

## Wavy-Lined Emerald Moth

*Synchlora aerata*

The caterpillars of this moth disguise themselves by taking small pieces of the plant they are eating and layering the pieces on themselves to blend in with the plant. Adult moths prefer open areas like pastures, gardens, and old fields.

Photo by Thomas Irvine CC BY - NC, iNaturalist



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## Dark Sword Grass Moth

*Agrotis ipsilon*

The Dark Sword Grass moth migrates mostly during the summer to cooler temperatures, leading to its abundance all over the world. Its caterpillars can be harmful to plants because they eat the base of the plant, cutting it off from its root system.

Photo by Juan Muñoz Gómez CC BY - NC, iNaturalist



Photo by Todd Council CC-BY-NC, iNaturalist



## White-Lined Sphinx Moth

*Hyles lineata*

This moth is known to fly faster than some birds and can be mistaken for a hummingbird. It is common and abundant throughout North America and lives in diverse places ranging from forests to fields.

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Photo by msdlwrt1 CC BY - NC, iNaturalist

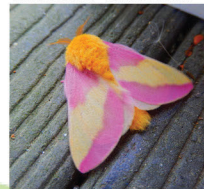
## Popular Moths That Do Not Pollinate

Three popular moths that don't pollinate are the *Actias luna* (luna moth), *Antheraea polyphemus* (polyphemus moth), and the *Dryocampa rubicunda* (rosy maple moth). As adults, they do not have functional mouthparts and only live for about a week. Their adult stage is solely for reproduction.

Luna moth. Photo by Kevin Gevaert CC BY - NC, iNaturalist



Rosy Maple moth. Photo by Eric Cormier CC BY - NC, iNaturalist



Polyphemus moth. Photo by Casey Bond CC BY - NC, iNaturalist



## Resources

- Westmoreland Pollinators Partnership, Master Gardener. (2024)
- M. Reckner, Butterflies vs moths: what are the differences? Brandywine Conservancy. (2023)
- L. J. Schueman, How moths keep our world blooming, pollinating in the night. One Earth. (2023)
- L. Koszarek, Moths-the forgotten pollinators. PennState Extension. Master Gardener. (2023)
- Beaulieu, 16 types of invasive plants you should avoid, the spruce. (2024)
- Garden Tiger. (n.d.). Butterfly Conservation. <https://butterfly-conservation.org/moths/garden-tiger>
- Wavy-Lined Emerald. (n.d.). Missouri Department of Conservation. <https://mdc.mo.gov/discover-nature/field-guide/wavy-lined-emerald>
- Picture page about Dark Sword-grass, aka Black Cutworm. (n.d.). [https://www.gardensafari.nl/english/picpages/agrotis\\_ipsilon.htm](https://www.gardensafari.nl/english/picpages/agrotis_ipsilon.htm)
- White-Lined Sphinx. (n.d.). Missouri Department of Conservation. <https://mdc.mo.gov/discover-nature/field-guide/white-lined-sphinx>
- Bilobed Looper. (n.d.). Missouri Department of Conservation. <https://mdc.mo.gov/discover-nature/field-guide/bilobed-looper>
- Isabella Tiger Moth (Woolly Bear; Woolly Worm). (n.d.). Missouri Department of Conservation. <https://mdc.mo.gov/discover-nature/field-guide/isabella-tiger-moth-woolly-bear-woolly-worm>



# Native Moth Pollinators of Pennsylvania



## Pollinators

A pollinator is an organism that moves from plant to plant spreading pollen, which helps plants reproduce. More than 180,000 plant species and 1,200 crops, like many fruits, vegetables, and nuts, rely on pollinators.

Many people only think of bees and butterflies as pollinators, although several moths are important pollinators, too. This brochure will examine some that you might see in Pennsylvania.

## Difference Between Moths and Butterflies

- Antennae: Butterflies have a bulb-like end on the tips of their antennae, while moths have an almost feathery antennae.
- Wings: A butterfly rests its wings in a vertical angle held together, while a moth lays them flat over their abdomens creating a shape that resembles a tent.

