

# Midwest Region, USA

## Beginner's Guide to Moths of the Midwest - Macromoths

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Angella Moorehouse & Illinois Nature Preserve Commission

Photos: Angella Moorehouse (angella.moorehouse@illinois.gov). Produced by: Angella Moorehouse with the assistance of Alicia Diaz, Field Museum. Identification assistance provided by: multiple sources (inaturalist.org; bugguide.net)

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### About the BEGINNER'S MOTHS OF THE MIDWEST GUIDES

Most photos were taken in west-central and central Illinois; a few are from eastern Iowa and north-central Wisconsin. Nearly all were posted to identification websites: BugGuide.net and iNaturalist.org. Identification help was provided by Aaron Hunt, Steve Nanz, John and Jane Balaban, Chris Grinter, Frank Hitchell, Jason Dombroskie, William H. Taft, Jim Wiker, and Terry Harrison as well as others contributing to the websites. Attempts were made to obtain expert verifications for all photos to the field identification level, however, there will be errors. Please contact the author with all corrections. Additional assistance was provided by longtime Lepidoptera survey partner, Susan Hargrove.

The intention of these guides is to provide the means to compare photographs of living specimens of related moths from the Midwest to aid the citizen scientists with identification in the field for Bio Blitz, Moth-ers Day, and other night lighting events. A taxonomic list to all the species featured is provided at the end along with some field identification tips.

### WEBSITES PROVIDING IDENTIFICATION INFORMATION

BugGuide.net

iNaturalist.org

Mothphotographersgroup.msstate.edu

Insectsofiowa.org

centralillinoisinsects.org/weblog/resources/

### WHICH MOTH GUIDE TO USE

The moths were split into 6 groups for the purposes of creating smaller guides focusing on similar features of 1 or more superfamilies. The guides are split up thusly:

- 1) **Macromoths** – large showy moths generally ranging in size of 5-18cm; Superfamilies: Bombycoidea (royal, silkmoths, and sphinx moths), Cossoides (carpenterworm), Lasiocampoidea (lappet moths)



*Antheraea polyphemus*  
Polyphemus moth



*Prionoxystus robiniae*  
Carpenterworm moth



*Darapsa myron*  
Virginia Creeper Sphinx

- 2) **Micromoths** – tiny moths with wingspans generally <2cm the exception being the clearwing borers (*Sesioidae*) which average between 1-3cm; Other Superfamilies: *Adeloidea* (fairy moths), *Choreutidae* (metalmarks), *Epermenioides* (fringe-tufted moths), *Gelechioidea* (curve-horned moths – has greatest number of species), *Gracillarioidea* (tube moths), *Micropterigoidea* (mandibulate archaic moths), *Schreckensteinioidae* (bristle-legged moths), *Tineoidea* (clothes, carpenter, and bagworm moths), *Yponomatoidea* (ermine moths)



*Dichomeris inversella*  
Inverse Dichomeris



*Caloptilia blandella*  
Walnut Caloptilia



*Synanthedon acerni*  
Maple Callus Borer



*Atteva aurea*  
Alianthus webworm

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### WHICH MOTH GUIDE TO USE (Cont.)

- 3) **Geometer Moths (Geometroidea)** – medium sized with wingspan 3-5 cm, most have angular sharp-pointed wings held open like butterflies; most larvae are “inchworms”



*Macaria multilineata*  
Many-lined Angle



*Pleuroprucha insulsaria*  
Tan Wave



*Haematopsis grataria*  
Chickweed Geometer

- 4) **Noctuids/Owlets (Noctuoidea)** – most species of any moth superfamily, medium sized with wingspan generally 2-5cm, triangular shape with stout bodies; most are nocturnal but includes some daytime pollinators: lichen, tiger, fungus, underwing, forage looper, litter, bird-dropping, dagger, wood nymph, groundling, dark owlet, earworm, flower, borer, cutworm, dart, quaker, wainscot, sawfly, looper, and prominent moths



