## Invertebrate Pollinators of Central Florida

Bees and Wasps (Hymenoptera) - These insects have four wings and some have stingers.



European **Honey Bee\*** Apis melifera





Megachile sp.



Cuckoo Leafcutter Bee Coelioxys sp.



**Carpenter-mimic Leafcutter Bee** Megachile xyloccopoides

## **European honey bees**

(\*non-native!) are yellow and brown, and carry pollen on the hind legs. Leafcutter bees (family Megachilidae) are medium-sized, like honey bees, but are black-bodied and carry pollen under the abdomen.

Bumble bees are large, fuzzy, and noisy. They carry pollen on the hind legs in a pollen basket (corbicula). Carpenter bees are large bees similar to bumble bees but with smooth, glossy, hairless abdomens.



**Bumble Bee** Bombus sp.



**Bumble Bee** Bombus sp.



Eastern **Carpenter Bee** Xylocopa virginica



**Carpenter Bee** Xylocopa sp.

Sweat bees (family Halictidae) are typically slender bees that vary in color from dull black to metallic green, blue, and purple.



**Sweat Bee** Agapostemon sp.



Brown-winged Striped Brown-winged Striped **Sweat Bee** Agapostemon splendens Agapostemon splendens

**Sweat Bee** 



**Sweat Bee** Augochlorini sp.



**Sweat Bee** Halictus sp.

Wasps have longish, thin, smooth and shiny, hairless bodies with narrow waists, and hind legs that hang down in flight.



**Potter Wasp** Eumenes fraternus



**Thread-waisted Wasp** (Sand Wasp) Ammophila sp.



**Double-banded** Scoliid Wasp Scolia bicinta



Sand Wasp **Bembix** americana



**Green-eyed Wasp** Tachytes sp.



All images courtesy of Dr. Peter May, professor emeritus of biology, Stetson University.

## Flies (Diptera) - These insects have just two wings, large eyes, and short antennae.

Many flies are good mimics of stinging insects like bees and wasps. You may need your magnifying glass to be sure!



**Bee Fly** Poecilanthrax sp.



Hover Fly (Flower Fly) Palpada sp.



Green Bottle Fly (Blow Fly) Calliphoridae sp.



Feather-legged Fly Trichopoda sp.



Soldier Fly Hedriodiscus trivittatus

Beetles (Coleoptera) - These insects have hard exoskeletons and wing-cases (elytra).

With roughly 400,000 species, Coleoptera is the largest of all orders of life, and the largest, most diverse insect order.



Six-spotted Flower Longhorn Beetle Strangalia sexnotata



Dark Flower Scarab Beetle Euphoria sepulcralis



Bald Cypress Metallic Wood-boring Beetle Acmaeodera pulchella



**Checkered Beetle** Trichoides apivorus



Blister Beetle Nemognatha nemorensis

Butterflies and Moths (Lepidoptera) - These insects have scaled wings in many colors and patterns.

Butterflies are typically daytime flyers (diurnal); they usually have thin antennae with knobbed tips and colorful wings.



**Monarch** Danaus plexippus



**Sulphurs** Family Pieridae



**Skippers** Family Hesperiidae



Hairstreaks Family Lycaenidae Subfamily Theclinae



Swallowtails Family Papilionidae

Moths are typically nocturnal, with feathery antennae, thicker, fuzzier bodies, and dull colors - but not always!



Nessus Sphinx Moth Amphion floridensis



Orange-spotted Flower Moth Syngamia florella



Bleeding Flower Moth Schinian sanguinea



Bella Moth Utetheisa ornatrix



Hawaiian Beet Webworm Moth Spoladea recurvalis

**Other Pollinators -** Don't forget that other insects like mosquitoes and ants, as well as vertebrates like hummingbirds and bats, can be pollinators too!

