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Apopka Insect Field Guide

Sarah Parker

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Apopka Insect Field Guide

Sarah Parker

For my master's project I created a printable insect field guide specific to my area for use by the local elementary and middle schools. My property is located near both Lakeville Elementary School and Piedmont Lakes Middle School, therefore insects collected in my garden should closely approximate the insects that could potentially be seen at either school. A targeted insect guide will help facilitate any number of observational activities and may encourage the schools to plant insect friendly vegetation to increase their abundance of insects. My goal is for this teaching tool to encourage local teachers to include insect education as part of their science curriculum.

There are several components to the project. First, I collected insects using a sweep net during the day and a blacklight at night. The resulting insect collection is shown in Appendix 2. I then created 20 scientific illustrations from a portion of the collection, all of which can be found in a Box folder. I used these illustrations to create the printable field guide. The assembly instructions for the field guide can be found in Appendix 1.

Insects should be a part of every comprehensive science education due to their diversity, abundance, ecological importance, and usefulness as a tool for teaching larger biological concepts. It is important that teachers have access to materials that make it easy to include insects as part of their curriculum, and I hope that by creating an Apopka Insect Field Guide I can encourage teachers at my local elementary and middle schools to bring students outside to observe insects. I will distribute this field guide to teachers at both schools as a .PDF file. In the future, I can add additional entries into the field guide as I complete more illustrations and find additional insect species. I can also help any interested teachers plant pollinator gardens that will attract more insects for observation.

References

Rhodes, E., et al. *Featured Creatures*, <http://entnemdept.ufl.edu/creatures/>.

Borror, D.J and White, R.E. *Peterson Field Guide: Insects*. New York, Houghton Mifflin Company, 1970.

Evans, A.V. *Field Guide to Insects and Spiders of North America*. New York, Sterling Publishing Company, 2008.

Apopka Insect Field Guide



1/2 inch

Written and Illustrated by Sarah Parker

1

ZEBRA LONGWING

Heliconius charithonia (Linnaeus)

The zebra longwing is the state butterfly of Florida. These butterflies can be found near forest edges where the adults feed on nectar and pollen. Their bold stripes warn predators that they are toxic. This is known as aposematism. Their caterpillars can be found on passionflower vines.

Location: _____ Date: _____



2

MONARCH

Danaus plexippus (Linnaeus)

Monarch butterflies can be found throughout the United States in the summer and migrate South in the winter. Their orange and black coloration warns predators that they are toxic. Several other butterflies mimic this coloration, such as the viceroy butterfly, *Limenitis archippus* (Cramer).

Location: _____ Date: _____



3

GULF FRITILLARY

Agraulis vanillae (Linnaeus)

These butterflies are common throughout Florida year-round. The caterpillars are orange with black spines and feed on passionflower. Males and females of this species are dimorphic, which means they look different. The picture on the right shows a female. Males are more orange with fewer markings.

Location: _____ Date: _____



4

EASTERN TIGER SWALLOWTAIL

Papilio glaucus (Linnaeus)

Females of this species can be either yellow or black. The dark form is sometimes confused with other swallowtail species. The caterpillars use camouflage and mimicry to protect them from predators. Young caterpillars look like bird droppings and older caterpillars are green with false eyespots.

Location: _____ Date: _____

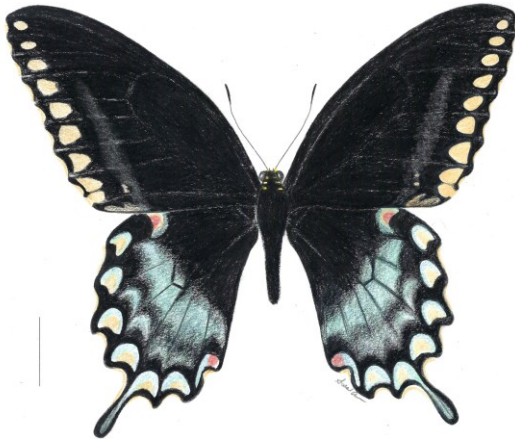


SPICEBUSH SWALLOWTAIL

Papilio troilus (Linnaeus)

Spicebush swallowtails can sometimes look like other swallowtail species. There are a few ways to tell these species apart. Spicebush swallowtails have yellow spots on their bodies, a blue/green dusting on their hindwings and a missing orange spot on the underside of their hind wings.

