Illinois Natural History Survey
INSTITUTE OF NATURAL RESOURCE SUSTAINABILITY
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Field Guide to
The Sphinx Moths of Illinois

James R. Wiker
James G. Sternburg
John K. Bouseman

Manual 13

The *Field Guide to the Sphinx Moths of Illinois* is based upon decades of research and collecting throughout the state by the authors. This comprehensive treatment of Illinois Sphingidae provides detailed accounts of the 62 species of found in the state. Each account contains a succinct discussion of the distinguishing characteristics, natural history, and host plants of each species, all illustrated by hundreds of color photographs.

For those interested in a more thorough treatment of the natural history of Sphinx Moths, the introduction section is replete with drawings and color photos that highlight anatomy, larvae, pupae, and classification status.

Like its predecessors, the Sphinx Moth field guide is designed to be easily carried in a vest or coat pocket. It has a water-resistant laminated cover that will stand up to the rigors of outdoor use. These field guides are some of the most popular publications produced by the Survey.

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The images on the front cover are a Grote's Sphinx (top), colored pencil drawing by Carolyn Peet Nixon, and White Lined Sphinx (bottom), photo taken by James G. Sternburg.

ILLINOIS NATURAL
HISTORY SURVEY

Gift from
Illinois Natural History Survey

Field Guide
to

The Sphinx Moths of Illinois

James R. Wiker
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John K. Bouseman

ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

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Contents

Foreword

It is hard to imagine there is anyone who has not had either direct or indirect contact with the beautiful and interesting group of insects known as the Hawkmoths or Sphinx Moths. Whether fighting their caterpillars in gardens as they devour the foliage of our tomato plants and grape vines, marveling at their ability to fly like a Hummingbird in all directions as they sip nectar from the flowers along our walkways, or just being amazed at the often beautiful colors and intricate geometric shaped wings of one that landed near a porch light overnight. Most of us, whether aware of it or not, have had an encounter with a Sphinx Moth.

This guide treats all species known to have been found and those likely to be found in Illinois and surrounding states. The size and sleek, streamlined shape of these moths has always piqued the curiosity of those who happen upon them. Illinois, with its great length north to south, has quite a diverse array of species. Southern Illinois, near the confluence of the Ohio and Mississippi rivers, draws in a number of spectacular strays from much further south, some on a regular basis as they wander up the Mississippi River Valley. Northern Illinois, with its boreal influence and marshlands surrounded by forest has species specific to just that area. As with any facet of science, there is always more work to be done. During the writing of this book, we succeeded in documenting a large breeding population of the Cypress Sphinx in Illinois. No doubt, at some point in the future, one or both Pine Sphinx species will be found as well.

Field guides such as this one are not the "end of a project" but rather only what we know up to this point in time. It encompasses what we've gathered from the work of those before us, what our thinking is today, and what remains to be found by those after us. This is a document in time that we hope you will enjoy and find enlightening about one small piece of the natural world around us.

Happy hunting!

James R. Wiker, James G. Sternburg, and John K. Bouseman

Common Names

Hawkmoth — the moth has the strength of a hawk in flight

Sphinx moth — refers to the position taken by a larva when disturbed; the raised head and thorax are retracted within the second and third thoracic segments

Horn worm — from the presence of a hornlike spur on the eighth abdominal segment of the larva

Hummingbird moth — because of the ability to feed while hovering like a hummingbird

Bumblebee moth — due to the resemblance to a bumblebee by some sphingid species

Clearwing moth — because of transparent areas of the wings of *Hemaris* species

Maps

Distribution maps have not been included in this field guide because of the dearth of data for Hawkmoths in Illinois. Hopefully this volume will inspire increased efforts by scientists and citizens alike to locate and document the presence of these moths throughout the state.

Economic Impact

Two species of the genus *Manduca* are serious pests of tobacco, tomato, pepper, and other solanacous plants. The earlier instars do relatively little damage, but when the larvae reach the fourth and especially the fifth instar, they can quickly consume a large part of the host plant.

Another group of species feeds on the leaves of grape vines. Several members of the genus *Eumorpha* are serious pests (*E. achemon* and *E. pandorus*) as well as feeding by *E. fasciata* and other related species that are occasional visitors to Illinois. A list of the sphingid species on grapes includes the *Eumorpha* species, Abbot's Sphinx, the Hog Sphinx, and White-lined Sphinx. The Pink-spotted Sphinx is a pest of sweet potatoes.

Before the development of modern insecticides, control of larval sphingids on crops was difficult and losses were sometimes great. Today, there are insecticides based on a bacteria toxic to lepidopterous insects, but not to vertebrates and are of little toxicity to other insects. Proprietory products with *Bt* (*Bacillus thurigiensis*) as their base can quickly and easily reduce damage by caterpillars. However, *Bt* is not species-specific and care must be exercised in its use to avoid destroying nontarget species of Lepidoptera.

Catalpa trees can be defoliated by larvae of the Catalpa Sphinx. Although this may not kill the trees, it is unsightly in a garden. Unlike most sphingid species, this one lays eggs in large masses. In the course of the larval feeding, the great number of larvae often cause defoliation of the tree.

The above being said, not all economic impacts by Sphinx Moths are detrimental. On the contrary, the many species that feed as adults are beneficial pollinators. They directly assist in the reproduction of trees, crops, flowers (wild and cultivated), and are perhaps the only species of any animal that can pollinate some of our deep throated flowers and wild orchids.

In all stages of development they are used as a food source for a wide variety of small mammals and birds. Many are rather aesthetically pleasing and a welcome evening visitor to the flower garden to sip nector.

The authors feel the economic benefit from this group far outweighs any negative impact they might have.

Classification

The family Sphingidae consists of over 1200 species worldwide. Of this number, about 130 are found in America north of the Mexican border. In Illinois, 53 species have been captured; about 5 of which probably do not breed in the state. Some are vagrants from the Neotropics that are rarely found in Illinois, but several will occasionally breed in the state for a few generations, then disappear. Ten more species are covered in this field guide that have not been recorded for Illinois. These species are known from neighboring states and are included here as it is likely at least some of them will be found here sometime in the future.

In 1971 Hodges published his classic monograph on the family Sphingidae in the series *The Moths of America North of Mexico*. The family Sphingidae was considered to be the sole member of the superfamily Sphingoidea, with one family composed of two subfamilies and five tribes. Over the years, as more data have been published, changes at the higher levels of classification have taken place. The Sphingoidea are now placed in the superfamily Bombycoidea, along with the Saturniidae and its relatives. The list is as follows:

Superfamily Bombycoidea
- Family Sphingidae
  - Subfamily Sphinginae
    - Tribe Sphingini
  - Subfamily Smerinthinae
    - Tribe Smerinthini
  - Subfamily Macroglossinae
    - Tribe Dilophonotini
    - Tribe Philampelini
    - Tribe Macroglossini

For further information see Lemaire, C. and J. Minet, 1995. *The Bombycoidea and Their Relatives.*

The family Sphingidae is moved to the superfamily Bombycoidea where the Bombycidae, Saturniidae, Lasiocampidae and a few others occur. With this move, the superfamily Sphingoidea no longer is used in classification. Another change is the elevation of the tribe Smerinthini to the new level subfamily Smerinthinae. That changes the number of subfamilies to three. Hodges original phylogenic outline was as follows:

Superfamily Sphingoidea
Family Sphingidae
Subfamily Sphinginae
Tribe Sphingini
Subfamily Smerinthinae
Tribe Smerinthini
Subfamily Macroglossinae
Tribe Dilophonotini
Tribe Philampelini
Tribe Macroglossini

Subfamily Sphinginae. The North American species of the subfamily all belong to the tribe Sphingini. In Illinois they all have the forewings colored and patterned to resemble tree bark, a convincing cryptic defense when perched on tree. The colors are usually brown, gray, or black. At rest, the forewings are twisted and folded rooflike over the abdomen. In this position the moth blends into its surroundings and escapes notice by predators. The hindwings in some are entirely dark and in others marked with median or postmedian bands of white. The genera can be divided into two groups. One group retains a full development of the mouth parts and the proboscis can be used to feed from flowers with deep corollas. This group consists of the following genera: *Agrius, Dolba, Paratraea, Sphinx, Manduca, Neococytius* and *Cocytius*. (Note: these genera are not listed phylogenetically). The genera whose species have reduced mouth parts are *Ceratomia* (four species), *Lapara* (two species) and *Isoparce* (one species). This absence of feeding by the adults is similar to that of the Saturniidae. Substances retained as a source of stored energy are carried over from the larval stage through the pupal stage to the adult stage. The adult survives for a week or so, then dies.

Subfamily Smerinthinae. Hodges (1971) considered these moths to form a tribe called Smerinthini of the subfamily Sphinginae. In recent years the tribe Smerinthini has been elevated to subfamily status as Smerinthinae. One of the characteristics is that the adults have reduced or absent mouth parts and do not feed. They also have colors and patterns that do not resemble tree bark. They are still cryptic, but instead resemble leaves with dried or diseased material. Some species have eye-spots on the hindwings that are displayed when the moth is disturbed. Their posture when resting gives the moth the appearance of dead leaves. When the moth raises the abdomen over the thorax and extends the legs, it appears to increase its size. Four genera occur in Illinois— *Pachysphinx, Smerinthus, Paonias*, and *Laothoe*.

An anatomical character is present on the mesal (inner) surface of the first and second labial segments which are usually smooth but in some species have scales that are not sensory. This feature has been important in the study of phylogeny (relationships), but not necessary in species level identifications.

The Eyed Sphinxes of the Subfamily Smerinthinae. There are five sphingid species with eye spots on the hindwings, all in the subfamily Smerinthinae, in the genera *Smerinthus* and *Paonias*. They can easily be identified by the form of the hindwing eye-spot and the shape of the forewing outer margin.

• The Huckelberry Sphinx (*Paonias astylus*) has the forewing outer margin nearly straight and not scalloped. The eye-spot is black with a round iridescent blue spot in the center and located in an orange-brown field.
• The four other species have scalloped forewings, with distinctive eye-spots on the hindwings in either pink or yellow fields.
• The Small-eyed Sphinx (*Paonias myops*) has a black eye-spot with iridescent blue center located in a yellow field.
• The Blinded Sphinx (*Paonias excaecatus*) has a black eye-spot with an iridescent blue center located in a pink field.
• The One-eyed Sphinx (*Smerinthus cerisyi*) has a black eye-spot with a ring-like iridescent marking in the center and located in a pink field.
• The Twin-spotted Sphinx (*Smerinthus jamaicensis*) has a black eye-spot with the iridescent center usually divided and located in a pink or reddish pink field.

The outer wing margins of the forewing are :
• nearly straight, Huckelberry Sphinx
• regularly scalloped, Blinded Sphinx and One-eyed Sphinx
• irregularly scalloped, Small-eyed Sphinx and Twin-spotted Sphinx

Subfamily Macroglossinae. The moths in this subfamily are quite diverse, yet within genus groups are not easily distinguished from each other. Three tribes are recognized. Their names are difficult to pronounce: Dilophonotini, Philampelini, and Macroglossini. All of them have long to very long probosci. They also have a naked area on the inner surface of the first labial segment and an area with short sensory scales.

Tribe Dilophonotini. The abdomen is often laterally checkered black and white, hindwing yellow or orange, forewing elongate and slender with acute apex in species of *Erinnyis*.

Other species (*Aellopos*) have short stubby bodies and are dark brown and white in color.

The genus *Hemaris* is more northern than those listed above with partly transparent wings, bodies brown, reddish, or black with yellow bars or bands, and a remarkable resemblance to a bumblebee. Three other genera are included in the tribe. They are *Cautethia* , *Enyo,* and *Pachylia*. Genera of this tribe:

Aellopos
Cautethia
Enyo
Erinnyis
Hemaris
Pachylia

Tribe Philampelini. This tribe includes the species of *Eumorpha*. Their wings are large, brightly colored, and very distinct from other species of Sphinx Moths. Some of the species are pests of grape vines and related plants, occasionally the larvae do serious damage. Genus of this tribe:

Eumorpha

Genus *Eumorpha* of the Subfamily Macroglossinae

The genus *Eumorpha* is primarily Neotropical with several species entering the temperate zones as breeding residents in much of the U.S. Their larvae feed on leaves of grapes and related plants and are sometimes economically damaging. Two common species of eastern North America are the Achemon Sphinx (*E. achemon*) and Pandora Sphinx (*E. pandorus*), both found in Illinois. Two other species not found in Illinois (*E. satellitia* south Texas) and (*E. intermedia* southeast and gulf coast states), closely resembles the Pandora Sphinx. Other species may reach Illinois as strays from the southern U.S. and the Neotropics. They are not likely to breed, but could, nevertheless, be occasionally encountered. These are Typhon Sphinx (*E. typhon*), Vine Sphinx (*E. vitis*), Banded Sphinx (*E. fasciata*) and Gaudy Sphinx (*E. labruscae*). All the species are crepuscular and nocturnal (when mating and oviposition take place), feeding at flowers with moderately deep corollas. All the species are large to very large, with stout bodies, narrow elongate forewings, and small hindwings, capable of powerful flight and great speed. They hover when feeding, rarely touching the flower with their legs. In color they are green, pink, and shades of brown. Larvae are stout bodied, often with a series of conspicuous spots along the sides of the abdomen. Some retain the lateral oblique lines typical of sphinx moths without modification. The third thoracic segment, (metathorax), is enlarged into which the smaller head and first two thoracic segments can be withdrawn. Early instar larvae have elongate caudal horns on the eighth abdominal segments. In the fifth instar

larva, the horn is reduced to a buttonlike mound Pupae are shiny and dark brown. Pupation takes place in a ground chamber prepared by the last (fifth) instar larvae after they have completed their growth. In the north, the species overwinters in the pupal stage. Larvae of the genus are known to feed on plants in the grape family (Vitaceae), on the dogbane family (Apocynaceae), and species of the evening primrose family (Onagraceae).

Tribe Macroglossini. In Illinois seven genera are known to breed or periodically visit the state. Two species (*Hyles lineata* and *Xylophanes tersa*) resemble moths from the subfamily Sphingini, but are not closely related. Many of the moths in this subfamily are medium or small in size. Colors tend to be bright in some to brown or blackish in others. The bodies of some are rather stubby, even squared off in the rear. Diurnal and crepuscular flights are typical for some, others are nocturnal. Wings are pointed in some, others have the outer margin scalloped. They can easily be confused with some of the moths from the tribe Dilophonotini. Genera of this tribe:

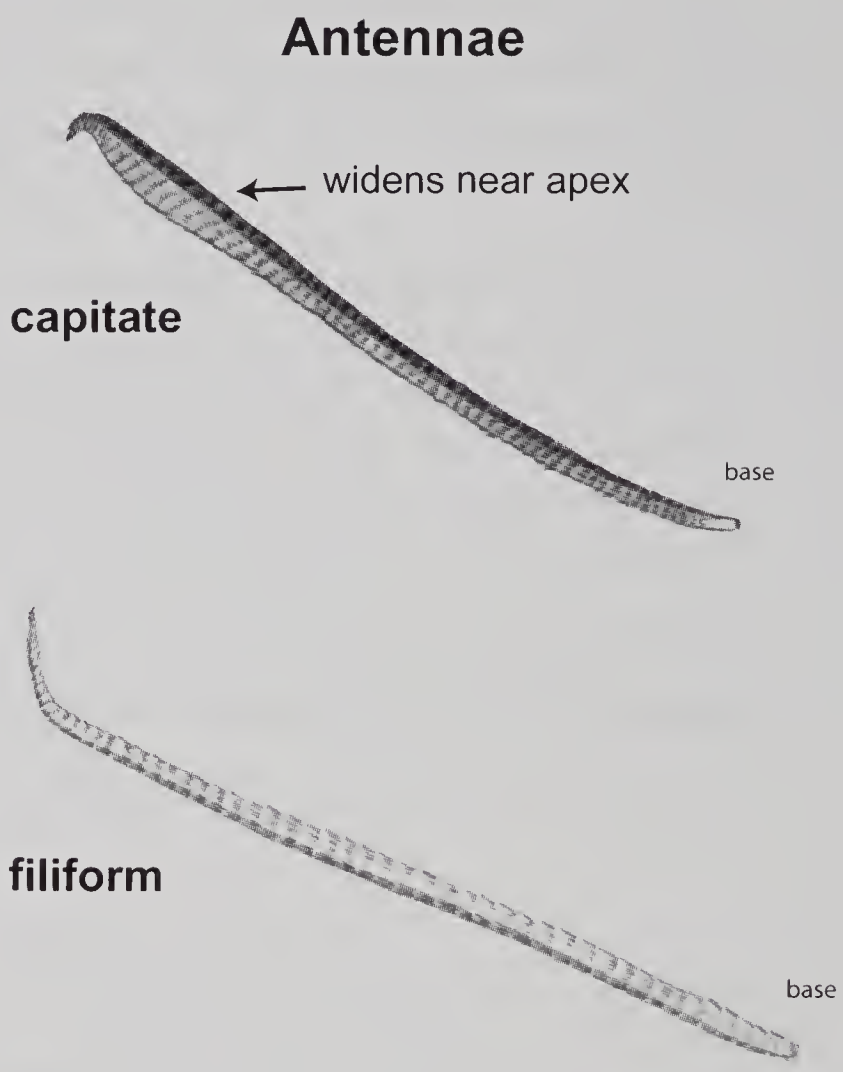
Amphion
Darapsa
Deidamia
Hyles
Proserpinus
Sphecodina
Xylophanes

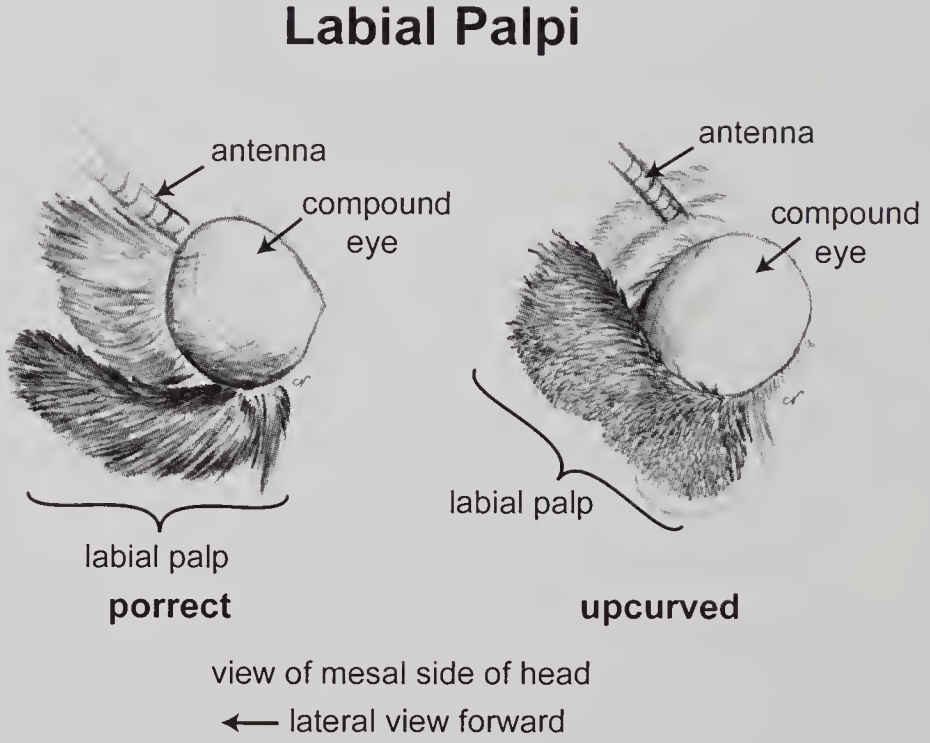
Anatomy of the Sphinx Moths

Head

The head is round with large compound eyes. There are no ocelli. Antennae are mostly filiform. Male antennae are usually larger than those of the female. Bipectinate antennae occur in a few species and capitate (clubbed) antennae are present in several.

Adults feed by sucking or siphoning liquid from flowers and rarely imbibe anything other than nectar. Most species have a tongue formed by union of the two galeae of the maxillae. These lock together to form a tube called a proboscis that can be coiled when it is not in use. There are two labial palpi, each with three labial segments. Their function is to detect odors or taste.





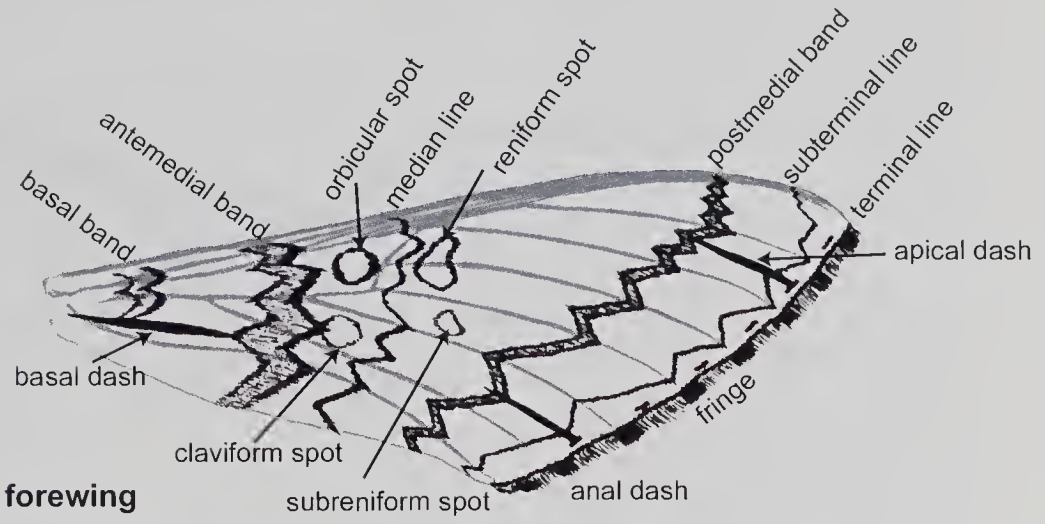
Labial palpi are either porrect, with a small 3rd segment (left) or upcurved (right).

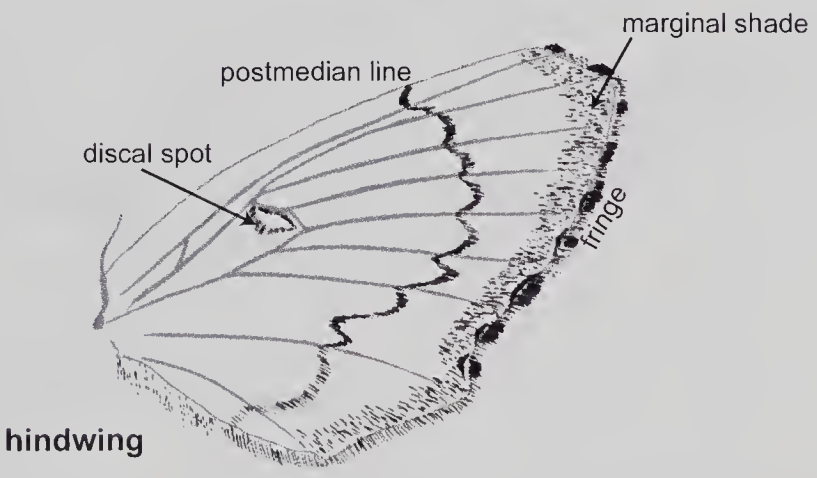
Thorax
Sphingids are powerful fliers with strong flight muscles and wings designed for long periods of flight. In the laboratory, the wings have been shown to move at 35 or more strokes per second. With electronic input, 50 strokes per second have been briefly attained.

Strong and elongate thoracic legs are present. All three pairs are designed to cling strongly to supports when not in flight. In flight, the legs usually are held close to the thorax. The prothoracic legs may at times reach out to a feeding site, but the moth feeds mainly by sucking nectar from flowers while hovering.

