

WHERE CAN I FIND OUT MORE?

**Books**

*Butterflies and Moths* by David Carter

*Butterflies. How to Identify and Attract Them to Your Garden* by Marcus Schneck

*The Butterfly Book. An Easy Guide to Butterfly Gardening, Identification, and Behavior* by Donald and Lillian Stokes and Ernest Williams.

*Butterfly Gardening. Creating a Butterfly Haven in Your Garden*, by Thomas C. Emmel, Ph.D.

**Organizations**

*The Ohio Lepidopterists*, c/o Eric H. Metzler  
1241 Kildale Sq. N., Columbus, OH 43229-1306

*Monarch Watch*, c/o O.R. Taylor  
Dept. of Entomology, Haworth Hall, Univ. of Kansas,  
Lawrence, KS 66045, www.monarchwatch.org

*North American Butterfly Association*  
4 Delaware Rd., Morristown, NJ 07960, www.naba.org

BE A PART OF THE BUTTERFLY HOUSE

For information about volunteering or providing financial support for Butterfly House and Cox Arboretum, please call 937-434-9005.

Many thanks to Reed Watkins for the beautiful butterfly and moth specimens and to Bill Welch for his expertise in photographing the specimens!



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BUTTERFLY  
HOUSE  
{ Butterflies }

WHAT IS A BUTTERFLY?

Butterflies are insects in the order Lepidoptera, which means “scaly wings.” Their wings are covered with thousands of scales, just like a roof is covered with shingles. These scales account for the distinctive colors of their wings. There are 170,000 known species of Lepidoptera, 17,000 of which are butterflies; the remaining 90% are moths. Moths shared the earth with dinosaurs, some 180 million years ago, while butterflies evolved about 100 million years later.

Butterflies are an important part of our ecosystem both as pollinators and as a source of food for birds, reptiles, mammals, and other insects. They have developed a variety of survival strategies. Some caterpillars eat poisonous plants that make them toxic to other animals, such as the Monarch that feeds on milkweed. This toxicity carries over into the adult stage and is advertised by warning coloration and easily seen patterns. One taste is all it takes for a predator to get the message that the bright orange color means “leave me alone!” The Viceroy is the classic example of mimicry in coloration. It is non-poisonous and would make a fine meal but it is safer from predators because it looks like the Monarch. Some caterpillars and adult butterflies have eyespots that make them look much larger than they really are. Camouflage is another effective method in the fight for survival. By looking like part of a tree or flower these insects often fool would-be predators.

HOW DO BUTTERFLIES GROW?

Butterflies and moths have a complex life cycle called metamorphosis, which means “change in form.” This amazing life cycle includes four distinct phases: egg, caterpillar (larva), pupa (chrysalis or cocoon), and adult. The female butterfly lays her eggs, which are smaller than grains of rice, on a specific host plant. The tiny caterpillars hatch and begin eating voraciously – they can double their body size in 24 hours! As the caterpillars grow, they shed their skin several times. When the caterpillar is finished growing it looks for a secure spot to shed its skin one last time, transforming into a chrysalis. Inside the chrysalis the organs of the caterpillar completely breakdown and reform into an adult butterfly. After the adult is formed, the chrysalis splits and the butterfly emerges.

BUTTERFLY OR MOTH?

There are exceptions, but generally:

Butterflies have straight antennae with club-like ends, fly during the day (diurnal), are brightly colored, hold their wings upright when resting, and form a chrysalis when they pupate.

Moths have feathery antennae, fly at night (nocturnal), are dull in color, lay their wings out flat when resting, and form a cocoon.

HOW DO BUTTERFLIES EAT?

An adult butterfly feeds through its proboscis, a long tube used like a drinking straw to draw nectar and other fluids up into its throat. Flowers provide a substantial amount of food for butterflies, but many also get nourishment from tree sap, rotting fruit, animal dung, and puddles. The Harvester is the only carnivorous North American butterfly, feeding almost exclusively on woolly aphids.

Some moths feed using a proboscis as well. Clearwing moths hover and buzz over flowers while nectaring, just like hummingbirds. Some moths do not eat at all as adults. In fact, they don't even have mouthparts. They store up all the energy they need as caterpillars and spend their entire one week adult life looking for a mate.

WHERE DO BUTTERFLIES LIVE?

Lepidoptera are found in every corner of the globe. There are over 700 species that are native to North America, and about 130 species found in Ohio. Butterflies survive in habitats ranging from the Arctic tundra to alpine mountain summits, as well as subtropical rainforests and coastal swamps.

HOW CAN I ATTRACT BUTTERFLIES?

