

Insects

A huge number of insects can be found within the borders of Vistoso Trails Nature Preserve. However, many of these are difficult to photograph, let alone properly identify without specialized training. The small subset of the preserve's insect population that is represented in this guide is based on iNaturalist observations and on having reasonably good photographs. Given the diversity, guidebook length is also a consideration. Whole groups of insects that are definitely in the preserve are not represented in this guide. As such, more than with any other section in the field guide, it should not be considered comprehensive, even of the common species.

Many of the insects in this section are shown drinking nectar from extrafloral nectaries (a nectar source other than the usual flowers) on a hybrid cholla in the preserve. See page 132 for more details on this interesting phenomenon.

In this guidebook:

- Marine Blue (Page 89)
- Palmer's Metalmark (Page 90)
- Checkered White (Page 90)
- Empress Leilia (Page 91)
- Queen (Page 91)
- White-lined Sphinx Moth (Page 92)
- Erebid Moths (Page 93)
- Bird-dropping Moths (Page 94)
- Western Honey Bee (Page 95)
- Golden Paper Wasp (Page 96)
- Tarantula-hawk Wasp (Page 97)
- Desert Leaf-cutter Ant (Page 98)
- Other Ants (Page 99)
- Bee Flies (Page 100)
- Robber Flies (Page 101)
- Pallid-winged Grasshopper (Page 102)
- Pale-winged Desert Cicada (Page 103)
- Giant Cactus Longhorn Beetle (Page 104)
- Death-feigning Beetle (Page 105)
- Desert Stink Beetles (Page 105)
- Palo Verde Root Borer (Page 106)
- Eight-spotted Lady Beetle (Page 107)
- Iron Cross Blister Beetle (Page 107)
- Obscure Ground Mantis (Page 108)
- Sand Cockroaches (Page 108)
- Wandering Glider (Page 108)
- Native Bees (Pages 109-116)
- Species not pictured (Page 117)

Common name: Marine Blue

Scientific name: *Leptotes marina*

Notes: Seasonally the most common butterfly in the preserve. They are small and in near constant, seemingly erratic flight. Often seen on mesquite flowers. Ceraunus blues and Reakirt's blues are very similar and also present in the preserve, though less common.



Common name: Palmer's Metalmark

Scientific name: *Apodemia palmerii*

Notes: Small but larger than Marine Blues. Seen here on a longleaf ephedra, though adults drink nectar from a range of flowers. Their caterpillars use mesquites as hosts.



Common name: Checkered White

Scientific name: *Pontia protodice*

Notes: Often seen slowly fluttering about, these are seasonally quite common in the preserve.



Common name: Empress Leilia

Scientific name: *Asterocampa leilia*

Notes: Medium-sized butterflies, often seen resting on trees or on the ground. Their caterpillars use hackberries as host plants.

