MOTHS OF OHIO field guide

DIVISION OF WILDLIFE

INTRODUCTION

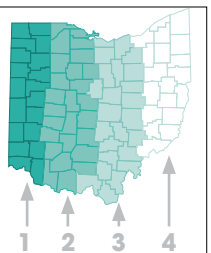
Text by: David J. Horn Ph.D

Moths are one of the most diverse and plentiful groups of insects in Ohio, and the world. An estimated 160,000 species have thus far been catalogued worldwide, and about 13,000 species have been found in North America north of Mexico. We do not yet have a clear picture of the total number of moth species in Ohio, as new species are still added annually, but the number of species is certainly over 3,000. Although not as popular as butterflies, moths are far more numerous than their better known kin. There is at least twenty times the number of species of moths in Ohio as there are butterflies.

The world of moths is one of extraordinary beauty, fantastic behavior, and outrageous diversity. We hope that this basic primer covering over 60 of Ohio's most commonly seen/and or interesting moth species helps you to gain a better understanding and appreciation of these amazing insects.

HOW TO USE THIS GUIDE

Compared to many groups of animals, our knowledge of moth distribution is very incomplete. Many areas of the state have not been thoroughly surveyed and in some counties hardly any species have been documented. Accordingly, the distribution maps in this booklet have three levels of shading: ■**1. heavily-shaded** means a species record documented by specimen or photograph and confirmed by the Ohio Lepidopterists. ■**2. Intermediate** shading indicates that the moth is almost certainly present and could be found at the right season. ■**3. Light** shading shows counties in which the moth might occur due to proximity of a confirmed record or presence of the host plant. □**4. Unshaded** counties are those in which experts would not expect the moth to occur. But as with any winged creature, a moth may turn up in unexpected places.



MOTHS OF OHIO

TABLE OF CONTENTS

ERMINE MOTHS
- 11 Ailanthus Webworm Moth

LEAF SKELETONIZERS
- 12 Orange-Patched Smoky Moth

SLUG MOTHS
- 13 Stinging Rose Caterpillar Moth

MEAL MOTHS & CLOVER HAYWORM
- 14 Indian Meal Moth
- 15 Clover Hayworm

CLEARWING BORERS
- 16 Clearwing Moths

PLUME MOTHS
- 17 Plume Moths

GRASS VENEERS
- 18 Sod Webworm Moths

PYRAUSTINE MOTHS
- 19 European Corn Borer Moth
- 20 Grape Leaffolder Moth

CARPETS & PUGS
- 21 White-Striped Black Moth

WAVES
- 22 Chickweed Geometer

EMERALDS
- 23 Wavy-lined Emerald

TYPICAL GEOMETERS
- 24 Tuliptree Beauty
- 25 False Crocus Geometer
- 26 White Slant-Line

TENT CATERPILLARS & LAPPET MOTHS
- 27 Large Tolype
- 28 Eastern Tent Caterpillar Moth

ROYAL SILKWORM MOTHS
- 29 Imperial Moth
- 30 Regal Moth
- 31 Rosy Maple Moth
- 32 Spiny Oakworm Moth

BUCK MOTHS
- 33 Eastern Buck Moth

GIANT SILKWORM MOTHS
- 34 Io Moth
- 35 Polyphemus Moth
- 36 Luna Moth
- 37 Promethea Moth
- 38 Cecropia Moth

SPHINX MOTHS
- 39 Carolina Sphinx
- 40 Waved Sphinx
- 41 Blinded Sphinx
- 42 Hummingbird Clearwing
- 43 Pandorus Sphinx
- 44 Nessus Sphinx
- 45 Virginia Creeper Sphinx

PROMINENT MOTHS
- 46 White Furcula
- 47 White-Dotted Prominent

TUSSOCK MOTHS
- 48 Gypsy Moth
- 49 White-Marked Tussock Moth

TIGER MOTHS & BLACK WITCH
- 50 Virgin Tiger Moth
- 51 Virginian Tiger Moth
- 52 Fall Webworm Moth
- 53 Giant Leopard Moth
- 54 Isabella Tiger Moth
- 55 Clymene Moth
- 56 Banded Tussock Moth
- 57 Delicate Cycnia
- 58 Virginia Ctenucha
- 59 Yellow-Collared Scape Moth
- 60 Black Witch

LICHEN MOTHS
- 61 Painted Lichen Moth

SNOUTS
- 62 Green Cloverworm Moth

UNDERWING MOTHS
- 63 Underwing Moths

ZALE MOTHS
- 64 Lunate Zale

DAGGER MOTHS
- 65 Dagger Moths

WOOD-NYMPHS, FORESTERS, & PRIMROSE MOTHS
- 66 Beautiful Wood-Nymph
- 67 Grapevine Epimenis
- 68 Eight-Spotted Forester
- 69 Primrose Moth

DARTS
- 70 Large Yellow Underwing

BAGWORM MOTHS
- 71 Evergreen Bagworm Moth

RARE & ENDANGERED MOTHS
- 72 Coppery Orbexilum Moth
- 73 Schinia Flower Moth
- 74 Unexpected Cycnia

On the Cover: ROSY MAPLE MOTH by Jim McCormac

VISUAL REFERENCE

YPONOMEUTIDAE

ERMINE MOTHS

Ailanthus Webworm Moth

ZYGAENIDAE

LEAF SKELETONIZERS

Orange-Patched Smoky Moth

LIMACODIDAE

SLUG MOTHS

Stinging Rose Caterpillar Moth

PYRALIDAE

MEAL MOTHS

Indian Meal Moth

CLOVER HAYWORM

Clover Hayworm

SESIIDAE

CLEARWING BORERS

Clearwing Moths

PTEROPHORIDAE

PLUME MOTHS

Plume Moths

CRAMBIDAE

GRASS VENEERS

Sod Webworm Moths

CRAMBIDAE

PYRAUSTINE MOTHS

European Corn Borer Moth

PYRAUSTINE MOTHS

Grape Leaffolder Moth

GEOMETRIDAE

CARPETS & PUGS

White-Striped Black Moth

WAVES

Chickweed Geometer

EMERALDS

Wavy-Lined Emerald

TYPICAL GEOMETERS

Tuliptree Beauty

TYPICAL GEOMETERS

False Crocus Geometer

TYPICAL GEOMETERS

White Slant-Line

LASIOCAMPIDAE

LAPPET MOTHS

Large Tolype

TENT CATERPILLARS

Eastern Tent Caterpillar Moth

SATURNIIDAE

ROYAL SILKWORM MOTHS

Imperial Moth

ROYAL SILKWORM MOTHS

Regal Moth

ROYAL SILKWORM MOTHS

Rosy Maple Moth

ROYAL SILKWORM MOTHS

Spiny Oakworm Moth

BUCK MOTHS

Eastern Buck Moth

GIANT SILKWORM MOTHS

Io Moth

SATURNIIDAE

GIANT SILKWORM MOTHS

Polyphemus Moth

GIANT SILKWORM MOTHS

Luna Moth

GIANT SILKWORM MOTHS

Promethea Moth

GIANT SILKWORM MOTHS

Cecropia Moth

SPHINGIDAE

SPHINX MOTHS

Carolina Sphinx

SPHINX MOTHS

Waved Sphinx

SPHINX MOTHS

Blinded Sphinx

SPHINX MOTHS

Hummingbird Clearwing

SPHINGIDAE

SPHINX MOTHS

Pandorus Sphinx

SPHINX MOTHS

Nessus Sphinx

SPHINX MOTHS

Virginia Creeper Sphinx

NOTODONTIDEA

PROMINENT MOTHS

White Furcula

PROMINENT MOTHS

White-Dotted Prominent

EREBIDAE

TUSSOCK MOTHS

Gypsy Moth

TUSSOCK MOTHS

White-Marked Tussock Moth

TIGER MOTHS

Virgin Tiger Moth

EREBIDAE

TIGER MOTHS

Virginian Tiger Moth

TIGER MOTHS

Fall Webworm Moth

TIGER MOTHS

Giant Leopard Moth

TIGER MOTHS

Isabella Tiger Moth

TIGER MOTHS

Clymene Moth

TIGER MOTHS

Banded Tussock Moth

TIGER MOTHS

Delicate Cycnia

TIGER MOTHS

Virginia Ctenucha

EREBIDAE

TIGER MOTHS

Yellow-Collared Scape Moth

TIGER MOTHS

Black Witch

SNOUTS

Green Cloverworm Moth

LICHEN MOTHS

Painted Lichen Moth

UNDERWING MOTHS

Underwing Moths

ZALE MOTHS

Lunate Zale

NOCTUIDAE

DAGGER MOTHS

Dagger Moths

WOOD-NYMPHS

Beautiful Wood-Nymph

NOCTUIDAE

FORESTERS

Grapevine Epimenis

FORESTERS

Eight-Spotted Forester

PRIMROSE MOTHS

Primrose Moth

DARTS

Large Yellow Underwing

PSYCHIDAE

BAGWORM MOTHS

Evergreen Bagworm Moth

RARE

RARE

Coppery Orbexilum Moth

RARE

Schinia Flower Moths

RARE

Unexpected Cycnia

PRAIRIE FRINGED ORCHID
with pollinating Sphinx moth

THE IMPORTANCE OF MOTHS

Some of our most beautiful winged creatures are moths, especially the giant silkmoths such as the cecropia and luna (see pages 36 and 38). The larger, more ornate species have inspired many an artist, and dazzled scores of people who stumbled into one in the wild. Biologically, moths rank high among our most important groups of organisms. Adult moths serve as food for many predators, perhaps most notably bats, and a number of birds. Many species of songbirds feed on moths, especially flycatchers, and moths are a primary component of the diets of chuck-will's-widows and whip-poor-wills. Moths also serve as a major food source for many species of spiders.

Scores of moths serve important pollination roles; in fact, some species of plants have co-evolved with certain moths. Typical moth-pollinated plants have pale or white flowers and emit a fragrance at night. Some moth-adapted plants, such as evening-primroses, only open their flowers after dark when their moth pollinators become active. Many plants that have deep corolla tubes or long nectar spurs have a pollination relationship with moths that have extraordinarily long proboscises, or "tongues" that are capable of reaching nectar deep within the flower.

The botany world is full of plants that have specially constructed flowers that only permit certain species of moths access to their nectar. In turn, these moths are the only animals that can successfully perform pollination duties. Such flower-moth co-evolution is especially common in the orchid family, which with some 25,000 species may be the world's largest family of flowering plants. A fascinating example involves one of Ohio's rarest plants, the prairie fringed orchid, *Platanthera leucophaea*. Prairie fringed orchid flowers release an aroma at night, which draws certain species of sphinx moths. Only a few species of moths have been documented pollinating prairie fringed orchid, and they are undoubtedly an essential part of the orchid's life cycle.

PHOTOGRAPHY CREDIT | Tim Daniel

CECROPIA MOTH
life cycle

MOTH LIFE CYCLE

Complete metamorphosis is the term for the distinctive four-part life cycle of a moth (or butterfly). Life begins as a tiny egg, which the adult female moth typically attaches to a host plant. Most moth species are highly fertile – one female can often produce dozens or hundreds of eggs. Eggs usually hatch within a week of being laid, although some species overwinter in the egg stage. The eggs hatch tiny caterpillars, said to be in their first instar at this point. A caterpillar grows through a series of molts in which it sheds its skin at periodic intervals. The period between molts is termed an instar, and most moth caterpillars undergo five or six instars, although some species have as many as nine.

After completely maturing, a caterpillar enters pupation, a phase of remarkable transformation from the wormlike caterpillar to a winged adult. Almost all of the species in this booklet – and many other moths – form a protective cocoon that serves to protect the transforming pupa. Cocoons are typically hidden in leaf litter or under bark or soil, although some species affix them to plants, fences, buildings, lawn furniture, etc. If pupation occurs during warmer months, the process may only take two weeks or less. Many species overwinter as a pupa, though.

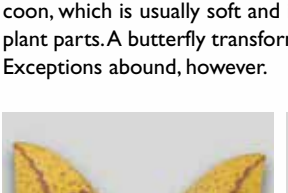
PHOTOGRAPHY CREDIT | Vicki McKinney

MODEST SPHINX
is not included in this booklet, but is a common Ohio species.

MOTHS VS. BUTTERFLIES

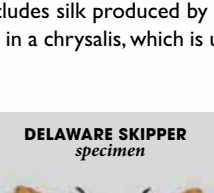
Moths are members of the Order Lepidoptera, as are butterflies. The main distinguishing features of this Order, shared by both butterflies and moths, are: 1) tiny scales that cover their bodies and wings, or parts thereof; 2) a proboscis (elongated tubular mouthparts); and 3) complete metamorphosis.

Moths and butterflies are really one and the same, and no single character generally works to separate these groups. In general, moths are duller and not as boldly marked as butterflies, but there are exceptions. The vast majority of moths are nocturnal, while all of our butterflies are diurnal (day-flying). Moths typically have antennae that are either slender and threadlike or broad and fernlike. Butterflies always have knobbed or club-shaped antenna tips. The bodies of moths tend to be plump and densely hairy; those of butterflies are sleeker and smoother in appearance. Finally, many moths' pupal transformation occurs within a cocoon, which is usually soft and includes silk produced by the caterpillar, old leaves, or other plant parts. A butterfly transforms in a chrysalis, which is usually a hard-shelled smooth case. Exceptions abound, however.



IMPERIAL MOTH
specimen

DELAWARE SKIPPER
specimen



ZEBRA SWALLOWTAIL
specimen

PHOTOGRAPHY CREDIT | Jim McCormac
Specimens: courtesy the Ohio Lepidopterists Collection *housed at* Ohio State University

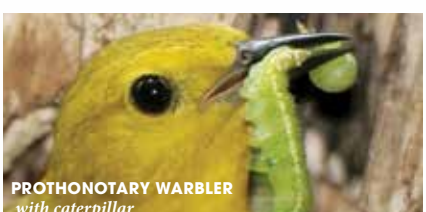
CHECKER-FRINGED PROMINENT
is an example of caterpillar camouflage

THE ROLE OF MOTH CATERPILLARS

Caterpillars are stage two of the four-part moth life cycle – egg, caterpillar, pupa, adult. A caterpillar's fate is not promising – almost all of them fall prey to a legion of predators. Enormous predation rates are why moths are such prolific egg producers. Perhaps 1% of moth eggs make it to the stage of a winged adult. Because of their importance as food, moth caterpillars are arguably the most important phase of the moth life cycle. About 75% of Ohio's 115 species of breeding songbirds are highly dependent upon caterpillars as a food source, especially for nourishment of nestlings during the breeding season. Caterpillars are of such importance to songbirds that many species would vanish without them, and our forests would largely fall silent.

Enormous numbers of insect predators, especially parasitoid wasps and flies, consume caterpillars. Parasitoids normally kill their host, unlike most parasites. In the case of flies and wasps the caterpillar victim is dispatched in a particularly gruesome manner. In general, the fly or wasp lays its eggs on the caterpillar or injects them into its tissues. These eggs hatch quickly, and the newly emerged grub or grubs commences to feed on the host caterpillar's inner tissues. The parasitoids first feed on non-vital parts of the caterpillar, thus keeping the host alive and better able to avoid other predators for as long as possible. In a final feeding frenzy, the grubs polish off the remainder of the caterpillar's innards, and then burst through the skin and form cocoons from which adult flies or wasps will soon emerge.

Many other animals are opportunistic caterpillar feeders. Assassin bugs, beetles, black bears, chipmunks, crickets, spiders, and many other animals will make a meal of caterpillars if chance permits.