*Danaus plexippus* (monarch). Photo by Jay Ballard CC BY - NC, iNaturalist



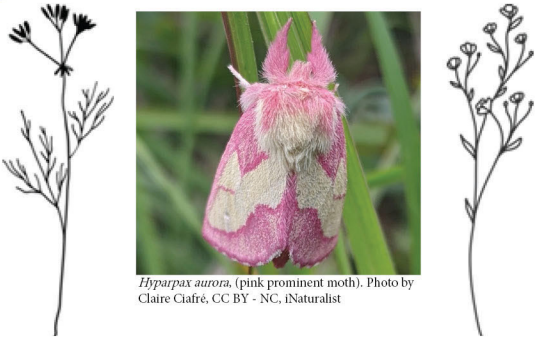
*Amorpha juglandis*, (walnut sphinx). Photo by thebugwhisperer CC BY - NC, iNaturalist





## How Moths Pollinate

Moths drink nectar with their tongues similar to butterflies but usually are active during night. They transport pollen to a flower's reproductive organs using their bodies. Because they are fuzzy and have a larger abdomen than butterflies, their body rubs against the pollen and carries it to the next flower.



*Hyparx aurora*, (pink prominent moth). Photo by Claire Ciafré, CC BY - NC, iNaturalist

## Common Native Flowers Moths Prefer

- *Lonicera sempervirens*, (Trumpet honeysuckle)
- *Lobelia cardinalis*, (Cardinal flower)
- *Aquilegia canadensis*, (Columbine)
- *Phlox paniculata*, (Phlox)
- *Penstemon digitalis*, (Penstemon)

At night they prefer pale colored or white flowers that reflect light, but during the day they flock to vibrant colors. They are also attracted to strongly scented flowers due to weaker vision.



Trumpet honeysuckle. Photo by DF Vickers CC BY - NC, iNaturalist

Cardinal flower. Photo by Jay McGowan CC BY - NC, iNaturalist

Red columbine. Photo by Shawn Hall CC BY - NC, iNaturalist

## Common Invasive Plants Moths Like

Common invasive plants moths are attracted to are Japanese honeysuckle, Chinese wisteria, Bugle weed/ Ajuga, and Butterfly bush. Even though they visit these invasive species, native plants are more beneficial to our environment because they can be regulated by other native species, avoiding overgrowth. Invasives do not have many predators, due to the non-natural habitat, so they commonly lead to overabundance. Native plants are beneficial because they co-evolve with our pollinators.

Japanese honeysuckle. Photo by Ann Schunior CC BY - NC, iNaturalist



Butterfly bush. Photo by mattwate CC BY - NC, iNaturalist



## MEET PENNSYLVANIA'S MOTHS



### Hummingbird Moth

*Hemaris thysbe*

This moth mimics a hummingbird's appearance and movement for survival against predators. They will hover near flowers while being suspended in the air and use their proboscis to drink the nectar. The Humminbird Clearwing is one of the most common in North America along with the Snowberry Clearwing Hummingbird.

Photo by olsonlinda CC BY - NC, iNaturalist



Hummingbird Clearwing moth. Photo by Joanne Muis Redwood CC BY-NC, iNaturalist



## Yellow Collared Scape Moth

*Cisseps fulvicollis*

The yellow collared scape moth is commonly found on flowers in the day and prefers gardens, fields, and parks. This species can mimic beetles and wasps that would generally taste bad as a form of protection.

Photo by Allen Barlow CC BY - NC, iNaturalist

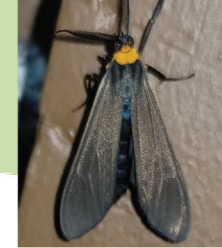


Photo by Emily Wagner CC BY - NC, iNaturalist



### Isabella Tiger Moth

*Pyrrharctia isabella*



The caterpillar of this moth rests in leaf litter during the winter with the ability to freeze and survive until it wakes in the spring and begins to cocoon. Larve of this species are also referred to as "Wooly Bears". They can be found almost anywhere there is vegetation.

Photo by devjohnstone CC BY - NC, iNaturalist



Photo by thebugwhisperer CC BY - NC, iNaturalist

### Bilobed Looper Moth

*Autographa biloba*

The Bilobed Looper moth feeds from the Wild Geranium both as an adult and at larve stage. Adult moths will drink the flowers nectar while the caterpillars also feed on the plant. They do not visit lights as commonly as other moths and spend most of their time feeding on flowers.



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Photo by forestschoolsi CC BY - NC, iNaturalist