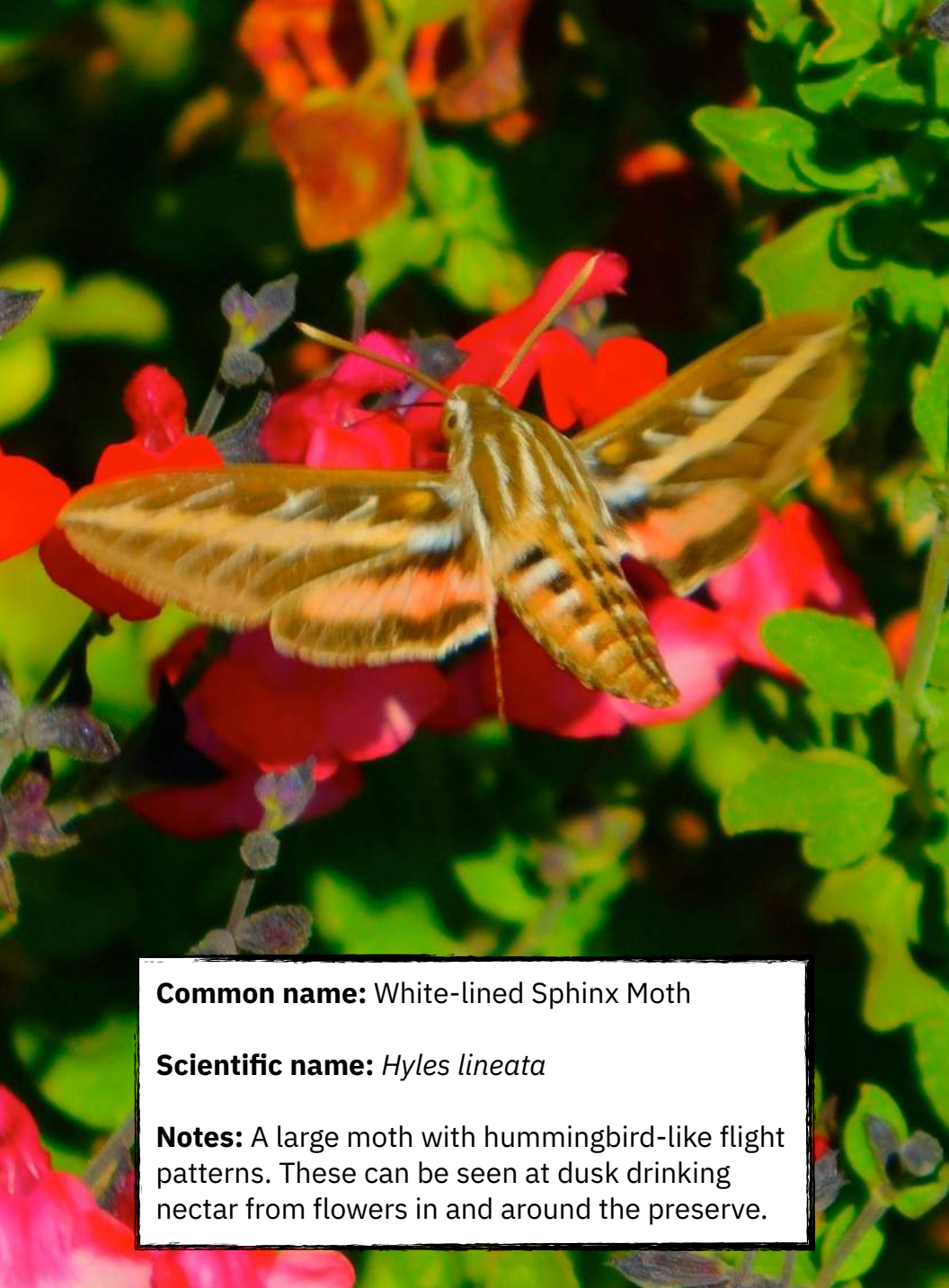


Common name: Queen

Scientific name: *Danaus gilippus*

Notes: One of the larger butterflies in the preserve. Queens often drink nectar from milkweeds, and their caterpillars use those same plants as hosts. They are closely related to monarchs but do not migrate.





Common name: White-lined Sphinx Moth

Scientific name: *Hyles lineata*

Notes: A large moth with hummingbird-like flight patterns. These can be seen at dusk drinking nectar from flowers in and around the preserve.



Common name: Forsebia Moth

Scientific name: *Forsebia cinis*

Notes: Abundant on this hybrid cholla in July 2022.



Common name: Deduced
Graphic Moth

Scientific name: *Bulia deducta*

Notes: On the same hybrid
cholla. Possibly *Bulia similaris*.



Common name: Pretty Bird-dropping Moth

Scientific name: *Ponometia venustula*

Notes: Small. One of several *Ponometia* species in the preserve.