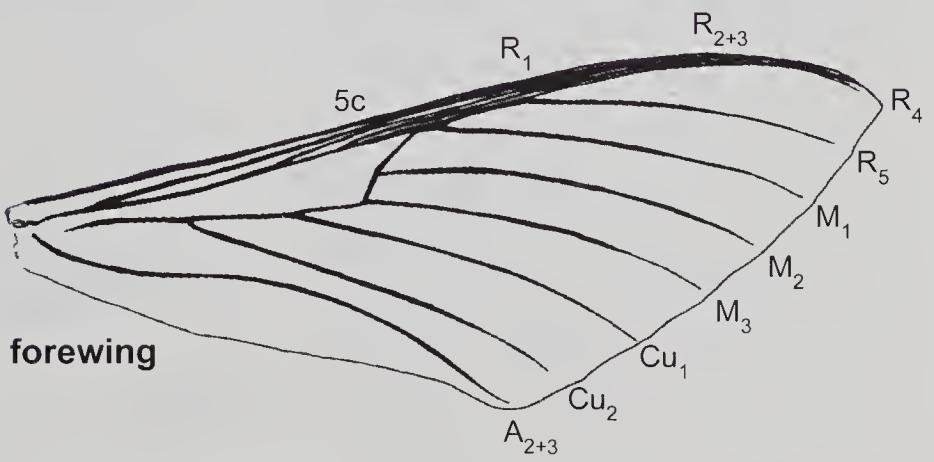
A pair of spiracles is present on the prothorax. None are present

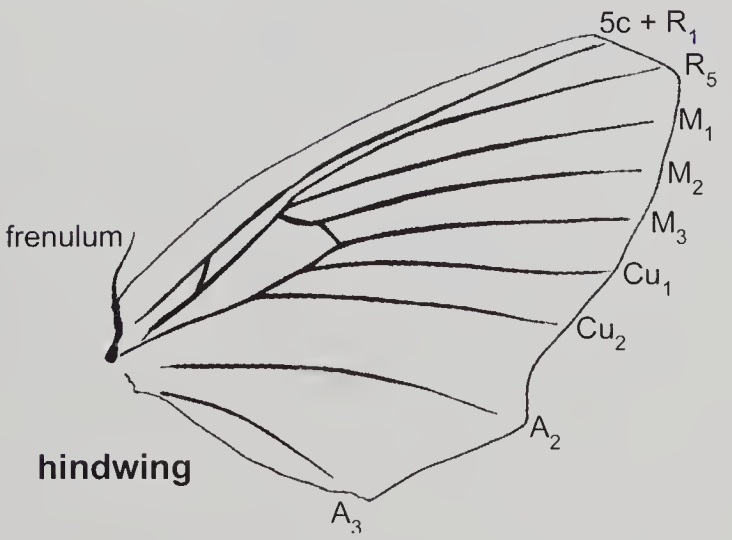
Wing Patterns





Wing Venation of a Sphingid

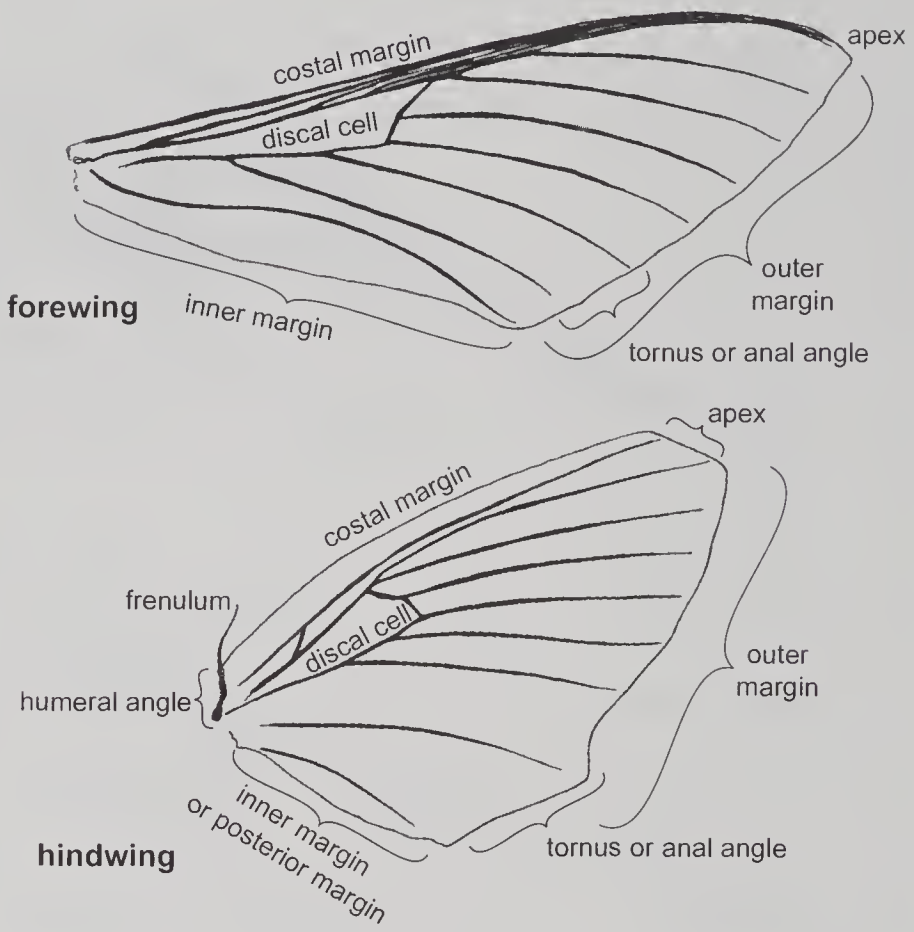




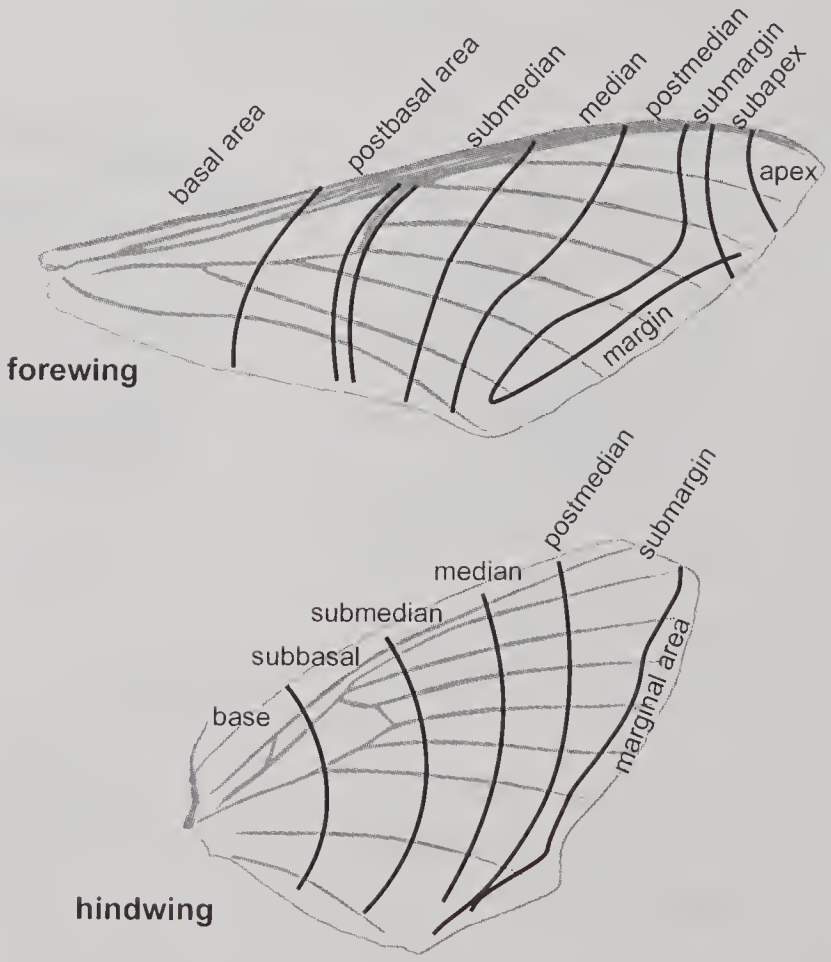
on the meso and meta thorax. The abdominal segments (one through eight) each have a pair of spiracles, all laterally located.

A character that is present in both sexes of all sphinx moths is a spur called the frenulum. Its function is to lock the forewing and hindwing together in flight. The frenulum in males is formed by a single spur. The female has a frenulum composed of several thin spurs. In both sexes a structure occurs on the underside of the forewing near its base; it is a pocket-like structure called a retinaculum. This is found on the costal margin in males and in the center of the forewing near the body in females. The frenulum, located on the edge of the base of the hindwing, penetrates the the retinaculum locking the wings together for vertical joining, while allowing horizontal and vertical movement.

Wing Margins of a Sphingid



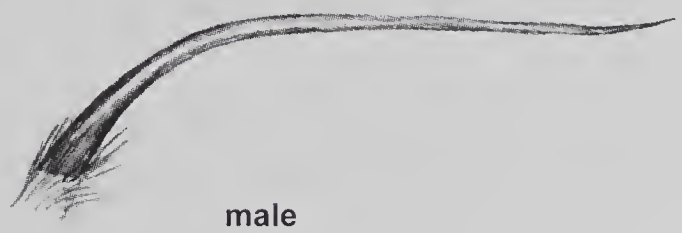
Wing Regions of a Sphingid



Abdomen
The abdomen is the largest part of the body and contains most of the digestive and reproductive organs. The genitalia are sometimes used to identify a moth to species. This is not very practical for fieldwork and with this family generally not necessary, so we have not used it here. Instead, structure, color, and pattern are emphasized.

The abdomen has 10 segments. It is stout at the anterior end, the same width as the thorax. It tapers at the posterior end to a sharp point where the reproductive organs are located. With sphingids, the sexes look much alike. A common pattern is a row of large dots on each side. There are often five or six yellow spots. A few species have stripes.

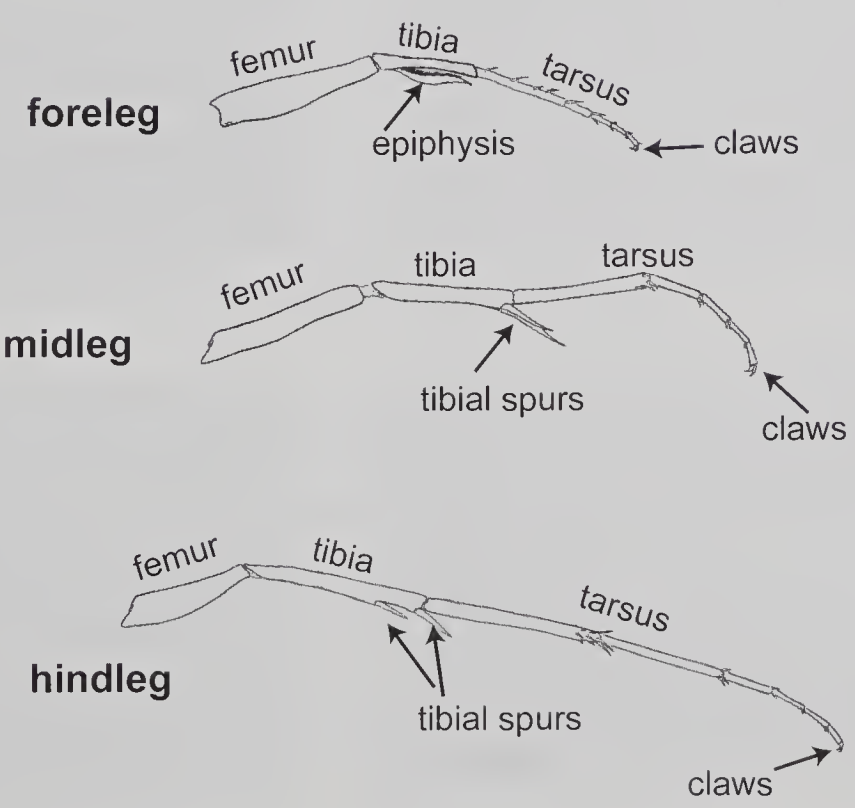
Frenulum



male

female

Legs



Natural History of Sphingids

Life Cycle of a Sphinx Moth

Females of most sphinx moth species lay one egg at a time after mating. A few species lay more than one egg, sometimes in masses. Typically, larvae pass through five instars before pupating. During the first three instar stages, the small size of the larvae results in little effect on the host plant. The first three instars have a long, stiff anal horn (spine) on the upper surface at the eighth abdominal segment. Further retention of the anal horn varies with species. Most continue growth of the horn through the fifth instar, but a few species lose the horn and develop a buttonlike structure with contrasting color, often resembling an eye-spot. After full growth, the fifth instar larva usually digs a hole in the ground, forming a chamber within which it pupates. Some species, however, form a loose silken cocoon among the surrounding leaf litter. If there are two generations per year, the first pupa continues development and the adult emerges, mates, and lays eggs. In the second brood, the pupa goes into diapause and overwinters. If the species has only one annual generation, the pupa of the first and only generation passes through the winter continuing its development and emergence the following season.

After emergence and completion of wing and body hardening, flight becomes possible. Males take flight and species that feed as adults begin to search for food. Note that for some species, adults of both sexes have short, somewhat obsolete mouth parts and do not feed, but depend upon energy sources stored in the body during larval life. Newly emerged females often remain at the site of emergence where they release a sex pheromone from a gland on the posterior end of their abdomen. The odor is carried by the wind to attract males, one of which will be successful in mating with her. Males locate females releasing sex pheromones by following the odor trail upwind. When mating begins pheromone release stops. Males may mate frequently, but females usually only once.

Once mated, the female takes flight. If it is a species that feeds as an adult, it nectars, then finds the proper plant host upon which eggs are laid one at a time and only a few per plant. The exception to this is the Catalpa Sphinx female who lays many eggs at one time on the same plant.

Sphinx moths with long tongues feed at flowers with deep corollas. Flowers that attract at night (nocturnal) are often white and have a fragrance that attracts the moths. While feeding, a sphinx moth hovers near the flowers, but does not land. While hovering, the moth extends its tongue (proboscis) deep into the corolla and sucks the nectar up through the proboscis. Often

the moth feeds without touching the front leg (or other legs) to the plant. The action is similar in many ways to the feeding method of the hummingbird.

Most sphinx moths are crepuscular but also may feed at night. A few species are diurnal. These include several species of *Hermaris, Proserpinus*, the Nessus Sphinx, and the White-lined Sphinx.

Species with short or absent proboscis include Twin-spotted Sphinx, One-eyed Sphinx, Blinded Sphinx, Small-eyed Sphinx, Huckleberry Sphinx, Walnut Sphinx, and Big Poplar Sphinx. All of the above are in the subfamily Smerinthinae.

In addition, the Cypress Sphinx of the subfamily Sphinginae has a very short proboscis and feeding as an adult is doubtful.

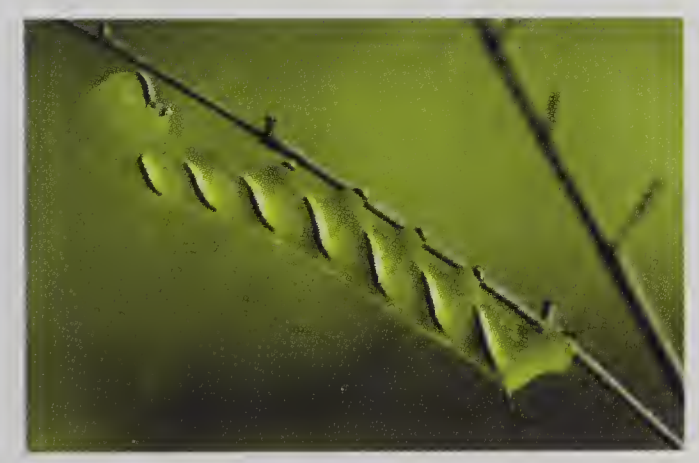
Moths with long tongues, when feeding from a nectary, often brush against structures of the flower shaped to facilitate pollen contact, which adheres to the moth. Moths that feed this way are likely to transfer pollen to the next plant they feed upon, thus bringing about pollination.

Research has confirmed that some of our native orchids can only be pollinated by certain species of sphinx moths.

Sphinx Moth Larvae

Pawpaw Sphinx caterpillar (*Dolba hyloeus*).

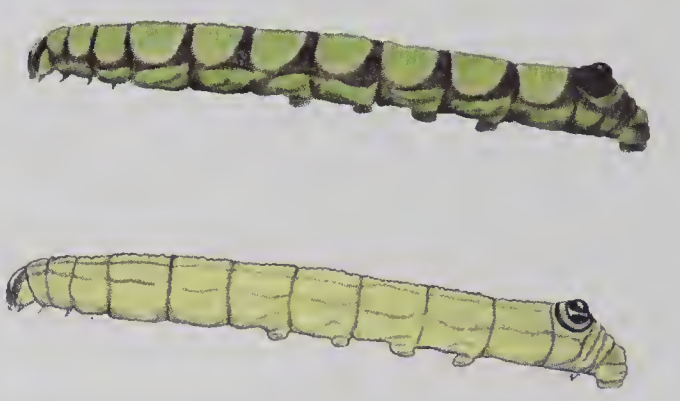
Pawpaw Sphinx (*Dolba hyloeus*) with wasp parasitoids.



Laurel Sphinx (*Sphinx kalmiae*).

Elm Sphinx (*Ceratomia amyntor*).

Snowberry Clearwing Sphinx. (*Hemaris diffinis*). Photo by Roxy Triebel.

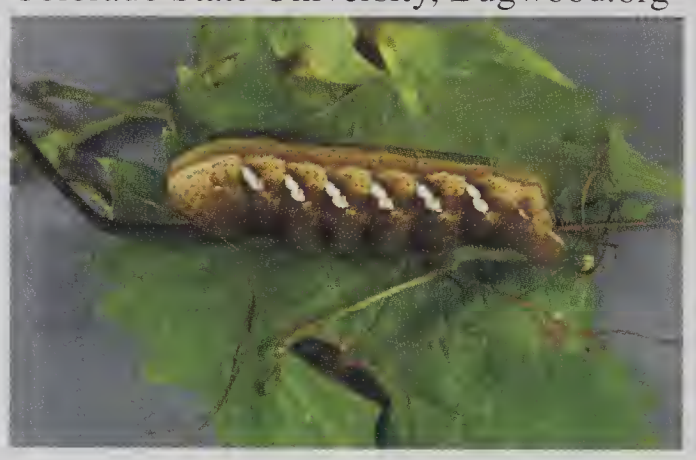


Abbott's Sphinx (*Sphecondina abbottii*). Green and yellow forms.

Tobaco Hornworm (*Manduca sexta*).

Tomato Hornworm (*Manduca quinquemaculatus*). Photo by Whitney Cranshaw, Colorado State University, Bugwood.org

White-lined Sphinx (*Hyles lineata*).



Achemon Sphinx (*Eumorpha achemon*).

Sphinx moth pupa with jug handle. Photo by D.C. Gardner.

Sphinx moth pupa without jug handle.

Species Accounts

Big Poplar Sphinx **Subfamily: Smerinthinae**
Pachysphinx modesta (Harris)

NOTE: Also known as Modest Sphinx.

Description: Wingspan 75–125 mm (3–5 in.). Outer margin of forewing scalloped. Basal third light mouse gray with a broad dark brown median band. There is a dark zigzag line near the base and another near the submargin. The reniform spot is white. The hindwing is gray, with a large rosy red central area, the inner margin is yellow gray, a blue-black triangular spot pointing toward the wing base. Body a mouse gray without markings.

Similar Species: None in Illinois. This large, bulky moth should not be confused with any other species in the state. A closely related species (*P. occidentalis*) occurs in the western U.S.

Larval Food Plants: Poplars (*Populus* spp.) and willows (*Salix* spp.).

Adult Food Sources: Species is not thought to feed as an adult.

Natural History: Univoltine in the north, bivoltine in the south. Adults are present during June and July in the north, and May through September in the south. The proboscis is weakly developed and the adults likely do not feed. Eggs are laid on willows or poplars and aspens. Adults are readily attracted to light and are often seen. The mature larva is whitish green with seven pairs of oblique lines typical of many sphingid larvae; some larvae are orange. The body surface is coated with pale, granulose spots forming transverse rings. The head is pink with two wide white bands extending backward. The upper branch of the lateral oblique lines may have pink spots on their upper margins. There is a short, slender anal horn. Pupation takes place in a shallow ground burrow. The species is often found along river corridors and river bottoms where the larval hosts grow.

Status: Breeding resident. Not uncommon. Statewide.

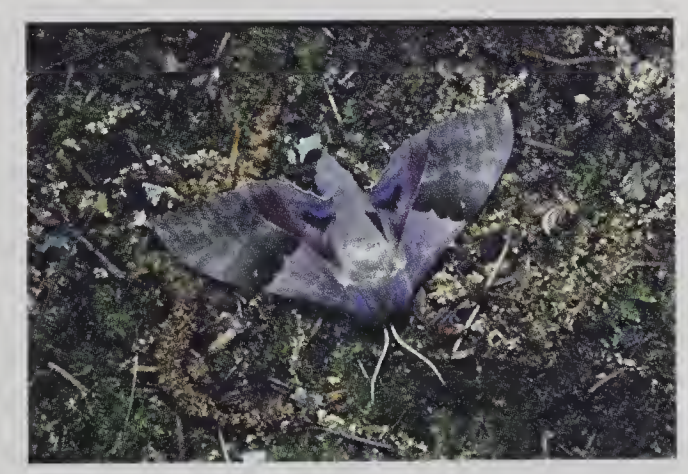
Range: Maine to Florida, west to Texas, then north, up the Rocky Mountains to Washington.

Male upperside.
Cook County, IL.

Female upperside.
Lee County, IL.
From Wiker Collection.

Male underside.
Cook County, IL.

Big Poplar Sphinx on bark. Pelston, MI.



Big Poplar Sphinx on lichens. Pelston, MI.

One-eyed Sphinx **Subfamily: Smerinthinae**
Smerinthus cerisyi Kirby

Description: Wingspan 60–90 mm. (2 3/8–3 9/16 in.). The species varies seasonally and geographically over its range in size, over-all color, and in the shape of the apex and outer margin of the forewing. The apex may be quadrate, indented, or pointed. The outer margin may be sinuous, unevenly scalloped, or nearly straight. General color of the forewing varies from tan to grayish or brown usually with contrasty markings. Many of the wing veins are narrowly lined with white scales, appearing as a grid of delicate white lines. An apical triangular spot may be faint or absent. A brown and whitish medial band extends posteriorly part way across the wing, then turns sharply toward the wing base to meet the inner margin. A dark zigzag post-medial stripe is present. Whitish stripes are present between the postmedial and submarginal stripes. There is no reniform spot. The hindwing is pink, shading to pale tan along the outer margin. An iridescent blue eyespot with a black center (pupil) is enclosed within a black circle. The basal half of the forewing underside is rosy red. The outer half and all of the hindwing are tan with the veins whitish. A well-defined postmedial stripe crosses both wings.

Similar Species: The Twin-spotted Sphinx (*S. jamaicensis*) usually has the blue of the eyespot divided and the wing veins are not lined with white scales. (*Paonias* spp.) are also eyed. The Blinded Sphinx (*P. excaecatus*) has deeply scalloped forewings, and no pupil in the eyespot. The Small-eyed Sphinx (*P. myops*) has the eyespots surrounded by yellow and the forewing margin angulate at veins Cu1 and R5. The Huckleberry Sphinx (*P. astylus*) has the eyespot surrounded by yellow-orange and the forewing outer margin is nearly straight.