Location: _____ Date: _____



CLOUDLESS SULFUR

Phoebis sennae (Linnaeus)

Cloudless sulfur butterflies are common in Florida. The genus name, *Phoebis*, comes from Phoebe, a titan in Greek mythology. Like Monarchs, these butterflies also migrate. Cloudless sulfurs have long tongues and can reach nectar in long flowers that other butterflies cannot.

Location: _____ Date: _____



LUNA MOTH

Actias luna (Linnaeus)

Luna moths are nocturnal. Their long, twisted tails disrupt echolocation to help them avoid predation by bats. Luna moths have feathery antennae which they use to pick up chemical signals from the air. When the caterpillars mature, they make a cocoon from the leaves of their host plant.

Location: _____ Date: _____



ORNATE BELLA MOTH

Utetheisa ornatrix (Linnaeus)

Ornate bella moths are diurnal, or active during the day. The caterpillars feed on *Crotalaria* plants, also known as rattlepods. These plants contain toxic compounds, which the caterpillars sequester in their bodies. This makes the caterpillars and the adult moths poisonous and protects them from predators.

Location: _____ Date: _____



BLACK SADDLEBAGS

Tramea lacerata (Hagen)

Black Saddlebags are a species of skimmer dragonfly found throughout most of North America. Dragonfly larvae are aquatic and can breathe underwater. Both larvae and adults are carnivorous. Adult dragonflies are expert fliers and have excellent vision. This makes them extraordinary hunters.

Location: _____ Date: _____



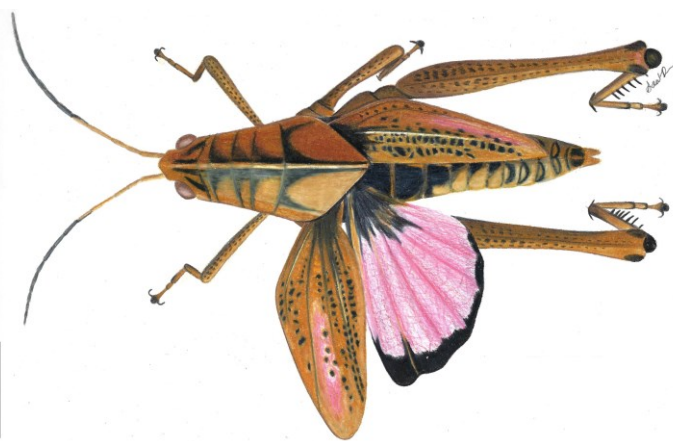
10

EASTERN LUBBER GRASSHOPPER

Romalea microptera (Palisot de Beauvois)

This large grasshopper is slow and clumsy. It can be found throughout the Southeastern United States. They can be pests in Florida because they feed on citrus, vegetables and ornamental plants. Some individuals can be darker in color, particularly in Northern Florida.

Location: _____ Date: _____



11

CRANE FLY

Nephrotoma sp.

Many people mistake crane flies for very large mosquitos. Even though their long legs make them look a little like mosquitos, they are not. In fact, crane fly adults do not eat at all and cannot bite. Crane fly larvae eat decaying vegetation and are helpful decomposers.

Location: _____ Date: _____



12

BLACK SOLDIER FLY

Hermetia illucens (Linnaeus)

Black soldier flies look a little like wasps, but they do not sting. Adults lay their eggs around manure and decomposing vegetation. The larvae are excellent recyclers and eat a lot of these materials. The larvae are very high in protein and calcium, and they can be fed to many animals.