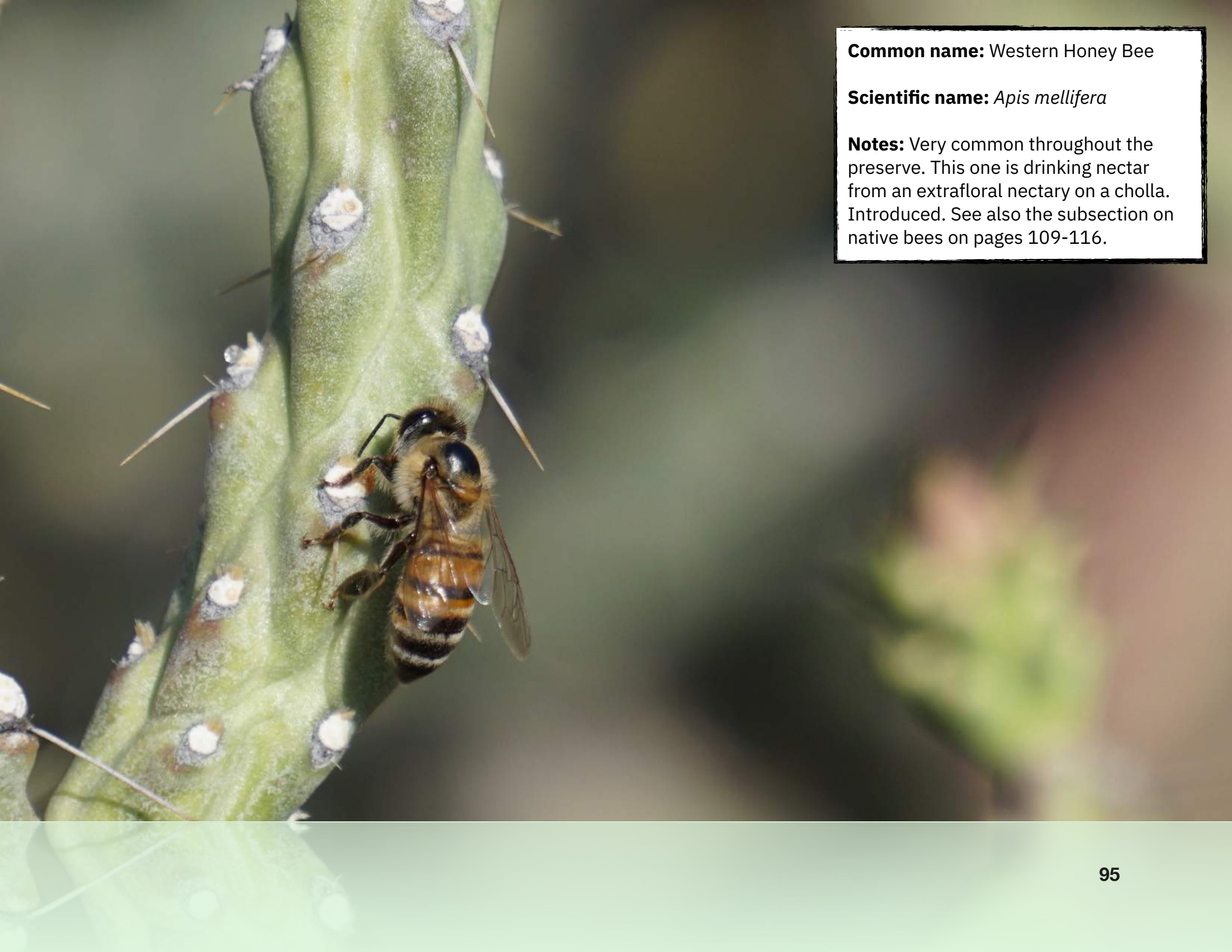


Common name: Bird-dropping Moth

Scientific name: *Ponometia cuta*

Notes: Another *Ponometia*. Also small. On the same hybrid cholla.






Common name: Western Honey Bee

Scientific name: *Apis mellifera*

Notes: Very common throughout the preserve. This one is drinking nectar from an extrafloral nectary on a cholla. Introduced. See also the subsection on native bees on pages 109-116.

A close-up photograph of a Golden Paper Wasp (Polistes aurifer) perched on a green cholla cactus stem. The wasp has a yellow and brown striped abdomen, a reddish-brown thorax, and transparent wings. It is positioned on the stem, which is covered in sharp, light-colored spines. The background is a soft, out-of-focus green.

Common name: Golden Paper Wasp

Scientific name: *Polistes aurifer*

Notes: Very common throughout the preserve. These wasps are not typically aggressive but they do make nests near or on residences in the area quite regularly. This one is drinking nectar from an extrafloral nectary on a cholla. Very similar looking yellow paper wasps are also found in the preserve.

Common name: Tarantula-hawk Wasp

Scientific name: Genus *Pepsis*

Notes: With red wings and iridescent blue-black bodies, these wasps are stunningly beautiful. The females can sting, and their stings are among the most painful of any insect in North America. They are also not aggressive and will leave you alone if you leave them alone. Adults drink nectar (as here on a favorite nectar source, milkweed). Their young eat tarantulas paralyzed by the adult females.