Since butterflies rely on plants during every stage of their life cycle, the best way to attract butterflies is to plant a garden. Choose a sunny location for your butterfly garden. Virtually all of the nectar plants that butterflies depend on thrive in full sun conditions. Flowers planted in groups are most attractive to butterflies. Include flowers of different size, shape, color, height, and blooming season. The most popular nectaring plants in Ohio include:

**Perennials**

- Joe-pye weed (*Eupatorium* spp.)
- Aster (*Aster* spp.)
- Butterfly weed (*Asclepias tuberosa*)
- Blazing star of gay feather (*Liatris* spp.)
- Coreopsis (*Coreopsis* spp.)
- Purple coneflower (*Echinacea purpurea*)
- Black-eyed Susan (*Rudbeckia* spp.)

**Annuals**

- Petunia (*Petunia* spp.)
- Cosmos (*Cosmos bipinnatus*)
- Zinnia (*Zinnia elegans*)
- French Marigold (*Tagetes patula*)
- Lantana (*Lantana camara*)
- Verbena (*Verbena bonariensis*)
- Pentas (*Pentas lanceolata*)

To attract more butterflies to your garden, include larva host plants. (Please refer to the native butterflies pictured in this brochure for the names of their host plants). Adults will visit these to deposit eggs. Then you can enjoy watching the caterpillars too!

If possible your butterfly garden should be sheltered from the wind. Provide a bucket of wet sand or a small puddle near your garden. Butterflies are insects so pesticides need to be avoided!

# COMMON BUTTERFLIES OF OHIO



◀ **Butterfly:** Tiger Swallowtail  
**Larval food:** Many trees and shrubs such as willows, birches, cherries, and poplars  
**Size:** 3 to 5 1/2 inches



◀ **Butterfly:** Great Spangled Fritillary  
**Larval food:** Violets  
**Size:** 2 to 3 inches



◀ **Butterfly:** Red Admiral  
**Larval food:** Nettles  
**Size:** 1 3/4 to 2 1/4 inches



◀ **Butterfly:** Giant Swallowtail  
**Larval food:** Prickly ash, rue, hop tree, and citrus trees  
**Size:** 4 to 5 1/2 inches

# COMMON MOTHS OF OHIO



◀ **Moth:** Luna Moth  
**Larval food:** Many broad-leaved trees including sweetgum, birch, and alder  
**Size:** 3 to 4 1/4 inches

▶ **Butterfly:** Eastern Black Swallowtail  
**Larval food:** Members of the carrot and citrus families  
**Size:** 2 3/4 to 3 1/2 inches



▶ **Butterfly:** Question Mark  
**Larval food:** Nettles, hackberry, hops  
**Size:** 2 1/4 to 2 3/4 inches



▶ **Butterfly:** Red-spotted Purple  
**Larval food:** Willows, poplars, cherries, apples, hawthorns  
**Size:** 3 to 3 1/2 inches



◀ **Butterfly:** Spicebush Swallowtail  
**Larval food:** Spicebush, sassafras, bay and others of laurel family  
**Size:** 3 1/2 to 4 1/2 inches



◀ **Butterfly:** Comma  
**Larval food:** Hops, nettles  
**Size:** 1 3/4 to 2 inches



◀ **Butterfly:** Common Wood Nymph  
**Larval food:** Grasses  
**Size:** 2 to 3 inches

▶ **Butterfly:** Pipevine Swallowtail  
**Larval food:** Pipevines  
**Size:** 2 3/4 to 3 1/2 inches



▶ **Butterfly:** Mourning Cloak  
**Larval food:** Willows, elms, aspens, birches, hackberry  
**Size:** 2 3/4 to 3 1/2 inches



▶ **Butterfly:** Orange Sulphur  
**Larval food:** Alfalfa, vetches, clover  
**Size:** 1 1/2 to 2 1/2 inches



◀ **Moth:** Polyphemus Moth  
**Larval food:** Many broad-leaved trees and shrubs, especially apple varieties  
**Size:** 4 to 5 inches



◀ **Butterfly:** Monarch  
**Larval food:** Milkweeds  
**Size:** 3 1/2 to 4 inches



◀ **Butterfly:** Buckeye  
**Larval food:** Plantain, figwort, snapdragons  
**Size:** 2 to 2 1/2 inches



◀ **Butterfly:** Silver-spotted Skipper  
**Larval food:** Wisteria, licorice, woody legumes, locusts  
**Size:** 1 3/4 to 2 1/2 inches



◀ **Moth:** Cecropia Moth  
**Larval food:** A wide range of trees and shrubs  
**Size:** 4 1/2 to 6 inches.

▶ **Butterfly:** Viceroy  
**Larval food:** Willows, poplars, cottonwoods, some fruit trees  
**Size:** 2 1/2 to 3 inches



▶ **Butterfly:** Painted Lady  
**Larval food:** Thistles, other composites, hollyhocks, borages  
**Size:** 2 to 2 1/4 inches



▶ **Butterfly:** European Cabbage White  
**Larval food:** Crucifers, such as mustard, cabbage and cress  
**Size:** 1 1/4 to 1 3/4 inches



◀ **Moth:** Hummingbird Clearwing Moth  
**Larval food:** Hawthorn and related species  
**Size:** 1 1/2 to 2 1/2 inches