*Catocala nuptialis*  
Married Underwing



*Acrionicta vinnula*  
Delightful Dagger



*Hypena abalienalis*  
White-lined Hypena

- 5) **Pyralids and Crambid Moths (Pyraloidea)** snout moths – large group of small moths with wingspan of 1- 4 cm, head bears long upturned labial palpi or snout; Guide also includes the Superfamilies: **Drepanoidea** (hooktip moths), **Pterophoroidea** (plume moths), **Thyridoidea** (thyris moths)



*Herptogramma aeglaelis*  
Serpentine Webworm



*Chrysoteuchia topiaria*  
Cranberry Girdler



*Geina* sp.  
Plume Moth



*Dysodia ocellatana*  
Eyed Dysodia

- 6) **Tortricid Moths (Tortricidae)** – tortrix and leafroller moths – large group of small moths (often grouped with micromoths) with wingspan 1-3 cm. Most are drab with mottled and marbled brown coloration. Some (Olethreutinae) have larvae which bore into plant stems, roots, buds, or seeds; Tortricinae larvae construct leaf rolls; Guide also includes the Superfamily: **Zygaenoidea** (slug, hag, skiff, skeletonizer moths)



*Epiblema abruptana*  
Abrupt Epiblema



*Choristoneura roseaceana*  
Oblique-banded Leafroller



*Apoda y-inversum*  
Yellow-collared Slug Moth

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### DIFFERENCES BETWEEN MOTHS AND BUTTERFLIES

When we all first start learning moths and butterflies we are told that moths are dull and butterflies are brightly colored. I hope this guide shows that not to be the case. Moths come in brilliant shades of green, yellow, orange, pink, red, and blue. We also learned that moths can have feather-like antennae (some males do; females have thread-like antennae) and butterflies have club-tipped antennae. While most moths are nocturnal some are not. All butterflies are diurnal (daytime fliers), though a few show up at night light sheets. Many moths that fly during the day will hide on the undersides of leaves; butterflies don't hide. Butterflies do often hold their wings closed vertically above their abdomen (a few geometer and owlets will also hold their wings vertically); most moths hold them horizontally flattened covering their abdomen. When sunning butterflies will often spread open their wings. Some moths, especially silkworms, hawk moths, and geometers do this as well.

### MOTHS



*Catocala ultronia*  
Ultronia Underwing  
Owlet Moth



*Mellilla xanthometata*  
Orange Wing  
Geometer Moth



*Clepsipis clemensiana*  
Clemen's Clepsipis  
Tortricid Moth

### BUTTERFLIES



*Vanessa virginiensis*  
American Lady



*Papilio glaucus*  
Eastern Tiger Swallowtail

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**MACROMOTH ORDER: BOMBYCOIDEA: Royal, Silkworm, and Sphinx Moths, photos 1-9; BOMBYCOIDEA: Sphinx Moths photos 10-28; COSSIDEA: Carpenterworm Moth, photo 29; LASIOCAMPOIDEA: Lappet Moths, photos 30-32.**



1 *Apotelodes torrefacta*  
APATELODIDAE  
Spotted Apatelodes



2 *Anisota virginiensis*  
SATURNIIDAE  
Pink-Striped Oakworm



3 *Dryocampa rubicunda*  
SATURNIIDAE  
Rosy Maple Moth



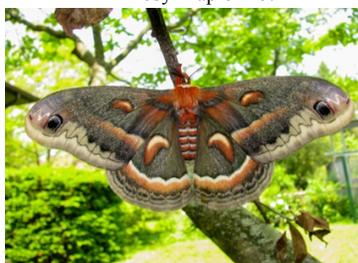
4 *Eacles imperialis*  
SATURNIIDAE  
Imperial Moth