Common name: Desert Leaf-cutter Ant

Scientific name: *Acromyrmex versicolor*

Notes: These fascinating ants are the insect equivalent of farmers. They gather vegetation (such as the palo verde flowers pictured here) in their colonies. A fungus grows on the gathered vegetation, and the ants then consume the fungus.



Other Ants

A range of ants have been observed in the preserve. Three that have been identified to the species level are pictured on this page. At top left is a **Bicolored Pyramid Ant** (*Dorymyrmex bicolor*). Look for the entrances to their colonies, which often look like small sand volcanoes. At top right are **Rough Harvester Ants** (*Pogonomyrmex rugosus*). These are foragers and they can form very large colonies. At bottom left are two **Desert Harvester Ants** (*Novomessor cockerelli*). These are also foragers, taking seeds, other vegetation, and also dead insects back to their colonies. In the photo at left they are scavenging a dead insect. Several other species and genera have been observed at Vistoso Trails — a number likely to grow.



Common name: Bee Flies

Scientific name: Family Bombyliidae

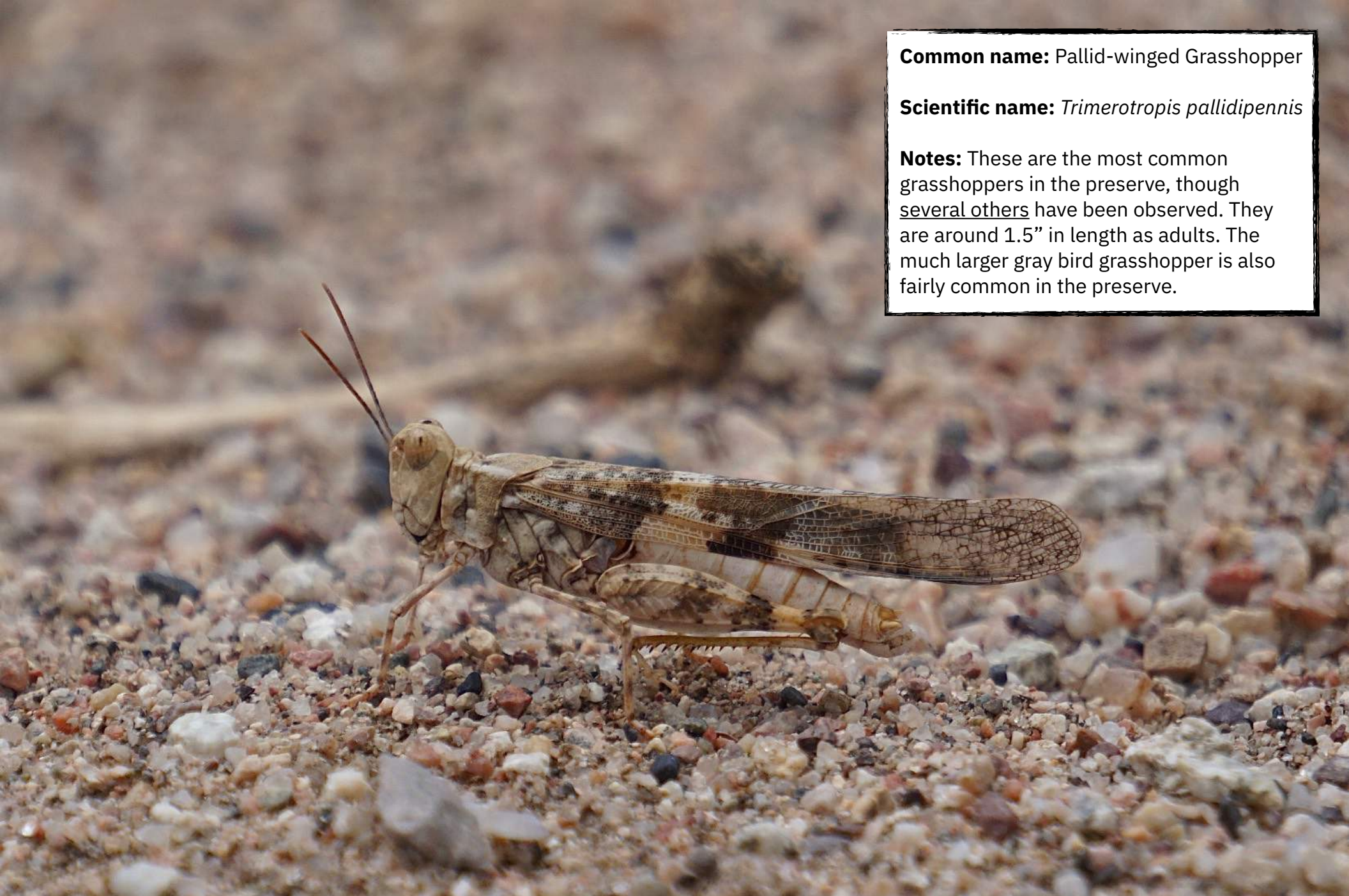
Notes: Several varieties of bee fly have been observed in the preserve, but very few have been identified to the species or even genus level. The one at left is drinking nectar from an extrafloral nectary on a hybrid cholla. The one at right is on the same cholla.