PROTHONOTARY WARBLER
with caterpillar

BRACONID WASP
parasitizing a grapeleaf skeletonizer

TOBACCO HORNWORM
with braconid wasp cocoons

PHOTOGRAPHY CREDIT | Prothonotary warbler: Brian Zwiebel • *All others:* Jim McCormac

HABITATS & HOST PLANTS

Moths occur in every imaginable habitat, but reach peak numbers and diversity in forested regions. Woody plants – shrubs and trees – constitute the bulk of the host plants used by moth caterpillars. A host plant is a species that a particular moth caterpillar is chemically compatible with, and can eat and grow to maturity on.

At one time, approximately 5% of Ohio was blanketed by prairies, and this habitat may have rivaled forests in regards to fostering moth diversity. Prairies are among the richest habitats found in North America, full of an incredible diversity of flowering plants. Unfortunately, over 99% of Ohio's prairies have been lost to development and as a consequence they are no longer major moth factories. Fortunately many species of prairie-dependent moths can persist in surprisingly small remnant habitat patches as long as their host plants are present.

MOHICAN STATE FOREST

While woodlands support the greatest number of moths, they can be found wherever plants occur, and probably nearly all of the approximately 1,850 species of Ohio's native flowering plants act as host plants for moths. There are over 500 species of introduced, nonnative plants that occur in the wild, and very few of our moths have adopted these aliens as host plants. Caterpillars of native moths are generally chemically incompatible with nonnative plants. Luckily very few nonnative moth species have successfully established themselves in Ohio, and of their ranks only the Gypsy moth and European corn borer (page 19 and page 48) have become major pests.

Native plants produce infinitely more moth abundance and diversity than nonnative plants, and conservation of native habitats full of indigenous flora is the best way to protect moth populations. Some of Ohio's richest botanical diversity is found in the prairies of Adams County in southernmost Ohio. Conservation efforts by The Nature Conservancy and other groups have resulted in the protection of over 15,000 acres in this region, to date. In 2011, a previously unknown type of flower moth in the genus *Schinia* was discovered in one of these protected prairies. There are undoubtedly other as yet to be discovered moths in Adams County, and elsewhere in Ohio.

SCHINIA CATERPILLAR
on scurf pea

PHOTOGRAPHY CREDIT | Mohican State Forest: Jim McCormac • Schinia Caterpillar: John Howard

Atteva aurea • At-tee-va ar-ee-ah

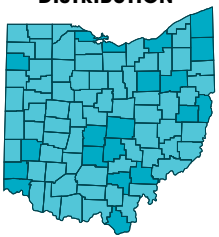
AILANTHUS WEBWORM MOTH

ERMINE MOTHS *Family Yponomeutidae*

This is an attractive and distinctive member of the small microlepidopteran family Yponomeutidae, the ermine moths. The family gets its name because most species are white with black dots resembling ermine fur. Ailanthus Webworm Moths are sometimes found far from host plants. They are active both day and night, visiting flowers and coming to light. Larvae may spin a communal web on the host tree, but are rarely numerous enough to cause significant defoliation. These moths greatly resemble beetles, and mimicking foul-tasting beetles may afford them a measure of protection from predators.

FLIGHT SEASON: JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT Forests, woodlands, often in very urban and suburban areas.

HOST PLANT Most frequently the nonnative tree-of-heaven, *Ailanthus altissima,* although occasionally uses other trees.

CATERPILLAR

WINGSPAN
0.7" – 1.2"

PHOTOGRAPHY CREDIT | Primary, Secondary, & Caterpillar: Jim McCormac

Pyromorpha dimidiata • Py-ro-mor-fa de-me-de-ate-ah)

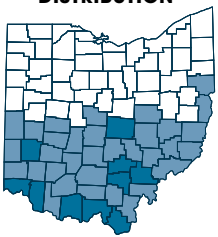
ORANGE-PATCHED SMOKY MOTH

LEAF SKELETONIZERS *Family Zygaenidae*

This day-flying moth can be abundant, and is often seen flying low and lazily in the woods of southern Ohio. The moth appears all dark in flight but when at rest the orange forewing patches are visible. Orange-patched Smoky Moths bear a close resemblance to beetles (net-winged beetles) that are distasteful, and thus largely shunned by predators. It is thought that the moth gains some protection from this resemblance. The family of smoky moths, Zygaenidae, is part of the huge group of "Microlepidoptera." Most Microlepidoptera are very small and not well-known but many species present a remarkable array of pattern and color when viewed under a magnifying lens. Spectacular coloring including iridescent purple, gold and silver occur on many "micros", and most people are completely unaware of these little jewels in our midst.

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: Forests

HOST PLANT The larvae are known as detritivores, as they feed on dead leaves on the forest floor, usually of oak.

NET-WINGED BEETLE

WINGSPAN
0.7" – 1.1"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

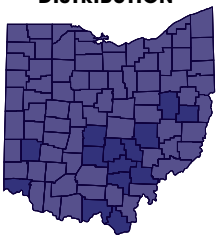
Parasa indeterminata • Par-as-an • in-de-ter-min-an

STINGING ROSE CATERPILLAR MOTH

SLUG MOTHS *Family Limacodidae*

This species and its close and very similar relative the Smaller Parasa (Parasa chloris) represent the slug moths, so named because of their sluglike caterpillars. There are twenty species of slug moths known from Ohio and all are the same general size and shape as the Stinging Rose Caterpillar Moth, although they vary in pattern. Some are rather uniformly brown but others have bright coloring. Larvae are slightly less than an inch long and often are vividly colored. These slug caterpillars have poisonous spines that can deliver a stinging rash if handled, so they are best left alone. Adults of most species come readily to lights. The slug moth family (Limacodidae) is one of the many families comprising the Microlepidoptera.

DISTRIBUTION



HABITAT: Forests and woodlands, occasional in suburbs and towns.

HOST PLANT: A great variety of woody plants, including cherry, dogwood, hickory, maple, oak, sycamore and many others.

CATERPILLAR

TOTAL LENGTH:
1.0" – 1.2"

PHOTOGRAPHY CREDIT | Primary, Caterpillar, & Secondary: Jim McCormac

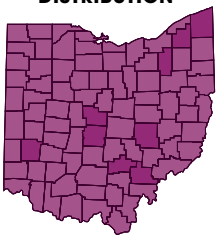
Plodia interpunctella • Plo-dee-ah in-ter-punk-tel-ah

INDIAN MEAL MOTH

MEAL MOTHS *Family Pyralidae*

The Indian Meal Moth is often called a "miller" and is immediately recognizable by the two-toned gray and brown wing pattern. The first sign of an infestation may be the appearance of one or more moths on walls or flying to lights. Because larvae feed on such a wide variety of foods it may take some detective work to find the source of an infestation. Bird seed, pet food, and decorative collages made of beans or corn by children may be a source, as well as papier-mâché costumes if flour-water paste was used. The Indian Meal Moth probably originated in the Middle East but is now found worldwide.

DISTRIBUTION



HABITAT Homes, grain bins, food handling facilities, typically found indoors.

HOST PLANT Dried plant-based foods: flour, cereal, nuts, beans, cake mix, bird seed, etc.

CATERPILLAR

WINGSPAN
0.4" – 0.6"

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary: Donald Hobern • Caterpillar: Lynette Schimming

Hypsopygia costalis • Hip-so-pij-ee-ah • kos-tal-iss

CLOVER HAYWORM MOTH

PYRALIDS *Family Pyralidae*

These small, distinctively colored moths are frequent visitors to nightlights, especially those in the vicinity of farms that store hay. The larvae feed primarily on dried plant matter, and once were a prolific pest of stored hay. Changes in the way plant fodder is kept has largely eliminated big infestations, but the Clover Hayworms are still common. Large outbreaks are easily detected, as the caterpillars enshroud their food source in a filmy web of silk. Occasionally the caterpillars make their way into homes on dried flowers or other dead plant material. If Clover Hayworm Moths are found inside the home, it's likely that a flower arrangement or similar fare is under attack by the caterpillars. A close inspection of one of these moths might reveal the presence of tiny reddish mites (see inset photo). Parasitic mites are fairly common on a variety of moth species.

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

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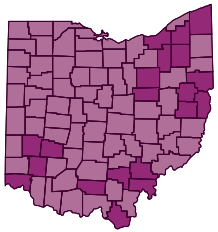


HABITAT Open countryside and fields, especially in agricultural landscapes. Occasionally in homes.

HOST PLANT A variety of dried plant material, especially hay.

HABITAT

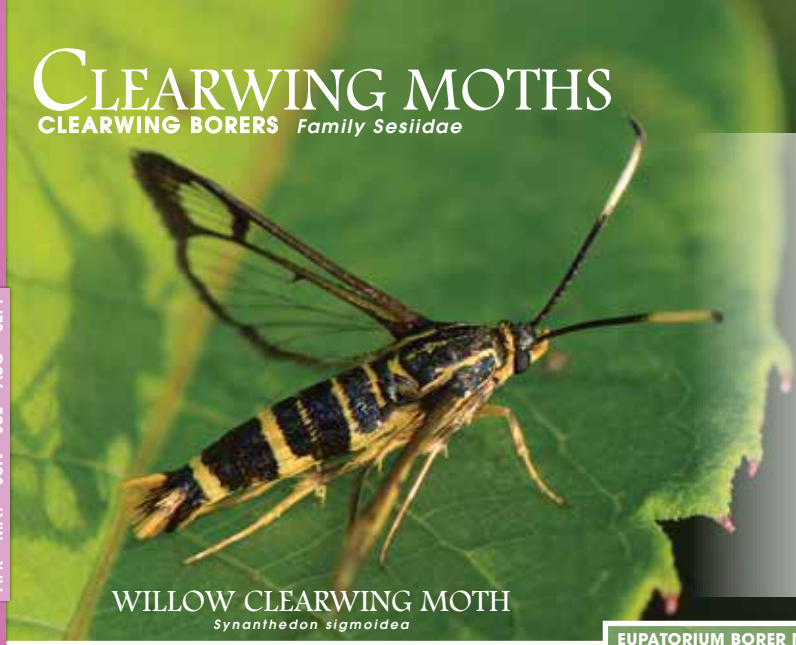
MITES

WINGSPAN
0.6" – 0.9"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

CLEARWING MOTHS

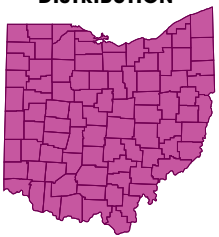
CLEARWING BORERS *Family Sesiidae*



WILLOW CLEARWING MOTH
Synanthedon sigmoidea

Clearwings resemble wasps in both appearance and behavior. Their wings are normally not fully scaled except around the edges, increasing the resemblance to wasps. They are day-fliers and some visit flowers, although most often they are found hovering around the trunk or stem of the host plant. Clearwings rarely visit nightlights; the most likely light-attracted species is the Maple Callus Borer (Synanthedon acerni). Larvae bore in the cambium of plants, which is the living tissue under bark. Borer infestations can weaken or kill the host plant. Several species are significant pests of garden and landscaping plants. The Squash Vine Borer, Lilac Borer and Peachtree Borer are examples of potentially problematic clearwing borers. There are at least 79 species in this family in Ohio, including 27 in the genus *Carmenta*.

DISTRIBUTION



HABITAT Everywhere there are woody plants or weeds with thick stems: woods, fields, gardens, parks in urban and suburban areas.

HOST PLANT Many species, mostly trees but also some herbaceous plants.

EUPATORIUM BORER MOTH

EASTERN YELLOWJACKET

WINGSPAN
0.5" – 1.8"

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

PLUME MOTHS

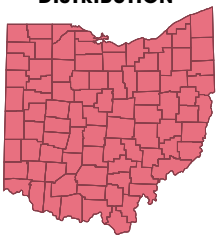
PLUME MOTHS *Family Pterophoridae*

The plume moths are very attractive, delicate Microlepidoptera that are very distinctive as a group. Because of their curious posture when at rest, plume moths are among the most noticed of the Microlepidoptera. The moths have a ½ to 1 inch wingspan, and at rest assume a "T" shape with wings outstretched and furled, and they stand on long, spindly legs. The wings are deeply notched, lending a feathery appearance when the wings are unrolled for flight. Plume moths are most often seen resting on vegetation or on structures near nightlights in the morning. They are active day and night. There are about 20 species of plume moths known to occur in Ohio.

BUCK'S PLUME MOTH

Geina bucksi

DISTRIBUTION



HABITAT Forest, forest edges, woodlots, and suburban areas with plenty of trees and shrubs.

HOST PLANT Many different plants; larvae are stem borers or leafrollers.

WINGSPAN
0.5" – 1.6"

PHOTOGRAPHY CREDIT | Primary & Secondary 2: Jim McCormac • Secondary 1: Diane P. Brooks

Sod webworm moths

GRASS VENEERS *Family Crambidae*

Unless a lawn is thoroughly treated with insecticide, a short walk in the summertime will almost certainly flush small grayish or brownish moths that will fly a short distance and then alight. Close inspection of the resting moth will reveal a narrow gray or light brown moth resembling a very short stick. It is most likely to be one of the Sod Webworms, a complex of several species in several genera, whose larvae can be very damaging to turfgrass when present in large numbers. Information on their control can be obtained from Ohio State University Extension. They are members of the large family Crambidae, with scores of species in Ohio.

DISTRIBUTION

HABITAT Lawns, gardens, parks, cemeteries, wherever grass is grown and mown.

HOST PLANT Many grasses, particularly lawn grasses such as Kentucky bluegrass and fescue.

WINGSPAN
0.5" – 1.2"

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

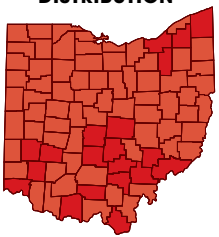
Ostrinia nubilalis • *Os-tre-nee-ah noo-bil-al-is*

EUROPEAN CORN BORER MOTH

PYRAUSTINE MOTHS *Family Crambidae*

The European Corn Borer is a serious pest of corn in Ohio and large amounts of money and effort are invested in its control. It was accidentally introduced into North America from Europe about a century ago. Adults are sexually dimorphic (two forms); females are larger and yellower than males. Several other species of moths in the Pyralidae family are very similar in appearance. The European Corn Borer can be extremely abundant, especially when a hot summer and mild autumn trigger production of an extra generation. At such times, moths may sometimes cloud the rural highways of western Ohio at night.

DISTRIBUTION



HABITAT Farms and gardens, especially in areas where corn is grown, also in abandoned fields.

HOST PLANT Primarily corn but has been recorded on scores of other host plants. Larvae bore in stems.

CATERPILLAR

HABITAT

WINGSPAN
0.9" – 1.3"

PHOTOGRAPHY CREDIT | Primary: Entomart • Caterpillar: Sara Simpkins • Habitat: Jim McCormac

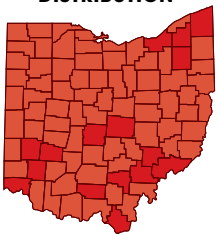
Desmia funeralis • Des-me-ah few-ner-al-is

GRAPE LEAFFOLDER MOTH

PYRAUSTINE MOTHS *Family Crambidae*

This moth superficially resembles the Eight-spotted Forester but is smaller with narrow, pointed wings. It is active day and night. Larvae get their name from their habit of pulling a portion of the host plant leaf over them and securing it with silk to make a tiny "tent" for protection. (Many other caterpillars do this, and some are called "leafrollers".) The Grape Leaffolder is a representative of the large family Crambidae, of which there are several hundred species in Ohio. Moths in this family are small and most are dull-colored, but a small percentage are brightly patterned.

DISTRIBUTION



HABITAT Forests, especially around edges. Occasional in treed urban and suburban areas if host plants are present.

HOST PLANT Evening-primrose, grape and redbud.

