



ABOUT THE TRAIL

Welcome to the Lepidoptera Trail. This garden is an example of how beauty and biodiversity can coexist in a managed landscape. Use this guide to take a self-guided tour of the trail.

The adults of many Lepidoptera species can consume nectar from almost any flower. However they spend most of their lives as larvae (caterpillars), which have a close relationship with the plants on which they feed. Many species can only survive on a few plant families or genera. One example is the monarch butterfly, which can only develop on milkweed plants in the genus *Asclepias*.

The Lepidoptera Trail incorporates more than 50 species of native plants selected for their ability to support diverse species of Lepidoptera larvae. A number of these plants also have beautiful floral displays that provide nectar for adults. Paths wind through the garden to invite exploration and enjoyment, while the layered plant structure offers a feeling of seclusion and serenity. The garden is managed to provide a delightful visual experience while maximizing its usefulness to Lepidoptera and other wildlife.

This Trail is used as an outdoor laboratory for University faculty, students and visitors to observe Lepidoptera in a managed habitat. It also offers ideas for homeowners who want to attract Lepidoptera to their own backyards.

TRAIL MAP



Please help re-use this guide by returning it to the boxes at the trail entrances.

For a selection of plants and the Lepidoptera species they support, please visit <http://ag.udel.edu/udbg/gardens/native.html>

152 Townsend Hall, Newark, DE 19716

<http://ag.udel.edu/udbg>



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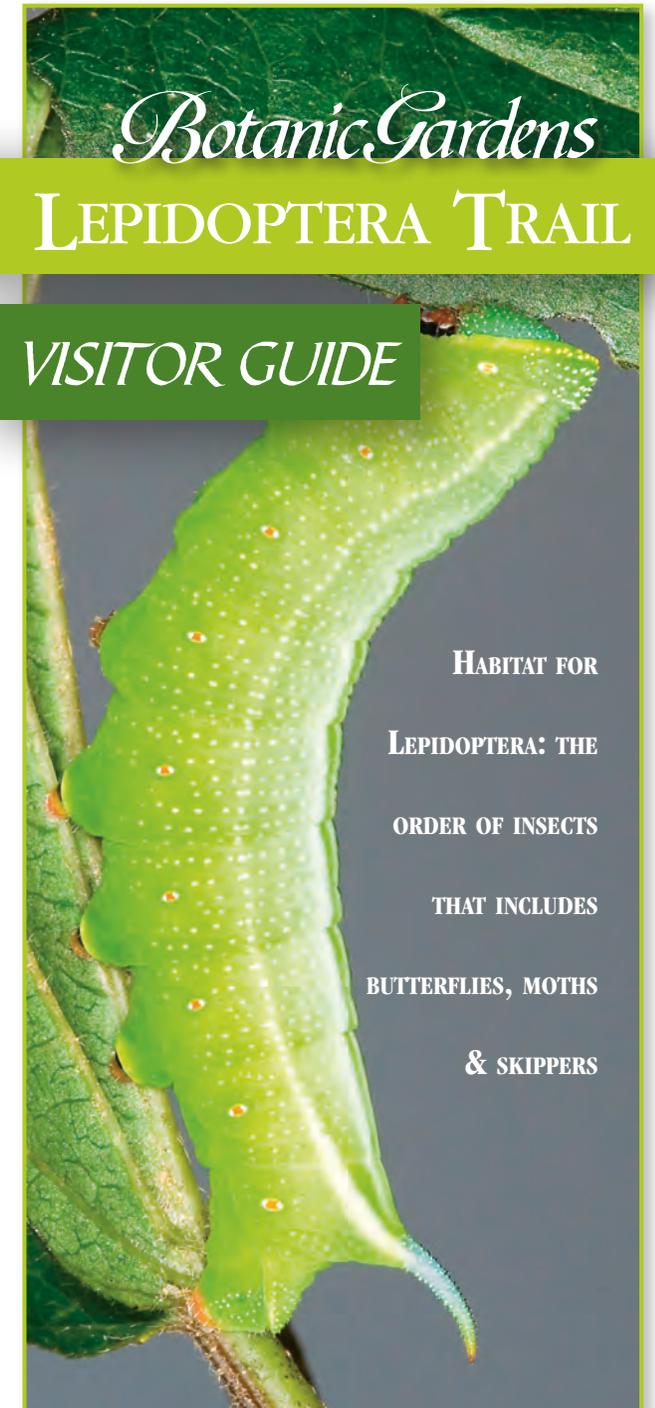