Larval Food Plants: Willow (*Salix* spp), poplar (*Populus* spp), pear (*Pyrgus communis*), plum (*Prunus* spp.) and *Symphocarpos albus*.

Adult Food Sources: Adults do not feed.

Natural History: Univoltine, with adults from May to August. Adults are nocturnal and come readily to light. Eggs are laid on the leaves of the larval host. The mature larva is pale green, densely covered with small pale yellow granules. Two well-developed subdorsal lines extend to the anal horn. Lateral oblique pale lines characteristic of many sphinged larvae are present on the abdominal segments. The last oblique line on the seventh abdominal segment is brighter and thicker than the others. It extends to the base of the

eighth segment's well-developed horn. The horn is blue in front, rosy on the sides, and yellow green at the tip. Pupation is in the ground in a shallow burrow.

Status: Illinois is within the general range of the species. More data are needed to determine its status within the state. One specimen is recorded from Jersey County, Illinois. It should be found more frequently in the state.

Range: From Newfoundland and Maine across the northern states and Canada to British Columbia, south to Michigan, Missouri, Tennessee, and Texas in the east and to Baja California in the west.

Male upperside. Jersey County, IL. (from Principia College). Photo by Wiker.

Female upperside. Cochise County, NM.

Male underside. Indianapolis, IN.

Female upperside. Valencia, NM.

One-eyed Sphinx on moss. Pelston, MI.

One-eyed Sphinx on bark. Pelston, MI.

Twin-spotted Sphinx **Subfamily: Smerinthinae**
Smerinthus jamaicensis (Drury)

Description: Wingspan 55–75 mm. (2–3 in.). The species varies greatly over its range, the general color tending to be darker in the north, lighter in the south. The forewing outer margin is gently and unevenly scalloped with an indentation at the apex and another near the outer angle; the margin in between is sinuous. The basic color is tan with dark markings. There is a triangular apical spot, bordered with white basally. A dark brown band extends from the discal cell to the outer margin, originating at a sharp band in a medial stripe that runs from the costal to inner margins. A weak, pale postmedial stripe is present. The hindwing is largely pink with a tan outer margin. A black eyespot, surrounded by pink, has an iridescent center, usually divided by one or sometimes two black bars, resulting in the presence of one, two (usually), or three blue spots. On the underside the basal half of the forewing is rosy red.

Similar species: One-eyed Sphinx (*S. cerisyi*) has the wing veins of the forewing lined with white scales. The Blinded Sphinx (*Paonias excaecatus*) has the forewings deeply and evenly scalloped. The Small-eyed Sphinx (*P. myops*) has the eyespot within a yellow area. The Huckleberry Sphinx has the eyespot surrounded by orange and the forewing outer margin is smooth.

Larval Food Plants: The species is quite polyphagous. Known larval hosts include willow (*Salix* spp.), poplar (*Populus* spp.), birch (*Betula* spp.), ash (*Fraxinus* spp.), elm (*Ulmus* spp.), apple (*Malus* spp.) plum and peach (*Prunus* spp.).

Adult Food Sources: Adults do not feed.

Natural History: Bivoltine, adults present from spring to late summer. Adult mouth parts are poorly developed and adults are not known to feed. Adults are nocturnal and are readily attracted to light. Mature larvae are pale yellow-green to blue-green with the body covered with whitish or pale yellow granules. A pair of weak subdorsal lines are on the thorax. Lateral oblique pale yellow lines occur on the abdominal segments. The last one, present on abdominal segment seven, is slightly broader and more conspicuous and ends at the base of the anal horn. The well-developed anal horn is nearly straight, either black or bluish on the upper surface. The spiracles are located within reddish brown spots.

Status: Statewide, often common.

Range: In the east from Nova Scotia to Florida and Mississippi west to British Columbia and south to Arizona.

Male upperside. Lee County, IL.

Female upperside. Peoria, IL.

Female underside. Peoria, IL.

Huckleberry Sphinx **Subfamily: Smerinthinae**
Paonias astylus (Drury)

Description: Wingspan 50–75 mm. (2–3 in.). Apex of forewing pointed, outer margin nearly straight, not scalloped. Basic color orange-brown. There are several short transverse violet lines along the costal margin near the apex. Violet submarginal line. An oblique brown stripe extends from near the base of the costal margin to the outer angle. The region basad of this line has a pinkish cast. The inner margin of the forewing is sharply angulate. The orange-brown hindwing is pinkish at the base. Near the anal angle there is a conspicuous eyespot, black with an iridescent blue center. On the underside the wings are yellow-brown, the margins brown and the submarginal and medial lines dark brown, edged with violet. Body is orange-brown.

Similar Species: The Small-eyed Sphinx (*P. myops*) has the apex of the forewing truncate. Its eyespot is within a yellow area.

Larval Food Plants: Blueberry (*Vaccinium* spp.), andromeda (*Andromeda* spp.), cherry (*Prunus* spp.) and willow (*Salix* spp.).

Adult Food Sources: Adults do not feed. The proboscis is very short.

Natural History: Univoltine in the north, bivoltine in the south. Nocturnal and comes to light. Mature larvae are green and granulose with a series of dorsolateral spots. Abdominal prolegs are spotted with red, the spiracles are ringed with red spots and the horn is red on the posterior surface and at its base.

Status: Uncommon or rare in most of its range. Known from southern Missouri and Indiana. It should be looked for, and will likely be found, in Illinois.

Range: From Maine to Florida west to Missouri and Mississippi.

NOTE: A possible sighting was made by one of the authors (Wiker) in the late 1990s, Union County, IL. No specimen or image was obtained, so we listed it as a "possible" until positively documented.

Male upperside.
Mystic, CN.

Male underside.
Mystic, CN.

Female upperside.
Mystic, CN.

Female underside.
Mystic, CN.

Blinded Sphinx **Subfamily: Smerinthinae**
Paonias excaecatus (J.E. Smith)

Description: Wingspan 50–80 mm. (2–3 in.). Forewing outer margin deeply scalloped with the concave edges fringed with white. The general color varies from light to dark tan with the pattern formed by dark brown scales. A small dark reniform spot is present. Two brown streaks are present, one extends from the discal cell to the outer margin near the apex and the other extends from near the base of the costa obliquely to the outer angle. The region basad of the oblique streak is usually lighter than the rest of the wing. On the inner margin near the outer angle a cluster of dark brown spots is present. On the underside of the basal two-thirds of the forewing are rosy pink. Complex postmedial bands are present on the undersides of both wings. The hindwing is mostly pink, with a brown costal margin and white fringe on the outer margin. The latter is scalloped, although not as deeply as the forewing. A distinctive character is the large black eyespot with an iridescent blue center but no pupil, thus the common name. The body is light brown with a narrow dark mid-dorsal stripe.

Similar Species: Species in the genera *Smerinthus* and *Paonias*. See pages 4–7 for distinctive markings and colors useful in identification of the eyed sphinx moths.

Larval Food Plants: The species is very polyphagous. Food plants include willow (*Salix* spp.), poplar (*Populus* spp.), cherry (*Prunus* spp.), basswood (*Tilia* spp.), birch (*Betula* spp.), hawthorn (*Crataegus* spp.), oaks (*Quercus* spp.), elm (*Ulmus* spp.) and others.

Adult Food Sources: Adults do not feed.

Natural History: Multivoltine in the far south to univoltine in the north. The larvae feed on a variety of deciduous forest and streamside trees so the species will be found in wooded areas, along streams and roadsides, and in suburban areas. Adults are nocturnal and readily come to light. Mature larva is yellow-green, very granulose, with seven pairs of lateral oblique yellow stripes. The upper part of each stripe ends in a red spot. Thoracic segments have paired dorsolateral yellow lines.

Status: Statewide. Common.

Range: Most of the U.S. and southern Canada, from the Atlantic to the Pacific, south to Florida and west to Arizona and northern California.

Male upperside.
Palos Park, IL.

Male underside.
Sweet Grass County,
MT.

Female upperside.
Cook County, IL.

Female underside.
Cook County, IL.

Small-eyed Sphinx **Subfamily: Smerinthinae**
Paonias myops (J.E. Smith)

Description: Wingspan 50–75 mm. (2–3 in.). Apex of forewing truncate, outer margin angulate (doubly indented). General coloration yellow-brown to dark brown; the species is quite variable, some light and some dark. Forewing maculation mottled with horizontal dashes and sinuous submarginal and postmedial bands, often obscure on the upperside and more defined on the underside. Hindwing is yellow with orange-brown basal and outer areas. Within the yellow area there is a conspicuous eyespot, black with an iridescent blue center. Thorax and abdomen dark brown with obscure mid-dorsal stripe.

Similar Species: Other sphinx moths with eyespots. The Small-eyed Sphinx is our only Illinois species of eyed sphinx with the hindwing eyespot located within a yellow field. It is most similar to the Huckleberry Sphinx (*P. astylus*), which has the outer margin of the forewing nearly straight, not truncate or angulate. It is also generally a darker moth than *P. astylus*.

Larval Food Plants: Especially on cherry (*Prunus* spp.), but also on serviceberry (*Amelanchier* spp.), grape (*Vitis* spp.), birch (*Betula* spp.), poplar (*Populus* spp.), willow (*Salix* spp.) and hawthorn (*Crataegus* spp.).

Adult Food Sources: Adults do not feed.

Natural History: Dates of capture indicate the species may be univoltine. Adults are present usually in June and July, but sometimes earlier and later. Adults are not thought to feed; the proboscis is reduced and weak. Adults are active at night and often come to light. The mature larva is pale yellow-green and very granulose. It has seven lateral oblique yellow lines, the last one most conspicuous and extending to the base of the horn. The horn is green, granulose, and sometimes short. Wine red blotches often occur dorsally along the body from the first to the last segments and also around the spiracles. At rest, adults hold their wins in a partially twisted and curled position so that they somewhat resemble a dried or diseased leaf.

Status: Statewide. Common. Probably the most frequently encountered sphinx moth in Illinois.

Range: Nova Scotia to Florida, west to British Columbia, south in the mountains from Arizona into Mexico. It occurs in most of eastern U.S.

Male upperside.
Sangamon County, IL.

Male underside.
Champaign County, IL.

Female upperside.
Lee County, IL.

Female underside.
Champaign County, IL.

Walnut Sphinx **Subfamily: Smerinthinae**
Laothoe juglandis (J.E. Smith)

NOTE: Formerly *Cressonia juglandis* (J.E. Smith)

Description: Wingspan 40–75 mm. (1 1/2–3 in.). The Walnut Sphinx is probably the most variable of the Illinois sphinx moths, varying from light brown weakly marked moths to dark moths with very contrasty patterns of differing shades of brown. Intermediates and many variations occur. The pattern of the markings is constant throughout all the variable color forms, however. The forewing outer margin is gently scalloped with the outer angle weakly toothed. A series of transverse lines and bands across the wing from costa to inner margin vary from somewhat obscure to boldly marked. The overall appearance may be uniform or there may be dark brown lines or bands, the latter often reduced to large spots. The reniform spot is small and solid brown. The wings may have a white or even pink tinge. The hindwing is scalloped much like the forewing. The thorax and abdomen are brown, without spots.

Similar Species: None in Illinois.

Larval Food Plants: Walnuts (*Juglans* spp.), hickories (*Carya* spp.), beech (*Fagus* spp.), hazelnut (*Corylus* spp.), hop-hornbeam (*Ostrya* spp.), chestnut (*Castanea* spp.), and cherry (*Prunus* spp.).

Adult Food Sources: Adults do not feed.

Natural History: Univoltine in the north, bivoltine in the south. Adults are present from May to August or later. The proboscis is very short and adults are not known to feed. The species is nocturnal and comes readily to light. Mature larvae vary in color; some are green and others are red. Both forms are densely granulose. There are six lateral oblique yellow lines on each side of the abdomen, the last one broad and bright yellow extending into the anal horn. The horn is granulose and tinted red. Reddish blotches are sometimes present on the body. The head is very pointed with yellow lateral lines that meet at the vertex.

Status: Statewide. Common.

Range: Nova Scotia to Florida west to Manitoba and south to Texas and the Gulf States.

Male upperside.
Champaign County, IL.

Male upperside.
Southern IL.

Female underside.
Quincy, IL.

Walnut Sphinx with curled abdomen.
Champaign County, IL.

Walnut Sphinx (upperside) at rest.

Pawpaw Sphinx **Subfamily: Sphinginae**
Dolba hyloeus (Drury)

Description: Wingspan 40–75 mm. (1 1/2–3 in.). The forewing resembles tree bark. It is dark brown with a variable dusting of white scales. Some individuals have red or yellow blotches on the forewing. Distinct basal, medial, and postmedial bands are present with a sharply defined zigzag medial black line and a conspicuous zigzag postmedial white line. A small white spot is present in the discal cell. The wing fringe is checkered with alternating white and brown dashes. The hindwing is dark brown without white dusting; it has several somewhat poorly defined light gray bands with the median band doubled. At rest the forewing hides the hindwing. On the abdomen there are four or so paired dorso-lateral light gray spots.

Similar Species: The Pawpaw Sphinx is related to species in the genus *Manduca*. In appearance it resembles the Carolina Sphinx (*M. sexta*), but its much smaller size will readily separate it from the latter. The Hermit Sphinx (*Sphinx eremitus*) has two well defined white bands on the hind wing.

Larval Food Plants: In Illinois, Pawpaw (*Asimina triloba*) is its main larval host. It has also been reported from possum haw (*Ilex decidua*), inkberry (*Ilex glabra*), and littleleaf sweetfern (*Myrica asplenifolia*).

Adult Food Sources: Nectar from bouncing bet (*Saponaria officinalis*), petunia (*Petunia* spp.), mimosa (*Mimosa* spp.), and others.

Natural History: Univoltine in the northern part of its range, bivoltine in the south. In east-central Illinois it is present as an adult from June through August. Adults are crepuscular and nocturnal. They feed at various flowers with deep throats. Adults come readily to light. The larvae are green with a dense covering of white granulose nodules. There are seven lateral oblique stripes, each bordered dorsally with black, located on the second through the seventh abdominal segments. The last oblique stripe extends up to the base of the prominent dark anal horn. The larvae rest on the undersides of leaves. The pupa has the tongue case parallel to the body and not curved, but appressed to the body. Pupation is within a cell in the soil prepared by the last instar larva. The species overwinters as a pupa.

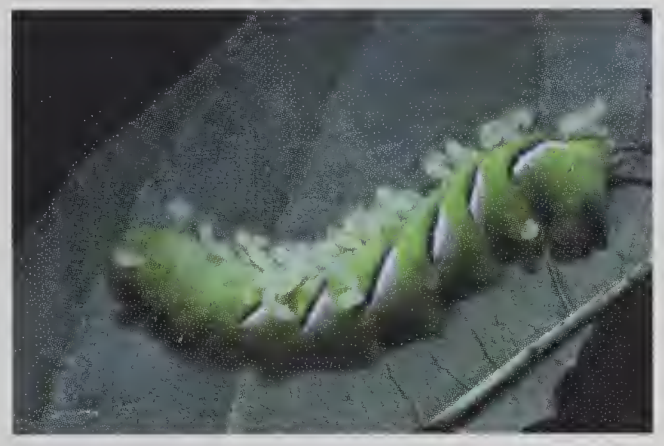
Status: Not uncommon in forested areas where pawpaw and other larval food plants occur, common in the southern half of the state.

Range: Main to Florida west to southern Ontario and Wisconsin and south to Texas and the Gulf Coast.

Male upperside.
Champaign County, IL.

Female upperside.
Sangamon County, IL.
Wiker Collection.

Caterpillar at rest.



Caterpillar with parasitoids.

Pawpaw Sphinx at rest on a wooden panel.

Elm Sphinx **Subfamily: Sphinginae**
Ceratomia amyntor (Geyer)

NOTE: Also called Four-horned Sphinx in reference to the thoracic scoli of the larva.

Description: Wingspan 75–115 mm. (3–4 1/2 in.). Wings yellow-brown with dark brown markings. Forewing has the subcostal area yellow-brown and the posterior region dark brown. There is a conspicuous white reniform spot on the discal cell. The submarginal area along the posterior two-thirds of the outer margin has three narrow wavy dark lines within a light brown band. The forewing fringe has fairly contrasty alternating white dots and brown bars. A series of four or five dark brown dashes extend from midway of the wing toward the outer margin. The posterior half of the outer margin is weakly convex. The hindwing is evenly yellow-brown with a dark submarginal band along the outer margin.

Similar Species: The markings of the Elm Sphinx are distinctive. It is not likely to be confused with our other sphinx moths.

Larval Food Plants: Primarily elm (*Ulmus* spp.) with some reports of basswood (*Tilia* spp.), birch (*Betula* spp.), and cherry (*Prunus* spp.).

Adult Food Sources: Hodges (1971) states that the reduced mouth parts indicate adults may not feed.

Natural History: Bivoltine in the south, univoltine in the north. Adults occur from late May to October. The proboscis is short and weak, but they have been seen at flowers. Mature larvae are unique, easily recognizable because of the four spiny thoracic horns (scoli). The body may be green or brown, covered with white-tipped granules. Seven pale lateral oblique lines are present on the abdomen, each with a dark anterior border. The last oblique line extends up to the tip of the anal horn of the eighth abdominal segment. The abdomen has a raised scalelike median ridge. Pupae overwinter in underground burrows.

Status: Statewide. Not uncommon.

Range: Eastern U.S. and southern Canada. Nova Scotia to Saskatchewan and Florida to Mississippi. It occurs in the west, south to Colorado.

Male upperside.
Lee County, IL.

Female upperside.
Palos Park, IL.

Male upperside.
Champaign County, IL.

Male Elm Sphinx on bark. Lee County, IL.

Larva. Pope County IL.

Catalpa Sphinx **Subfamily: Sphinginae**
Ceratomia catalpae (Boisduval)

Description: Wingspan 65–90 mm (2 5/8–3 5/8 in.). Wings yellow-brown, often with indistinct markings. Some specimens are lighter, with a distinct pattern of transverse blackish lines, some basal, some medial, some submarginal, in a pattern similar to that found in the Waved Sphinx (*C. undulosa*). The four or five dashes extending outward, found in *Ceratomia* species are present, although often obscured by the general darkish color. The hindwing is dark with poorly defined bands. On the underside, the hindwing may be immaculate or there may be a faint or weakly developed postmedial line.

Similar Species: The maculation of the Waved Sphinx (*C. undulosa*) is similar. However, its markings are much more distinct, the postmedial line on the hindwing is well developed, and it is generally a larger moth than the Catalpa Sphinx.

Larval Food Plants: *Catalpa* species.

Adult Food Sources: Adults are not known to feed.

Natural History: Bivoltine, with adults in the spring and again in August and September. Eggs are laid on the undersides of leaves in masses, an unusual behavior for a sphingid, which typically lay their eggs singly. The larvae feed gregariously, very often defoliating the catalpa tree. Mature larvae tend to be darker than the earlier instars. The markings of larvae are variable, some with heavy black areas and others with the black areas greatly reduced. The darkest larvae have the entire dorsum black, others have the black reduced by several pale yellow stripes running the length of the body. The sides are pale yellow-white, with a series of small vertical dashes on each segment. The head, the horn of the eighth abdominal segment, and the anal plate are black. Pupation is in the soil. The rather slender smooth pupae do not have their tongue cases free, and adults have poorly developed mouth parts. Adults come readily to light.

Status: Statewide and common where catalpa trees occur.

Range: Eastern United States and lower Canada.

Male upperside. Peoria County, IL.

Female upperside. No data (reared).

Male upperside. Champaign County, IL.

Female upperside. Lee County, IL.

Larva infested with parasitoids.

Larva on leaf.

Larva on leaf.

Hagen's Sphinx **Subfamily: Sphinginae**
Ceratomia hageni Grote

Description: Wingspan 75–100 mm. (3–4 in.). Maculation typical of *Ceratomia*, much like *C. undulosa*, but darker. The forewing apex has a large white spot that is sharply defined and somewhat triangular present on most, but not all, specimens. Several dark bands extend from the discal cell towards the outer margin. There is a small white reniform discal spot. A distinctive characteristic is the yellowish green or green overscaling on the forewing (which is best seen in natural light). The costal and outer margins tend to be lighter than the rest of the wing. The fringe consists of alternating white and brown bars. The hindwing is dark brown with faint markings. On the underside across both wings there is a wavy postmedial transverse line. On the abdomen there are a pair of dark lateral stripes and a single median stripe. Typical of the genus *Cerotomia*, the proboscis (tongue) is reduced.

Similar Species: The Waved Sphinx (*C. undulosa*) lacks the whitish apical spot and the yellow-green overscaling.

Larval Food Plants: Osage orange (*Maclura pomifera*)

Adult Food Sources: Adults are not known to feed.

Natural History: Bivoltine. Occurs where Osage orange has been introduced, the only larval host in nature. Adults have been found usually to delay arrival at light traps to 10 p.m. or later. Our experience with collecting Hagen's Sphinx at light confirms this. Mature larvae are granulose on the head and thorax with six abdominal lateral oblique yellow lines.

Status: Occasional in northern Illinois. Not uncommon in the southern three-fourths of the state where Osage orange is planted. It will be interesting to watch the future of this species as the removal continues of planted Osage orange hedgerows far north of their native range.

Range: The historic range must have been limited to the natural range of Osage orange in Texas and Oklahoma. Widespread planting elsewhere of Osage orange for hedgerows has enabled the moth to increase its range significantly and it may now be expected almost anywhere the tree can be found. Hagen's Sphinx now occurs north to Kansas and Michigan east to Indiana and Georgia.

Male upperside.
Champaign County, IL.

Male upperside.
Lee County, IL.

Female upperside.
Champaign County, IL.

Male Hagen's Sphinx on
bark. Lee County, IL.

Waved Sphinx **Subfamily: Sphinginae**
Ceratomia undulosa (Walker)

Description: Wingspan 75–115 mm. (3–4 1/8 in.). Forewing brown with contrasting well-defined transverse wavy dark gray lines. The five dashes typical of *Ceratomia* are present and well-defined although somewhat obscured by the transverse wavy lines. There is a well-developed white reniform spot in the discal cell. Fore- and hindwings have the fringes conspicuously checkered in white and dark brown. The hindwing is dark in some cases but much like the forewing in others. It has three well-defined transverse dark lines, the outermost consisting of a series of circles. On the underside of the hindwing the same lines are present.

Similar Species: In the Catalpa Sphinx (*Ceratomia catalpae*) the basic pattern is similar, but obscured by the general darkness of the wings. Its fringes are not conspicuously checkered. On the underside the transverse lines of the upperside are absent or poorly developed.

Larval Food Plants: Ash (*Fraxinus* spp.) is the main larval host. Other plants reported are hawthorn (*Crataegus* spp.), privet (*Ligustrum* spp.), lilac (*Syringa* spp.), fringe tree (*Chionanthus virginicus*), and oak (*Quercus* spp.).

Adult Food Sources: Adult mouth parts are short and weak and it is thought they do not feed.

Natural History: Bivoltine with adults present from May into August. The species is nocturnal, often coming to light. The mature larva is green or sometimes gray-green. The abdomen has seven lateral oblique yellow lines, the first six poorly defined and the seventh line well-defined and conspicuous, extending to the tip of the anal horn. The horn is pinkish and well-developed. There is a lateral white line on each side of the head, extending to the vertex. The anal plate and anal prolegs are spotted with black.

Status: Statewide. Common to very common.

Range: Maine to Alberta south to Florida, Texas, and Colorado.

Male upperside.
Champaign County, IL.

Female upperside.
Champaign County, IL.

Waved Sphinx on bark.
Champaign County, IL.