REDBUD
CERCIS CANADENSIS

WINGSPAN
0.8" – 1.1"

PHOTOGRAPHY CREDIT | Primary: Dennis Profant • Secondary: John Howard • Redbud: Jim McCormac

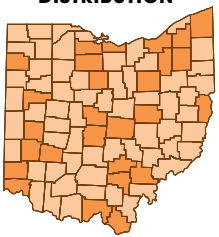
WHITE-STRIPED BLACK MOTH

Trichodezia albovittata • Tri-ko-dee-zee-ah al-bo-vit-ate-ah

CARPETS & PUGS *Family Geometridae*

The White-striped Black is a small (less than one-inch wingspan) day-flying inchworm moth with a rapid wingbeat. When in flight it might not immediately be recognized as a moth until it lands and can be inspected closely. This species exhibits "disruptive coloration." The bold black-and-white pattern can confuse potential predators (and lepidopterists) as the moth flies rapidly through dappled sunlight and shade. Such insects can seem to disappear right before your eyes. Other examples of moths that display disruptive coloration are the Buck Moth (page 33) and Eight-spotted Forester (page 68).

DISTRIBUTION



HABITAT Woodlands and landscaped areas containing the host plant.

HOST PLANT Jewelweeds, which are our native Impatiens.

SPOTTED JEWELWERD
IMPATIENS CAPENSIS

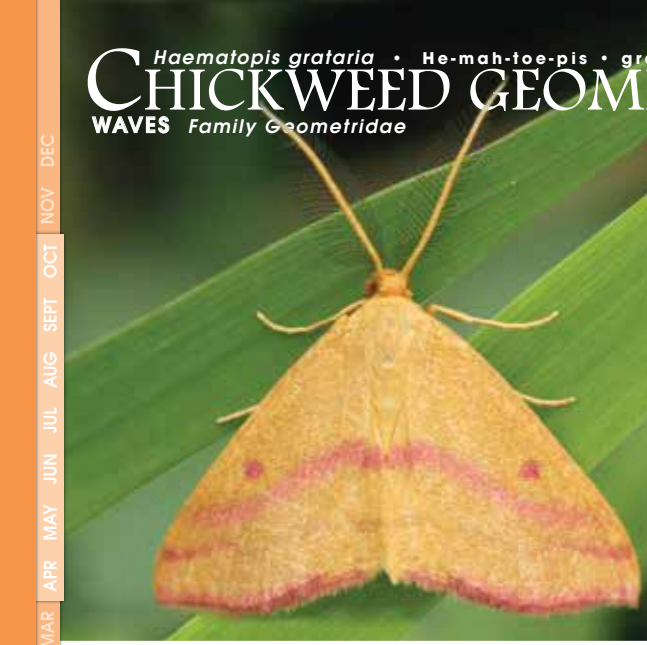
WINGSPAN
0.8" – 1.0"

PHOTOGRAPHY CREDIT | Primary: David Hughes • Secondary: Jim McCormac

Haematopis grataria • He-mah-toe-pis • gra-tar-ee-ah

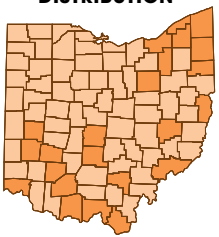
CHICKWEED GEOMETER

WAVES *Family Geometridae*



This abundant little day-flying inchworm moth is probably the most frequently encountered moth species in Ohio. It is likely to be mistaken for a butterfly as it flutters away from people walking across a lawn or along roadsides and through fields. Unlike many butterflies, it generally flies for but a short distance before darting into the grass or weeds. Fresh specimens are striking: pink lines on an yellow-orange background is the normal pattern, but occasionally entirely pink individuals are seen, especially in southern Ohio. There are other small yellow or orange inchworm moths, but most of these are encountered in wooded areas – a habitat where the Chickweed Geometer rarely occurs.

DISTRIBUTION



HABITAT Weedy lawns and fields.

HOST PLANT Chickweed, clover, smartweed and other small herbaceous plants.

WINGSPAN
0.7" – 1.0"

PHOTOGRAPHY CREDIT | Primary: David Hughes • Secondary 1: Jim Mccormac • Secondary 2: Larry Jeanblanc

Synchlora aerata • Sin-klor-ah air-ate-ah

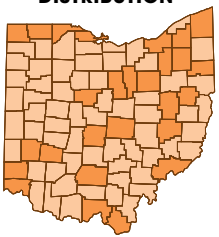
WAVY-LINED EMERALD

EMERALDS *Family Geometridae*

This moth is the most common and widespread of our "emeralds", which are small (around 1 inch wingspan) attractive green inchworm moths. There are several species, and all have thin white lines and borders on green wings and a butterfly-like appearance, with a weak, fluttering flight. The emeralds are very well-camouflaged when resting on light green foliage and can seem to disappear before your eyes when a flying moth alights on such a background. Like many well-camouflaged moths, emeralds will choose an appropriate background on which to land if they have a chance, increasing the effectiveness of their cryptic coloration. The caterpillar is a master of disguise. It adorns its body with bits of plant parts, essentially becoming the plant that it is feeding on.

FLIGHT SEASON: JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT Woodlands, forest edges, abandoned fields, and prairies.

HOST PLANT Found most commonly on members of the sunflower family such as asters, coneflowers, ragweed, and wingstem; also uses birch, blackberry, raspberry, and roses.

CATERPILLAR

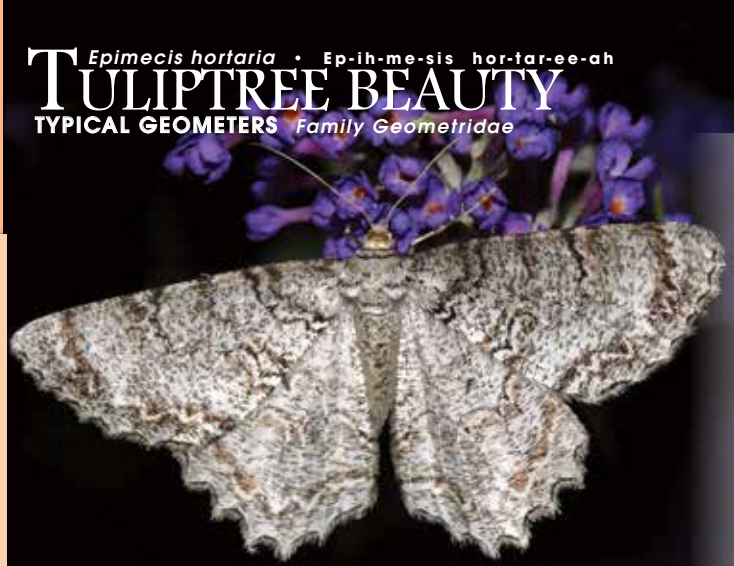
WINGSPAN
0.5" – 0.9"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim Mccormac

Epimecis hortaria • Ep-ih-me-sis hor-tar-ee-ah

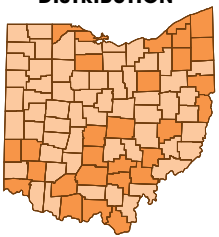
TULIPTREE BEAUTY

TYPICAL GEOMETERS *Family Geometridae*



There are over 300 species of inchworm moths (Geometrid family) known from Ohio and the list is likely to grow as our moths are more thoroughly surveyed. The Tuliptree Beauty is the largest Ohio species in this family. It resembles most other inchworm moths in having broad wings and a narrow body reminiscent of a butterfly. Like many inchworm moths, the amount of dark scaling is highly variable: some individuals are very light, while melanic (blackish) individuals are known. The pattern of wavy zigzag lines remains consistent, and most inchworm moths have a distinctive pattern. The hindwing of the Tulip-tree Beauty has a scalloped edge. Inchworm larvae have abdominal prolegs present only at the front and back ends of their bodies. Thus, they move in a distinctive looping gait when in motion. Many inchworms, this species included, are remarkable twig mimics.

DISTRIBUTION



HABITAT Forests, woodlands, often in very urban and suburban areas.

HOST PLANT Tulip tree and other deciduous tree species.

CATERPILLAR

TOTAL LENGTH:
1.7" – 2.2"

PHOTOGRAPHY CREDIT | Primary: Diane P. Brooks • Caterpillar: Jerry Armstrong • Secondary: Jim McCormac

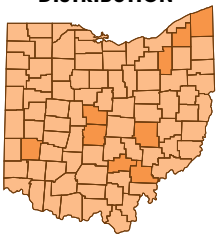
Xanthotype urticaria • Zan-tho-ty-pe er-tih-car-ee-ah

FALSE CROCUS GEOMETER

TYPICAL GEOMETERS *Family Geometridae*

This species and its close relative the Crocus Geometer, Xanthotype sospeta, might be mistaken for butterflies. Both species are yellow and similar in size and shape to butterflies that occur in the same habitat, and are sometimes active during the day. Unlike the yellow sulphur butterflies, these moths have a weak, fluttering flight and do not fly far when flushed. The Crocus Geometer is generally larger and paler than the False Crocus Geometer, with less pink-purple spotting.

DISTRIBUTION



HABITAT Forests and woodlands, occasional in suburbs and towns.

HOST PLANT A great variety of woody plants, including cherry, dogwood, hickory, maple, oak, sycamore and many others.

CROCUS GEOMETER

TOTAL LENGTH:
1.4" - 1.9"

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary: John Howard • Secondary: Jim McCormac

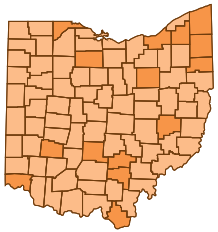
Tetracis cachexiata • Tet-ras-is • cach-ex-ee-ate-ah

WHITE SLANT-LINE

TYPICAL GEOMETERS *Family Geometridae*

This is one of the most abundant forest-inhabiting inchworm moths in Ohio. It is medium-sized, with a wingspan slightly over 1 ½ inches. The broad-winged, butterfly-like outline is typical of inchworm moths. Several species, such as the yellow slant-line, look similar but only the White Slant-line combines creamy white wings with an oblique pale orange line. Emergence of adults seems to be correlated with the shedding of white "petals" (technically, bracts) from the blossoms of flowering dogwood. As the adults often rest on dogwood bracts, this timing may give the moths some protection from predators because of their resemblance to the "petals". This moth often rests on blossoms of May-apples during the day, and the moths also match this woodland wildflower's petals to a remarkable degree. The caterpillar is an extraordinary twig mimic.

DISTRIBUTION



HABITAT: Forests and woodlots.

HOST PLANT: Highly polyphagous; many different trees and shrubs.

CATERPILLAR

WINGSPAN:
1.5" – 2.0"

PHOTOGRAPHY CREDIT | Primary: Judy Semroc • Secondary: Jim McCormac

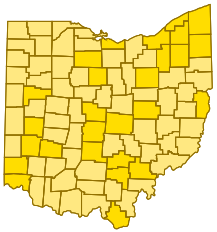
Tolype velleda • Toh-ly-pe • vel-eh-da

LARGE TOLYPE

TENT CATERPILLAR & LAPPET MOTHS *Family Lasiocampidae*

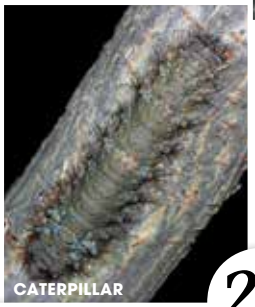
The Large Tolype flies later in the year than most other moths and although common, tends to be overlooked. Adults visit lights well after nightfall. Sometimes moths can be found on porch walls and railings in the morning if a light is left on overnight. When perched on tree trunks, the moths are remarkably well-camouflaged, especially if resting on lichen-covered bark. The only Ohio moth that closely resembles this species is the Small Tolype, Tolype notialis, which is usually darker, smaller and has wavier lines on the forewing. It flies from July until September, barely overlapping the Large Tolype's later flight period.

DISTRIBUTION



HABITAT: Forests and woodlots.

HOST PLANT: Numerous trees including ash, birch, elm, oak and plum.



CATERPILLAR

WINGSPAN:
1.3" – 2.3"

PHOTOGRAPHY CREDIT | Primary: Jim McCormac • Caterpillar: Sherri Doust • Secondary: John Howard

Malacosoma americanum • Mal-ah-ko-so-ma • ah-mer-ih-can-um

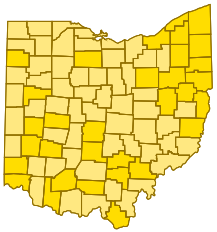
EASTERN TENT CATERPILLAR MOTH

TENT CATERPILLAR & LAPPET MOTHS Family Lasiocampidae

Eastern Tent Moth caterpillars attract far more attention than do the adult moths. Unusual for most moths, this species overwinters in the egg stage, and groups of larvae build a communal "tent" of silk, from which they forage to feed. The caterpillars are considered pests of orchard crops but are not especially damaging to other trees. Some people do consider the tents unsightly and the caterpillars themselves can become a nuisance as they crawl over outdoor furniture searching for cocooning sites. Tent caterpillar larvae are a favorite food of the Yellow-billed Cuckoo, and cuckoos can sometimes be located by searching for tent caterpillar webs. Females moths are larger than males and are not very strong fliers.

FLIGHT SEASON: JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: Nearly any treed area, especially where cherry trees occur.

HOST PLANT: Many species of broadleaf trees, but members of the rose family such as apple, crabapple, hawthorn and especially black cherry are preferred.

CATERPILLAR

WINGSPAN:
0.9" – 1.7"

PHOTOGRAPHY CREDIT | Primary & Caterpillar: Jim McCormac • Secondary: John Howard

Eacles imperialis • Ee-ak-lees • im-peer-ee-al-is

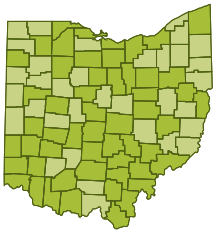
IMPERIAL MOTH

ROYAL SILKWORM MOTHS *Family Saturniidae*

The Imperial Moth escapes attention of predators by looking like a fallen leaf. Many leaves that fall in midsummer turn yellow, dappled with violet and gray blotches. The similarly marked moth rests on leaf litter during the day, and blends into this background. The Imperial Moth probably occurs statewide but is more common in southern and eastern Ohio where oaks predominate. There is one annual generation in most of Ohio, but possibly two in the extreme southern counties. The adult moths come readily to lights.

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: Forests and woodlots.

HOST PLANT: Many different trees, including birch, elm, hickory, linden, maple, oak, and walnut.

CATERPILLAR

PUPA

WINGSPAN:
3.1" – 5.9"

PHOTOGRAPHY CREDIT | Primary & Caterpillar: Jim McCormac • Secondary: Diane P. Brooks

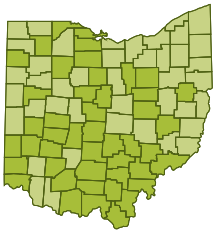
Citheronia regalis • Sith-er-oh-nee-ah • re-gal-is

REGAL MOTH

ROYAL SILKWORM MOTHS *Family Saturniidae*

No other species looks like the unmistakable Regal Moth. With a wingspan of up to five inches it is one of the largest species in Ohio. It is considered rare in much of the state but can be locally common at times. Like all of the giant silkmoths, the Royal Walnut Moth does not feed or drink as an adult. It lives but a week or so, just long enough to mate and lay eggs. The gargantuan caterpillar is the fabled "Hickory Horned Devil". This larva is the size of a small hotdog, and bears inch-long red horns that look fearsome, but are harmless. Hickory Horned Devils are sometimes encountered in late summer, wandering the forest floor in search of underground pupation sites.

DISTRIBUTION



HABITAT: Most common in mature forests of southern Ohio, but might be anywhere host plants occur.

HOST PLANT: Primarily hickory and walnut, but sourwood and several other tree species are used.

