result after several defoliations.
- With the demonstrated success of the flies, toxic controls, such as the application of pesticides, are not needed. In fact, widespread spraying may harm the flies, and decrease their effectiveness.
- For those wanting to provide additional protection, this time of year you can wrap trees with non-toxic sticky bands, available from area nurseries and online. The bands trap female moths as they crawl up trees in the fall to deposit their eggs. In heavy infestations, multiple bands per tree are recommended, as they can become saturated.

For a recording of the presentation in its entirety, with detailed information, as well as a separate file of the slide presentation, go to the Arrowsic Conservation Commission webpage at <https://arrowsic.org/arrowsic-conservation-commission/> and look under Our Links.

—Paul Schlein for the Arrowsic Conservation Commission