Plebeian Sphinx **Subfamily: Sphinginae**
Paratraea plebeja (Fabricius)

Description: Wingspan 64–75 mm. (2 9/16–3 in.). Forewing gray with brown markings and a series of brown streaks extending from the base to the outer margin. A small white reniform spot is present in the discal cell, usually conspicuous, but sometimes obscure. The hindwing is dark brown, with or without a faint medial band. Both wings have conspicuous checkered fringes with white and brown spots and bars. The thorax has dorsolateral white and dark brown edges and the abdomen has a dark mid-dorsal stripe and dorsolateral stripes on each side. The very long terminal spur of the metathoracic tibia is a distinguishing character of the Plebeian Sphinx.

Similar Species: Species in the genus *Sphinx* have whitish bands on dark hindwings, unlike the solid black hindwings of the Plebeian Sphinx.

Larval Food Plants: Trumpet creeper (*Campsis radicans*), passionflower (*Passiflora* spp), and lilac (*Syringa* spp.).

Adult Food Sources: Adults are known to feed at various flowers, including honeysuckle (*Lonicera* spp.), bouncing bet (*Saponaria officinalis*), and verbena (*Verbena* spp.).

Natural History: Bivoltine in the south, flying from spring to fall and univoltine in the north, flying from May to July. They come readily to light. The mature larva is yellow-green, the thorax and head granulose. On the abdomen there are seven lateral oblique stripes, the last one ending at the base of the green or black caudal horn. The stripes are yellow with their anterior edges gray or red.

Status: Rare to absent in northern Illinois, becoming common in central and southern Illinois.

Range: From Connecticut to Minnesota south the Florida and Texas and into northern Mexico.

Male upperside.
Champaign County, IL.

Female upperside.
Champaign County, IL.

Male Plebeian Sphinx at
rest on bark.
Champaign County, IL.

Canadian Sphinx **Subfamily: Sphinginae**
Sphinx canadensis Boisduval

Description: Wingspan 70–85 mm. (2 7/8– 3 3/8 in.). Forewing is yellow-brown with many delicate black striations and five black dashes, one extending to the apex. There is an interrupted submarginal white line. No reniform spot is present. In general the forewing coloring appears fairly uniform without dark borders. The hindwing has well-defined dark medial and outer marginal bands with its base, median, and submarginal regions whitish. Dorsally, the thorax is yellow-brown. The abdomen has pale dorsolateral spots over much of its length.

Similar Species: The Hermit Sphinx (*S. eremitis*) has a distinct reniform spot and tends to be a darker yellow-brown. Its wings are also more rounded. The Apple Sphinx and the Northern Apple Sphinx (*S. gordius* and *S. poecila*) have white reniform spots.

Larval Food Plants: White ash (*Fraxinus americana*) and blueberry (*Vaccinuim* spp.).

Adult Food Sources: Nectar from flowers, including bouncing bet (*Saponaria officinalis*).

Natural History: Bivoltine. Adults present from May to September. The proboscis is well-developed. Adults are nocturnal. Pupation is in a cell in soil prepared by the last instar larva. Larvae variable, can have seven pairs of lateral oblique white stripes minimally bordered with brown. Other larvae have very faint yellowish green oblique stripes with the dark brown dominating the general appearance.

Status: Rare in Illinois. It seems to be associated with the larger rivers. It has been caught with some frequency in Jersey County. Terry Harrison collected several specimens around Elsah between 2003 and 2005. Most Illinois specimens have been found in mid to late June.

Range: Newfoundland to southern Ontario south to New York, Kentucky, Michigan, Illinois, and Arkansas.

Male upperside. Jersey County, IL. Wiker Collection. (from Vern LaGesse).

Great Ash Sphinx **Subfamily: Sphinginae**
Sphinx chersis (Hubner)

Description: Wingspan 90–115 mm. (3 9/16–4 1/2 in.). Forewing dark gray to blue-gray with four dark dashes extending toward the outer margin. The first dash reaches the apex, the others to the submargin. Along the outer margin there is a distinct band composed of a dark line bordered on the outer side by a somewhat diffuse pale area. The fringe is a uniform grayish brown. The hindwing has a dark brown medial band and the outer third of the wing is dark brown. The basal and postmedial areas are grayish white. There is no reniform spot. The thoracic notum is gray with dark marginal stripes converging towards the head. The gray abdomen has conspicuous alternating dark and white dorsolateral spots.

Similar Species: This large species is unique among Illinois sphingids and unlikely to be confused with other species found in Illinois, except for the much smaller Vashti Sphinx (*S. vashti*) and the Canadian Sphinx (*S. canadensis*).

Larval Food Plants: This species is known to feed on a large variety of plants, including ash (*Fraxinus* spp.), lilac (*Syringa* spp.), privet (*Ligustrum* spp.), aspen (*Populus* spp.), and cherry and plum (*Prunus* spp.).

Adult Food Sources: Nectar from flowers with deep corollas. Records include bouncing bet (*Saponaria officinalis*) and honeysuckle (*Lonicera* spp.).

Natural History: Univoltine north (May and June), bivoltine south (May through September). Adults are nocturnal. The mature larva is blue-green with pale lateral oblique stripes, each edged anteriorly with dark green. The body surface is granulose, especially on the thorax and lower abdominal areas. An occasional larva may be pink. Thoracic segments are slightly larger than the abdominal segments. A yellow stripe extends from each side of the head, to the vertex.

Status: Historically, it was present throughout the state with many old specimens in collections. However, within the past 20–30 years, for unknown reasons, the species has declined in the state and is now very rare.

Range: From Nova Scotia south to Florida and west to British Columbia and California.

Male upperside. Peoria County, IL.

Female upperside. Cook County, IL.

Wild Cherry Sphinx **Subfamily: Sphinginae**
Sphinx drupiferarum J.E. Smith

Description: Wingspan 75–115 mm. (3–4 1/2 in.). Forewing with very contrasting light and dark gray-black markings. The costal margin is almost white, with black striations extending from its base to three-fourths of the length of the wing. The outer marginal area is light gray from the anal angle to the apex with slightly sinuous white and black striations. From the wing base to the apex there is a very broad and sharply defined gray-black band. There is a distinct black reniform spot. The hindwing has alternating light gray and dark gray bands. The medial and outer bands are black. The base is pale gray, as are postmedial and marginal bands, and all are somewhat diffuse. On the underside of both wings there are jagged postmedial bands on a gray background. The thorax is dark gray. The abdomen is gray with dorsolateral white spots and a slender mid-dorsal stripe.

Similar Species: In a general way the species resembles other members of the genus *Sphinx*. However, the Wild Cherry Sphinx is easily recognized by the distinctive whitish costal margin and the broad dark band extending from the base toward the apex.

Larval Food Plants: Apple (*Malus* spp.), cherry and plum (*Prunus* spp.), lilac (*Syringa* spp.) and hackberry (*Celtis* spp.).

Adult Food Sources: Nectar from flowers with deep corollas such as Japanese honeysuckle (*Lonicera japonica*), bouncing bet (*Saponaria officinalis*).

Natural History: Univoltine. Adults are present from May to July. The nocturnal adults come readily to light. The mature larva is yellow-green with seven lateral oblique stripes on the abdomen. All stripes are yellow with a purple anterior margin. The last stripe extends to the base of the purplish horn. On the head there is a pair of lateral bands converging towards the vertex. The head is granulose and the abdomen is smooth. The larvae feed at night. Pupation is in a burrow made by the caterpillar.

Status: Like *S. chersis*, it has significantly declined over the last 20–30 years, and now is quite rare. Previously common in the northern half of the state, sporadic in the south, with many specimen records in collections.

Range: Nova Scotia to Georgia west to British Columbia and California. Generally uncommon.

Male upperside.
Union County, IL.

Female upperside.
River Grove, IL.

Female underside.
River Grove, IL.

Hermit Sphinx **Subfamily: Sphinginae**
Sphinx eremitus (Hubner)

Description: Wingspan 65–75 mm. (2 9/16–3 in.). Ground color yellowish brown, best observed under daylight conditions. The maculation of the forewing consists of many diffuse, wavy lines and faint spots. A series of dark streaks extends from the wing base to the outer margin. A small but conspicuous reniform spot is white. A second similar spot may be present. On the black hindwing there are two well-defined conspicuous white bands, one basal and one postmedial. Wing fringes are checkered with white and brown bars. Lateral margins of the thorax are dark brown. On the abdomen there is a narrow mid-dorsal stripe and one on each side with alternating light and dark dorsolateral spots.

Similar Species: The Canadian Sphinx (*S. canadensis*) has more slender forewings and lacks the reniform spot. Other species similar in size have less contrasting black and white hindwing bands.

Larval Food Plants: Bee balm (*Monarda* spp.), mints (*Mentha* spp.), bugleweed (*Lycopsis* spp.), and sage (*Salvia* spp.).

Adult Food Sources: Nectar from bouncing bet (*Saponaria officinalis*), petunia (*Petunia* spp.), Japanese honeysuckle (*Lonicera japonica*), catalpa (*Catalpa* spp.) and other flowers with deep corollas.

Natural History: Univoltine in the north, bivoltine in the south. In Illinois, adults are present from July to August. Larvae have peculiar thoracic dorsal processes. Early instars have hornlike structures extending forward on the second thoracic notum. Mature larvae lack the horn, but have the third thoracic notum enlarged into a triangular bulge. Larval color is variable. The early instars are green with brown spots, some scattered and some aligned where the lateral oblique lines would be. The size of the spots vary and are faint and diffuse. Later instars are dark brown and granulose with a single large black eye-spot encircled by a yellowish ring on the meso- and metathoracic nota. Somewhat diffuse pale yellow lateral oblique lines are present on each of abdominal segments one through seven. The last one extends to the base of the black horn on segment eight. The spiracles are black or brown. Pupation is in a chamber in the ground made by the mature larva.

Status: Found in the northern half of the state. Probably more common than records indicate. Personal experience indicates this moth is most active just before dawn and may often be overlooked.

Range: From Nova Scotia south to the Carolinas and west to Manitoba south to Colorado and Arkansas.

Male upperside.
Putnam County, IL.

Male underside.
Putnam County, IL.

Female upperside.
Putnam County, IL.

Female Hermit Sphinx
at rest on bark.
Champaign County, IL.

Franck's Sphinx **Subfamily: Sphinginae**
Sphinx franckii Neumoegen

Description: Wingspan 100–125 mm. (4–5 in.). The wing color is unique for the genus. The forewing costal margin is gray with blackish striations extending inward. Behind the costal area the central and posterior regions are a contrasting yellow-brown. The dashes typical of many congenors are present as dark black lines extending toward the apex and outer margin. The apical dash has a white streak along its anterior edge. Along the outer margin there is a submarginal band that is dark basally and whitish distally. The forewing lacks a reniform spot. The hindwing is yellow-brown along the costal margin and at its base. The remainder of the hindwing is gray with a dark region and a faint postmedial band with diffuse margins. The thorax has two marginal dark stripes that converge towards the head. The abdomen has a mid-dorsal stripe and on each side a series of dark spots alternating with light gray circular bands.

Similar Species: The species is unique because of its extensive yellow-brown coloring.

Larval Food Plants: Elm (*Ulmus* spp.) and ash (*Fraxinus* spp.).

Adult Food Sources: Nectar from flowers with deep corollas.

Natural History: Franck's Sphinx is generally rare over most of its extensive range in the eastern and midwestern U.S. It is univoltine in the north and bivoltine in the south. First generation adults appear in June and July and second generation adults appear in August. They can be taken at light. Mature larvae are blue-white. The head is yellow-green with dark green lateral stripes. The body is granulose with white lateral oblique lines edged anteriorly with green. The green horn is granulose. Pupation is in a burrow in the soil.

Status: More specimens have been captured in Union County, Illinois, than in any other part of the entire known range of the species. Usually it is regarded as rare.

Range: Maine to New York, southern Ontario, lower Michigan, and Wisconsin south to Texas and east to Florida.

Male upperside. Union County, IL.

Female upperside. Union County, IL. Wiker Collection.

Apple Sphinx **Subfamily: Sphinginae**
Sphinx gordius Cramer

Description: Wingspan 50–90 mm. (2–3 9/16 in.). The species varies greatly in maculation and color. The forewing is gray with the apex and submarginal regions noticeably darker than the rest of the wing. The inner margin is dark brown. The outer margin is variable, dark in some, lighter in others. A small reniform spot is present in the discal cell. The dashes typical of the genus are much reduced in length, except for the well-developed apical dash. The hindwing is black with two pale yellow bands whose margins are not sharply defined. The thorax is dark with light margins. The abdomen has mid-dorsal and dorsolateral stripes, the latter as a series of dark spots alternating with pale gray bars. Wing fringe of the hindwing is white and of the forewing dark brown. When viewed from the underside, the fringes appear slightly checkered.

Similar Species: Many *Sphinx* species are similar, with two dark bands on the hindwings. The Apple Sphinx can be recognized by the broad black marginal band of the hindwing with a white fringe on the outer margin, a distinct medial band, and a pale gray basal area. This species is generally associated with marsh edges where the larval hosts occur. Also see Northern Apple Sphinx.

Larval Food Plants: Very polyphagous. Known food plants include apple (*Malus* spp.), sweet fern (*Myrica* spp.), alder (*Alnus* spp.), Carolina rose (*Rosa carolina*), blueberry (*Vaccinium* spp.), tamarack (*Larix laricina*), white spruce (*Picea glauca*), and ash (*Fraxinus* spp.).

Adult Food Sources: Crepuscular and nocturnal. Known to take nectar from bouncing bet (*Saponaria offiinalis*), phlox (*Phlox* spp.), honeysuckle (*Lonicera* spp.), lilac (*Syinga* spp.), evening primrose (Onagraceae family), and dogbane (*Apocynum* spp.).

Natural History: Univoltine. Mature larvae green to yellow-green with seven lateral oblique lines, each edged with purple dorsally and yellow below. The seventh line extends into the anal horn. The horn is distally yellow-green. There are yellow-green lateral bands and dark bands on the head. Numerous very small black circles are present on the thorax and below the spiracles on the abdomen. Pupation is within a burrow in the soil.

Status: Northern half of the state. Generally uncommon.

Range: *Sphinx gordius* and *S. poecila* have long been confused and much of the literature covers them together. The range of the two together is from Newfoundland to Florida, west to Alberta south in the Rocky Mountains to Colorado and Utah. *S. poecila* tends to be more northern, *S. gordius* more southern, with a large degree of overlap.

Male upperside. Iroquois County, IL. Wiker Collection.

Female upperside. Cook County, IL.

Laurel Sphinx **Subfamily: Sphinginae**
Sphinx kalmiae J.E. Smith

Description: Wingspan 75–100 mm. (3–3 15/16 in.). Forewing yellow-brown with dark brown markings. A band along the outer margin consists of several lines, some dark and some light plus jagged dark spots pointing inward. On the inner margin there is a dark band extending from the wing base to near the outer angle. The discal reniform spot is dark brown without a white center. The five dashes common to the genus extend outward from the discal cell. They are well-defined and conspicuous. The hindwing is dark brown with a light basal region and dark medial and outer bands. The abdomen has a narrow dark mid-dorsal stripe and alternating whitish and dark brown spots along the dorsolateral sides. The wing fringes are conspicuously checkered with alternating white and dark brown bars.

Similar Species: The Laurel Sphinx resembles many of the other members of the genus *Sphinx*. However, the forewings of the Laurel Sphinx are yellow-brown and not gray. This serves to distinguish this species from its congeners.

Larval Food Plants: The species is very polyphagous. Known hosts include laurel (*Kalmia latifolia*), privet (*Ligustrum* spp.), ash (*Fraxinus* spp.), lilac (*Syringa* spp.), fringe tree (*Chionanthus virginicus*), mountain holly (*Nemopanthus mucronata*), northern bush honesuckle (*Diervilla lonicera*), poplar (*Populus* spp.) and no doubt many others.

Adult Food Sources: Published observations include nectar from Japanese honeysuckle (*Lonicera japonica*) and bouncing bet (*Saponaria officinalis*). In addition to taking nectar from flowers, the Laurel Sphinx has been known to come to bait made of brown sugar, molasses, and fermenting fruit.

Natural History: Bivoltine, adults from late spring to October. Adults are crepuscular and nocturnal. They feed on nectar and will also come to bait made of fermenting substances. The mature larva is a beautiful creature. The body is yellow-green and smooth. There are seven lateral oblique lines, each one a broad bright yellow band, bordered on the upper side by a blue-black stripe with a thin white edge. The yellow of the posterior oblique stripe extends to the anal horn. The latter is dark blue and black. Prolegs are yellow and black. The head has a pair of lateral black bands. Pupation is in a cell dug in the soil by the mature larva. The pupal tongue case is somewhat short, straight, and appressed to the body. Pupae of the second generation overwinter.

Status: Statewide. More common in the south than in the north.

Range: Newfoundland to Florida west in the north to Manitoba and in the south to Louisiana, Arkansas, Missouri, Illinois, and adjacent states.

Male upperside.
Putnam County, IL.

Female upperside.
Cook County, IL.

Caterpillar at rest. Photo by Michael Jeffords.

Clemen's Sphinx **Subfamily: Sphinginae**
Sphinx luscitiosa Clemens

Description: Wingspan 55–80 mm. (2 3/16–3 3/16). Sexually dimorphic. Male with yellow-brown hindwing and yellowish tinge to forewing. Female has brown hindwings with hint of yellow and the forewings are gray. Both sexes have the forewing costal margin slightly darker than the rest of the wing. The outer margin is wide and dark brown. The inner margin has a narrow dark brown border. The forewing dashes typical of the genus *Sphinx* are present but very narrow and shortened. The dash that extends to the apex is well developed. The basal area of the male hindwing is yellow with the outer third of the wing dark brown. The female hindwing is light brown and faintly yellow with the outer third dark brown. The fringes are white in both sexes and weakly checkered.

Similar Species: None. The yellow hindwings are bright in the male and pale in the female. This characteristic distinguishes Clemens' Sphinx from other species the genus.

Larval Food Plants: Willow (*Salix* spp.), poplar (*Populus* spp.), birch (*Betula* spp.), apple (*Malus* spp.), ash (*Fraxinus* spp.), and waxmyrtle (*Morella* spp.).

Adult Food Sources: More observations of Clemens' Sphinx feeding are needed. Russian olive (*Elaeagnus angustifolia*) is known to be visited by feeding adults. It is likely that other deep-throated flowers are a nectar source for the species. It has been observed feeding on a decaying fish.

Natural History: Univoltine. Adults in June and July. Adults are crepuscular and nocturnal. They commonly come to light. There is a report of attraction to brightly colored clothing. The mature larva closely resembles the larva of the Apple Sphinx (*S. gordius*). The thorax and lower abdomen have minute black circles similar to those found on the Apple Sphinx larva. It is yellow-green to green with seven lateral oblique yellow lines edged above with purple. The horn is purple and green with a black lateral edge. Pupation is in the soil within a burrow formed by the larva. Pupae overwinter.

Status: Rare in Illinois, which is at the southern edge of its range. Most records are from the northeast quarter of the state.

Range: Nova Scotia south to New Jersey west to Manitoba, Minnesota, Michigan, and Illinois.

Male upperside. Cook County, IL.

Female upperside. Cook County, IL.

Clemen's Sphinx caterpillar.

Northern Apple Sphinx **Subfamily: Sphinginae**
Sphinx poecila Stephens

Description: Wingspan 65–95 mm. (2 5/8–3 3/4 in.). The forewing is whitish gray, fairly uniform over the entire wing, including the submarginal region, with several horizontal and oblique black lines. There is a zigzag black marking at the apex. The reniform spot is white and large. Several wavy streaks are present along the inner margin. Six or seven short dark dashes are present as a transverse series, the distal dash extending to the apex. The hindwing is light gray with a diffuse dark medial band and a broad dark marginal band edged conspicuously by white fringe scales.

Similar Species: The Apple Sphinx (*S. gordius*) tends to have a light area in the center of the forewing extending from the inner margin (in some specimens reaching the base) to the apex. Also, the lower half of the submarginal area is noticeabley darker than the rest of the forewing. In the Northern Apple Sphinx the overall color is more even. The hindwing of the Apple Sphinx is more yellow-gray and the pale areas lighter.

Larval Food Plants: The species is extremely polyphagous. Because of confusion in separating the Northern Apple Sphinx from its congenor, the Apple Sphinx, the list of known food plants includes those fed upon by these species collectively. These include all hosts listed in the text for the Apple Sphinx.

Adult Food Sources: Nectar from flowers of bouncing bet (*Saponaria officinalis*), honeysuckle (*Lonicera* spp.), lilac (*Syringa* spp.), phlox (*Phlox* spp.), dogbane (*Apocynum* spp.), and evening primrose (species in the family Onagraceae).

Natural History: Univoltine. Adults from May to September. Possibly bivoltine. Adults are crepuscular and nocturnal. They will come to light. Feeding by adults is crepuscular. Mature larva is blue-green with seven prominent lateral oblique lines, each broadly white and edged anteriorly with purple or reddish brown. The spiracles are red, the horn is black, and there are numerous very small black circles below the spiracles of the abdomen and the thorax. The horn is black. Pupation is in a burrow in soil prepared by the mature larva.

Status: Not yet definitely recorded from Illinois. This species could be found and should be looked for in the northeast quarter of Illinois.

Range: Newfoundland to Pennsylvania west to Michigan, and Wisconsin.

Female upperside. Luce County, MI. Wiker Collection. (from M.C. Nielsen).

Vashti Sphinx **Subfamily: Sphinginae**
Sphinx vashti Strecker

NOTE: Also named Snowberry Sphinx

Description: Wingspan 75–100 mm. (3–4 in.). In general, the maculation is similar to that of the Great Ash Sphinx (*S. chersis*), although the dark and light gray areas are positioned differently. The dashes are reduced to dark streaks that are rather faint except for the more evident anterior streak as it reaches the apex. The species varies considerably. There often is a light area along the costal margin of the forewing extending into the discal area. This may be reduced or absent in some specimens. Along the outer margin there is a light gray band with a distinct slightly wavy dark line on the basal side bending at the tornus toward the wing base. The hindwing has a light gray basal area and a well-defined light gray postmedial band. Medial and outer bands are dark grayish black. There is a narrow pale gray border along the outer margin. The thorax is dark gray. The abdomen is gray with a mid-dorsal stripe and dorsolateral stripes with alternating light and dark spots.

Similar Species: The Great Ash Sphinx (*S. chersis*) is much larger with the markings more even and not as contrasting.

Larval Food Plants: Common snowberry (*Symphoricarpos alba*) and coralberry (*S. orbiculatus*).

Adult Food Sources: Columbine (*Aquilegia* spp.), honeysuckle (*Lonicera* spp.), and other deep-throated flowers.

Natural History: Univoltine with adults present from spring into July. Adults are crepuscular and nocturnal and come to light. The species is variable in appearance and the description given above should be regarded as average. In some western regions the flight time extends into August. The mature larva is green with seven lateral oblique lines on each side of the abdomen with the anterior margin of each edged in black. The horn is smooth and black. Pupation is in an underground chamber made by the last instar larva.

Status: Known from Illinois counties Jersey, Hancock, Adams, and one old record from Cook County. A western species that is found with some frequency in counties bordering the Mississippi River. In Illinois it is at the far eastern edge of its range.

Range: Vashti Sphinx is mainly western, extending east to Missouri and Illinois.

Male upperside. Quincy, IL.

Male upperside. Quincy, IL.

Northern Pine Sphinx **Subfamily: Sphinginae**
Lapara bombycoides Walker

Description: Wingspan 50–65 mm. (2–2 5/8 in.). The species is quite variable. The forewing is brown, appearing mottled because of many well-defined somewhat heavy dark brown zigzag transverse stripes. The postmedial band consists of small semicircles pointing basad. The outer margin fringes are checkered with alternating white and brown. The hindwing is gray-brown and unmarked. On the underside, the postmedial bands are usually well-defined. The abdomen is without yellow or white bands.

Similar Species: The Southern Pine Sphinx (*L. coniferarum*) is more evenly colored with the transverse bands not very contrasting.