CATERPILLAR

WINGSPAN:
3.7" – 6.1"

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

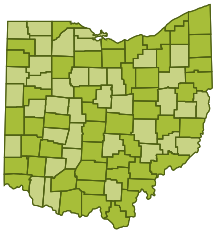
Dryocampa rubicunda • Dry-oh-camp-ah • roo-bih-cun-da

ROSY MAPLE MOTH

ROYAL SILKWORM MOTHS *Family Saturniidae*

The Rosy Maple Moth is classified as a "giant" silkmoth but is relatively small compared to most members of the family. It is probably the most common of the royal silkmoths but is less conspicuous on account of its smaller size. When people do notice them, these gorgeous pink and yellow moths are sure to attract attention, and this species has stimulated more than a few people to become interested in moths. An unrelated and uncommon moth, the Pink Prominent (Hyparpax aurora) closely resembles the Rosy Maple but has a different pattern of pink markings. There are two generations annually in most of Ohio. The moths frequently visit lights after nightfall. They have been documented in most of Ohio's counties and probably occur in all of them. The bright coloration suggests that they may be distasteful for predators.

DISTRIBUTION



HABITAT: All manner of forest and treed habitats, including suburban and urban areas

HOST PLANT: Maples in particular, and may use all six native species; also oak.

CATERPILLAR

PINK PROMINENT

WINGSPAN:
1.3" - 2.0"

PHOTOGRAPHY CREDIT | Primary: Jim McCormac • Caterpillar: Judy Semroc • Secondary: Jason D. Roberts

Anisota stigma • An-ih-so-ta • stig-ma

SPINY OAKWORM MOTH

ROYAL SILKWORM MOTHS *Family Saturniidae*

There are three species of Anisota moths in Ohio, and they can be difficult to separate. The Spiny Oakworm Moth is the most common, especially in southern Ohio and the Oak Openings region just west of Toledo. Compared to the other two species the wings of the Spiny Oakworm Moth usually show more dark speckles. Larvae of the Spiny Oakworm are communal, feeding together in large groups, sometimes numerous enough to defoliate young trees. Normally the trees suffer no lasting damage as the larvae do not remain abundant for long in one location. Populations of many moths, including this species, undergo cyclical boom and bust periods, and the reasons for these fluctuations are not well understood.

DISTRIBUTION

HABITAT: Reaches peak abundance in oak forests and other oak-dominated habitats; uncommon but found also in towns with large oak trees.

HOST PLANT: Oaks; reported from basswood and hazelnut.

CATERPILLAR

POST OAK
QUERCUS STELLATA

WINGSPAN:
1.6" – 2.8"

FLIGHT SEASON: JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary: Dave Horn • Caterpillar: Eric Gofreed • Secondary: Jim McCormac

Hemileuca maia • hem-ee-loo-ka • may-a

EASTERN BUCK MOTH

BUCK MOTHS *Family Saturniidae*

This moth is distinctive in both appearance and behavior. It is active by day, flying swiftly through forested areas on sunny autumn afternoons. Activity peaks in October, after most moths are done for the year. The abdomen of the male is tipped with orange. Buck moths are only common in extensive woodlands dominated by oaks. Because of its restricted distribution in Ohio and vulnerability to insecticide treatments for Gypsy Moth it is listed by the Division of Wildlife as a species of concern.

Some lepidopterists believe that the Buck Moths of northwest Ohio are more closely related to another species of Buck Moth than to those found in southern Ohio. The genus Hemileuca may be a complex of closely-related and very similar species; more work needs to be done to define this group.

DISTRIBUTION

HABITAT: Oak forests in southern Ohio and in the Oak Openings region west of Toledo.

HOST PLANT: Various oaks, apparently preferring species in the red oak group. Mature and nearly mature caterpillars will forage on other tree species.

CATERPILLAR

WINGSPAN:
2.0" – 3.0"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Automeris io • ah-to-mer-is • eye-oh

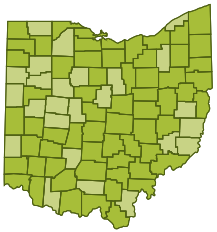
Io Moth

GIANT SILKWORM MOTHS *Family Saturniidae*

The Io Moth is easily identified by the distinctive hindwing eyespots. When the forewings are folded the eyespots are invisible. If a predator such as a bird pokes the moth, it rapidly flicks open its forewings and exposes the fearsome-looking "eyes". Studies have shown that this sudden visual overload often spooks predators (The Polyphemus Moth, Blinded Sphinx and others have a similar defense.). Male Io Moths have yellow forewings whereas those of the larger female are darker reddish-brown. Io moths come to lights, although males visit far more frequently than females.

The Io Moth caterpillar is covered with spines that can deliver a nasty rash, so it is best to leave them be. This moth is named after Io, a young maiden in Greek mythology. One of the largest moons of Jupiter is also named "Io."

DISTRIBUTION



HABITAT: Anywhere trees occur: forests, woodlots, suburbs, etc.

HOST PLANT: Highly polyphagous: many different trees, shrubs and some herbaceous vegetation.

CATERPILLAR

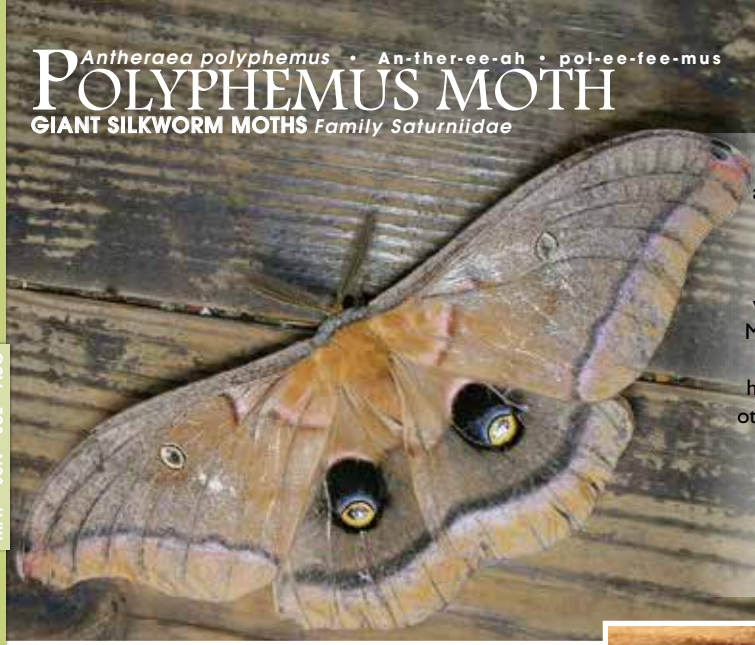
WINGSPAN:
2.0" – 3.1"

PHOTOGRAPHY CREDIT | Primary: Dave Horn • Caterpillar: John Howard • Secondary: Jim McCormac

Antheraea polyphemus • An-ther-ee-ah • pol-ee-fee-mus

POLYPHEMUS MOTH

GIANT SILKWORM MOTHS *Family Saturniidae*

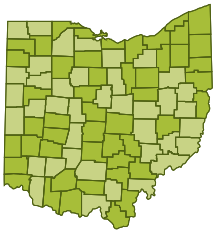


The Polyphemus Moth is one of the largest of Ohio's moths, and is easily identified by the large eyespots on the hind wing. These spots are normally concealed by the forewings when the moth is at rest. If disturbed by a bird, the moth flicks open its wings and exposes its scary-looking "pseudo-eyes", which often frightens off the would-be predator. Polyphemus Moths are common throughout Ohio and come to lights after nightfall. There are two generations annually. The cocoon hangs from the host plant and resembles a rolled-up leaf. Like other giant silkmoths, the Polyphemus Moth adult does not eat but survives on energy stored during the larval stage.

The Polyphemus Moth is named for Polyphemus, the mythological king of the Cyclopes in Homer's Odyssey. According to the legend, a Cyclops had one big eye in the center of its forehead.

FLIGHT SEASON: JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: Anywhere there are trees, except near the centers of large cities.

HOST PLANT: Many trees, including apple, ash, birch, hawthorn, hickory, maple, and oak.

EYE SPOT

BAT DAMAGE

WINGSPAN:
3.9" – 5.9"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Actias luna • Ak-tee-as • loo-na

LUNA MOTH

GIANT SILKWORM MOTHS *Family Saturniidae*

The Luna is a large, attractive and unmistakable moth. While moths perched on walls are incredibly conspicuous, a Luna dangling from a leafy branch can be nearly impossible to spot. Lunas can be fairly common wherever the host plants occur, and they frequently come to lights. They have been confirmed in about half of Ohio's 88 counties and probably occur in all of them. In Ohio there are two generations annually. Cocoons are formed in leaf litter on the ground, and are hard to locate. Luna Moths overwinter as pupae in their cocoons. Adults do not eat but subsist on energy retained from their feeding as larvae. Adults generally live for a week or less. Their only mission is to find a mate, reproduce, and in the case of the female, deposit eggs.

Lunas have declined in recent years, especially near cities and larger towns. Reasons for the decline are not clear and a complex of factors might be involved.

DISTRIBUTION

HABITAT: Forests, woodlots, suburban areas with larger trees.

HOST PLANT: Polyphagous: birch, cherry, elm, linden, oak, poplar, willow and other tree species.

CATERPILLAR

WINGSPAN:
3.0" – 4.1"

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Callosamia promethea • Cal-oh-sam-ee-ah • pro-me-thee-ah

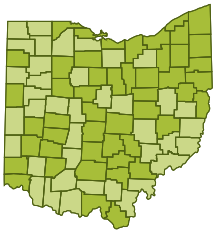
PROMETHEA MOTH

GIANT SILKWORM MOTHS *Family Saturniidae*

The Promethea Moth is most common in the southern part of Ohio but probably occurs statewide. It is moderate-sized (3-inch wingspan) and dimorphic, meaning males differ from females. Wings of males are almost black with a light brown border; females are reddish-brown with half-moon wing spots and other patterning. Females come to lights readily but males do not, flying mainly in late afternoon seeking newly-emerged females. The flight of the male is quite fast and when flying they resemble swallowtail butterflies. The hanging cocoons may be readily found in winter, especially on or near sassafras and wild black cherry.

A less common species is the Tuliptree Silkmoth (Callosamia angulifera) in which both sexes are very similar to the female Promethea Moth, but browner.

DISTRIBUTION



HABITAT: Forest, forest edges and woodlots.

HOST PLANT: Many different trees and shrubs, especially cherry, sassafras, spicebush, sweetgum and tuliptree.

CATERPILLAR

COCOON

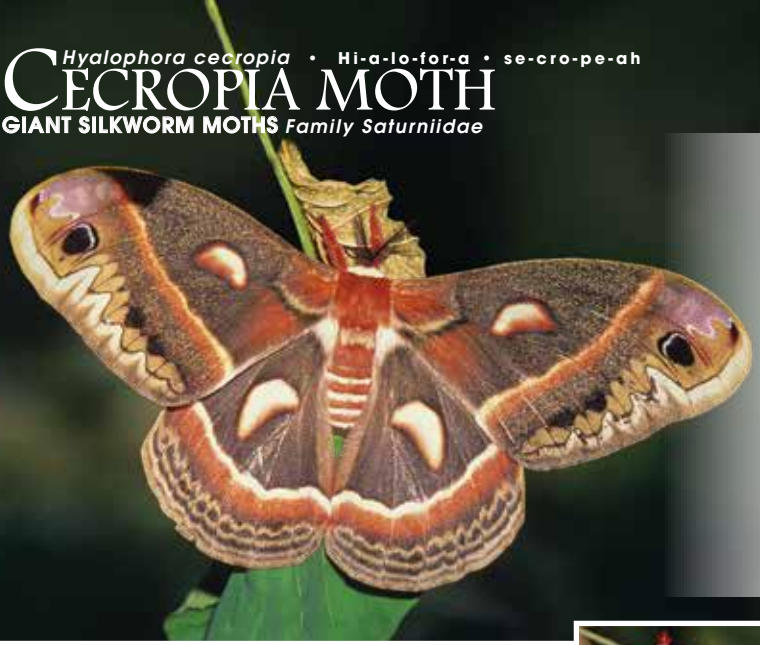
WINGSPAN:
3.0" – 3.7"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Hyalophora cecropia • Hi-a-lo-for-a • se-cro-pe-ah

CECROPIA MOTH

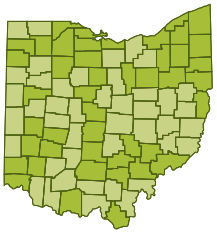
GIANT SILKWORM MOTHS *Family Saturniidae*



The distinctive Cecropia is the largest regularly occurring moth in Ohio and one of the largest in North America. Its wingspan can approach six inches. Cecropias are not as strongly attracted to lights as are most other giant silkmoths, and they are sometimes seen actively flying about in late afternoon. Like all the giant silkmoths they do not feed as adults, and rarely live longer than a week. The adults' sole function is to mate, and produce a crop of eggs. The huge (6-inch long) caterpillars resemble bluish-green sausages with rows of multicolored tubercules. The large spindle-shaped cocoons are conspicuous in winter on twigs (and sometimes on chain-link fences).

FLIGHT SEASON: JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: Woodlands and forests, less common in towns and suburbs with large trees.

HOST PLANT: Many different broadleaf trees; alder ash, birch, elm, oak and willow are some.

CATERPILLAR

COCOON

WINGSPAN:
4.3" – 5.9"

PHOTOGRAPHY CREDIT | Primary: Tim Daniel • Secondary: Jim McCormac

Manduca sexta • Man-doo-ka • sex-ta | *Manduca quinquemaculata* • Man-doo-ka • quin-que-mak-u-late-ah

CAROLINA SPHINX • FIVE-LINED HAWKMOTH

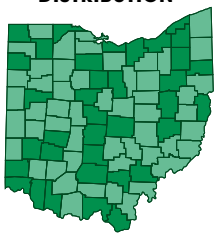
SPHINX MOTHS *Family Sphingidae*

FIVE-LINED HAWKMOTH
Manduca quinquemaculata

Both of these species are common, and almost identical in appearance and habits. The Carolina Sphinx usually has six pairs of yellow abdominal spots; the five-spotted has normally five. Larvae of either species can be destructive to cultivated plants. Caterpillars are known as hornworms, and they are frequently found defoliating tomato plants. "Officially" the larva of the Carolina Sphinx is the Tobacco Hornworm and the Five-lined is the Tomato Hornworm but either can strip the leaves from either plant. The "horn" at the end of the caterpillar's abdomen is harmless.

These moths are members of the sphinx moth family, characterized by medium to large size, long narrow wings and a robust body. Sphinx moths (fifty known species from Ohio) usually have a very long proboscis (or "tongue") with which they extract nectar from flowers with long corolla tubes. Watch for these hummingbirdlike moths at dusk visiting evening-primrose, four-o-clocks, and other night-flowering garden plants.

DISTRIBUTION



HABITAT: Farms, gardens, weedy open ground and fields where suitable host plants occur.

HOST PLANT: Tomato, tobacco, potato, horse-nettle and other species in the nightshade family.

TOBACCO HORNWORM

CAROLINA SPHINX

WINGSPAN:
3.5" – 5.3"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac, Caterpillar: John Pogacnik

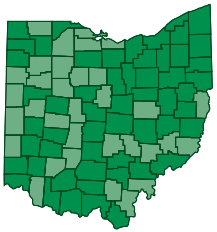
WAVED SPHINX

Ceratomia undulosa • Ser-ah-to-me-ah • un-dew-lo-sa

SPHINX MOTHS *Family Sphingidae*

This is a large (wingspan over three inches) gray sphinx without distinctive markings beyond wavy dark lines on all four wings. The small white spot outlined in black in the middle of the forewing is a reliable field mark. A few other Sphinx Moths have this spot but they are uncommon. Waved Sphinx is one of the most common sphinx moths in Ohio's woodlands. The moths are readily attracted to lights and often remain near the lights into the next day. A closely related species is the Catalpa Sphinx (Ceratomia catalpae) which is usually slightly smaller and browner. Its caterpillars occasionally defoliate catalpa trees.

