

## Explore January: The Maple Sap Moths

When you take a walk in a sugar maple grove on a sunny winter's day, you often see sweet sap oozing from the bark, wounds, or the drill holes made by sapsucker woodpeckers. Because of climate change and warming winters in the northeast, the sap of sugar maple trees begins to flow much earlier than it used to even just a decade ago. Hence, sugar maple trees grown for sap to make maple syrup need to be tapped much [earlier](#) than in the past. Here in New Jersey, sap ran predominantly in February and early March. Now it is not uncommon to have sap running in January. With warmer temperatures and sap flowing in winter, certain creatures that feed off the running sap can be observed out and about much earlier than they used to be as well.



*A fallow noctuid moth lapping up sap in winter.  
Photo courtesy of Abundantnature.com*

One of the creatures that is attracted to sugar maple sap are moths. The most common ones that can be found clinging to the bark of maple trees are members of the family [Noctuidae](#), from the Latin noctua, which means owl. The moths get their name from their eyes which are very large and remind us of owl eyes. The owlet moths account for over 25% of all butterflies and moths so there is a good deal of diversity within this group.

Some owlet moths can fly at much colder temperatures than many other insects. Two common kinds are the fallow moths and quaker moths. The moth's most obvious cold weather survival adaptation is the ability to heat its body with shivering. The moths shiver to warm their wing muscles enough to allow them to fly when it is cold. Another feature is their "fur coats" which help to provide insulation to maintain their body temperatures above the surrounding air temperature. These owlets are often called wintermoths or maple sap moths.

Moths are usually nocturnal, but these maple sap moths can be observed during the daytime in winter when they hang out sipping sap on maple tree trunks. Sadly, in woodlands where sap is collected to make syrup, many noctuid moths end up drowning in [sap collection buckets](#) when they fly in to have a drink. These owlet moths have spent the early winter months as adults, hibernating under bark, under leaf litter, or in cracks or crevices in trees. As temperatures warm and days get longer, these moths cease hibernation and emerge ready to feed. In winter sometimes the only food available is tree sap.

Adult noctuid moths hold their wings tentlike over their bodies. Some noctuids are colorful but most are brown, gray, or tan with intricate patterns that make them resemble tree bark or bird droppings. They have great camouflage for their woodland habitats.



### Activity: Take A Winter Moth Walk

Visit a woodland with maple trees in late January through March to look for maple sap moths. Although these moths are most drawn to [sugar maples](#), you may also find them on red maple and silver maple trees. If you come to Duke Farms, walk the trails off the visitor center parking lot and the woodland trails around the Hay Barn. Inspect the bark of maple trees to see if you can observe any early moths or any other critters taking a sweet drink from flowing sap.



A common Quaker moth. Photo courtesy of Heath McDonald; Butterfly-Conservation.org

If you find any moths, download the App [iNaturalist](#) for your mobile device. Take a photo and submit the photo and see if you can learn what kind of moth you have found.

### More About Moths

To learn more about moths and their unique adaptations and diversity, check out the Duke Farms series, [Moths in Moonlight Meadows](#), created by former Duke Farms environmental educator and artist, Megan Martin.



**A Sample Research Question Related to Maple Sap Moths:** Investigate how different organisms stay warm, survive and flourish in cold environments.

**Additional Resource:** [Traits of Owllet Moths](#)

For more ideas on curriculum connections, contact Kate Reilly, Manager of Education at Duke Farms at [kreilly@dukefarms.org](mailto:kreilly@dukefarms.org).