Larval Food Plants: Pines, including red pine (*Pinus resinosa*), Scotch pine (*P. sylvestris*), and pitch pine (*P. rigida*). It has been reared on white pine (*P. strobus*) and tamarack (*Larix laricina*).

Adult Food Sources: Not known to feed.

Natural History: Univoltine with adults present in June and July. The adult proboscis is weak and short and adult feeding is not known. Adults will come to light. All larval instars are without the horn so typical of sphinx larvae. Larvae of the Northern Pine Sphinx resemble larvae of the Southern Pine Sphinx (*L. coniferarum*) so closely that separation is not reliable. Refer to the description of the Southern Pine Sphinx.

Status: The Northern Pine Sphinx has been recorded from Porter County, Indiana. Not known from Illinois, but should be expected because of extensive planting of pines in the state.

Range: Nova Scotia west to Manitoba and south to Georgia in the east, and to Wisconsin and Indiana in the Midwest.

NOTE: Not all specimens of *Lapara* can be determined to species with certainty without an examination of the male genitalia. Intermediates in color and pattern occur. *L. coniferarum* is more common in the south and *L. bombycoides* in the north. The two may sometimes occur together.

Male upperside. Mineral Springs, IN.

Female uppreside. Mineral Springs, IN.

Male underside. Mineral Springs, IN.

Female underside. Minreal Springs, IN.

Southern Pine Sphinx **Subfamily: Sphinginae**
Lapara coniferarum (J.E.Smith)

Description: Wingspan 50–65 mm. (2–2 5/8 in.). Forewing is uniformly gray, usually with two black dashes in the center of the wing, but sometimes with one or three. Along the outer margin there are very short dashes at each vein extending inward. A weakly defined zigzag postmedial band is present. The hindwing is pale reddish gray without markings. Both wings have fairly conspicuous checkered white and black fringes. On the underside the wings are usually unmarked with the postmedial band rarely present.

Similar Species: The Northern Pine Sphinx (*Lapara bombycoides*) has the forewing with very contrasting markings.

Larval Food Plants: Pines (*Pinus* spp.), often on longleaf pine and loblolly pine in the south.

Adult Food Sources: Not known to feed.

Natural History: Univoltine in the north and bivoltine in the south. Adults have a short, weak proboscis. Feeding habits are not known. Mature larvae are bright green and yellowish on the anterior segments. The body is granulose. There are two longitudinal pale yellow bands on each side, one subdorsal and one lateral. The thoracic and abdominal spiracles are located between the subdorsal and lateral bands. Reddish purple surrounds each spiracle and the prolegs. Other color forms of larvae occur. One of them has the space between the subdorsal and lateral bands red to purple. Another form has been described as checkered. All larval instars lack a caudal horn.

Status: Not yet known from the state. Extensive planting of pine in Illinois suggests it will eventually be found.

Range: The species occurs from New York south to Florida and west to Minnesota and Mississippi. It is known from Indiana and Missouri.

NOTE: Not all specimens of *Lapara* can be determined to species with certainty without an examination of the male genitalia. Intermediates in color and pattern occur. *L. coniferarum* is more common in the south and *L. bombycoides* in the north. The two may sometimes occur together.

Male upperside. Lakehurst, NJ.

Female upperside. Lilitz, PA.

Female underside. Lilitz, PA.

Cypress Sphinx **Subfamily: Sphinginae**
Isoparce cupressi (Boisduval)

Description: Wingspan 60–65 mm. (2 3/8–2 9/16 in.). A small gray sphinx moth with fairly even coloration. Forewings gray with obscure striations and two longitudinal irregular black dashes; the posterior dash is the largest. The hindwing is immaculate reddish gray. Fringes of both wings are checkered with alternating yellow-gray and dark brown that are most conspicuous on the hindwing. The abdomen has a dark mid-dorsal stripe and alternating light and dark dorsolateral spots.

Similar Species: In a general way it resembles a small member of the genus *Sphinx*. On closer examination it will be fairly distinctive. For example, the Cypress Sphinx lacks the contrasting light and dark bands of *Sphinx* species on the hindwing.

Larval Food Plants: Bald cypress (*Taxodium distichum*).

Adult Food Sources: Not known to feed as adults.

Natural History: Bivoltine. Adults are nocturnal. Their proboscis is very short and they may not feed. Mature larvae feed during the night on foliage of the bald cypress (*Taxodium distichum*). The mature larva are green with whitish spots, lunules, and bars. A pair of black lines runs from the lower margin of the frons between the eyes to the vertex. The lateral margins of the head are yellow. Each body segment from the mesothorax to the end of the abdomen has conspicuous white markings. On the dorsum there is pair of dorsolateral bars that converge towards the segments anterior. Below this, on each side, there is a is a ventrolateral white bar. The three types of bars are each isolated. The lateral oblique bar of the seventh abdominal segment extends upward into the eighth segment where it merges with the dorsolateral bar of the eighth segment with its horn. The thorax and the abdomen are covered with numerous white minute knobs. Mature larvae tend to have the dorsal surfaces of the body purplish as they enter into pre-pupal stage. These markings render the larvae remarkably cryptic when on the foliage of the Bald Cypress tree. Pupation is within a loosely woven silk cocoon on the ground at dry sites but up on the tree trunk under loose bark when the trees are in standing water.

Status: Has been found breeding in Alexander County by James Wiker. This is the first published record for the state of Illinois.

Range: Texas to Florida north to South Carolina in the east and to southern Illinois and Missouri in the Mississippi Valley.

Male upperside.
Alexander County, IL.
Wiker Collection.

Female upperside.
Alexander County, IL.
Wiker Collection.

Female underside.
Alexander County, IL.
Wiker Collection.

Cypress Sphinx caterpillar feeding on bald cypress.

Cypress Sphinx caterpillar resting on branch.

Cypress Sphinx caterpillar feeding on bald cypress.

Ash Sphinx **Subfamily: Sphinginae**
Manduca jasminearum (Guerin-Meneville)

Description: Wingspan 84–106 mm. (3 5/16–4 3/16 in.). The forewing is gray to gray-brown with faint postmedial and subapical narrow brown bands. A striking character is the presence of two broad dark brown dashes, the anterior dash extending from within the discal cell to midway along the outer margin. Just behind the first dash, a much shorter dash is present, extending about one-third the length of the first dash. The hindwing is black with a light gray patch near the anal angle. On the abdomen there are four or five dorsolateral poorly defined light gray spots. The prothoracic tibia and tarsus are without spines.

Similar Species: None in Illinois. The two conspicuous forewing dashes are distinctive for Illinois sphingids, although similar species occur in the Neotropics.

Larval Food Plants: Ashes (*Fraxinus* spp.).

Adult Food Sources: Nectar from flowers with deep corollas.

Natural History: Bivoltine. Records from other states indicate adults are present from May to September. The species is nocturnal and comes readily to light. Mature larva is yellow-green with seven lateral oblique stripes on the abdomen, the first six light green and the seventh dark green with a red edge. The body is smooth. The pupa has a short proboscis case that is bulbous at the end. The species overwinters as a pupa in a chamber in the ground prepared by the last larval instar.

Status: Known from captures at light in southern Illinois. Also, beginning in 1979, a light trap operated nightly during spring, summer, and fall for about 10 years in a wooded area (Trelease Woods) near Urbana, Illinois, in Champaign County, there were occasional captures of the Ash Sphinx from late June through July. The frequency of captures at the site suggests a resident breeding population at that time. In Menard County, the species occurs every year, usually in July. There are other records from southern Illinois. Generally uncommon in Illinois.

Range: From Florida to Mississippi north to Arkansas with strays to Illinois. On the East Coast it occurs regularly to North Carolina.

Male upperside.
Champaign County, IL.

Male upperside.
Menard County, IL.
Wiker Collection.

Female upperside.
Champaign County, IL.

Ash Sphix resting on
tree bark.
Champaign County, IL.

Five-spotted Hawkmoth **Subfamily: Sphinginae**
Manduca quinquemaculata (Haworth)

NOTE: Larva are called Tomato Worms. The species is a major economic pest of plants in the family Solanaceae including tomato, tobacco, pepper, eggplant, potato and others. The green or sometimes brown larvae have L-shaped lateral oblique white lines along each side and black horns. Although the name suggests they favor tomatoes and the related Tobacco Hornworm favors tobacco, both species are likely to be found on either plant.

Description: Wingspan 75–125 mm. (3–5 in.). Forewing gray with fine black striations extending toward the outer margin. There is a slightly curved submarginal white line bordered basally by black edging. The fringe varies, often weakly checkered with light gray and dark gray, but sometimes nearly a uniform gray. The hindwing is pale gray with four dark gray bands, one basal, two medial and very zigzag and a broad submarginal band with the outer margin gray. On the abdomen there are five, sometimes six, orange-yellow or yellow dorsolateral spots along each side of the body. The foretibiae bear terminal spines.

Similar Species: The Carolina Sphinx (*M. sexta*) has the forewing fringe checkered with conspicuous alternating white and black bars. It usually has six pairs of orange-yellow dorsolateral spots. The foretibiae lack terminal spines.

Larval Food Plants: Cultivated tomato, tobacco, pepper, potato, eggplant, and various wild species of Solanaceae.

Adult Food Sources: Nectar from flowers with deep corollas including petunia (*Petunia* spp.), bouncing bet (*Saponaria officinalis*), phlox (*Phlox* spp.), flowering tobacco (*Nicotiana* spp.), honeysuckle (*Lonicera* spp.), jimsonweed (*Datura* spp.) and no doubt many others.

Natural History: Multivoltine, three broods in the south and two in the north. The species overwinters several inches beneath the ground surface in a chamber formed by the prepupal larva. All of the progeny of the last brood of adults overwinter as pupae. A small percentage of each earlier brood may delay emergence and overwinter as pupae. Adults are crepuscular and nocturnal, often observed taking nectar in the evening from flowers with deep corollas. The fragrant older petunia varieties are especially visited. The female lays her eggs singly on the undersurface of the larval host plant. Mature larvae are green, sometimes brown, with seven white lateral oblique

lines, each with ventral horizontal white lines extending caudad below the spiracles. The lateral oblique lines are edged dorsally with small black spots. The anal horn is black.

Status: A statewide economic pest, common to abundant.

Range: Canada to the Gulf Coast throughout eastern North America. Most abundant in the northern parts of its range, decreasing in numbers southward.

Male upperside. Lee County, IL. Wiker Collection.

Female upperside. Berwyn, IL.

Male underside. Putnam County, IL.

Male underside. Champaign County, IL.

Five-spotted Hawkmoth caterpillar.

Five-spotted Hawkmoth nectaring with extremely long proboscis. Photo by D.C. Gardner.

Rustic Sphinx **Subfamily: Sphinginae**
Manduca rustica (Fabricius)

Description: Wingspan 100–125 mm. (4–5 in.). This is a spectacular moth with brown wings marked with basal, medial, and postmedial white areas, each containing a series of well-defined acutely wavy black lines. The outer wing margins are boldly fringed with alternating dashes of brown and white scales. The abdomen has three pairs of yellow dorsolateral spots.

Similar Species: None in Illinois. The sharply defined brown and white marking are diagnostic.

Larval Food Plants: Plants recorded include bignonia (*Bignonia* spp.), jasmine (*Jasminium* spp.), and fringe tree (*Chionanthus virginicus*).

Adult Food Sources: Nectar from flowers with deep corollas including petunia (*Petunia* spp.) and moonflower (*Calonyction aculeatum*).

Natural History: The two known Illinois specimens were collected at light in Pope and Union Counties by Wiker. The seasonal occurrence of the Rustic Sphinx further south indicates it is bivoltine or even multivoltine where it is a permanent resident. More data are needed to determine its breeding status in Illinois. The few captures may be vagrants from southern regions where it is common. However, the fresh condition of one of the Illinois captures suggests the possibility of local breeding. The light green larva has seven oblique blue-gray stripes on the abdomen, all with a wide, conspicuous yellow edge ventrally, and each extending from the central part of a segment to the dorsal part of the next segment. The horn is white with a blue tip. Along the upper surface of the body there are whitish granules. Adults take nectar from flowers with deep throats. The species comes readily to light.

Status: Occasional in southern Illinois. The species should be encountered more than the above records indicate.

Range: Resident from North Carolina south to Florida, west to Arizona and California and north in the Mississippi Valley to Arkansas, with strays found north to Massachusetts and Illinois.

Male upperside. Union County, IL. Wiker Collection.

Female upperside. No data.

Carolina Sphinx **Subfamily: Sphinginae**
Manduca sexta (Linnaeus)

NOTE: Larva is called the Tobacco Hornworm, an economically important pest of tobacco and tomato, and to a lesser extent potato and other solanaceous plants. Anyone who has grown tomatoes is familiar with the large green caterpillar with slanting white stripes and a red horn at the end of the body. The last larval instar can consume a surprisingly large quantity of the tomato vine's leaves almost overnight.

Description: Wingspan 90–125 mm. (3 9/16–5 in.). Forewing upperside is brown with black markings consisting of dashes, lines, and irregular spots in a complex pattern resembling tree bark. There is a small whitish reniform spot in the forewing discal cell. An irregular wavy whitish submaringal line is present along the posterior two-thirds of the forewing outer margin. The fringe has conspicuous small white spots alternating with longer black dashes. On the abdomen there are usually six pairs of dorsolateral bright yellow-orange spots. Occasionally there are only five pairs of spots. The hindwing has somewhat obscure and diffuse alternating dark brown and pale bands.

Similar Species: Bright orange-yellow abdominal spots also occur on the Five-spotted Hawkmoth (*M. quinquemaculata*), but with white hairs, unlike the spots of the Carolina Sphinx which are almost free of white hairs.

Larval Food Plants: Hosts include cultivated solanaceous plants as well as native species. The Carolina Sphinx is a serious economic pest of tomato, tobacco, peppers, and eggplant.

Adult Food Sources: Nectar from flowers with a deep corolla including petunia (*Petunia* spp.), flowering tobacco (*Nicotiana* spp.), jimson-weed (*Datura* spp.), and bouncing bet (*Saponaria officinalis*).

Natural History: Usually bivoltine but there may be a partial third generation. Flight is rapid and powerful. Adult moths feed at dusk and later at flowers with deep corollas. During the day adults remain quiet, often resting on a tree trunk where their cryptic appearance provides some protection against predators. Eggs are laid at night singly on the undersides of the larval host plants. The mature larva is green with seven lateral oblique white stripes on the abdomen and a red horn. Pupae overwinter in a chamber several inches below ground level prepared by the last instar larva. The pupa is dark brown. Its proboscis is enclosed in an extension from the head that resembles a jug handle.

Status: Common statewide. An economic pest on tomato, tobacco, potato, and other solanaceous plants.

Range: All through eastern North America extending from the Pacific Coast south to Argentina and the West Indies.

Male upperside.
Berwyn, IL.

Male underside.
Berwyn, IL.

Female upperside.
Lee County, IL.

Carolina Sphinx resting on bark.

Tobacco hornworm (larva of Carolina Sphinx). Champaign County, IL.

Cluentius Sphinx **Subfamily: Sphinginae**
Neococytius cluentius (Cramer)

Description: Wingspan 140–160 mm. (5 9/16–6 3/8 in.). Forewing dark brownish black with scattered spots and patches of orange scales. The hindwing is black with an opaque yellow-orange disc and basal area. Along the sides of the abdomen there are six pairs of yellow spots.

Similar Species: The Giant Sphinx (*Cocytius antaeus*) has the disc of the hindwing translucent with an orange spot between the disc and inner margin. There are three pairs of yellow abdominal spots.

Larval Food Plants: Custard apple (Annonaceae) and piper family (Piperaceae).

Adult Food Sources: Nectar from flowers with deep corollas.

Natural History: Reported as a rare vagrant in Illinois, not known to breed in the state. Adults have an extremely long proboscis reaching 250 mm (9 7/8 in.), one of the longest known for any sphingid. The larva is gray-green or green with broad lateral oblique white bands along the sides of the abdomen. The pupa has the tongue case free, resembling a jug handle. Adults are nocturnal.

Status: A very rare nonbreeding stray in Illinois. Hodges (1971) refers to a very flight-worn capture at Chicago, Illinois.

Range: Primarily Neotropical, found from northern Mexico to Brazil. It is occasionally found in the Gulf States and the Mississippi Valley with rare strays to northern Illinois and southern Michigan.

NOTE: We have not seen the Chicago specimen of *N. cluentius* mentioned above. There is a specimen of the related *Cocytius antaeus*, labeled "Chicago" in the collection of the Field Museum of Natural History. Neither of these species are a regular part of the Illinois fauna and can only be considered as rare strays into the state.

Male upperside. (from the McGuire Center, University of Florida). Photo by Charles Covell.

Giant Sphinx **Subfamily: Sphinginae**
Cocytius antaeus (Drury)

Description: Wingspan 125–180mm. (4 7/8–7 1/8 in.). Forewing yellowish gray, mottled. Hindwing has a transluscent median area, its outer margin invaded by toothlike projections between wing veins from the black submargin. There is a bright yellow-orange area between the translucent area and the inner margin. Three pairs of yellow spots are on the abdomen.

Similar Species: Cluentius Sphinx (*Neococytius cluentius*) has the hindwing disc opaque.

Larval Food Plant: Annonaceae.

Adult Food Source: Nectar from deep-throated flowers.

Natural History: A rare stray to Illinois from the Gulf States where it is a summer resident. The species is widespread in the Neotropics from Mexico to Brazil. Larvae reared in Florida on pond apple (*Annona glabra*) were apple green with a mid-dorsal pink stripe. Five pale lateral oblique lines are present on the abdomen. The horn is pink.

Status: Rare visitor to Illinois. There is one old record is from Chicago, the specimen is in the Field Museum This is the only Illinois specimen known to us.

Range: Neotropical where it is found throughout the year, and in Florida and Texas as a warm season breeder. Not common in the U.S. and rare as a stray to Illinois and Michigan.

Upperside. (from the McGuire Center, University of Florida). Photo by Charles Covell.

Pink-spotted Hawk Moth **Subfamily: Sphinginae**
Agrius cingulatus (Fabricius)

NOTE: Known as the Sweet Potato Hornworm, the larva is an economic pest of sweet potato.

Description: Wingspan 90–115 mm. (3 9/16–4 9/16 in.). The pink spots on the abdomen and the pink bands on the hindwing are distinctive for this species in Illinois where no other species has pink spots on the abdomen as well as on the hindwing. The White-lined Sphinx (*Hyles lineata*) lacks pink on the abdomen. The forewing is blackish brown, closely resembling tree bark. Pink bands on the hindwing alternate with three transverse dark brown bands. On the abdomen pink spots alternate between brown cross bands.

Similar Species: None in Illinois. Similar species occur in the Neotropics.

Larval Food Plants: Plants in the family Convolvulaceae—sweet-potato vine (*Ipomoea batatas*), jimson-weed (*Datura* spp.), and moonflower vine (*Ipomoea alba*).

Adult Food Sources: Nectar from flowers with deep corollas. Petunias (*Petunia* spp.), honeysuckle (*Lonicera* spp.), moonflower (*Calonyction aculeatum*), and others. The species comes to bait made of beer, molasses, and/or fermenting fruit.

Natural History: Multivoltine in Florida, Louisiana, and Texas. Univoltine in the north. The species is principally tropical and subtropical where it is a permanent breeding resident. In Florida adults can be found throughout the year. Further north, it breeds to the Carolinas in the east, up the Mississippi Valley to Arkansas and southern Missouri. Strays are regularly found farther north and occur with some frequency in Illinois, usually in late summer and fall. Feeding by adults is crepuscular and into the night. They are readily attracted to light. Eggs are laid singly on plants in the family Convolvulaceae. Mature larvae are green, or some even black, prepupal stage with seven lateral oblique whitish stripes, the last one extending to the base of the black horn. Each oblique stripe has a ventral lateral stripe (similar to the stripes of *Manduca quinquemaculata*. These stripes are connected together, forming a ventral undulating band located below the abdominal spiracles. The abdominal spiracles are each located above and behind the junction of a lateral oblique stripe and a horizontal ventrolateral stripe, the latter each connected to the stripes ahead and behind of the next segments. Pupation is in the ground in a chamber prepared by the prepupal larva. The recurved tongue

case of the pupa is exarate, i.e., it extends free, and does not adhere to the pupal body except at its origin.

Status: A frequent stray in late summer, sometimes earlier. Likely an occasional breeder in southern Illinois.

Range: Neotropics and subtropics and the southern U.S. A summer breeding resident north to the Carolinas in the east and to Missouri in the Mississippi Valley. A frequent stray further north.

Male upperside. Union County, IL. Wiker Collection.

Female upperside. Champaign County, IL.

Male underside. Punta Gorda, FL.

Pink-spotted Sphinx resting on bark. Champaign County, IL.

Pink-spotted Sphinx on moss. Champaign County, IL.

Grote's Sphinx **Subfamily: Macroglossinae**
Cautethia grotei (Henry Edwards)

Description: Wingspan 28–40 mm. (1 1/8–1 5/8 in.). This small species superficially resembles a noctuid moth rather than a sphingid. The forewings are relatively broad for their length, not elongate as in typical sphinx moths. The forewing is somewhat pale gray with a silvery cast. In some specimens the basal area of the wing is darker than the rest. Often there is a conspicuous black triangular mark near the anal angle of the forewing. The hindwing is bright yellow with a broad black outer margin.

Similar Species: Cannot be confused with any other Illinois sphinx moth.

Larval Food Plants: David's milbery (*Chiorocca alba*), common snowberry (*Symphoricarpos albus*), and plants of the family Rubiaceae are the known hosts in Florida.

Adult Food Sources: Adults are nocturnal and known to visit flowers.

Natural History: Bivoltine or multivoltine in Florida and the West Indies. They will come to light. The larval body tapers foreward from the first abdominal segment to the small head. In this respect they resemble the larvae of *Darapsa*, known as "hog" caterpillars because of their chance resemblance to the shape of a hog's head. The mature larva is yellow-green with a pair of dorsolateral lines from the mesothorax to the caudal horn. Several dark green lateral oblique lines are present on the abdominal segments.

Status: A rare stray into Illinois from the south.

Range: Florida into the West Indies. It strays to Illinois, Tennessee, New York, and New Hampshire.

Male upperside. Photo by Deborah Matthews. (from the McGuire Center, University of Florida).

Male underside. Photo by Deborah Matthews. (from the McGuire Center, University of Florida).

Female upperside. Photo by Deborah Matthews. (from the McGuire Center, University of Florida).

Female underside. Photo by Deborah Matthews. (from the McGuire Center, University of Florida).

Mournful Sphinx **Subfamily: Macroglossinae**
Enyo lugubris (Linnaeus)

Description: Wingspan 50–60 mm. (2–2 3/8 in.). Forewing with somewhat irregular scallops, hindwing weakly scalloped. Wings and body are grayish brown with much darker brownish black patches, one of them covering most of the outer half of the forewing. A small triangular dark spot is at the apex. There is a narrow medial line and just beyond it a round pale brown reniform spot. The hindwing is uniformly gray-brown, but may have a diffuse darker patch along the outer margin. The undersides are brown with obscure markings.

Similar Species: None in Illinois. The absence of yellow or other bright colors easily separates this species from Abbott's Sphinx (*Sphecodina abbottii*) and Nessus Sphinx (*Amphion floridensis*).

Larval Food Plants: Plants in the Vitaceae including grape (*Vitis* spp.), ampelopsis (*Ampelopsis* spp.), and *Cissus* spp.

Adult Food Sources: Flower nectar.

Natural History: Multivoltine in the Neotropics. In Florida it flies year round. The species is a resident along the southern border of the U.S., with strays to Michigan and New York during the summer months. Adults are crepuscular, taking nectar from a variety of flowers in season. They are said to make a whirring sound in flight. Larvae are variable in color, ranging from green to blue-green or yellow-green to gray-green (Hodges 1972). Markings include the lateral oblique lines common to many sphinx species. Some larvae have the prologs and body mottled with black. Larvae pupate in loosely woven cocoons in cells just below the ground surface.