DISTRIBUTION



HABITAT: Forests, woodlots, suburban parks and gardens with trees and shrubs.

HOST PLANT: Trees and shrubs, especially ash, hawthorn, lilac and oaks.

CATERPILLAR

WINGSPAN:
3.0" – 4.3"

PHOTOGRAPHY CREDIT | Primary & Caterpillar:Jim McCormac • Secondary: Dave Horn

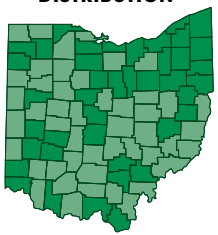
Paonias excaecatus • Pay-oh-nee-as • ex-see-cate-us

BLINDED SPHINX

SPHINX MOTHS *Family Sphingidae*

There are five species of sphinx moths in Ohio that bear "eyespots" on the hindwings, and the Blinded Sphinx is the most common. When the moth is disturbed by a potential predator, it rapidly flicks its forewings open, thus uncovering the hindwing eyespots. The sudden appearance of these large scary "eyes" causes predators such as birds to recoil, and often quickly depart. Some other moths, such as the Io (page 34) and Polyphemus (page 35) moths also employ the false eye defense. The forewings of the Blinded Sphinx and its close relatives resemble dead leaves in both pattern and outline, serving to camouflage the moth during the day. A similar, smaller species, the One-eyed Sphinx (Paonias myops) has dark brown forewings and orange coloration, rather than pink, surrounding the eyespots.

DISTRIBUTION



HABITAT: Forests, woodlots, suburban areas with larger trees.

HOST PLANT: Polyphagous: birch, cherry, elm, linden, oak, poplar, willow and other tree species.

WINGSPAN:
2.2" – 3.7"

PHOTOGRAPHY CREDIT | Primary & Secondary 2: Jim McCormac • Secondary 1: Dave Horn

Hemaris thysbe • He-mar-is • this-be

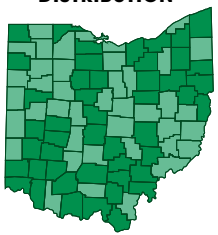
HUMMINGBIRD CLEARWING

SPHINX MOTHS *Family Sphingidae*

This is a day-flier that can be mistaken for a small hummingbird. There are three species of Clearwing Moths (not to be confused with Clearwings in the Family Sesiidae, page 16) that look very much alike, and this is the most common. It is actually a Sphinx Moth and has the general characteristics of that family. The moth is especially attracted to lilies and the blossoms of bee-balm (Monarda didyma). The wings are translucent because some of the scales are rubbed off when the moth emerges from the pupal case.

The moth is named after the mythological character Thysbe who joined with her lover Pyramus in a tragic tale of lost love that served as inspiration for Shakespeare's "Romeo and Juliet."

DISTRIBUTION



HABITAT: Open woodlands, fields, gardens and meadows with plentiful flowering plants.

HOST PLANT: Various native members of the honeysuckle family. Also reported on rose family members such as cherry, hawthorn, and plum.

CATERPILLAR

SNOWBERRY CLEARWING

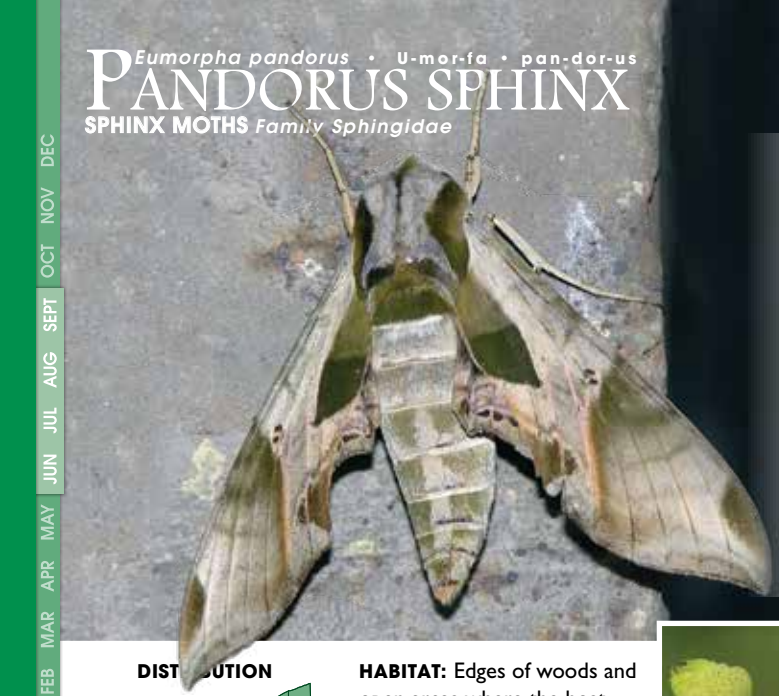
WINGSPAN:
1.0" – 2.2"

PHOTOGRAPHY CREDIT | Primary: John Howard • Caterpillar: Judy Semroc • Secondary: Jim McCormac

Eumorpha pandorus • U-mor-fa • pan-dor-us

PANDORUS SPHINX

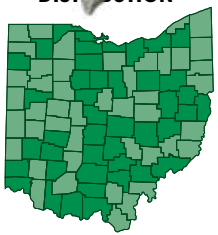
SPHINX MOTHS *Family Sphingidae*



This is a large sphinx moth with a distinctive olive wing pattern that closely resembles a mix of living and dead leaves. The moths come to lights and may often be found resting near nightlights when morning comes. Along with the Carolina Sphinx (page 39), it is one of the most urbanized of sphinx moths. The spectacular caterpillar has a row of large creamy spots on each side. Unlike most other sphinx moth larvae it lacks a spine or horn at the end of the abdomen in the final instar. Early and middle instars have a slender whiplike horn (see photo).

Sphinx moth larvae pupate underground and unlike most moths, they do not spin a cocoon. The family derives its name from the tendency of the larva to rear up when disturbed; supposedly it then resembles the Sphinx of mythology.

DISTRIBUTION



HABITAT: Edges of woods and open areas where the host plants are found; sometimes in very urban areas.

HOST PLANT: Another specialist on members of the grape family, especially riverbank grape and Virginia creeper.

CATERPILLAR

RIVERBANK GRAPE
VITIS RIPARIA

WINGSPAN:
3.4" - 4.5"

FLIGHT SEASON: JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Amphion floridensis • Am-fee-on • flor-ih-dens-is

NESSUS SPHINX

SPHINX MOTHS *Family Sphingidae*

This is a medium-sized day-flying sphinx moth best identified by the prominent yellow stripes on the abdomen. They are often seen hovering near the host plants or visiting flowers where they may be mistaken for small hummingbirds, especially at twilight. Nessus Sphinx moths can be quite common but do not come to lights, and can easily be overlooked. The scientific name of this moth was Amphion nessus for many years. It was later determined that the moth had been described earlier under the name Amphion floridensis. Name changes such as this occur on occasion, when older published names are determined to be valid and thus must take precedence. Such nomenclatural shifts necessitate constant updates to field guides, and keep scientists and amateurs alike on their toes.

FLIGHT SEASON: JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

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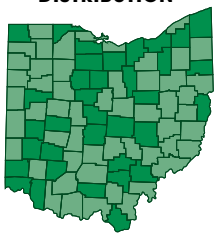

HABITAT: Forest edges, woodlots, gardens, parks, sometimes in urban areas.

HOST PLANT: Another grape specialist, probably using any of Ohio's five species of native grapes, and Virginia creeper.

CATERPILLAR

VIRGINIA CREEPER
PARTHENOCISSUS QUINQUEFOLIA

WINGSPAN:
1.5" – 2.2"

PHOTOGRAPHY CREDIT | Primary: David Hughes • Caterpillar: Patrick Coin • Secondary: Jim McCormac

Darapsa myron • Da-rap-sa • my-ron

VIRGINIA CREEPER SPHINX

SPHINX MOTHS *Family Sphingidae*

The Virginia Creeper Sphinx is highly variable in color, with forewings ranging from pale tan to dark brown. Regardless of color the placement of dark and light areas is consistent, and often there is some olive green on the forewing. Hindwings are almost always orange. This species is one of the most common sphinx moths in Ohio and comes readily to lights. A very similar and slightly less common species is the Azalea Sphinx, Darapsa choerilus. It usually has some purple on the front wing, and the border between light and dark regions of the forewing is straight, not curved as in the Virginia Creeper Sphinx.

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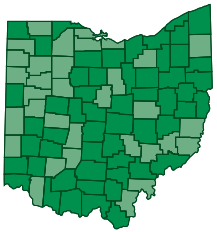


HABITAT: Edges of forests, woodlots, and other areas where the host shrubs and vines occur.

HOST PLANT: Probably all species of native grapes, and Virginia creeper. Also reported on viburnums.

CATERPILLAR

WINGSPAN:
2.0" – 2.0"

PHOTOGRAPHY CREDIT | Primary: Dave Horn • Secondary: Jim McCormac

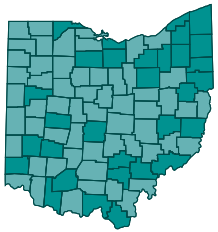
Furcula borealis • Fer-cue-la • bor-ee-al-is

WHITE FURCULA

PROMINENT MOTHS *Family Notodontidae*

This moth is a representative of the prominent moths, family Notodontidae, which are closely related to owlet moths and tiger moths. Most of the prominent moths are not very prominent, being dull-colored and well-camouflaged. The White Furcula is an exception with its bold black and white pattern. It is fairly common and comes readily to lights, often staying until morning. A related species that looks like it but is darker and less common is the Gray Furcula, Furcula cinerea. Prominent moths derive their name from the distinctive tufts of scales than most species have on their thorax or wings (or both).

DISTRIBUTION



HABITAT: Forests, woodlands and areas where host plants are found.

HOST PLANT: Primarily cherry; also reported from members of the willow family, which includes aspens and cottonwood.

CATERPILLAR

WINGSPAN:
1.3" - 1.7"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac • Caterpillar: Jess Henning

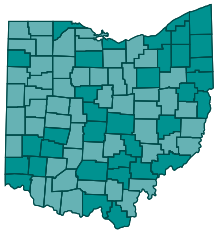
WHITE-DOTTED PROMINENT

Nadata gibbosa • Nay-day-ta • gib-oh-sa

PROMINENT MOTHS *Family Nofodontide*

This is one of the most common moths in Ohio, excepting urban and agricultural areas. It is another representative of a rather plain-looking family, the prominent moths, Notodontidae. All of our representatives of the prominent moth family feed on woody plants and a few are occasional pests of fruit and shade trees. There are 50 species of prominent moths recorded from Ohio, and they are most diverse in the extensive forested areas of southern and eastern Ohio. As is often the case with moths, the caterpillar of the White-dotted Prominent is showier than the adult moth. It is a beautiful shade of bluish-white, peppered with tiny white dots (the source of the common name). If jostled by a predator, the caterpillar will rear up and exert its mandibles to create the semblance of a "scary face".

DISTRIBUTION



HABITAT: Primarily in forests and woodlots but can occur anywhere there are trees.

HOST PLANT: Birch, cherry, maple, oak, poplar and other trees.

CATERPILLAR

WINGSPAN:
1.5" – 2.3"

PHOTOGRAPHY CREDIT | Primary & Secondary: Dave Horn • Caterpillar: Jim McCormac

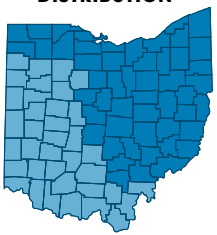
Lymantria dispar • Ly-man-tre-ah • dis-par

GYPSY MOTH

TUSSOCK MOTHS *Family Erebidae*

The Gypsy Moth is "dimorphic": males and females look very different. Males are brown and strong flyers while females are almost twice as large, white, and practically flightless. Males fly primarily in the afternoon but do come to lights as well. The Gypsy Moth was intentionally introduced into New England in 1869 as an ill-fated effort to create a new source of silk. It had reached Ohio by the 1980s. Populations boom and bust, and every seven to ten years may reach outbreak proportions. At such times, large tracts of hardwood forests may be defoliated in early July. Deciduous trees are stressed by the defoliation but usually there is little chronic injury, while defoliated conifers are usually killed. Despite the best efforts of agencies and citizens the Gypsy Moth continues to spread slowly and will eventually occur throughout Ohio.

DISTRIBUTION



HABITAT: Forests, woodlots, towns, cities. Has been found in much of Ohio, but as of 2013 not yet established in southwest Ohio.

HOST PLANT: Many trees and shrubs. Oaks are preferred but if gypsy moth larvae run low on food they will eat almost anything green.

CATERPILLAR

MALE

WINGSPAN:
1.2" - 2.6"

FLIGHT SEASON: JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary: Judy Semroc • Caterpillar: Hilma Anderson • Secondary: Jim McCormac

Orgyia leucostigma • Or-jy-ec-ah • loo-ko-stig-ma

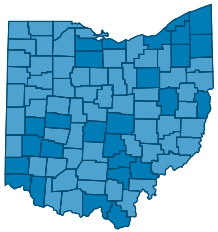
WHITE MARKED TUSSOCK MOTH

TUSSOCK MOTHS *Family Erebidae*

This moth can be abundant in some years and seem nearly absent in others. Only males have wings; females are small (2/3 inch) brown fuzzballs with short legs and can best be found by closely observing hovering males. The closely-related Definite Tussock Moth (Orgyia definita) is very similar but averages slightly smaller and browner, with a smaller white dot. It is common but not as abundant as the White-marked Tussock Moth. Three other tussock moth species (genus Dasychira) occur in Ohio; they appear very similar to the White-marked but are nearly twice the size.

Tussock moths are named for the caterpillar's tufts of setae. One theory has it that these tubular hair tufts mimic the cocoons of braconid wasps (see photo on page). Female wasps hunting for hosts would presumably shun the tussock moth caterpillars, believing them to have already been parasitized. This is an unproven theory, however.

DISTRIBUTION



HABITAT Anywhere there are trees. Uses a wide variety of woody plants.

HOST PLANT Highly polyphagous; hosts include scores of different trees and shrubs, including conifers which may sustain significant damage in nurseries.

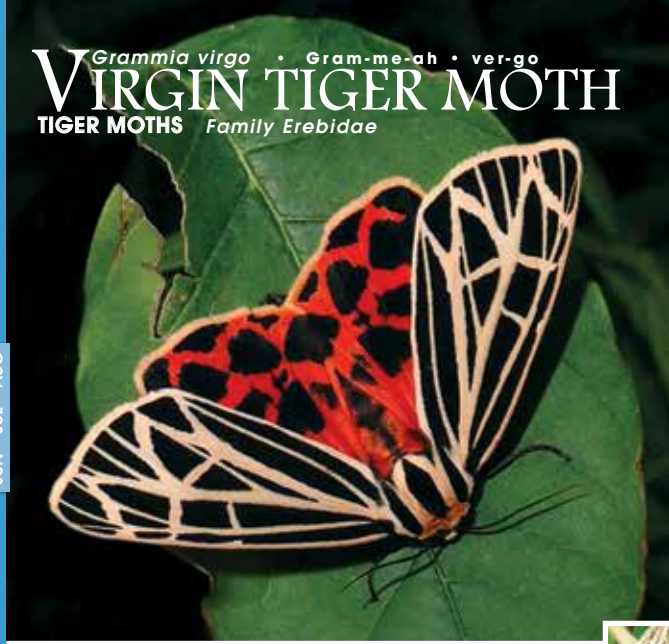
WINGSPAN:
0.9" - 1.4"

PHOTOGRAPHY CREDIT | Primary: Lisa Sells • Caterpillar & Secondary: Jim McCormac

Grammia virgo • Gram-me-ah • ver-go

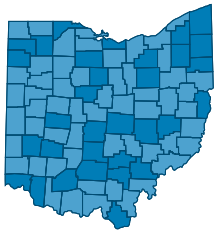
VIRGIN TIGER MOTH

TIGER MOTHS *Family Erebidae*



This and the nearly identical Parthenice Tiger Moth (G. parthenice) are the largest representatives of the genus Grammia, all of which have forewings boldly striped with light straw coloration against a black background. The hindwings of Grammia moths are pink or yellow and boldly spotted. This is another example of cryptic coloration combined with a "flash pattern" (see underwings, page). During the day the moth blends well with dry vegetation but when disturbed it exposes the bright hindwings as a warning to predators who have learned that bright colors indicate a foul taste.