5 *Syssphinx bicolor*  
SATURNIIDAE  
Honey Locust Moth



6 *Automeris io*  
SATURNIIDAE  
Io Moth



7 *Hyalophora cecropia*  
SATURNIIDAE  
Cecropia Moth



8 *Actias luna*  
SATURNIIDAE  
Luna Moth



9 *Antheraea polyphemus*  
SATURNIIDAE  
Polyphemus Moth



10 *Hemaris diffinis*  
SPHINGIDAE  
Snowberry Clearwing



11 *Hemaris thysbe*  
SPHINGIDAE  
Hummingbird Clearwing



12 *Amphion floridensis*  
SPHINGIDAE  
Nessus Sphinx



13 *Darapsa choerilus*  
SPHINGIDAE  
Azalea Sphinx



14 *Darapsa myron*  
SPHINGIDAE  
Virginia Creeper Sphinx



15 *Eumorpha pandorus*  
SPHINGIDAE  
Pandorus Sphinx



16 *Hyles lineata*  
SPHINGIDAE  
White-lined Sphinx



17 *Sphecodina abbottii* (M)  
SPHINGIDAE  
Abbott's Sphinx



18 *Sphecodina abbottii* (F)  
SPHINGIDAE  
Abbott's Sphinx



19 *Amorpha juglandis*  
SPHINGIDAE  
Walnut Sphinx



20 *Paonias myops*  
SPHINGIDAE  
Small-eyed Sphinx

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21 *Smerinthus cerisyi*  
SPHINGIDAE  
One-eyed Sphinx



22 *Smerinthus jamaicensis*  
SPHINGIDAE  
Twin-spotted Sphinx



23 *Ceratomia catalpae*  
SPHINGIDAE  
Catalpa Sphinx



24 *Ceratomia hageni*  
SPHINGIDAE  
Hagen's Sphinx



25 *Ceratomia undulosa*  
SPHINGIDAE  
Waved Sphinx



26 *Manduca sexta*  
SPHINGIDAE  
Carolina Sphinx



27 *Paratrea plebeja*  
SPHINGIDAE  
Trumpet Vine Sphinx



28 *Sphinx almaiae*  
SPHINGIDAE  
Laurel Sphinx



29 *Prionoxystus robiniae*  
COSSIDAE  
Carpenterworm Moth



30 *Heteropacha rileyana*  
LASIOCAMPIDAE  
Riley's Lappet Moth



31 *Phyllodesma americana*  
LASIOCAMPIDAE  
American Lappet Moth



32 *Malacosoma americana*  
LASIOCAMPIDAE  
Eastern Tent Caterpillar

### TAXONOMIC LIST OF MACROMOTHS IN FIELD GUIDE WITH FIELD IDENTIFICATION TIPS

This list attempts to depict the organization of the photos by taxonomic grouping. While all moths in the photos have assigned superfamilies and families not all of those are classified to subfamily, tribe or subtribe. Where these classifications are available, they were used to organize the photos. Taxonomic classification was obtained from iNaturalist and BugGuide.

MACROMOTHS as a group are largely a haphazard grouping of big moths. For the purpose of this guide it includes silkworm, royal, and sphinx moths along with carpenterworms and lappet moths.

SUPERFAMILY: Bombycoidea

FAMILY: Apatelodidae – American Silkworm Moths

SUBFAMILY: Apatelodinae

1 *Apatelodes torrefacta* Spotted Apatelodes: wings held stiffly out away from body revealing upward curved abdomen; hind wings generally held under forewing or nearer body

FAMILY: Saturniidae

SUBFAMILY: Ceratocampinae – Royal Moths

2 *Anisota virginensis* Pink-striped Oakworm: fuzzy orange-golden body, rose-colored wings

3 *Dryocampa rubicunda* Rosy Maple Moth: fuzzy lemon-yellow body with bright pink legs

4 *Eacles imperialis* Imperial Moth: large, dusty rose and yellow coloration

5 *Syssphinx bicolor* Honey Locust Moth: deep rose-red underwings

SUBFAMILY: Hemileucinae – Buck and Io Moths

TRIBE: Hemileucini

6 *Automeris io* Io Moth: bright yellow with huge eye spots on underwings

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### TAXONOMIC LIST OF MACROMOTHS IN FIELD GUIDE WITH FIELD IDENTIFICATION TIPS (Cont.)