Location: _____ Date: _____

BLACK STINK BUG*Proxys punctulatus* (Palisot)

Black stinkbugs are commonly found in gardens around Apopka. They usually use their proboscis to pierce plant tissue and suck out the juices, but they can also be predaceous. Stinkbugs can be a nuisance when they enter human homes, but they are largely harmless.

Location: _____ Date: _____

**WHEEL BUG***Arilus cristatus* (Linnaeus)

Wheel bugs are named for the wheel-shaped crest on the thorax of the adults. Young wheel bugs do not have a crest. Wheel bugs are beneficial insects that use their stabbing proboscis to feed on other insect pests. However, they can inflict a painful bite to humans and should never be picked up.

Location: _____ Date: _____

**CICADA***Tibicen sp.*

Cicadas are known for their loud calls. Each species of cicada sings a different song. Male cicadas produce sound with tymbals on their abdomens. Females can hear them using their tympana, also located on the abdomen. Cicadas can be important food for many animals.

Location: _____ Date: _____

**WATER SCORPION***Ranatra sp.*

Water scorpions have raptorial forearms, like a praying mantis, which they use to capture prey. Water scorpions have two long filaments that they hold together to form a tube which allows them to breathe underwater. This tube can look like a stinger, but water scorpions do not sting.

Location: _____ Date: _____

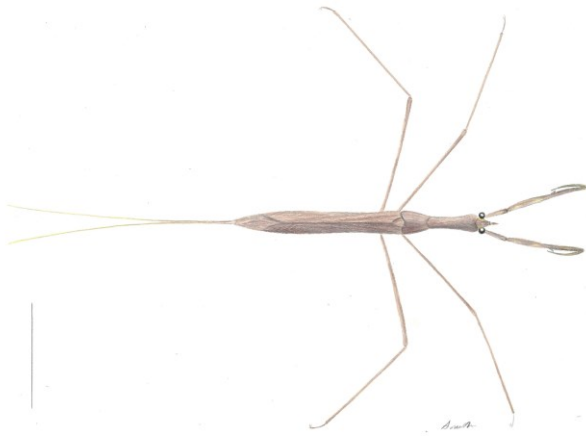


GREEN LACEWING

Order: Neuroptera, Family: Chrysopidae

Lacewings are beneficial insects that eat honeydew, pollen, aphids and other garden pests. The adults are small with delicate wings, while the larvae look very different. Lacewings undergo complete metamorphosis - hatching from an egg, then growing from a larva to a pupa to an adult.

Location: _____ Date: _____



GRAPEVINE BEETLE

Pelidnota punctata (Linnaeus)

Grapevine beetles feed on grapevines and other plants. Like other scarab beetles, the adults fly at night and are attracted to porch lights. Grapevine beetles lay their eggs in moist soil or rotting wood, where the larvae will feed. The larvae are white and hold their bodies in a distinctive C-shape.

Location: _____ Date: _____



EASTERN BUMBLE BEE

Bombus impatiens (Cresson)

Bumble bees are important to agriculture. They collect pollen from flowers, pollinating them as they go. The pollen is stored in their pollen basket, a specialized area on their hind legs. Eastern bumble bees live in nests underground, with a new queen starting a colony every year.

Location: _____ Date: _____

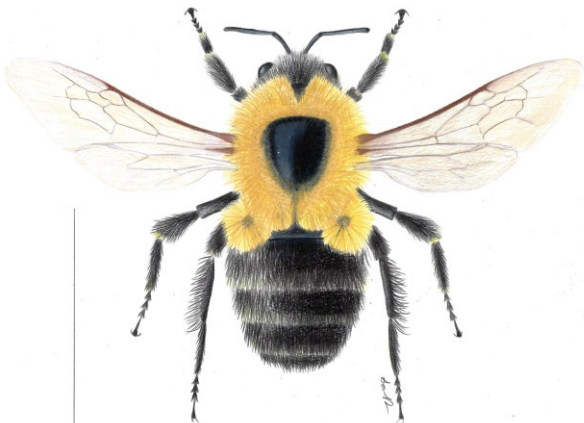


AMERICAN COCKROACH

Periplaneta americana (Linnaeus)

American cockroaches are large cockroaches that are attracted to moist areas. For this reason, they are also called "waterbugs". They often live outside, but they can be pests when they wander into homes. They can eat almost anything, even the glue found in book bindings.