DISTRIBUTION



HABITAT: Open areas with weedy vegetation: abandoned fields, empty lots, fencerows.

HOST PLANT: Low herbaceous weedy plants such as bedstraw, clover, plantain and violets.

WINGSPAN:
1.8" - 2.8"

PHOTOGRAPHY CREDIT | Primary & Secondary 2: Jim McCormac • Secondary 1: Dave Horn

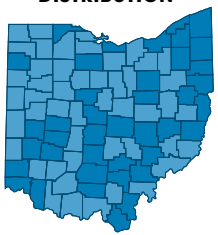
Spilosoma virginica • Spy-lo-so-ma • ver-jin-ih-ka

VIRGINIAN TIGER MOTH

TIGER MOTHS *Family Erebidae*

This moth and the related Agreeable Tiger Moth (Spilosoma congrua) are almost pure white. The Virginian Tiger has orange with dark spots on the upper surface of the abdomen, but these markings are hidden by the wings when the moth is at rest. (The Agreeable Tiger Moth is pure white.) Both are very common and frequently visit nightlights. Sometimes they are seen as they flush from tall vegetation during the day. The fuzzy orange-yellow larva is the so-called "Yellow Bear" and is often seen crawling on the ground at the same time and place as the more renowned Woolly-bear (page 54).

DISTRIBUTION



HABITAT: Open fields and edges of woods, suburban parks, yards and gardens.

HOST PLANT: Many plants including both woody and herbaceous: a partial list includes birch, blackberry, corn, oak, maple, plum and willows.

CATERPILLAR

WINGSPAN:
1.3" - 2.0"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Hyphantrea cunea • Hy-fan-tre-ah • cue-ne-ah

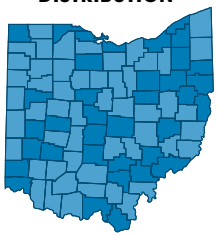
FALL WEBWORM MOTH

TIGER MOTHS *Family Erebidae*

This is another tiger moth and is the only member of the family considered a pest. The wings vary from pure white to strongly speckled with black. Speckled moths seem more frequent in southern Ohio. Adults come to lights frequently, and are usually smaller than other similar white tiger moths. Caterpillars construct a communal web, usually at the end of a branch, in August and September. The web or "tent" helps protect them from predators and parasites while they feed. The web appears unsightly to some but rarely is there lasting injury to larger trees. On occasion, newly-planted landscape trees are defoliated. Fall webworm populations are cyclic: large numbers some years, much scarcer in others. Large outbreaks generally collapse from disease after a few years.

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: Wherever there are deciduous trees.

HOST PLANT: Highly polyphagous; over 100 species of trees host fall webworm larvae.

CATERPILLAR

CATERPILLARS

WINGSPAN:
0.9" - 1.5"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Ecpantheria scribonia • Ek-pan-ther-ee-ah • scree-bo-nee-ah

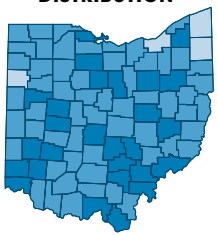
GIANT LEAOPARD MOTH

TIGER MOTHS *Family Erebidae*

The round, open spots on the forewing are unique to this moth; nothing else in Ohio looks quite like it. Scales are often worn off the wingtips as the moth ages. The Giant Leopard Moth belongs to the group of tiger moths characterized by relatively narrow forewings and often bright colors and bold wing patterns. Many species are distasteful to birds, and advertise their unpalatability with flashy colors and patterns. The larvae are covered with hairs (setae) and resemble the better known woolly-bear (page 54). If you find an oversized black "woolly-bear", the chances are that it is the larva of this species. Giant Leopard Moth caterpillars wander in search of a site to overwinter as a pupa, just as do the true woolly-bears.

FLIGHT SEASON JAN FEB MAR APR **MAY** JUN JUL AUG **SEPT** OCT NOV DEC

DISTRIBUTION



HABITAT: Forests and open areas with scattered trees and woodlots

HOST PLANT: Many different plants, both low-growing (dandelion, violets) and trees (cherry, maple, willow).

CATERPILLAR

WINGSPAN:
2.2" - 3.6"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Pyrrharctia isabella • Per-hark-tee-ah • iz-ah-bel-ah

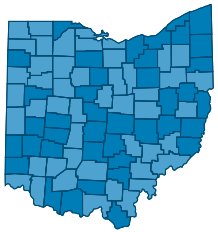
ISABELLA TIGER MOTH

TIGER MOTHS *Family Erebidae*

The larva of this tiger moth may be the best known caterpillar in the country, the fabled "Woolly-bear". In contrast to the fuzzy caterpillar, very few people have any idea what the adult moth looks like. Adults commonly visit lights and may be found resting on vegetation during the day. The 1½ inch long woolly-bear caterpillar is densely covered with hairs; black at both ends and dark red-brown in the middle. Larvae are often encountered in autumn as they seek overwintering sites. These caterpillars are hardy and can be active in temperatures in the low 40's. According to legend, the width of the brown band predicts the severity of the coming winter. There is no scientific evidence to support this tale but it makes a good story. We do know for certain that when you see woolly-bears, winter is coming, and at some point it will be cold.

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: A generalist that can occur nearly anywhere, but peak abundance is in the vicinity of abandoned agricultural fields.

HOST PLANT: Various trees, shrubs and many different wildflowers and weeds - even dandelions

CATERPILLAR

WINGSPAN:
1.8" - 2.6"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

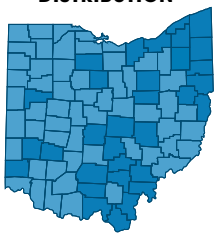
Haploa clymene • Hap-lo-ah • kly-me-nee

CLYMENE MOTH

TIGER MOTHS *Family Erebidae*

The Clymene Moth is one of the tiger moths, and is an extremely distinctive species. The cross-shaped cream on brown forewing pattern and orange hindwing separates this from several other species of Haploa in Ohio which also show brown-and-white patterns. When the Clymene Moth is at rest on a tree trunk with wings folded it resembles an upside-down cross to us and a bird dropping to predators. Most Haploas are active both day and night, and might be mistaken for butterflies when flushed. Unlike butterflies, their weak flights are generally short-distance and the moth remains in or near vegetation.

DISTRIBUTION



HABITAT: Meadows and fields interspersed with forested areas.

HOST PLANT: Boneset thoroughwort, oaks, cherry, apple, willows and other plants.

WINGSPAN:
1.6" - 2.2"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

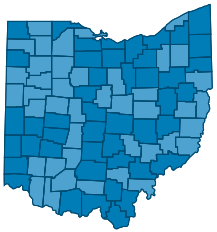
Halysidota tessellaris • Ha-ly-sih-do-ta • tes-el-ar-iss

BANDED TUSSOCK MOTH

TIGER MOTHS *Family Erebidae*

This is one of the most abundant moths lured to light traps in forested areas. The light bands set against a pale cream background on the forewings are distinctive, as are the turquoise thorax stripes. Despite its name, the Banded Tussock Moth is a tiger moth, which is confusing because there is a tussock moth family (page 49). It gets its name from small black tufts ("tussocks") interspersed among the caterpillar's fuzzy white hairs. These caterpillars are a common sight in Ohio's woods in September when they wander in search of overwintering sites.

DISTRIBUTION



HABITAT: Woodlands and forests; occasional in towns and suburbs with large trees.

HOST PLANT: Polyphagous: alder, ash birch, elm, oak, willow and other shrubs and trees.

CATERPILLAR

WINGSPAN:
1.6" - 1.8"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

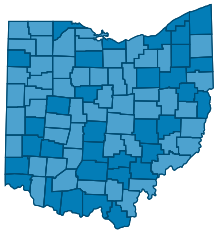
DELICATE CYCNIA

Cycnia tenera • Sik-nee-ah • ten-er-ah

TIGER MOTHS *Family Erebidae*

This day-flying moth may be seen on blossoms of the host plants and nearby flowers. It might be mistaken for a butterfly although, like most moths, its flights are weak and short in duration. Cycnias will allow a close approach so that one can see the antennae, which are quite different from those of butterflies. This species is a member of the tiger moth family. While the Delicate Cycnia is quite common and widespread, its` near relative the Unexpected Cycnia (C. inopinatus) is extremely rare in Ohio (page 74). It is one of few moths listed as endangered in Ohio, occurring only in the Oak Openings area west of Toledo and prairies of Adams County. The Unexpected Cycnia is smaller and the orange on the leading edge of the forewing usually extends only halfway along the wing.

DISTRIBUTION



HABITAT: Abandoned fields, forest edges and open areas dominated by herbaceous vegetation.

HOST PLANT: Milkweeds and Indian-hemp.

CATERPILLAR

WINGSPAN:
1.2" - 1.6"

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

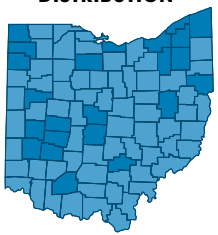
Ctenucha virginica • Ten-oo-ka • ver-jin-ih-ka

VIRGINIA CTENUCHA

TIGER MOTHS *Family Erebidae*

This moth is one of several species sometimes called "wasp moths" because of their resemblance to wasps in both appearance and behavior. The Virginia Ctenucha is the largest of the wasp moths to be found in Ohio, with a wingspan approaching two inches. Its metallic blue-black appearance lends it a tropical look. Ctenuchas fly by day and are frequently seen on flowers, particularly goldenrods. The bluish-metallic thorax, which is exposed even at rest, separates the Virginia Ctenucha from other similar wasp-mimic moths. Adults rarely come to lights.

DISTRIBUTION



HABITAT: Weedy fields and wet meadows.

HOST PLANT: Primarily grasses: also reported on sedges and iris.

CATERPILLAR

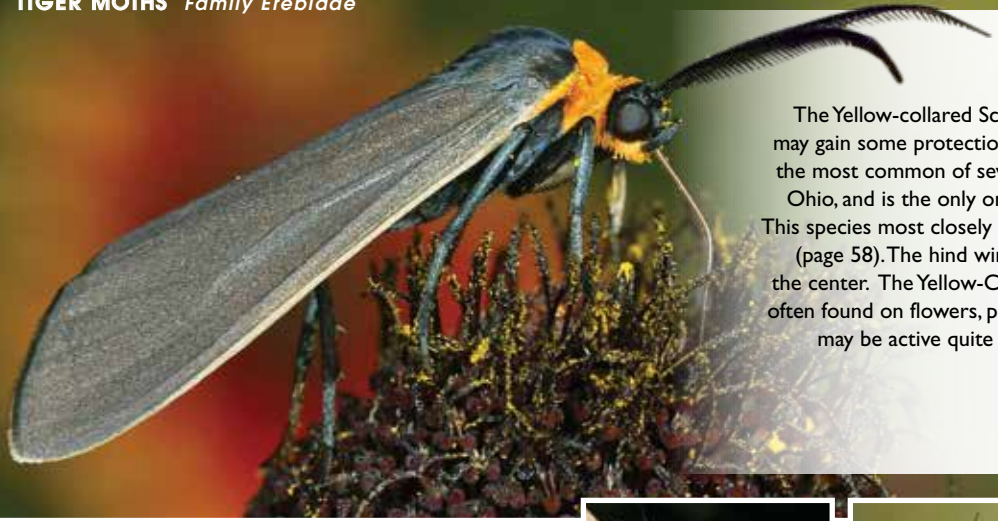
WINGSPAN:
1.6" - 2.0"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac • Caterpillar: Larry Clarfeld

Cisseps fulvicollis • Sis-eps • ful-vih-col-is

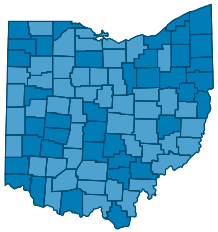
YELLOW-COLLARED SCAPE MOTH

TIGER MOTHS *Family Erebidae*



The Yellow-collared Scape Moth resembles a wasp and may gain some protection from this resemblance. This is the most common of several species of "wasp moths" in Ohio, and is the only one with a yellow-orange "collar". This species most closely resembles the Virginia Ctenucha (page 58). The hind wing has a clear, scale-free patch in the center. The Yellow-Collared Scape Moth is a day-flier often found on flowers, particularly goldenrod. The moth may be active quite late into fall as long as there are goldenrods still in bloom.

DISTRIBUTION



HABITAT: Weedy fields and edges of woodlots, vacant lots and areas where vegetation is allowed to grow unmanaged.

HOST PLANT: A wide variety of grasses and hedges.

CATERPILLAR

WINGSPAN:
1.1" - 1.5"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac • Caterpillar: Judy Semroc

Ascalapha odorata • as-cal-ah-fa • oh-dor-ay-ta

BLACK WITCH

TIGER MOTHS *Family Erebidae*

When present, the rare Black Witch rivals the Cecropia (page 38) for the title of largest moth in Ohio. At rest it is unmistakable; in flight at dusk it looks more like a bat or small bird than a moth. Adults are usually found at lights but occasionally turn up on fermenting fruit. The Black Witch is a subtropical-tropical species. It is common in South Texas – the northern limit of its normal range - and abundant from Mexico south into South America. In Latin America, it is known as La Mariposa de la Muerte (butterfly of death) and is said to bring very bad luck. There is evidence to suggest that northward movements of these moths results in part from hurricanes that move inland from the Gulf of Mexico, pushing these strong-flying moths far north of their typical range.

DISTRIBUTION

HABITAT: Forests and woodlands, occasional in suburbs and towns.

HOST PLANT: Cassia and catclaw in Texas, Florida and southward through its core range.

WINGSPAN:
4.3" - 5.9"

PHOTOGRAPHY CREDIT | Primary: Jim McCormac • Secondary 1: Dave Horn • Secondary 2: Omar Baldridge

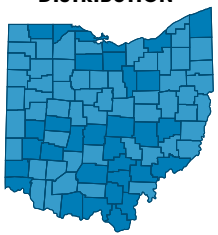
Hypoprepia fucosa • Hy-po-prep-ee-ah • few-ko-sah

PAINTED LICHEN MOTH

LICHEN MOTHS *Family Erebidae*

While lichen moths are not commonly encountered, they do make an impression when seen. There are only two lichen moths in the genus Hypoprepia in Ohio, and both are stunners. The other is the Scarlet-winged Lichen Moth, H. miniata. It has much more prominent red veins on the wings, and an entirely red head and thorax. Painted Lichen Moths turn up at nightlights occasionally, and that's where most people probably notice them. The moth might suggest a brightly colored beetle at first glance. The caterpillars are unusual in that they feed on tree lichens and moss, and the larva's cryptic coloration allows it to blend well with its surroundings.

DISTRIBUTION



HABITAT: Wooded areas that have plenty of large trees and lots of lichens.

HOST PLANT: Caterpillars graze on algae, lichens, and moss that grow on trees. Apparently no work has been done to determine if the larvae favor particular species (over 220 species of macrolichens and myriad moss and algae species occur in Ohio).