Status: In Illinois it can be expected only as a rare stray from the south in late summer or fall. Based on the condition of the Illinois captures, it may occasionally breed in the state.

Range: Neotropical with strays into northern regions. Breeding resident from Argentina and Uruguay north to Mexico, the West Indies, and regularly to southern Florida, Louisiana, and southern Texas. Strays north to Michigan and New York.

Male upperside.
Union County, IL.
Wiker Collection.
(from Sue Dees).

Male side view.
Union County, IL.
Wiker Collection.

Female upperside.
Pope County, IL.
Wiker Collection.

Female underside.
Orlando, FL.

Fig Sphinx **Subfamily: Macroglossinae**
Pachylia ficus (Linnaeus)

Description: Wingspan 120–140 mm. (4 3/4–5 1/2 in.). The species is variable with the forewing orange-brown, brown, or buff. Zigzag basal and postmedial series of well-defined to obscure lines are present. The round reniform spot is brown with its margin dark brown. At the apex there is a light tan or gray triangular spot. The hindwing is yellow-brown to orange-brown with a black medial band and a black outer margin. At the anal angle of the hindwing there is a small but very conspicuous white spot. The undersides are orange-brown with poorly defined postmedial lines. The thorax and abdomen vary, matching the general color of the forewing.

Similar Species: Species in the genera *Cocytius* and *Neococytius* have dorsolateral orange spots along the abdomen.

Larval Food Plants: Fig (*Ficus* spp.).

Adult Food Sources: Flower nectar.

Natural History: A tropical multivoltine species that strays widely. Known records include Indiana and Pennsylvania. Adults feed on flower nectar, becoming active before sunset then feeding into the night. Larvae are variable in color. Some are pale green with two dorsolateral bands and a series of lateral oblique yellow stripes on abdominal segments one through seven. Another color form is orange on the dorsal surface with dark orange bands. On some, the dorsal surface may be green with bright yellow bands. The slightly curved caudal horn is short and black, blue-green or yellow and black. Pupation is within a cocoon in leaf litter.

Status: Occurs in the north only as a vagrant. There is an Indiana record. Not known from Illinois although it may, on rare occasions, stray into the state.

Range: Mostly Neotropical with Florida and the Brownsville area of Texas the northern breeding limit. In common with a number of tropical species, the Fig Sphinx may stray far north of its normal range. It has been recorded from Pennsylvania and Indiana.

Female upperside. Apatzenique, Mexico.

Female upperside. Toledo District, Honduras.

Male upperside. San Jose Province, Costa Rica.

Titan Sphinx and Fadus Sphinx **Subfamily: Macroglossinae**
Aellopos titan (Cramer) and *Aellopos fadus* (Cramer)

Description: These two moths are nearly identical, they differ as follows:
Titan —Wingspan 50–65 mm. (2–2 5/8 in.). A dark brown sphingid with white markings. On the forewing there are two rows of translucent white spots, one near the subapex with four or so spots in a slightly curved row, and a postmedial row consisting of several spots in a straight doubled row. The outer margin is gray-brown. There is a distinct black reniform spot on the forewing at the distal end of discal cell. The hindwing costal margin is whitish and the anal angle and inner margin are washed with grayish white. The body is dark brown with a very conspicuous white band on the abdomen present on the dorsal surface but not on the underside. The tip of the abdomen is tufted.
Fadus —Wingspan 50–65 mm. (2–2 5/8 in.). Differs from Titan in that the subapical and postmedial forewing spots lie in two parallel rows. In Titan, the subapical spots are a single row. Also, Fadus has no distinct reniform spot, Titan does. Compare the images on the next page.

Similar Species: Nessus Sphinx (*Amphion floridensis*) has scalloped wings and two bright yellow abdominal bands.

Larval Food Plants: Both species use various plants in the madder family (Rubiaceae). Titan is known to use buttonbush (*Cephalanthus occidentalis*). Other possible hosts present in Illinois include white indigoberry (*Randia mitis*) and seven-year apple (*Casasia clusiifolia*).

Adult Food Sources: Known to take nectar from flowers, such a phlox (*Phlox* spp.) and lantana (*Lantana* spp.).

Natural History: Univoltine in the north multivoltine in the south. Both species are active during daylight hours and has been observed feeding at phlox in late afternoon.

Status: Titan is a rare but constant stray in Illinois, known from a few scattered records. The most recent was June, 2006, in Pontiac, by Sarah Stalter. Fadus was found one time in Chicago, 1894, and in general is a much rarer visitor to North America.

Range: Both occur regularly in the Neotropics from southern Florida and Texas, south in the West Indies, Mexico, and to Argentina.

Male Titan Sphinx
upperside.
Putnam County, IL.

Male Titan Sphinx
underside.
Putnam County, IL.

Female Fadus Sphinx
upperside.
Cook County, IL.
(from the Field Museum)

Female Fadus Sphinx
underside.
Cook County, IL.
(from the Field Museum)

Alope Sphinx **Subfamily: Macroglossinae**
Erinnyis alope (Drury)

Description: Wingspan 80–100 mm. (3 3/16–4 in.). The forewing is dark brown with fine black streaks extending outward formed by black scales along the wing veins with alternating cluster of light brown scales. The basal half of the hindwing is bright yellow. A broad brown band extends along the outer margin of the hindwing. Pale gray dorsolateral spots are present on most of the abdominal segments with a narrow row of small mid-dorsal spots running the length of the abdomen. On the underside the wings are light brown, with a diffuse yellowish area on the hindwing. A narrow zigzag postmedial line is present on the underside of both wings.

Similar Species: Other *Erinnyis* species have orange hindwings, not yellow. Abbott's Sphinx (*Sphecodina abbottii*) is much smaller, has scalloped wing margins and lacks abdominal spots.

Larval Food Plants: Has been reared on papaya (*Carica papaya*), allamanda (*Allamanda* spp.), and nettlespurge (*Jatropha* spp.).

Adult Food Sources: Flower nectar.

Natural History: A Neotropical species that wanders north in summer and fall. Multivoltine within its tropical range. The mature larva (5th instar) is dark yellow-brown with irregular yellow dashes above the prolegs. The first abdominal segment is yellow, the dorsum of the thorax is dark brown. The top of the anal horn is yellow. Two yellow stripes are present on the back of the head. The penultimate larval instar (4th) is green with a pair of pale dorsolateral stripes from the head to the base of the anal horn. Larvae pupate within a thin silken cocoon on the ground amid loose leaf litter.

Status: Four specimens have been recorded from Union County, Illinois. It occurs here only as a rare stray from the Neotropics.

Range: Argentina and Uruguay north to Mexico, the West Indies, Florida, Texas, and Arizona. Strays widely in late summer and early fall to Arkansas and Kansas and, rarely, to Illinois.

Male upperside. Union County, IL. Wiker Collection.

Female uppreside. Union County, IL. Wiker Collection.

Female underside. Riviera, Fl.

Ello Sphinx **Subfamily: Macroglossinae**
Erinnyis ello (Linnaeus)

Description: Wingspan 75–100 mm. (3–4 in.). The species is sexually dimorphic with the sexes differing in the forewing maculation. Males have the forewing gray or gray-brown with a distinctive and conspicuous dark brown band extending from the base to the apex. Females have the forewing entirely pale gray without a dark band. Both sexes have five striations over the gray areas with these tending to be more noticeable in the male. There are often small black dots near the outer margin. The hindwing of both sexes is orange with a dark brown band along the outer margin. The thorax and abdomen are the same shade of gray as the forewing. On the abdomen there are alternating gray and black dorsolateral bands interrupted along the dorsal surface.

Similar Species: None in Illinois.

Larval Food Plants: Spurges in the family Euphorbiaceae including poinsettia (*Euphorbia pulcherrima*). Guava (*Psidium* spp.) in the family Myrtaceae, and saffron plum (*Burmelia angustifolia*) in the family Sapotaceae.

Adult Food Sources: Nectar from bouncing bet (*Saponaria officinalis*) and other flowers with deep corollas.

Natural History: Multivoltine in the Neotropics and adjacent subtropics. It strays widely in late summer. Adults are crepuscular and nocturnal. There are two principle color forms of the last larval instars. One form is pale green with a darker head and a pair of dorsolateral bands along the body. The other form is gray-green to brown with scattered dark gray spots. A large conspicuous black eyespot is present on the dorsum of the metathoracic segment. It is bordered laterally with brown crescent-shaped bars. Pupation is within a cocoon spun on the ground among the leaf litter.

Status: Occurs in Illinois as an occasional stray from southern regions of the U.S. Recorded in most years from Illinois, and could be expected almost anywhere in the state in late summer and fall.

Range: Resident from Argentina to Mexico and the West Indies into Florida, southern Texas, and California. Often strays further north.

Male upperside. Union County, IL. Wiker Collection.

Female upperside. Union County, IL. Wiker Collection.

Female underside. Peoria County, IL.

Obscure Sphinx and Domingoensis Sphinx Subfamily: Macroglossinae
Erinnyis obscura (Fabricius) and *Erinnyis domingoensis* (Butler)

Description of *E. obscura*: Wingspan 50–65 mm. (2–2 3/8 in.). Sexually dimorphic. The male forewing is pale gray with a dark longitudinal streak extending from the wing base two-thirds or three-fourths of the way toward the apex. The female forewing is dark gray without a dark longitudinal streak. On both sexes there are scattered fine lines and some mottling with dark spots. Both sexes have the hindwing orange with a very narrow black outer margin. The thorax is gray and the abdomen is gray without spots.

Description of *E. domingoensis*: This is a darker version of *E. obscura*, similar in maculation and the male external genitalia. Sexual dimorphism occurs; the females are generally darker and more evenly marked, the males with a dark forewing band extending from the wing base toward the apex. *E. obscura* is mostly gray. *E. domingoensis* is dark brownish gray. Both vary somewhat in color intensity. Whether they are separate species or color forms of one species cannot be determined without more information, including breeding records. Typical *E. obscura* occurs throughout the southern U.S. from Florida to Texas and strays to the north. *E. domingoensis* occurs with *E. obscura* in southern Florida and at Brownsville, Texas, where it is reported to be common.

Larval Food Plants: Papaya (*Carica papaya*), family Annonaceae, *Philbertia* and *Cynanchium* spp., family Apcynaceae and spurges, family Euphorbiaceae, including *Poinsettia* and pawpaw (*Asimina triloba*, family Annonaceae) have been reported as larval food plants.

Adult Food Sources: Nectar from flowers.

Natural History: Bivoltine in the south, univoltine in the north. Adults are crepuscular and nocturnal. Mature larvae are green to pale yellow-green. There is a pair of lateral dorsal lines from the head to the caudal horn. Dorsolateral dots occur on abdominal segments one through seven as remnants of the usual sphingid lateral oblique stripes.

Status: *E. obscura* strays to Illinois usually in August through September. In some years it is not uncommon in southern Illinois. *E. domingoensis* is a rare stray. We know of only one Illinois record. See photo.

Range: Together the range is from Bolivia and Uruguay north to Central America, Mexico, the West Indies, Florida to Texas, Arizona, and southern California with strays to North Dakota, Illinois, and Pennsylvania.

NOTE: Rearing of this species will likely prove that *E. domingoensis* is nothing more than a dark form of *E. obscura*. We have included them in this way until more information is available.

Male Obscure Sphinx upperside.
Union County, IL.
Wiker Collection.

Male Obscure Sphinx underside.
Florida.

Female Obscure Sphinx upperside.
Union County, IL.
Wiker Collection.

Male *Erinnyis domingoensis*.
Union County, IL.
Wiker Collection.

Snowberry Clearwing **Subfamily: Macroglossinae**
Hemaris diffinis (Boisduval)

NOTE: Also called Bumblebee Moth.

Description: Wingspan 32–50 mm/ (1 5/16–2 in.). Both wings are largely transparent due to the absence of scales that are lost soon after eclosion of the adult. The forewing outer margin is dark brown to orange-brown, widest anteriorly then tapering to a narrow band posteriorly. The costal margin is dark brown. The inner margin and the distal edge of the discal cell are narrowly edged dark brown. The hindwing outer margin is bordered narrowly with dark brown. The thorax is yellow-brown above and pale yellow below with a conspicuous black stripe on each side. The abdomen is black with a broad yellow band encircling the tip. Clavate antennae are black as are the legs. The species is a mimic of bumblebees.

Similar Species: The Hummingbird Clearwing (*H. thysbe*) lacks ventral thoracic stripes and the dark areas are reddish brown. The Slender Clearwing (*H. gracilis*) is reddish brown but does have a central thoracic stripe.

Larval Food Plants: Dogbane (*Apocynum* spp.), dwarf honeysuckle (*Diervilla lonicera*), snowberry (*Symphoricarpos* spp.) and honesyckle (*Lonicera* spp.).

Adult Food Sources: Nectar from a great variety of plants depending on seasonal availability. Because they are diurnal and often seen feeding, there are many records of plants visited. A partial list includes thistles (*Cirsium* spp.), pickerel weed (*Pontederia cordata*), phlox (*Phlox* spp.), bouncing bet (*Saponaria officinalis*), honesuckle (*Lonicera* spp.), bee balm (*Monarda* spp.), lilac (*Syringa* spp.), red clover (*Trifolium pratense*), cardinal flower (*Lobelia cardinalis*), hawkweed (*Hieracium* spp.), blueberry (*Vaccinium* spp.), milkweed (*Asclepias* spp.), butterfly bush (*Buddleia* spp.), mock orange (*Philadelphus coronarius*), snowberry (*Symphoricarpos* spp.), dogbane (*Apocynum* spp.), Canada violet (*Viola canadensis)*, and many others in season.

Natural History: Bivoltine. Adults are present from early spring to fall. The species is diurnal and does not fly at night. Often seen feeding at flowers, hovering with tongue probing the corolla of the flower. They do not land while feeding, but may touch the flowers with their forelegs. Their behavior differs from that of a bumblebee, which lands and crawls into the flower to feed. Although there is this difference in behavior, the moth is an impressive mimic of the bumblebee. The black and yellow bands of the bee are repeated

and the resemblance is further increased by the transparency of the moth's wings. This transparency is due to the shedding of dark scales during the moth's first flight soon after eclosion from the pupal stage. The deciduous scales are dark and give the newly emerged moth an appearance more typical of other sphinx moths. Larvae are green, granulose, and without lateral oblique stripes. The spiracles are in spots, black encircled with white. Horn is well developed.

Status: Not uncommon and sometimes common to abundant.

Range: Nova Scotia to British Columbia north into the Northwest Territories, south to California and Florida and throughout most of the U.S.

Male upperside. Pope County, IL.

Female upperside. Champaign County, IL.

Male underside. Pope County, IL.

Snowberry Clearwing Sphinx side view. Champaign County, IL.

Snowberry Clearwing Sphinx side view. Quincy, IL.

Snowberry Clearwing Sphinx nectaring on phlox.

Slender Clearwing **Subfamily: Macroglossinae**
Hemaris gracilis (Grote and Robinson)

Description: Wingspan 30–50 mm. (1 3/16–2 in.). Both wings are transparent over much of their surfaces due to the shedding of deciduous scales soon after eclosion of the adult. Firmly attached dark reddish brown scales form broad marginal bands on both wings, including the costal, outer, and inner margins. A conspicuous patch of dark scales is present on the outer edge of the discal cell. The inner edges of the outer marginal bands are smooth. The thorax is olive to brown on the upperside. On the underside the thorax is pale yellow with a conspicuous ventrolateral reddish brown stripe. The anterior third of the abdomen is olive, the posterior two-thirds reddish brown. Legs are yellow. The clavate antennae are black.

Similar Species: The Snowberry Clearwing (*H. diffinis*) has a black stripe on the underside of the thorax. Its wings are marked with brown-black, not reddish brown. The Hummingbird Clearwing (*H. thysbe*) has the underside of the thorax clear pale yellow without a lateral stripe.

Larval Food Plants: Low bush blueberry (*Vaccinium vacillans*) and laurel (*Kalmia* spp.). They have been reared on high bush blueberry (*Vaccinium corymbosum*).

Adult Food Sources: Dirunal feeding on nectar from orange hawkweed (*Hieracium aurantiacum*), dandelion (*Taraxacum officinale*), pickerelweed (*Pontederia cordata*), phlox (*Phlox* spp.) raspberry and blackberry (*Rubus* spp.) azalea (*Rhododendron* spp.), and no doubt many others.

Natural History: Bivoltine. Adults in spring and again in August. Females oviposit during the day on the larval host, placing pale green oblong eggs singly on the underside of leaves. First and second instar larvae are pale green with a black horn. Color markings appear with the third instar and are fully expressed in the fourth and fifth instars. The mature larva is about two inches long with the body yellow-green and the head darker green. The spiracles are pink, each with a white dot above and another one below. There may be an orange area anterior to each spiracle. A pair of pale yellow dorsolateral lines run along the dorsum from the mesothorax to the base of the anal horn. The body is smooth, not granular, but with minute setae. Its ventral surface is reddish to purplish brown. Thoracic legs are pinkish brown. Abdominal prolegs three to six are purplish brown, the anal prolegs green and purplish brown below. The horn is reddish brown. Pupation is in a loose silken cocoon at the ground surface among the leaf litter.

Status: Not recorded from Illinois. Included here because of its presence in neighboring states.

Range: Nova Scotia to Michigan and Manitoba south in the east to Florida. Usually uncommon.

Male upperside.
Luce County, MI.
Wiker Collection.
(from M.C. Nielsen).

Male underside.
Sebec Lake, ME.

Slender Clearwing
Sphinx. Side view.
Sebec Lake, ME.

Hummingbird Clearwing **Subfamily: Macroglossinae**
Hemaris thysbe (Fabricius)

NOTE: Also called Common Clearwing Sphinx

Description: Wingspan 30–55 mm. (1 1/4–2 3/16 in.). Soon after eclosion large areas of the wings shed their wing scales. The wings then have extensive transparent areas as an important component to their mimetic resemblance to bumblebees. In the Hummingbird Clearwing, the forewing outer margin is bordered by a broad band of dark reddish brown scales. The inner edge of this marginal band may be fairly smooth or it may consist of a series of toothlike projections between veins. Here is a narrow band of reddish brown scales along the costal margin and a loop of similar color along he margin of the discal cell. The hindwing is also transparent with broad bands of reddish brown scales along the inner and outer margins. Dorsally, the thorax is olive-brown, ventrally pale yellow, almost white, without a dark lateral stripe. The legs are pale yellow. Anterior segments of the abdomen are yellowish, forming a broad band. A similar band encircles the terminal abdominal segments. The region between these yellowish bands is reddish brown. The clavate antennae are dark brown.

Similar Species: Snowberry Clearwing (*Hemaris diffinis*) and Slender Clearwing (*Hemaris gracilis*) both have the underside of the thorax pale yellow with a dark lateral stripe on each side.

Larval Food Plants: Honeysuckle (*Lonicera* spp.), hawthorns (*Crataegus* spp.), snowberry (*Symphoricarpos* spp.), cherry and plum (*Prunus* spp.), and Europeaon cranberry bush (*Viburnum opulus*).

Adult Food Sources: Nectar from many kinds of plants, including milkweed (*Asclepias* spp.), thistle (*Cirsium* spp.), pickerelweed (*Pontederia cordata*), phlox (*Phlox* spp.), bee balm (*Monarda* spp.), clover (*Trifolium* spp.) vetch (*Vicia* spp.), blueberry (*Vaccinium* spp.), lilac (*Syringa* spp.), honesuckle (*Lonicera* spp.) and no doubt many others.

Natural History: Bivoltine. Adults in April–June and July–September. The adults are diurnal, including feeding, mating, and oviposition. The mature larva is green or sometimes reddish and very granulose. A pair of dorsolateral yellow stripes extend from the thorax to the base of the anal horn. There may be a yellow or orange and black band above each thoracic and abdominal leg. Spiracles are red or orange with two white dots present within an orange circle. The horn is blue or red and granulose. Pupation is in a cocoon spun loosely with silk on the ground among the leaf litter.

Status: Statewide. Common.

Range: Newfoundland to British Columbia south to Texas and Florida.

Male upperside. Putnam County, IL.

Female upperside. Elgin, IL.

Male underside. Edgebrook, IL.

Hummingbird Clearwing Sphinx side view. Peoria County, IL.

Hummingbird Clearwing Sphinx nectaring on thistle. Vermilion County, IL.

Humming bird Clearwing Sphinx nectaring.

Hummingbird Clearwing Sphinx nectaring while hoveing.

Achemon Sphinx **Subfamily: Macroglossinae**
Eumorpha achemon (Drury)

Description: Wingspan 75–100 mm. (3–4 in.). Forewing light tan with dark brown patches. A dark subapical patch is located along the costal margin. In some specimens a postmedial costal patch may be present. Along the inner margin. about midway between the base and the tornus. there is a somewhat squarish-shaped dark patch and a smaller dark brown spot at the tornus. On each side of the thorax there is a triangular dark brown patch. The hindwing has the costal area light pink. shading outward into dark red brown. A broken line of black spots separates this from the light brown outer margin. The abdomen is light brown without lateral spots.

Similar Species: Pandorus Sphinx (*E. pandorus*) has similar markings that are greenish brown and without pink on the hindwing.

Larval Food Plants: Grape (*Vitis* spp.) and ampelopsis (*Ampelopsis* spp.).

Adult Food Sources: Nectar from bouncing bet (*Saponaria officinalis*). honeysuckle (*Lonicera* spp.). petunia (*Petunia* spp.). mock orange (*Philadelphus coronarius*). nasturtium (*Nasturtium* spp.). and others. The proboscis is not long enough to reach the nectar of very deep-throated flowers such as day lilies.

Natural History: Bivoltine with adults from late May into August. Crepuscular and nocturnal. Adults come readily to light. Eggs are laid singly on the undersides of the larval host leaves. There are no reports of eggs on the upper surfaces of older leaves. First and second instar larvae are green or brown. dusted with white or yellow white dots. otherwise without markings. though the anal shield is red-brown. Along the side of the abdomen of the third instar. six long and narrow oblique lines appear. In the fourth instar the oblique lines become divided into white irregular ovals outlined with black: the general body color varies from shades of green to various browns. The fourth instar horn is bright red. tipped with black. and shorter compared to body length. The fifth instar larva varies: some are green or greenish brown. some pinkish brown and some chocolate brown. There are dark dorsal and subdorsal lines. The body has black-ringed white dots all over. The five oblique lines have become large oval white spots. edged with black. each surrounding a spiracle on adominal segments three to seven. The horn is lost and its former location has become a tubercle. shiny black and encircled by deep yellow. Pupation is within a burrow in the ground. The pupal proboscis case is appressed against the body. not partially free as in *Manduca* spp. Pupa of the last generation overwinter.

Status: Statewide. Uncommon to common. Can be a pest where grapes are grown.

Range: Most of eastern U.S. west to the Great Plains from North Dakota to Texas. It occurs in California and the southwest U.S. and south into the Neotropics.

Male upperside. Putnam County, IL.

Female upperside. Putnam County, IL.

Male underside. Lee Coounty, IL.

Male upperside. Lee County, IL.

Achemon Sphinx caterpillar. Livingston County, IL.

Achemon Sphinx resting on fern. Lee County, IL.

Banded Sphinx **Subfamily: Macroglossinae**
Eumorpha fasciata (Sulzer)

Description: Wingspan 75–115 mm. (3–4 9/16 in.). The forewing is dark brown with a conspicuous tan stripe that extends diagonally from the base to the apex. Extending toward the outer margin are three white lines formed by scales along wing veins. The outer margin has a broad gray border. A similar gray band runs along the costal margin. The costal region of the hindwing is gray. Beyond the gray, the wing has a dark brown postmedial band and a pink border along the outer margin. The anal angle is rosy pink. The body is light brown with dark stripes extending from the head to the end of the abdomen.