Location: _____ Date: _____



What's with the line?

Each insect illustration has a straight line on the left called a scale bar. For all insects in this book, the scale bar indicates $\frac{1}{2}$ inch. This will help you know how large the insect is even though they are not drawn to scale.

References:

Rhodes, E., et al. *Featured Creatures*, <http://entnemdept.ufl.edu/creatures/>.

Borror, D.J and White, R.E. *Peterson Field Guide: Insects*. New York, Houghton Mifflin Company, 1970.

Evans, A.V. *Field Guide to Insects and Spiders of North America*. New York, Sterling Publishing Company, 2008.

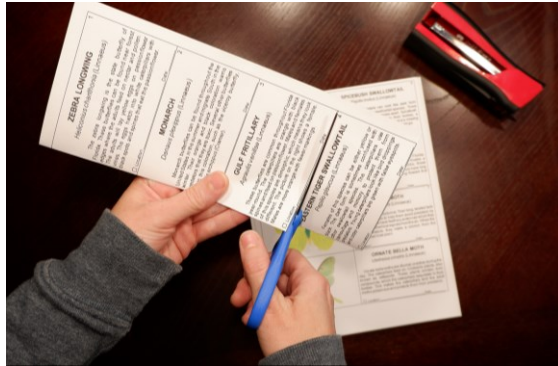


Appendix 1. Assembly instructions.



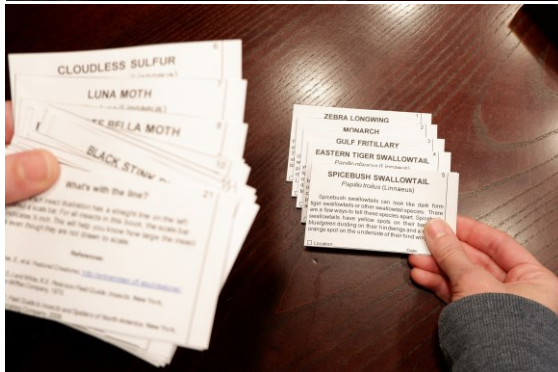
STEP ONE: FOLD

Fold each sheet of paper lengthwise along the line.



STEP TWO: CUT

Cut each box along the line, leaving the margin intact.



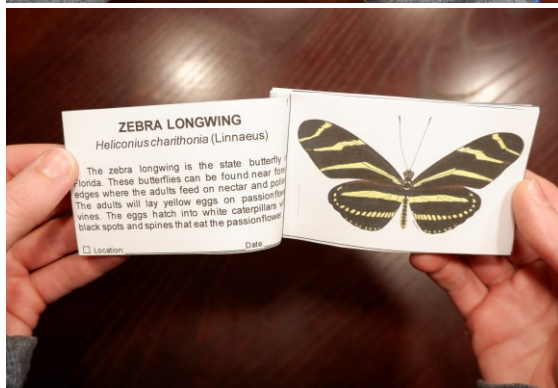
STEP THREE: SORT

Beginning with one, make sure each page is in order with the title page at the front and the references at the back.



STEP FOUR: STAPLE

Staple in the margin.



STEP FIVE: READ

Each page has a short description of the insect of interest followed by an illustration. At the bottom, students can check off each insect as they see it and write in the location and date.

Appendix 2. Photographs of insects collected from Apopka, FL and used for scientific illustrations.