LICHENS

WINGSPAN:
1.0" - 1.2"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Hypena scabra • Hy-peh-nah • scab-rah

GREEN CLOVERWORM MOTH

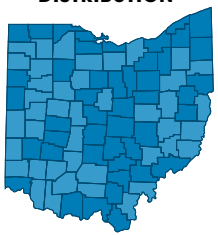
SNOUT MOTHS *Family Erebidae*

The green cloverworm is an abundant, drab, dark moth that comes to lights and rests in leaf litter during the day. In early spring it can be mistaken for a dusky-wing (skipper) when disturbed and flying for a short distance. It is unusual among moths in that it overwinters in the adult stage and can be found at lights on warm evenings throughout the winter. They are most common in August and September, and predominate in agricultural areas, although they can be found anywhere.

FLIGHT SEASON

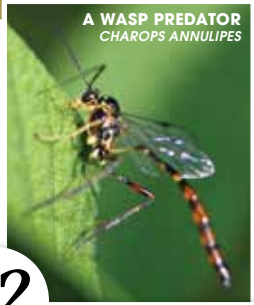
JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: Throughout Ohio, farms, gardens, suburbs but also forests and cities.

HOST PLANT: Primarily legumes: clover, alfalfa, beans but also strawberries, raspberries, ragweed and other low plants. Occasionally they infest crops but numbers are usually too low to cause major damage



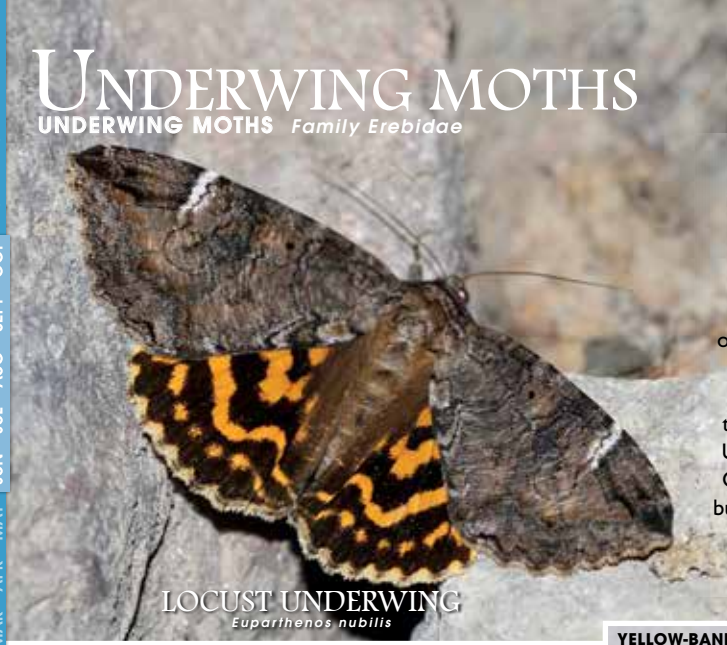
A WASP PREDATOR
CHAROPS ANNULIPES

WINGSPAN:
1.0" - 1.2"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

UNDERWING MOTHS

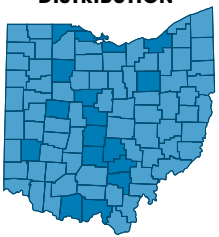
UNDERWING MOTHS *Family Erebidae*



LOCUST UNDERWING
Eupartheno nubilis

Sixty different species of underwing moths have been recorded in Ohio. They are mostly medium-sized moths (wingspans up to nearly 3 inches) characterized by grayish mottled forewings that blend well with bark of trees. The hindwings, which are usually concealed under the forewings, are various combinations of black and/or white banding, sometimes alternating with bright orange, pink, or red bands. This is an example of a "flash pattern" – predators focus on the bright colors when following a moth through the forest, and when the moth lands and folds its wings, the bright pattern disappears, and so does the moth. The Locust Underwing is pictured; it is one of the largest and most common Ohio underwings. Most underwing moths are attracted to lights but many species also prefer fermented fruit and can be attracted with an appropriate bait. (A few species are endangered or of special concern because of their rarity in Ohio).

DISTRIBUTION



HABITAT: Almost any habitat with trees.

HOST PLANT: Most species of deciduous trees are used as hosts. Oak and hickory support the highest diversity of underwings.

YELLOW-BANDED UNDERWING

OLDWIFE UNDERWING

WINGSPAN:
1.2" - 3.9"

PHOTOGRAPHY CREDIT | Primary: David Hughes • Secondary: Dennis Profant

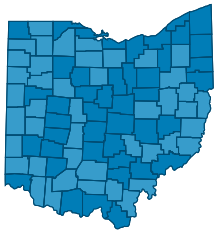
Zale lunata • Zal-ee • loo-nay-tah

LUNATE ZALE

OWLETS *Family Erebidae*

About twenty species of moths in the genus Zale have been recorded in Ohio, and many of them look quite similar. Well-marked Lunate Zales are quite distinctive, however, due to the silvery cloudlike patches that trim the hindwings. Unfortunately for identification purposes, these large moths are rather variable and some individuals are quite plain. Usually there are at least traces of the silvery hindwing patches, and the overall coloration is typically rich brown with a pattern resembling tree bark. Darker shading on the wings often has a purplish cast. Adults moths will take nectar, and are drawn to tree sap or "moth bait". Caterpillars are excellent bark mimics, and can sometimes resemble lichens.

DISTRIBUTION



HABITAT: A wide variety of habitats, following their varied host plants: forests, brushy areas, meadow margins, and parks and suburbia.

HOST PLANT: Reported from many woody plants including blackberry and various cherries, oak, willow, and even herbs in the genus Cassia.

WINGSPAN:
1.5" - 2.6"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

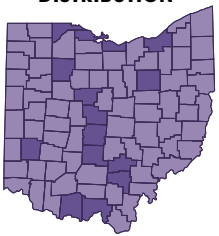
genus Acronicta • Ak-ro-nik-ta

DAGGER MOTHS

DAGGER MOTHS *Family Noctuidae*

There are about 40 species of dagger moths in Ohio. They range from one to two inches in wingspan. All are mottled gray and blend well with bark of trees on which they rest during the day. Most have one or more thin black dashes on the forewing. Many are similar enough that moth experts have trouble identifying them with certainty, especially if specimens are worn. Depicted is the American Dagger Moth, Acronicta americana, the largest species in Ohio and among the most common and widespread. Dagger moths are members of the large owlet moth family, Noctuidae. Dagger moth caterpillars are large and often very ornately marked, and typically have large heads. Some are quite colorful, and one, the Paddle Caterpillar (Acronicta funeralis) is armed with bizarre filaments tipped with spoon-shaped paddles. It is a holy grail for caterpillar seekers.

DISTRIBUTION



HABITAT: Forests, woodlots, towns and suburbs with large trees. Dagger moths are most diverse in the forests of southeastern Ohio where there is a wide variety of host plants.

HOST PLANT: Many different tree species. Some dagger moths feed on one species only (the Ruddy Dagger Moth, Acronicta rubricoma, is an elm and hackberry specialist) while others eat a wide range of foliage.

CATERPILLAR

WINGSPAN:
1.0" - 2.6"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

Eudryas grata • You-dry-as • gray-ta

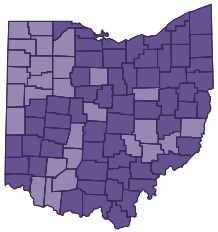
BEAUTIFUL WOOD-NYMPH

WOOD-NYMPHS & FORESTERS *Family Noctuidae*

This moth is a representative of the huge owlet moth family (Noctuidae), of which there are several hundred species known from Ohio. The Beautiful Wood-nymph is typical of the family in shape but not in color or pattern. Owlet moths have narrow front wings tapered toward the base and smaller hindwings that are broader and rounder. (Some other moth families share this shape.) However, most owlet moths are nondescript brown or gray, whereas the Beautiful Wood-nymph is boldly patterned. This species resembles a bird dropping to a remarkable degree, and even appears wet and shiny. Like other moth bird dropping mimics (there are many), Beautiful Wood-nymphs typically perch on the upper surfaces of leaves during the day. Would-be predators presumably shun things that resemble bird scat.

The related Pearly Wood-nymph (Eudryas unio) is uncommon but looks very similar. "Wood Nymph" is also the name for a totally unrelated butterfly.

DISTRIBUTION



HABITAT: Forests and woodlands; often in small wooded patches.

HOST PLANT: Members of the grape family: various grape species, Virginia Creeper. Alleged to use buttonbush, and hops, but confirmation of these hosts is needed.

CATERPILLAR

WINGSPAN:
1.4" - 1.3"

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

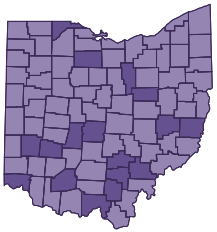
Psychomorpha epimenis • Sy-ko-mor-fa • eh-pem-in-is

GRAPEVINE EPIMENIS

WOOD-NYMPHS & FORESTERS *Family Noctuidae*

The Grapevine Epimenis is one of the earliest moths on the wing in spring, frequently emerging when the trees are leafless and buds of grapevines are newly emergent. To lepidopterists, the appearance of the Grapevine Epimenis is a sure sign that spring is on the way. This moth is a day-flier and like many day-flying moths, sports a bold black-and-white pattern. (See White-striped Black Moth, p. 21) It can be mistaken for a butterfly and in fact the scientific name Psychomorpha literally means "butterfly in form."

DISTRIBUTION



HABITAT: Wherever the host plant occurs: forests, shrubby areas, fencerows, ditches, weedy fields, etc.

HOST PLANT: Probably any of Ohio's five native grape species, but especially riverbank grape (Vitis riparia).

WINGSPAN:
0.9" - 1.1"

PHOTOGRAPHY CREDIT | Primary & Secondary 1: Diane P. Brooks • Secondary 2: Jim McCormac

Alypia octomaculata • A-lip-ee-ah • ok-to-mak-u-late-ah

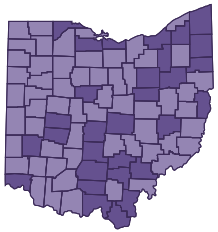
EIGHT-SPOTTED FORESTER

WOOD-NYMPHS & FORESTERS *Family Noctuidae*

The Eight-spotted Forester is often mistaken for a butterfly as it is a day-flier and seen commonly. The lack of knobs on the antennae distinguishes it as a moth, and this feature is usually visible with a good look. The distinctive pattern is an example of "disruptive coloration" (see White-striped Black Moth, page 21). The Forester beats its wings so fast that the spots blur together and appear as white lines. These moths most often are seen hovering around the host plant. Larvae occasionally defoliate the host and may then be considered a pest. Like many moths, populations are cyclic and repeated defoliation is rare.

A few other small black and white moths (such as the Grape Leaffolder) suggest the Forester in appearance but are quite different in size and shape.

DISTRIBUTION



HABITAT: Woodlands, fencerows and field borders, parks and sometimes gardens.

HOST PLANT: Probably all of Ohio's five species of wild grape, and Virginia Creeper. Also feeds on English ivy.

WINGSPAN:
1.2" - 1.5"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim Mccormac

Schinia florida • Skee-nee-ah • flor-ih-da

PRIMROSE MOTH

FLOWER MOTHS *Family Noctuidae*

Primrose Moths occur statewide, and their primary host plant is abundant, but the moths are not often seen. When one is found, though, it'll make a memorable impression. These gorgeous little moths are bright pink, and trimmed with pale creamy-yellow on the head and tips of the hindwings. The moths seem to remain in fairly close proximity to the host primrose plants. Watch for these attractive moths in July and August. They are reminiscent of Rosy Maple Moths (page 31), but differ in their much smaller size and different pattern of pink and yellow.

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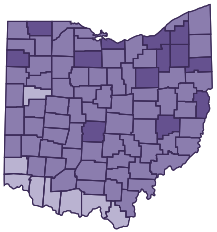
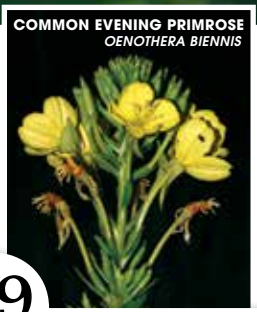


HABITAT: A variety of open landscapes that support evening-primroses.

HOST PLANT: Evening-primroses in the genus Oenothera. By far the most widespread and abundant of these is common evening-primrose, O. biennis, and presumably it is the most used host plant. But nine other species occur in Ohio and may serve as hosts too. Biennial gaura, Gaura biennis, has also been reported as a host. The caterpillars typically feed on the seed capsules, and sometimes flowers and buds.

COMMON EVENING PRIMROSE
OENOTHERA BIENNIS



WINGSPAN:
0.8" - 0.9"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim Mccormac

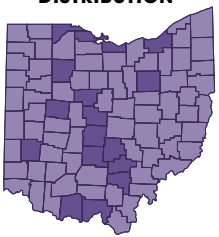
Noctua pronuba • Nok-to-ah • pro-noo-ba

LARGE YELLOW UNDERWING

WOOD-NYMPHS & FORESTERS *Family Noctuidae*

The Large Yellow Underwing resembles underwings in the genus Catocala but it is not closely related. This species normally rests with forewings folded over the hindwings and the orange coloration on the latter is not visible. It is a recent introduction to North America from Europe and arrived in Ohio in the late 1980s. By 2000 it occurred statewide, and has become one of our more common moths. Due to its recent arrival it is not illustrated in some older field guides.

DISTRIBUTION



HABITAT: Farms, gardens, roadsides, weedy fields, often in urban areas.

HOST PLANT: An enormous variety of plants, including grasses and many often weedy plants. The moth is so universal in its tastes that it is not normally a crop or garden pest.

CATERPILLAR

WINGSPAN:
2.0" - 2.4"

PHOTOGRAPHY CREDIT | Primary & Secondary: Larry Jeanblanc • Caterpillar: Jim McCormac

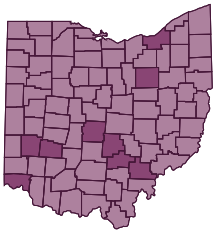
Thyridopteryx ephemeraeformis • Thy-rid-ee-op-ter-ix • ef-em-er-ee-for-mis

EVERGREEN BAGWORM MOTH

BAGWORMS *Family Psychidae*

The male Evergreen Bagworm Moth resembles a large, fuzzy fly and usually goes unnoticed. The larvae eat foliage of evergreens and are considered unsightly. When present in large enough numbers they may defoliate and kill ornamental plants. Each larva constructs a silken bag incorporating plant debris, and these cocoons resemble little hanging cones. If the larva develops into a female, she remains wingless and stays in the bag to mate and lay her eggs, after which she emerges and drops to the ground. In the wild, the Evergreen Bagworm usually is found on red cedar but in artificial plantings they may occur on a wide variety of native and exotic woody plants, with an apparent preference for arbor-vitae.

DISTRIBUTION



HABITAT: Yards, gardens, landscaped areas; especially sites with cedar plantings.

HOST PLANT: Many trees and shrubs are utilized but evergreens are preferred, particularly cedars.