Similar Species: The Vine Sphinx (*E. vitis*) has gray marginal bands on the hindwing. The pink area at the anal angle is reduced. Its forewing has a postbasal and subapical bar extending forward from the stripe that runs from the base to the apex of the wing. The White-lined Sphinx (*Hyles lineata*) has a very conspicuous medial band of pink on the hindwing.

Larval Food Plants: The larvae feed on various plants in the family Onagraceae, the evening primroses, including primrose-willow and also on grape (*Vitis* spp.).

Adult Food Sources: Nectar from flowers.

Natural History: Univoltine in the north with adults in late summer and fall, some as vagrants. Bivoltine in Florida north to South Carolina west along the Gulf Coast and south to the Neotropics. Adults are crepuscular and nocturnal. They come readily to light. Mature larvae are variable in color, ranging from green through yellow to red and in various combinations of these colors. Seven lateral oblique bands varying from white to yellow to green are present on abdominal segments two to eight. Spots of various colors may ring segments. A pair of broad dorsal bands extends from the head to the caudal horn. Early instars have the anal horn well developed, but in the fifth instar this is reduced to a slightly raised buttonlike tubercle. Pupation is in a burrow in the soil prepared by the last instar larva.

Status: A migrant and occasional breeder in Illinois. In some years it can be common in southern Illinois, other years it may be completely absent.

Range: Permanent breeding resident in the Neotropics and adjacent subtropical areas and in the southern states of the U.S. Strays north in the east to

Nova Scotia, Michigan, Illinois, and Missouri and is a resident north to South Carolina. It is a breeding resident from Florida to California with strays northward.

Male upperside. Stemper, FL.

Female upperside. Union County, IL. Wiker Collection.

Gaudy Sphinx **Subfamily: Macroglossinae**
Eumorpha labruscae (Linnaeus)

Description: Wingspan 100–125 mm. (4–4 15/16 in.). A very large spectacular sphinx moth that is essentially tropical, ranging from South America to Florida and the West Indies and straying as a vagrant regularly to northern areas, including Missouri, Illinois, Michigan, Maine, and even Saskatchewan. The forewing is olive to gray-green, as are the thorax, legs, and abdomen on the dorsal sides. The underside of the forewing and body are yellow to green. The abdominal spiracles are metallic gold. The hindwing is yellow along all margins. Most of the wing is black with an iridescent blue center and a colorful pink streak near the inner margin. At the anal angle there is a gray patch. On the underside the wings are yellow with a well-defined brown transverse line. A reniform spot is visible ventrally.

Similar Species: None in Illinois.

Larval Food Plants: Grape (*Vitis* spp.), marine vine (*Cissus* spp.), Christmasbush (*Eupatorium odoratum*), and ampelopsis (*Ampelopsis* spp.).

Adult Food Sources: Nectar from flowers.

Natural History: Bivoltine in Florida and Texas, univoltine northward where it is present only as a late season stray. Crepuscular and nocturnal. Adults come to light. Mature larvae are various shades of brown and yellow-gray. Along the abdomen there are six lateral yellow-white lunules. The surface below the lunules is brown. On the dorsal surface the segments are brown. On the metathorax there is a pair of dorsolateral eye spots. When disturbed, the head, prothorax, and mesothorax are withdrawn into the metathorax, causing the segment with eyespots to resemble the head of a snake. The caudal horn of the fifth instar is reduced to a raised round tubercle. Earlier instars have the caudal horn typical of sphinx moth larvae. Pupation is in a burrow in soil prepared by the last larval instar.

Status: A rare stray from the south into Illinois. There is an 1897 record of a capture in Chicago in the Illinois Natural History Survey Collection. The authors have seen a photograph of a fresh adult feeding, taken in 2007 in Chicago, IL. Oddly, there are no records from southern or central Illinois.

Range: Resident species from Argentina through Mexico and the West Indies to the Gulf States west to Arizona. It strays north to Missouri, Illinois, Michigan, New York, and Nova Scotia to Saskatchewan.

Female. Upperside. Cook County, IL.

Female. Underside. Cook County, IL.

Pandorus Sphinx **Subfamily: Macroglossinae**
Eumorpha pandorus (Hubner)

Description: Wingspan 75–115 mm. (3–4 9/16 in.). The forewing is olive green with dark green markings. These include a subapical patch along the costa, an elongate patch along the basal half of the inner margin, and a dark area near the anal angle. Another dark green area, triangular in shape, extends through the postmedian from the costal margin toward the anal angle. Several pink streaks extend along the cubital veins toward the outer margin. The hindwing is dark olive with costal and basal areas a rosy brown. The lateral sides of the notum (upper surface of thorax) are dark. The rest of the body is olive green.

Similar Species: Achemon Sphinx (*E. achemon*) has extensive pink on the hindwing and is not green. Two very similar species occur in the south, but have not been recorded anywhere in this region. They are *E. satellitia* and *E. intermedia.*

Larval Food Plants: Grape (*Vitis* spp.), Virginia creeper (*Parthenocissus* spp.) and amepolopsis (*Ampelopsis* spp.).

Adult Food Sources: Nectar from bouncing bet (*Saponaria officinalis*), petunia (*Petunia* spp.), mock orange (*Philadelphus coronarius*), campion (*Lychnis* spp.), phlox (*Phlox* spp.), nasturtium (*Nasturtium* spp.), honeysuckle (*Lonicera* spp.), and white campion (*Lychnis alba*).

Natural History: Univoltine in the north. Bivoltine in the south. Adults are present from June to August in the north and from April to October in the south. Adults are crepuscular and nocturnal. Eggs have been found on the underside of the larval host plant leaves. They are laid singly, not in clusters. Early instar larvae are green or brown with long well-developed anal horns. In the last instar the anal horn is absent, replaced by a rounded tubercle. Large conspicuous oval white spots encircle abdominal segments three to seven around the spiracles. Each spot is bordered with black resembling an eyespot. The thorax and abdomen are spotted dorsally with black dots. The head and prothoracic and mesothoracic segments can be withdrawn into the swollen metathoracic segment. Pupation is within a burrow made by the mature larva in the ground.

Status: Statewide. An occasional economic pest where grapes are grown.

Range: Eastern U.S. Nova Scotia to Florida west to Wisconsin and eastern Great Plains from Kansas to Texas.

Male upperside. Putnam County, IL.

Female upperside. Quincy, IL.

Pandorus Sphinx resting on foliage. Lee County, IL.

Pandorus Sphinx resting on bark. Lee County, IL.

Pandorus Sphinx resting on fern. Lee County, IL.

Pandorus Sphinx resting on hosta. Lee County, IL.

Typhon Sphinx **Subfamily: Macroglossinae**
Eumorpha typhon (Klug)

Description: Wingspan 120–130 mm. (4 3/4–5 1/8in.). Forewing dark brown with pale brown bands within the basal, postmedial, and submarginal areas. The wing veins are coated with whitish scales. On the hindwing the costal area is pink, the center dark brown with a gray patch and a white triangular spot near the anal angle. The thorax and abdomen are dark brown. The underside of the wings is light reddish brown with faint submarginal, postmedial, and medial lines.

Similar Species: The large size and distinctive markings easily separate the Typhon Sphinx from other species of *Eumorpha* likely to be found in Illinois.

Larval Food Plants: Unknown.

Adult Food Sources: No doubt takes nectar from a wide variety of flowers.

Natural History: A tropical species found from Honduras to southern Arizona where it occurs in the mountains. It comes to light at night. Feeding by adults is probably at flowers in a manner similar to its congeners.

Status: May occur as a stray in Illinois. There are records from Missouri.

Range: Resident from southern Arizona to Honduras. The species strays widely.

Male upperside. Cochise County, AZ. Wiker Collection.

Male underside. Cochise County, AZ. Wiker Collection.

Vine Sphinx **Subfamily: Macroglossinae**
Eumorpha vitis (Linnaeus)

Description: Wingspan 75–115 mm. (3–4 9/16 in.). The forewing is dark brown with a pale tan stripe extending from its base to the apex. There is a band of light gray along the outer margin. Three wing veins are lined with white scales; the stripes that result are formed on both sides of a transverse basal-apical band. Several broad tan bands extend forward from the transverse band, one near the base, another near the apex, and a third from midway along its length to the inner margin. The hindwing has the outer margin gray. The base of the hindwing and its costal area are also gray followed by a dark medial line, then a gray area and a dark brown submarginal band. A small pink area is present at the anal angle.

Similar Species: Banded Sphinx (*E. fasciata*) has the hindwing outer margin pink, not gray. There are no short bands from the transverse stripe to the costal margin.

Larval Food Plants: Grape (*Vitis* spp.) and vine (*Cissus* spp.).

Adult Food Sources: Nectar from flowers. Known to visit rosy periwinkle (*Vinca* spp.) and certainly many others.

Natural History: Univoltine northward, bivoltine in the south. Adults in July to October. Feeding by adults is crepuscular, perhaps nocturnal. The species is often caught at light. Mature larvae vary; some are yellow-green, others green and some dark pink. Along the abdomen there are five lateral oblique lines. A pair of dorsolateral lines run the length of the abdomen. Thoracic segments have small black dots. The horn is present in early instars but absent in the fifth instar where it is replaced by a rounded tubercle. Pupation is in a shallow burrow formed by the last instar larva.

Status: A vagrant from the south. Known from Missouri. It is likely to stray to Illinois and is therefore included here.

Range: Argentina to Florida, Texas, and Arizona. Occurs regularly in Louisiana and Mississippi. Strays north to Nebraska, Missouri, and New England.

Male upperside. Ancina, TX.

Female upperside. No data.

Abbott's Sphinx **Subfamily: Macroglossinae**
Sphecodina abbottii (Swainson)

Description: Wingspan 50–75 mm. (2–3 in.). The forewing is marked with dark brown dashes and striations on a gray-brown background. The outer margin is deeply scalloped. The hindwing is weakly scalloped and has a bright yellow area covering about one-half of the wing. The outer half of the wing is dark brown with faint striations at the anal angle. The thorax and abdomen are colored much like the forewings, but without spots or bands.

Similar Species: The Nessus Sphinx (*Amphion floridensis*) might be mistaken for Abbot's Sphinx, but it has circular yellow bands on the abdomen and lacks yellow on the hindwing.

Larval Food Plants: Grape (*Vitis* spp.), ampelopsis (*Ampelopsis* spp.), and woodbine (*Parthenocissus* spp.).

Adult Food Sources: Nectar from flowers. Records include lilac (*Syringa vulgaris*), viburnum (*Viburnum* spp.), honeysuckle (*Lonicera* spp.) and phlox (*Phlox* spp). They feed at dusk. The species has been observed feeding on human feces and on carrion (dog). It comes readily to bait made of fermenting fruit. It has been taken while feeding on sap of trees.

Natural History: Univoltine with adults present from mid-May to July in the north. Farther south there are records as late as August, indicating a possible second generation. Adults are active at dusk and early evening. Eggs are laid singly either on the upper or lower surface of the leaves. First instar larvae have the caudal horn well developed. The horn is reduced to a slender shaft in the second instar. It is absent in subsequent instars where it is replaced by a rounded mound resembling an eye. Mature larvae are variable in color. One form has longitudinal lines looking like wood grain extending from the head to the base of the caudal horn along the dorsum. The dorsolateral oblique lines typical of sphinx larvae are present, dark in color, each running through an abdominal spiracle. The second form differs greatly from the first form. The maculation consists of a series of segmental dorsal spots, each large, rounded and very conspicuous. The larva is unmistakable; in fact, it is spectacular. The large dorsal spots are green, the body is brownish pink. The caudal horn is a tubercule, eyelike in appearance. Pupation and overwintering are in a shallow chamber in the ground.

Status: Statewide. Fairly common. Much more common than records indicate.

Range: Florida to Mississippi north to southern Canada, Michigan, and Maine.

Male upperside.
Menard County, IL.
Wiker Collection.

Male underside.
Putnam County, IL.

Female upperside.
Putnam County, IL.

Abbott's Sphinx resting on fern.

Abbott's Sphinx resting on leaf. Lee County, IL.

Proud Sphinx **Subfamily: Macroglossinae**
Proserpinus gaurae (J.E. Smith)

Description: Wingspan 40–55 mm. (1 5/8–2 3/16 in.). A small diurnal sphinx moth. The outer margins of the forewing are convex, the outer angle angulate. The forewings are brown to light brown. The base is pale with the submedian and median areas dark followed by a pale band in the postmedian, then dark submargin and marginal areas. A small pale ringed, black reniform spot is present with a short, faint white streak along the lower edge (along vein M3). Another white streak is present at the apex that extends a short distance inward with both the top and bottom margins well defined, making a distinct dash. The hindwing is orange with a reddish brown outer margin. The underside of the forewings are orange, grading into brown. The basal half of the underside hindwings are brown. The wings have the same general pattern of markings on both sides. The thorax and abdomen are grayish brown into brown with a distinct pale band around the fifth abdominal segment.

Similar Species: Juanita Sphinx (*P. juanita*) is orange to olive green on the underside forewing, not brown. Its hindwing outer margin is black. The white streak at the apex of the forewing has a distinct lower edge but the top edge is diffuse with no well defined upper margin.

Larval Food Plants: Various plants in the family Onagraceae, including gaura (*Gaura* spp.), evening primrose and sundrops (*Oenothera* spp.), and willow herb (*Epilobium* spp.).

Adult Food Sources: Nectar from flowers.

Natural History: Bivoltine. Adults present from April to August. May be univoltine in more northern areas. Adults are diurnal, taking nectar from plants in bloom at the time of emergence. Mature larvae have a caudal horn. The general color of the body of this spectacular creature is bright yellow-green with oblique red patches, bordered with white, from the mesothorax to the seventh abdominal segment. On the eighth abdominal segment there is a dark patch without white borders. Several black dots within a white area are present on the prothorax. Prolegs are dark as is the ventral surface of abdominal segments seven to nine. Pupation is in a shallow ground cell.

Status: Not recorded from Illinois but is likely to someday be found here. Populations are known from eastern Missouri.

Range: Florida to Texas north to South Carolina in the east and to Missouri in the Mississippi Valley.

Male upperside.
Farmington, MO.
Wiker Collection.

Female upperside.
Farmington, MO.
Wiker Collectoin.

Proud Sphinx caterpillar showing horns.

Proud Sphinx caterpillar.

Juanita Sphinx **Subfamily: Macroglossinae**
Proserpinus juanita (Strecker)

Description: Wingspan 40–55 mm. (1 5/8–2 3/16 in.). The overall appearance and maculation of this moth is about the same as the preceding species (*P. gaurae*) with the following differences: in general, it is a darker moth with the upper forewings a dark shade of brown. The white mark at the apex of the forewing has a well defined lower edge but the top edge is blurred with no defined margin. On the underside of the forewing the pattern is repeated, the basal area is orange, grading into olive green. The upperside of the hindwing is orange with the outer marginal band black. The hindwing underside is brown grading into olive green. The thorax is green and the abdomen brown.

Similar Species: Proud Sphinx (*P. gaurae*) has both the upper and lower edges of the white dash on the forewing apex well defined. Upperside hindwing outer marginal band is reddish brown. The underside of the forewing is orange grading to brown.

Larval Food Plants: Plants in the family Onagraceae including gaura (*Gaura* spp.), willow herb (*Epilobium* spp.), and evening primrose and sun drops (*Oenothera* spp.).

Adult Food Sources: Nectar from flowers including dame's rocket (*Hesperis matronalis*) and thistles (*Cirsium* spp.).

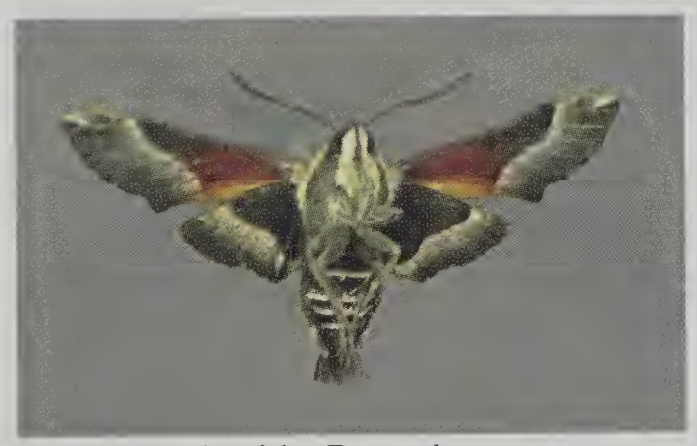
Natural History: Bivoltine, univoltine in the north. Adults are diurnal, feeding on nectar from a variety of flowers in season. Penultimate instar larva (next to last) is green with a pale dorsolateral stripe on each side. The thoracic legs and abdominal prolegs are red. The body is densely covered with white nodules. The caudal horn is reduced to a red tubercle. The fifth and final larval stage is entirely different in color from that of the earlier instars. With this sudden and surprisingly different appearance, it is no longer cryptic resembling foliage, but, instead, becomes very conspicuous due to its bright colors and reptilian appearance. The mature larva is bright brick red with the lateral oblique lines very broad white with a dense, even sprinkling of sharply defined small black spots. The spiracles are white encircled with black. The prolegs and the area below the spiracles are cream white. Eight large brick red spots are present along the back, the first one on the metathorax, the others on abdominal segments one through seven. The caudal tubercle is slightly raised, black encircled by yellow and then black. A white spot in the center gives the appearance of the glint in a vertebrate eye. Pupation is in a chamber in the ground.

Status: Not recorded from Illinois. Included here because of the proximity of known populations within a few miles of the Mississippi River in eastern Missouri. It should be looked for on the Illinois side of the river.

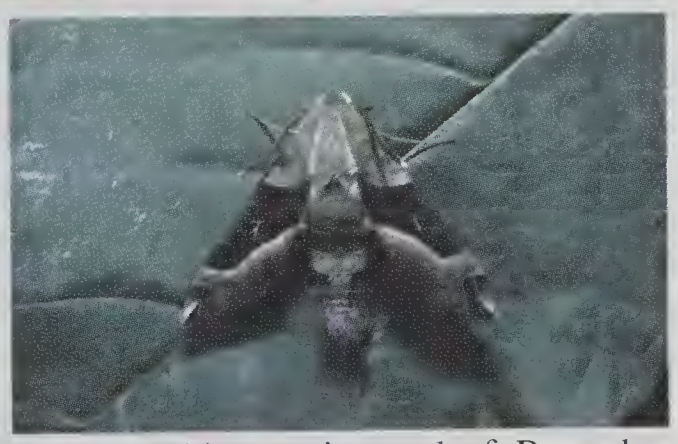
Range: Texas to Nebraska and Missouri west to Colorado and Arizona.

Male upperside. St. Francis County, MO.
Wiker Collection.

Female upperside. Reared.

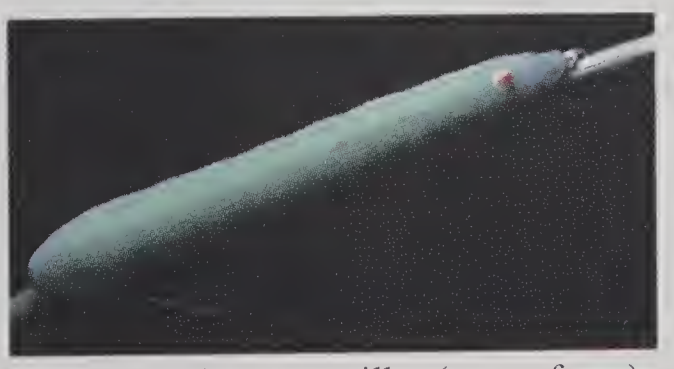


Female underside. Reared.



Juanita Sphinx resting on leaf. Reared.

Juanita Sphinx caterpillar (red form).
Elvins, MO.



Juanita Sphinx caterpillar (green form).
Elvins, MO.

Nessus Sphinx **Subfamily: Macroglossinae**
Amphion floridensis B.P. Clark

Description: Wingspan 35–55 mm. (1 3/8–2 3/16 in.). Wings and body are dark brown. Forewing outer margins with undulate scalloping. Basal and postmedial areas are lighter than the rest of the wing. The costal half of the hindwing is reddish orange with a yellow area near its apex. The reddish orange may be pale or very dark. There are two sharply defined bright yellow rings encircling the abdomen. The anterior one is very conspicuous and fairly broad. The posterior one is narrow and sometimes hidden.

Similar Species: Abbot's Sphinx (*Sphecodina abbottii*) has a superficial resemblance but differs in several significant details. It has a yellow band on the hindwing instead of reddish orange and it lacks yellow bands on the abdomen.

Larval Food Plants: Grape (*Vitis* spp.), and ampelopsis (*Ampelopsis* spp.).

Adult Food Sources: Nectar from flowers of pickerelweed (*Pontederia cordata*), herbrobert (*Geranium* spp.), lilac (*Syringa vulgaris*), mock orange (*Philadelphus coronarius*), phlox (*Phlox* spp.), beauty bush (*Kolkwitzia amabilis*), verbena (*Verbena* spp.), and no doubt many others. They are reported to come to bait made of beer, molasses, and brown sugar. The authors have found that it will come readily to fermenting fruit.

Natural History: Univoltine in the north, multivoltine in the south. Adults are diurnal and crepuscular feeding during the day and the evening hours. Where univoltine, adults are present from April to July. Where there are two or more generations, adults may be present into September as well. The mature larva is pale brown with the body covered with yellow granulation. There are 8 to 10 lateral oblique lines, distinct and nearly black. The horn is very short, stout, and rough. The spiracles are black, encircled with yellow. Thoracic and abdominal legs are brown. Pupation is in a cell in the soil prepared by the prepupal last instar.

Status: Statewide. A fast flying diurnal and crepuscular species, not uncommon.

Range: Nova Scotia to Florida in the east, Alberta to Kansas in the plains and most of eastern North America.

Male upperside.
Lee Center, IL.

Male upperside.
Anderson, IN.

Male underside.
Putnam County, IL.

Female upperside.
Quincy, IL.

Virginia Creeper Sphinx **Subfamily: Macroglossinae**
Darapsa myron (Cramer)

NOTE: Other names are Hog Sphinx and Grapevine Sphinx

Description: Wingspan 45–75 mm. (1 13/16–3 in.). Forewing sharply falcate, outer margin curved but not scalloped. Pattern consists of submedial and postmedial bands. The postmedial band may be dark near the costa and light towards the inner margin. The two bands and the median area between them are nearly equal in width. There is a small dark reniform spot. The general color is olive to tan with the medial bands varying in intensity. The hindwing is a pale tawny color with a narrow outer marginal band. The thorax and abdomen are brown without a mid-dorsal stripe. The species is quite variable; some are light others dark brown, some with the bands contrasting, others more evenly colored.

Similar Species: *D. pholus* has the posterior part of the postmedial band slightly curved toward the wing base, but not as much as in *D. myron*.

Larval Food Plants: Grape (*Vitis* spp.), ampelopsis (*Ampelopsis* spp.), Virginia creeper (*Parthenocissus quinquefolia*), and viburnum (*Viburnum* spp.).

Adult Food Sources: Nectar from honesuckle (*Lonicera* spp.), campion (*Lychnis alba*), and probably many others. They will come to bait. Proboscis length of about 15 mm limits feeding.

Natural History: Bivoltine. Adults are present from April to September. Feeding by adults is crepuscular. Eggs are laid in small batches of two or more on the underside off leaves. Mature larvae may be green or brown. There are seven lateral oblique lines on each side of the abdomen, each merging above with a dorsolateral line that runs through the first to eighth abdominal segments where it meets the caudal horn base. The horn is elongate, stout, and slightly curved downward. Metathorax and first abdominal segments are swollen. The spiracles are orange, marked with white in front and in back. Pupation is in a loose silken cocoon spun by the prepupal larva among loose leaves on the ground.