SUBFAMILY: Saturniinae - Silkmoths

TRIBE: Attacini

7 *Hyalophora cecropia* Cecropia Moth: large, fuzzy rust and body, gray wings with rust and white crescents

TRIBE: Saturniini

8 *Actias luna* Luna Moth: large neon green with long tails

9 *Antheraea polyphemus* Polyphemus Moth: large warm tan coloration with dark eye spots on underwings

FAMILY: Sphingidae – Sphinx Moths

SUBFAMILY: Macroglossinae

TRIBE: Dilophonotini

10 *Hemaris diffinis* Snowberry Clearwing: pale legs, olive back and red/brown abdomen

11 *Hemaris thysbe* Hummingbird Clearwing: black legs, black stripe through eyes and side

TRIBE: Macroglossini

12 *Amphion floridensis* Nessus Sphinx: wings often vibrate so fast as to resemble clearwings; distinct pale-yellow stripe on abdomen

13 *Darapsa choerilus* Azalea Sphinx: rusty-orange coloration

14 *Darapsa myron* Virginia Creeper Sphinx: common; dull brown-olive coloration with peach on hindwings

15 *Eumorpha pandorus* Pandorus Sphinx: olive-green coloration

16 *Hyles lineata* White-lined Sphinx: thick pale vertical stripes on wings and body

17, 18 *Sphecodina abbottii* Abbott's Sphinx: scalloped wing tips; male with yellow feathery antennae and yellow markings on underwings; females are gray/brown striped

SUBFAMILY: Smerinthinae

TRIBE: Smerinthini

19 *Amorpha juglandis* Walnut Sphinx: males hold wings stiffly away from body exposing upturned abdomen; hindwings spread beyond the outer edge of forewings

20 *Paonias myops* Small-eyed Sphinx: 20-1 peach and bright pink coloration

21 *Smerinthus cerisyi* One-eyed Sphinx: underwings hot pink with single circular blue/black eyespot

22 *Smerinthus jamaicensis* Twin-spotted Sphinx: underwings hot pink with 2 blue spots (eyes) on hindwings

TRIBE: Spingini

23 *Ceratomia catalpa* Catalpa Sphinx: warm brown coloration with horizontal zig-zag pattern on forewings

24 *Ceratomia hageni* Hagen's Sphinx: mottled gray and olive coloration

25 *Ceratomia undulosa* Waved Sphinx: tan-gray coloration with horizontal zig-zag pattern on forewings

26 *Manduca sexta* Carolina Sphinx: parallel orange spots along sides of abdomen, long thin wings

27 *Paratreia plebeja* Trumpet Vine Sphinx: like *Ceratomia* spp. have dark circular pattern behind head, gray w/ mottled streaks

28 *Sphinx almia* Laurel Sphinx: orangish streaked long thin forewings, black and pale striped underwings

SUPERFAMILY: Cossoidea

FAMILY: Cossidae

SUBFAMILY: Cossinae

29 *Prionoxystus robiniae* Carpenterworm Moth: speckled pattern on wings, bright orange underwings

SUPERFAMILY: Lasiocampoidea

FAMILY: Lasiocampidae

SUBFAMILY: Lasiocampinae

TRIBE: Gastropachini

30 *Heteropacha rileyana* Riley's Lappet: fuzzy gray body

31 *Phyllodesma americana* American Lappet: rusty-orange coloration, hindwings often held spread out extending beyond forewings

TRIBE: Lasiocampini

32 *Malacosoma americana* Eastern Tent Caterpillar: fuzzy tan-rust coloration with 2 pale horizontal stripes on forewing; hind wings may be spread outward beyond forewings slightly