COCOONS

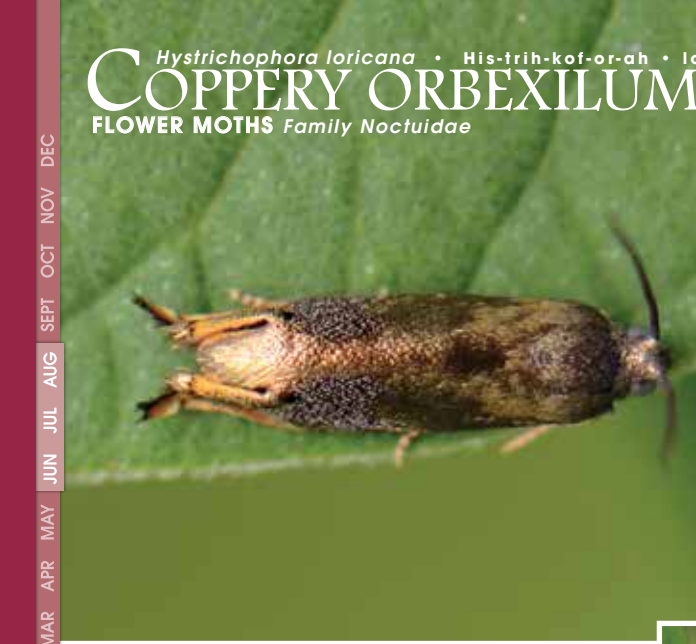
WINGSPAN:
0.7" - 1.4"

PHOTOGRAPHY CREDIT | Primary: Tim Martin • Secondary: Jim McCormac

Hystrichophora loricana • His-trih-kof-or-ah • lor-ih-can-ah

COPPERY ORBEXILUM MOTH

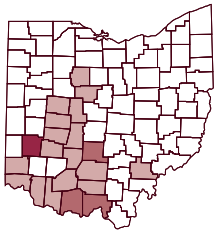
FLOWER MOTHS *Family Noctuidae*



This poorly known and apparently very rare and local species was first collected and described to science from Dayton, Ohio in 1880. Interestingly, it was rediscovered in a Dayton-area prairie remnant in 2012 – 132 years after its first collection. The coppery orbexilum moth is currently only known from a handful of scattered locales in Illinois, Kentucky, and Ohio. In Ohio, populations are known from a few Adams County prairies, and the newly discovered Greene County site near Dayton. It is always associated with scurf pea, Orbexilum onobrychis – hence the common name. Male moths can be found resting on the upper surfaces of leaves during the day, but always on scurf pea foliage or on plants in very close proximity. This moth should be sought in prairie remnants that harbor scurf pea colonies. This moth is very distinctive, due to its coppery-orange coloration and protruding wing projections.

FLIGHT SEASON JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: Remnant prairies where the host plant occurs.

HOST PLANT: Scurf Pea, Orbexilum onobrychis.

SCURF PEA
ORBEXILUM ONOBRYCHIS

TOTAL LENGTH:

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

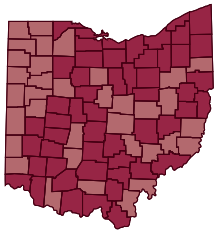
Schinia flower moths

FLOWER MOTHS *Family Noctuidae*

There are at least 26 species of flower moths in the genus *Schinia* in Ohio. Most of them are active by day, and frequently visit the flowers of their respective host plants. In 2011, naturalist John Howard found several individuals of a distinctive and conspicuous caterpillar in a prairie remnant in Adams County. It turns out he had discovered a "new" species of moth, which had been independently discovered in a few other sites in four additional states. This species awaits formal description and naming. To date, far more of the conspicuous day-active caterpillars have been found than the adult moths. This case illustrates that new discoveries remain in the world of moths, even in the most common families. It also shows the importance of the need for careful field observation, and for protecting specialized habitats to preserve rare species.

FLIGHT SEASON JAN FEB MAR APR MAY **JUN** JUL AUG SEPT OCT NOV DEC

DISTRIBUTION



HABITAT: Remnant prairies where the host plant occurs.

HOST PLANT: Scurf Pea, Orbexilum onobrychis.

CATERPILLAR

CATERPILLAR

WINGSPAN:
0.7" - 0.9"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

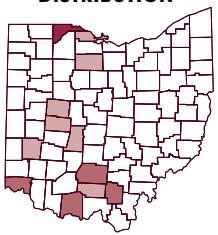
Cycnia inopinatus • Sik-ne-ah • in-op-in-ate-us

UNEXPECTED CYCNIA

TIGER MOTHS *Family Erebidae*

The Unexpected Cycnia is listed as endangered by the Ohio Division of Wildlife, and is one of our rarest moths. It occurs in two small areas in Ohio: the Oak Openings region west of Toledo, and prairie barrens in Adams County. The caterpillars feed on milkweed, and probably use most or all of the Asclepias milkweed species that are found within the areas that the moth occurs. However, the caterpillars turn up most commonly on butterfly-weed (Asclepias tuberosa), which has bright orange flowers. The caterpillars are also orangish, and blend with the milkweed's blossoms remarkably well. The Unexpected Cycnia closely resembles the Delicate Cycnia (page 57), but differs in that the orange leading edge of the forewing is less prominent, and extends less than halfway back to the wingtip.

DISTRIBUTION



HABITAT: Remnant prairies where the host plant occurs.

HOST PLANT: Milkweeds, especially butterfly-weed.

CATERPILLAR

CATERPILLAR

WINGSPAN:
1.1" - 1.4"

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac

BLINDED SPHINX
on the apparatus of a light trap

FINDING MOTHS

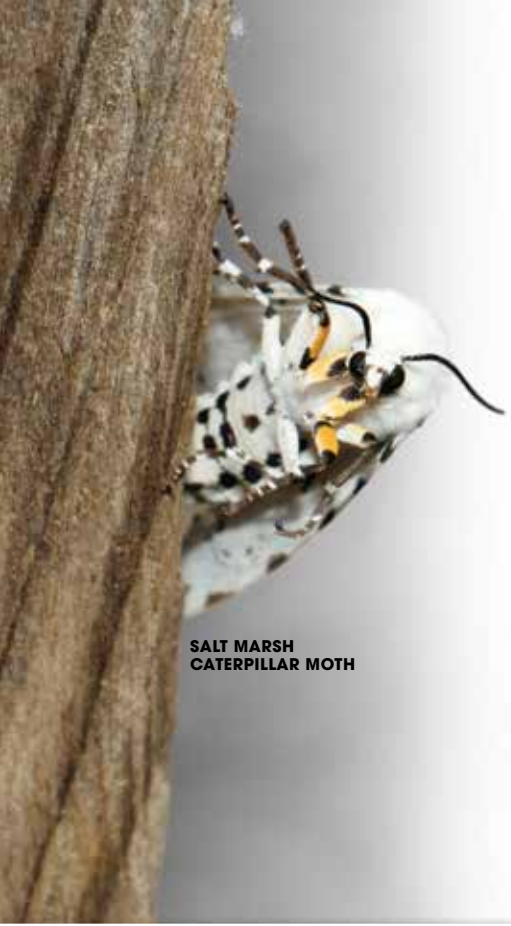
It sometimes seems that moths find YOU – mini-blizzards of them often flurry around porch lights. Oftentimes interesting moths are found perched on walls near night lights. Many species of moths are strongly attracted to light, and a common tactic for surveying moths is light trapping. Hanging a white sheet in an interesting habitat, and illuminating it with black light, mercury, or sodium vapor bulbs will often draw a dizzying array of moths to the sheet.

Another moth-baiting technique is the use of sugar-bait. An ideal concoction is a mixture of peeled rotten bananas, flat beer, molasses, brown sugar, and a dash of yeast. Aging the bait for a few days prior to use allows it to ripen and increase in potency. The idea is to create a thick mixture of sugary glop that can be painted or splashed onto tree trunks. A wide variety of moth species that are attracted to nectar, sap, or rotten fruit are prone to visiting trees that are baited in this manner, including species that are not attracted to lights. CAUTION: Moth bait can leave long-lasting stains; avoid painting it on decks, walls, etc.

Common nighttime site at an outdoor light

Light trapping can be utilized for photography

PHOTOGRAPHY CREDIT | Primary & Secondary: Jim McCormac



SALT MARSH CATERPILLAR MOTH

PLANTS VS. CATERPILLARS:
CHEMICAL WARFARE

The great majority of moth caterpillars consume living plants. As a defense against these herbivores (plant-eaters), plants have evolved chemical strategies to fend off caterpillars. This battle is an ongoing chemical warfare, with some caterpillar species overcoming resistance to toxic compounds. However the plant's chemical defense system will successfully repel most species. Any given caterpillar species can only consume a select suite of plants: perhaps only one or a few types, or in some cases dozens of species. These chemical/caterpillar battles greatly benefit people. Myriad compounds produced by plants to defend against caterpillars are used in our everyday life. Coffee, various spices, vanilla extract, red wine, rubber (originally, most is now synthesized), and scores of other products beneficial to people are made possible by chemicals manufactured by plants to thwart caterpillar predation.

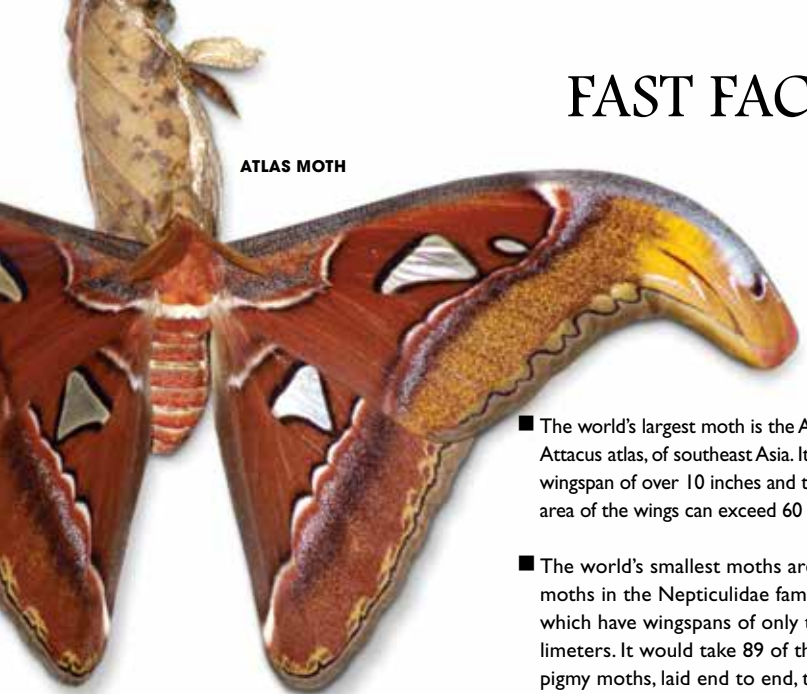
ACKNOWLEDGMENTS

The Ohio Division of Wildlife gratefully acknowledges the assistance and contributions of the following organizations:
The Ohio Lepidopterists for expertise and use of collections, and the Ohio State University's Museum of Biological Diversity for access to the C.A. Triplehorn Insect Collection.

The following photographers graciously provided images for this publication:
Hilma Anderson, Jerry Armstrong, Omar Baldridge, Diane P. Brooks, Larry Clarfeld, Patrick Coin, Tim Daniel, Sherri Doust, Eric Gofreed, Jess Henning, David Horn, John Howard, David Hughes, Larry Jeanblanc, Tim Martin, Jim McCormac, John Pogacnik, Dennis Profant, Jason D. Roberts, Lisa Sells, Lynette Schimming, Judy Semroc, Sara Simpkins, and Brian Zwiebel.

PHOTOGRAPHY CREDIT | Jim McCormac

FAST FACTS



ATLAS MOTH

- The hypersensitive antennae of luna moths and other silkmoths can detect female pheromones from a mile or more away.
- The "worm" at the bottom of a bottle of mescal liquor is actually any caterpillar of various moth species in the genus Comadia (tequila is not bottled with "worms").
- The world's largest moth is the Atlas moth, Attacus atlas, of southeast Asia. It can have a wingspan of over 10 inches and the surface area of the wings can exceed 60 square inches.
- The world's smallest moths are pigmy moths in the Nepticulidae family, some of which have wingspans of only three millimeters. It would take 89 of the smallest pigmy moths, laid end to end, to equal an Atlas moth's wingspan.
- The large caterpillars of an African moth, Gonimbrasia belina, are an important food source for many people in southern Africa. Actually many species of caterpillars are edible, but most people are reluctant to eat them.
- Salicyclic acid is an important active compound in aspirin, and was originally obtained from willow trees. The plants manufacture it as a chemical defense against insect herbivores, primarily caterpillars.
- Caffeine is an alkaloid in coffee that acts as a stimulant. It occurs naturally in coffee plants in the genus Coffea, and the plants manufacture caffeine as a chemical defense against caterpillar and other insect predation. Thus, moth caterpillars are indirectly responsible for many a person's favorite morning beverage.
- Ninety-nine percent of caterpillars perish, victims of predators such as birds, parasitoid flies and wasps, and many other predatory animals.
- Caterpillars (silkworms) of the silkmoth, Bombyx mori, are the primary producers of silk used in clothing, parachutes, textiles and other products. Silkmoths have been domesticated and farmed for over 5,000 years. Silkworms no longer occur in the wild and cannot survive without human assistance. The process of silkworm farming is known as sericulture.

PHOTOGRAPHY CREDIT | Tim Daniel

SUGGESTED REFERENCES

With 3,000+ moth species in Ohio and less than 60 in this booklet, moth-seekers will soon find specimens that are not covered here. The following sources can be a huge help in making identifications of moths, but keep in mind that many moth species are nearly identical in appearance, and may require the services of a specialist to accurately identify.

Charles V. Covell, Jr. 2005. **A Field Guide to Moths of Eastern North America.** *Virginia Museum of Natural History.*

David Beadle & Seabrooke Leckie. 2012. **Peterson Field Guide to Moths of Northeastern North America.** *2012. Houghton Mifflin Harcourt Publishing Company.*

Moth Photographer's Group *(website): mothphotographersgroup.msstate.edu/*

BugGuide *(website): bugguide.net*

LUNA MOTH

GLOSSARY

ABDOMEN: rear part of an insect, posterior to the thorax

CATERPILLAR: larval stage of a lepidoptera

COCOON: protective case formed by some insect larvae to shelter the pupa

HERBIVORE: plant-eating animal

HOST PLANT: any plant species that can successfully support the nutritional requirements of a given moth species' caterpillars

INCHWORM: the caterpillar of geometrid moths, which move in a looping or arching gait

INSTAR: a distinct growth stage of an insect larva or nymph (Moth caterpillars typically have five instar stages.)

LARVA: immature insect stage; in the case of moths, the caterpillar

LEPIDOPTERA: the Order of insects that includes butterflies and moths

METAMORPHOSIS: transition of an insect through distinct developmental stages

MICROLEPIDOPTERA: large group of moths distinguished by small size (An inexact term that has no formal taxonomic validity.)

PARASITOID: parasitic insects that typically kill their hosts (Parasites typically do not kill hosts.)

POLYPHAGOUS: refers to insects that can feed on a wide variety of plant species.

PROBOSCIS: long tubular mouthpart designed for extracting flower nectar

PUPA: inactive transitional stage of an insect, between the larval and adult forms

SETAE: stiff hairs or bristles (Singular = seta)

THORAX: middle segment of an insect, between the head and abdomen.

PHOTOGRAPHY CREDIT | Jim McCormac

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wildohio.gov

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PUBLICATION FUNDING

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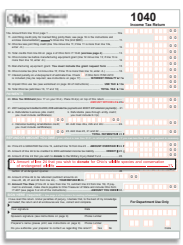

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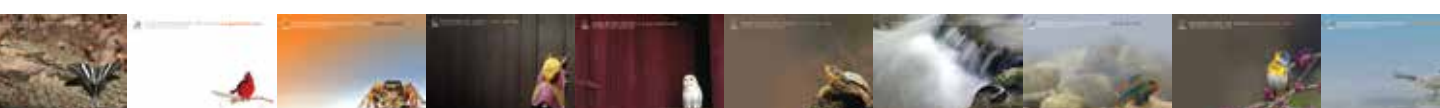

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DIVISION OF WILDLIFE

OHIO DEPARTMENT OF NATURAL RESOURCES

MISSION STATEMENT

To conserve and improve fish and wildlife resources and their habitats for sustainable use and appreciation by all.

ROSY MAPLE MOTH
Jim McCormac

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PUBLICATION 5467 (0417)

Total Quantities Printed: 25,000 Unit cost: $0.269 Publication date: 05/17