Status: Statewide. Often common.

Range: Florida to Maine west to southern Ontario south to Texas and New Mexico. Throughout the eastern half of the U.S.

REMARKS: The colloquial name "Hog Caterpillar" derives from the fancied resemblance to a hog's head when the larva is viewed from the side. The small head and anterior thorax withdraw into the enlarged metathorax and first abdominal segments producing a silhouette resembling a hog's head.

Male upperside. No data.

Male upperside.
Champaign County, IL.

Female upperside.
Peoria County, IL.

Virginia Creeper Sphinx resting.
Champaign County, IL.

Virginia Creeper Sphinx resting on bark. Lee County, IL.

Azalea Sphinx **Subfamily: Macroglossinae**
Darapsa pholus (Cramer)

Description: Wingspan 50–75 mm. (2–3 in.). Forewing falcate with outer margin slightly convex. A postmedial line extends from the center of the costal margin to the inner margin, meeting the latter midway, separating the outer half of the wing into a dark brown area with faint maculation. The inner half of the forewing is light brown with some darkening in the basal area. A small dark brown reniform spot is present. Overall, the forewing has a faint purplish caste. The hindwing is orange-brown with the costal margin pale buff. The body is brown with an orange tinge. The wings on the underside are uniformly orange-brown with medial and postmedial lines weakly defined. The tibia of the foreleg is spinulate (with small spines).

Similar Species: The Virginia-creeper Sphinx (*D. myron*) has the foreleg tibia smooth without spines. Its medial line of the forewing is more angulate, curving more toward the base of the inner margin.

Larval Food Plants: Azalea (*Rhododendrum* spp.), viburnum (*Viburnum* spp.), and blueberry (*Vaccinium* spp.).

Adult Food Sources: Nectar from flowers. Honeysuckle (*Lonicera* spp.) and campion (*Lychnis alba*). Proboscis length is 22 mm. It comes to a beer and molasses mix, and to fermenting fruit.

Natural History: Unvoltine in the north, bivoltine in the south. Adults are nocturnal. They will come to light and also to baits made from beer and molasses or from fermenting fruit. Oviposition is on the undersides of leaves of the larval food plant. Mature larvae resemble larvae of the Virginia-creeper Sphinx, but with the caudal horn straight not curved downward. The lateral oblique lines are less developed. In the Azalea Sphinx the mature larvae are green or brown. The enlarged metathoracic and first abdominal segments are conspicuous and without dots. The first two oblique lines are narrow, the remaining five broad. All of the oblique lines join above to form a poorly defined subdorsal stripe. The horn is straight and thornlike.

Status: Statewide. Generally uncommon, except in far southern Illinois where it may occasionally be common.

Range: Nova Scotia to Florida west to North Dakota and Texas.

Male upperside. Palos Park, IL.

Male underside.Palos Park, IL.

Female upperside. Carbondale, IL.

Hydrangea Sphinx **Subfamily: Macroglossinae**
Darapsa versicoclor (Harris)

Description: Wingspan 60–80 mm. (2 3/8–3 3/16 in.). Forewing apex sharp but not falcate, its outer margin is convex. The general color of the forewing is greenish brown. There is a series of short whitish lines in the discal region and again at the subapex. The postmedian is dark, bordered on the outer side by a whitish postmedial line. At the apex there is a pinkish white patch, zigzag in shape. The hindwing is reddish brown, the costal margin very pale yellowish white, the outer margin greenish brown, the anal angle buff and streaked with brown. The thorax is greenish brown; the abdomen is orange-brown with a narrow white dorsal stripe extending its length and running forward to the head. The wings on the underside are orange-brown with darker outer margins. The whitish markings of the apex and subapex are repeated.

Similar Species: None in Illinois. This beautiful species in unmistakable.

Larval Food Plants: Larvae are known to feed on buttonbush (*Cephalanthus occidentalis*), water willow (*Decodon verticillatis*), and smooth hydrangea (*Hydrangea arborescens*).

Adult Food Sources: Nectar from flowers. Has been reported to come to sugar bait.

Natural History: Univoltine in the north, bivoltine in the south. Adults of northern populations are present in June and July. The species comes to light and is nocturnal. Mature larva is typical of the genus with swollen metathoracic and first abdominal segments. Thoracic and first abdominal segments are yellow-green, the rest darker green. Pale dorsolateral lines run from the head to the metathorax. Six lateral oblique lines are present, the last line crossing three segments to meet the base of the caudal horn. Spiracles are ringed with red-brown. The caudal horn is black and red.

Status: Probably statewide, although records are few and most are from the southern part of the state. The authors have observed periods of time when this species is seen with some frequency, followed by several years of apparent absence. Population cycles like this are apparently typical of the species.

Range: Maine to Florida west to Michigan, Illinois, and Missouri and south to Mississippi and Arkansas.

Male upperside. Union County, IL. Wiker Collection.

Male underside. Fremont, IN.

Female upperside. Union County, IL. Wiker Collection.

Lettered Sphinx **Subfamily: Macroglossinae**
Deidamia inscripta (Harris)

Description: Wingspan 50–55 mm. (2–2 3/16 in.). A small species, rarely more than two inches with spread wings. The general color of the forewing is gray-brown with dark lines and bands. Its outer margins is deeply and irregularly scalloped, its apex truncate. There is a series of transverse medial lines with the postmedial line well developed. At the apex there is a triangular brown spot and nearby a bright white dot. A series of transverse brown bands is present on some specimens where the spaces between lines are darker than the basic wing color. The hindwing is pale orange-brown, with the outer margin light to dark brown. On the underside the wings are gray-brown, the postmedial lines present and the white dot near the apex prominent. The color of the body is similar to that of the wings. The abdomen has a series of dorsolateral brown spots on each side.

Similar Species: None in Illinois.

Larval Food Plants: Grape (*Vitis* spp.), ampelopsis (*Ampelopsis* spp.), and Virginia creeper (*Parthenocissus* spp.).

Adult Food Sources: Nectar from phlox (*Phlox* spp.), lilac (*Syringa* spp.), and others during daylight hours. They also come to baits and to light at night.

Natural History: Univoltine. Adults are present from early spring to early summer, mostly April to early May. Adults are active both during the day and at night. Mature larvae have dorsolateral bands well developed on the thorax and less so on the abdominal segments. There are also eight lateral oblique stripes. Yellow-green lateral bands are present on the head. The body of the pupa is granulose and the head has three distinct projections. Pupation is within a shallow chamber in the ground.

Status: Statewide. It tends to be overlooked because of its early spring flight period. Can be common.

Range: Occurs in much of eastern North America from Florida to Mississippi north to Michigan, Wisconsin, and lower Ontario to Quebec.

Male upperside. Edgebrook, IL.

Female upperside. Putnam County, IL.

Lettered Sphinx resting on leaf. Lee County, IL.

Lettered Sphinx resting on leaf. Lee County, IL.

Neoptolemus Sphinx **Subfamily: Macroglossinae**
Xylophanes neoptolemus Stoll

Description: Wingspan 72 mm. (2 7/8 in.). Forewing apex falcate. Light yellow-brown with brown striations from the wing base to the apex. Two rather broad striations delineate a transverse band extending from the base of the inner margin to the apex. The outer margin is gray with striations in darker gray. The reniform spot is small and solid black. The hindwing is dark brown with a broad pinkish median band. The costal margin is pale yellow.

Similar Species: None in Illinois.

Larval Food Plants: Unknown.

Adult Food Sources: Undoubtedly flower nectar.

Natural History: *X. neoptolemus* is Neotropical and like many other sphingids strays widely. We know of only one record for Illinois captured at East St. Louis on July 28, 1935, by C.S. Anderson. This specimen was given to Wiker by Eric Quinter several years ago and is now in his collection. We show a photograph of this specimen and also of one from Belize, C.A. for comparison. Adults in Costa Rica are present throughout the year. The species is nocturnal and comes readily to light. Larvae are snakelike. The thoracic segments can be retracted into the enlarged first abdominal segment. The latter has a pair of eyespots imparting a reptilian visage.

Status: A rare stray. One capture is known from East St. Louis, Illinois. No other U.S. records are known to us.

Range: Neotropics. Mexico to Trinidad, Venezuela, Surinam, and Brazil.

Male upperside. Honduras, Central America.

Female upperside. St. Clair County, IL. Wiker Collection.

Sex undetermined. Underside. Hondura, Central America.

Tersa Sphinx **Subfamily: Macroglossinae**
Xylophanes tersa (Linnaeus)

Description: Wingspan 65–75 mm. (2 5/8–3 in.). The basic colors are gray to lavender-gray. The maculation is quite constant, although the number of hindwing spots varies. Several lines traverse the forewing from the base to the apex. One line is fairly bold while others are more or less parallel thin lines. Posterior to these lines there may be a diffuse pale band. The forewing has the apex sharply pointed. The hindwing is dark brown with a postmedial row of large white spots, each wedge-shaped and pointed toward the wing base.

Similar Species: None in Illinois.

Larval Food Plants: (*Manettia* spp.), smooth button plant (*Spermacoce glabra*), starclusters (*Pentas* spp.), and catalpa (*Catalpa* spp.).

Adult Food Sources: Nectar from honeysuckle (*Lonicera* spp.), four-o'clocks (*Mirabilis jalapa*), and bouncing bet (*Saponaria officinalis*).

Natural History: Present in Illinois only as a summer resident. Adults are nocturnal and can be taken at light. The mature larva is a dark yellow-brown. Along the back a pair of dorsolateral lines extend from the mesothorax to the base of the caudal horn on the eighth abdominal segment. Below these on each side is a pale yellow line. On the first abdominal segment there is an eyespot, its center black, ringed with yellow and then black. On abdominal segments two to seven there are black bordered eyespots, each capped above and below with yellow lunules. The head, first thoracic segment, the ventral surface, and the horn are black.

Status: Uncommon in the north becoming common in southern Illinois.

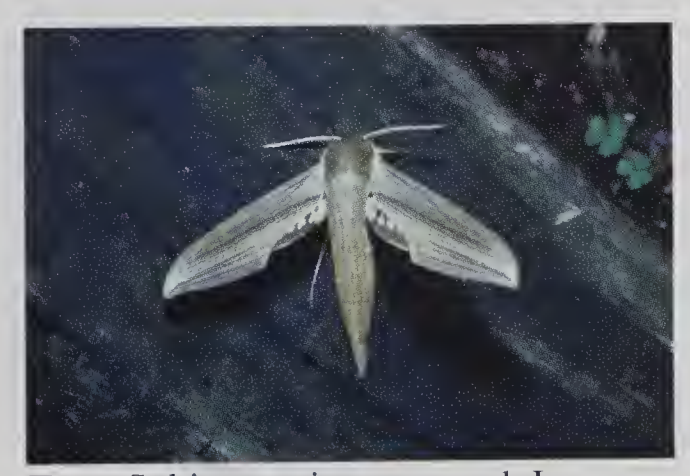
Range: The species occurs from Argentina to Canada and in the West Indies. In North America it is found from Florida to Arizona north to Kansas, Wisconsin, Michigan, Illinois, and southern Ontario. Scarce in the north, common in the subtropics and tropics.

Male upperside.
Alexander County, IL.
Wiker Collection.

Male underside.
Putnam County, IL.

Tersa Sphinx resting on moss and bark.
Lee County, IL.

Tersa Sphinx resting on foliage. Lee County, IL.



Tersa Sphinx resting on wood. Lee County, IL.

Galium Sphinx **Subfamily: Macroglossinae**
Hyles gallii (Rottenburg)

NOTE: Also named Bedstraw Hawk Moth.

Description: Wingspan near 65 mm. (2 5/8 in.). Forewing is dark brown with light grayish brown outer margin. A conspicuous pale yellow transverse band extends from the base of the inner margin almost to the apex with several anteriorly projecting pointed extensions. The hindwing is dark brown with a bright pink median band. There is a narrow gray band along the outer margin. The anal angle of the hindwing and the lateral margins of the thorax are white. The abdomen has a series of alternating brown and white dorsolateral spots interrupted dorsally by a mid-dorsal stripe.

Similar Species: The White-lined Sphinx (*H. lineata*) is similar, but has conspicuous white scaling along many of the forewing veins.

Larval Food Plants: Willow weed (*Epilobium* spp.), bedstraw (*Galium* spp.), godetia (*Godetia* spp.), and woodruff (*Asperula* spp.).

Adult Food Sources: Nectar from flowers of lilac (*Syringa* spp.), bee balm (*Monarda* spp.), and bouncing bet (*Saponaria officinalis*).

Natural History: Adults are present from late May to summer. Univoltine. Flowers in season are visited. The species comes readily to light. Mature larvae vary in color from red brown or brown to black or even green. Dorsolateral spots occur on the thoracic segments and the first eight abdominal segments, the last spot elongate and extending to the base of the horn. Below the dorsolateral spots there is a series of yellow spots in transverse rows. The horn is black and the legs have black markings. Spiracles are yellow.

Status: Rare, probably not of regular occurrence. Northern Illinois is at the southern limit of its range.

Range: Holarctic. In North America from Labrador to Virginia, New York, and New Jersey across Canada to the west, south to Michigan, Wisconsin, Iowa, and Illinois and in the west south to Colorado and California and north to the Yukon.

Male upperside. Duluth, MN.

Female upperside. No data.

Female underside. No data.

White-lined Sphinx **Subfamily: Macroglossinae**
Hyles lineata (Fabricius)

Description: Wingspan 50–90 mm. (2–3 9/16 in.). Forewing olive with a diagonal buff band extending from the base of the inner margin to the apex. On either side of the buff band, the wing veins are lined with white scales. Along the outer margin there is a broad gray band with the fringe narrowly black. The hindwing is black with a broad transverse rosy pink band. Its fringe is white. Running lengthwise along the thoracic nota are six white stripes, the central pair converging behind the head. Along the olive-colored abdomen, there are alternating conspicuous dorsolateral white and black spots.

Similar Species: None in Illinois. The pink hindwing median and the white stripes on the forewing and the thorax are distinctive. Galium Sphinx (*H. gallii*) lacks the white wing and the thoracic lines.

Larval Food Plants: The species is very polyphagous, accepting plants from many families as larval hosts. The species is commonly found on purslane (*Portulaca* spp.). A partial list of other food plants includes chickweed (*Stellaria* spp.), willow weed (*Epilobium* spp.), grape (*Vitis* spp), apple (*Malus* spp.), four o'clock (*Mirabilis* spp.), tomato (*Lycopersicon* spp.), evening primrose (*Oenothera* spp.), elm (*Ulmus* spp.), and Fuschia (*Fuschia* spp.).

Adult Food Sources: Nectar from flowers including bouncing bet (*Saponaria officinalis*), petunia (*Petunia* spp.), phlox (*Phlox* spp.), verbena (*Verbena* spp.), thistle (*Cirsium* spp.), honesuckle (*Lonicera* spp.), lilac (*Syringa* spp.), red clover (*Trifolium pratense*), columbine (*Aquilegia* spp.), larkspur (*Delphinium* spp.), Jimsonweed (*Datura* spp.), and many others. The proboscis is 37 mm long, capable of probing deep-throated flowers. Feeding is diurnal and crepuscular. Often seen in flower gardens and mistake for hummingbirds.

Natural History: Bivoltine, possibly multivoltine in the south. Adults are present from spring to fall. The species is often seen taking nectar during daylight hours, especially on cloudy days so it is sometimes mistaken for a humming bird. The species is also crepuscular and nocturnal often coming to light. It feeds at flowers with deep throats and petunias are especially attractive to them. As with many sphingids, females lay their eggs singly on the larval host plants. The larvae are extremely variable in appearance; they may be mostly yellow-green with dorsal black spots and faint black lines along the sides or at the other extreme mostly black with yellow spots. Many intermediate variations occur. The larva has a yellow or black and yellow horn on the eighth abdominal segment. Pupae have the tongue case appressed and

partially submerged, not free. Pupae of the last seasonal brood, and often some from earlier broods, overwinter in cells on or just below the ground surface in a chamber prepared by the last instar larva. They may be in a loose silken cocoon.

Status: Common statewide.

Range: All of North America.

Female upperside. Quincy, IL.

Male upperside. Putnam County, IL.

White-line Sphinx resting on bark. Lee County, IL.

Male underside. Putnam County, IL.

White-line Sphinx resting on bark. Champaign County, IL.

Caterpillar. Sand Ridge State Forest, Mason County, IL.

White-line Sphinx resting on bark. Lee County, IL.

Glossary

Antenna, pl., antennae	paired sensory appendages on the head
Apex	as used here, the outer tip of the forewing
Bivoltine	two generations per year
Caterpillar	a larva of a moth or butterfly
Costa	an unbranched vein along the anterior margin of the forewing.
Cubitus Abrev. C	a wing vein, usually two-branched between the median vein and the anal veins
Discal cell	an area of a wing enclosed by the radius and median veins, upper central area of wings
Discal spot	a colored spot in the forewing discal area
Femur	the third segment of the leg
Flagellum	the third antennal segment, subdivided into many subsegments in insects
Frenulum	a single spine in males, and a group of bristles in females, that act to lock the front and hind wings together in flight
Fringe	scales on the margins of the wings
Hemolymph	insect blood
Lateral oblique	refers to common markings on sphingid caterpillars
Median	the fourth vein, with up to four branches; designated M_1, M_2, M_3, and M_4
Mesothorax	the middle,or second, thoracic segment of an insect; it bears the legs and forewings

Metathorax	the posterior, or third, thoracic segment; it bears the legs and hindwings
Multivoltine	with many generations per year
Ocellus, pl., ocelli	a single eye, sensitive to light present on the head in many insects but absent in adult sphingids
Palp, pl. palpi or palps	segmented movable appendage of a maxilla or labrium with tactile, taste, and odor receptors
Pedicel	the second antennal segment
Proboscis	in Lepidoptera the joined, elongate galeae of the maxillae; coiled when not feeding, extended when feeding; its function is to suck liquids
Prolegs	larval legs of the abdominal segments 3–6 and anal legs
Radius	the third major wing vein, often with five branches; designated R_1 to R_5
Retinaculum	a clasp on the underside of the forewing into which the frenulum extends, locking the fore- and hindwings together in flight
Scape	the first or basal segment of insect antennae
Sclerous	with hardened cuticle
Subcosta	a wing vein immediately behind and parallel to the costa; it may have two branches; Abrev. Sc and Sc_2
Tegula	a small lobe (someteimes large) that is in front of the forewing base; it protects the wing and bears scales
Tornus	the anal (or hind) angle of a wing
Univoltine	with one generation per year
Wing veins	hard, hollow tubes, giving strength to the wings

Checklist of Illinois Species

Subfamily Smerinthinae

____ *Pachysphinx modesta* (Harris)
Big Poplar Sphinx

____ *Smerinthus cerisyi* Kirby
One-eyed Sphinx

____ *Smerinthus jamaicensis* (Drury)
Twin-spotted Sphinx

____ ***Paonias astylus*** (Drury)
Huckleberry Sphinx

____ *Paonias excaecatus* (J.E. Smith)
Blinded Sphinx

____ *Paonias myops* (J.E. Smith)
Small-eyed Sphinx

____ *Laothoe juglandis* (J.E. Smith)
Walnut Sphinx

Subfamily Sphinginae

____ *Dolba hyloeus* (Drury)
Pawpaw Sphinx

____ *Ceratomia amyntor* (Geyer)
Elm Sphinx

____ *Ceratomia catalpae* (Boisduval)
Catalpa Sphinx

____ *Ceratomia hageni* Grote
Hagen's Sphinx

____ *Ceratomia undulosa* (Walker)
Waved Sphinx

____ *Paratraea plebeja* (Fabricius)
Plebeian Sphinx

____ *Sphinx canadensis* Boisduval
Canadian Sphinx

____ *Sphinx chersis* (Hubner)
Great Ash Sphinx

____ *Sphinx drupiferarum* J.E. Smith
Wild Cherry Sphinx

____ *Sphinx eremitus* (Hubner)
Hermit Sphinx

____ *Sphinx franckii* Neumoegen
Franck's Sphinx

____ *Sphinx gordius* Cramer
Apple Sphinx
____ *Sphinx kalmiae* J.E. Smith
Laurel Sphinx
____ *Sphinx luscitiosa* Clemens
Clemen's Sphinx
____ ***Sphinx poecila*** Stephens
Northern Apple Sphinx
____ *Sphinx vashti* Strecker
Vashti Sphinx
____ ***Lapara bombycoides*** Walker
Northern Pine Sphinx
____ ***Lapara coniferarumn*** (J.E. Smith)
Southern Pine Sphinx
____ *Isoparce cupressi* (Boisduval)
Cypress Sphinx
____ *Manduca jasminearum* (Guerin-Meneville)
Ash Sphinx
____ *Manduca quinquemaculata* (Haworth)
Five-spotted Hawkmoth
____ *Manduca rustica* (Fabricius)
Rustic Sphinx
____ *Manduca sexta* (Linnaeus)
Carolina Sphinx
____ *Neococytius cluentius* (Cramer)
Cluentius Sphinx
____ *Cocytius antaeus* (Drury)
Giant Sphinx
____ *Agrius cingulatus* (Fabricius)
Pink-spotted Hawkmoth

Subfamily Macroglossinae

____ *Cautethia grotei* (Henry Edwards)
Grote's Sphinx
____ *Enyo lugubris* (Linnaeus)
Mournful Sphinx
____ ***Pachylia ficus*** (Linnaeus)
Fig Sphinx
____ *Aellopos titan* (Cramer)
Titan Sphinx
____ *Aellopos fadus* (Cramer)
Fadus Sphinx

____ *Erinnyis alope* (Drury)
Alope Sphinx
____ *Erinnyis ello* (Linnaeus)
Ello Sphinx
____ *Erinnyis obscura* (Fabricius)
Obscure Sphinx
____*Erinnyis domingoensis* (Butler)
Domingoensis Sphinx
____ *Hemaris diffinis* (Boisduval)
Snowberry Clearwing
____ ***Hemaris gracilis*** (Grote and Robinson)
Slender Clearwing
____ *Hemaris thysbe* (Fabricius)
Hummingbird Sphinx
____ *Eumorpha achemon* (Drury)
Achemon Sphinx
____ *Eumorpha fasciata* (Sulzer)
Banded Sphinx
____ *Eumorpha labruscae* (Linnaeus)
Gaudy Sphinx
____ ***Eumorpha typhon*** (Klug)
Typhon Sphinx
____ *Eumorpha pandorus* (Hubner)
Pandorus Sphinx
____ ***Eumorpha vitis*** (Linnaeus)
Vine Sphinx
____ *Sphecodina abbottii* (Swainson)
Abbot's Sphinx
____ ***Proserpinus gaura*** (J.E. Smith)
Proud Sphinx
____ ***Proserpinus juanita*** (Strecker)
Juanita Sphinx
____ *Amphion floridensis* B.P. Clark
Nessus Sphinx
____ *Darapsa myron* (Cramer)
Virginia Creeper Sphinx
____ *Darapsa pholus* (Cramer)
Azalea Sphinx
____ *Darapsa versicolor* (Harris)
Hydrangea Sphinx
____ *Deidamia inscripta* (Harris)
Lettered Sphinx

____ *Xylophanes neoptolemus* Stoll
Neoptolemus Sphinx
____ *Xylophanes tersa* (Linnaeus)
Tersa Sphinx
____ *Hyles galii* (Rottenburg)
Galium Sphinx
____ *Hyles lineata* (Fabricius)
White-lined Sphinx

All species in ***bold italic*** have not yet been recorded from Illinois.

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All photos on the back cover were taken by James G. Sternburg. From top to bottom the photos are: Hummingbird Clearwing, Modest Sphinx, and Rustic Sphinx.

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