Photos by Brian Cutting, Mike Dunn, Doug Tallamy, Melinda Zoehrer

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Botanic Gardens LEPIDOPTERA TRAIL

VISITOR GUIDE



HABITAT FOR
LEPIDOPTERA: THE
ORDER OF INSECTS
THAT INCLUDES
BUTTERFLIES, MOTHS
& SKIPPERS



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WHY A LEPIDOPTERA TRAIL?

Lepidoptera are a critical link in food webs. Caterpillars eat plants, which make food from the sun through photosynthesis. Other animals eat caterpillars and adults, transferring the solar energy up the food chain. Ninety-six percent of bird species rear their young on Lepidoptera, other insects, and related organisms. Lepidoptera diversity supports a balanced and healthy ecosystem. Humans rely on a healthy ecosystem for essential products and services such as pollination, clean air and water, and climate regulation. The Lepidoptera Trail provides these 'ecosystem services' and is also an attractive recreational and educational landscape.



FIND AND OBSERVE LEPIDOPTERA

Photo signs along the trail depict both the larva (caterpillars) and adult (butterfly, moth, or skipper) species that may be seen. Signs also display information about host plants and the time of year the species is most likely to be encountered. Be patient; many caterpillars are well hidden. Keep an eye out for:

EGGS

Look for tiny eggs of all shapes and colors.

Watch where adult Lepidoptera lay their eggs.

Note single eggs underneath or at tips of leaves and inside flowers, or groups of eggs may be covered in wing scales, foam masses, or even stacked into chains.

CATERPILLARS

Observe leaves damaged by recent feeding.

Scout for pellet-like caterpillar droppings ('frass'), a sign of nearby larva.

Search underneath leaves.

Some species blend in by resting along leaf veins.

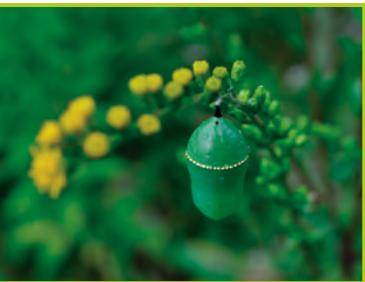
Find rolled or folded leaves that may be constructed by caterpillars.

PUPA

Look for cocoons and chrysalids, which come in all shapes and sizes.

Search leaf litter under host plants to find winter cocoons.

Find chrysalids or cocoons hanging from branches and dangling from twigs.



HIDE AND SEEK: CATERPILLARS AS MASTERS OF DISGUISE



A



B



C



D



E



F

A. Spicebush swallowtails and silver-spotted skippers roll or stitch leaves together with silk to make shelters for themselves. B. Camouflaged loopers use silk to attach pieces of their host plant to their backs, making them nearly invisible. C. Unicorn caterpillars mimic a damaged leaf edge. D. Some geometrid caterpillars stand rigidly straight and still, barely distinguishable from a twig. E. Small-eyed sphinx larvae have spots that mimic the spots on cherry leaves. F. Viceroy caterpillars look like bird droppings, and therefore are less likely to become bird food.

ATTRACT LEPIDOPTERA TO YOUR GARDEN

- Decide which species you want to attract, and provide the host plants that the caterpillar prefers to eat.
- Plant a diverse environment with places for caterpillars to feed, hide, regulate temperature and safely transform to the adult stage.
- Minimize use of insecticides and herbicides.
- Plant in full sun: Light stimulates egg laying in some species.
- Use leaf-litter as mulch. Many caterpillars overwinter in fallen leaves.
- Tolerate some leaf damage.
- Plant oak trees. In the mid-Atlantic region, Oaks support more than 530 species of Lepidoptera.
- Grow flowering plants spring through fall for nectar sources.
- Include a spot to sit, observe, and enjoy your garden and its inhabitants.