Common name: Robber Flies

Scientific name: Family Asilidae

Notes: Mustachioed and fierce-looking, robber flies prey on other flying insects. While other genera are present in the preserve, this one has been identified by a specialist as genus *Saropogon*. It was observed preying on honeybees.





Common name: Pallid-winged Grasshopper

Scientific name: *Trimerotropis pallidipennis*

Notes: These are the most common grasshoppers in the preserve, though several others have been observed. They are around 1.5" in length as adults. The much larger gray bird grasshopper is also fairly common in the preserve.

Common name: Pale-winged Desert Cicada

Scientific name: *Okanagodes gracilis*

Notes: These cicadas have piercingly loud calls. They will typically stop calling if you get close or disturb the plant they are on. Look for the three red dots on the forehead. Other cicadas, possibly genus *Diceroprocta*, have also been observed here.



Common name: Giant Cactus
Longhorn Beetle

Scientific name: *Moneilema
gigas*

Notes: These beetles are among
the largest in the preserve. They
eat cacti and are slow moving.
They are flightless. They look a bit
like the smaller and more
common stink beetles found in
the preserve (see the next page).



Common name: Death-feigning Beetle

Scientific name: *Cryptoglossa variolosa*

Notes: These beetles will freeze up and feign death when alarmed (as in this photo).



Common name: Desert Stink Beetles

Scientific name: Genus *Eleodes*

Notes: While not yet identified to the species level on [iNaturalist](#), these beetles are common in the preserve. They are all black and display this defensive posture when alarmed.





Common name: Palo Verde Root Borer

Scientific name: *Derobrachus hovorei*

Notes: At up to 3.5 inches long, these are among the largest beetles in North America. Despite their size and somewhat clumsy, accident-prone flight patterns, they are generally harmless. Their young eat the roots of palo verdes. The adults emerge from underground (as pictured at left) at the start of the monsoon season.





Common name: Eight-spotted Lady Beetle

Scientific name: *Hyperaspis octonotata*

Notes: A tiny black-and-white lady beetle, observed here on a cholla's flower bud.

Common name: Iron Cross Blister Beetle

Scientific name: *Tegrodera aloga*

Notes: As one could guess from the name, these brightly colored beetles produce a toxin and should not be handled. They are not common in the preserve but have been seen crossing the paths.



Other Insects

These are just a few of the many other insects observed at Vistoso Trails.

Sand cockroaches like the one at top right are native to the Sonoran Desert. They are common in the preserve and are often seen at night on the paths. Introduced pests like the Turkestan cockroach (*Shelfordella lateralis*) are also common.

The **mantis** at bottom right is a small, ground-dwelling species. There are almost certainly other mantises living in the preserve. The ootheca (egg case) of a likely Arizona mantis has been observed here.

The **dragonfly** pictured below is extremely common, found worldwide on every continent except for Antarctica.



Common name: Sand Cockroach

Scientific name: Genus *Arenivaga*



Common name:
Wandering Glider

Scientific name:
Pantala flavescens



Common name: Obscure Ground Mantis

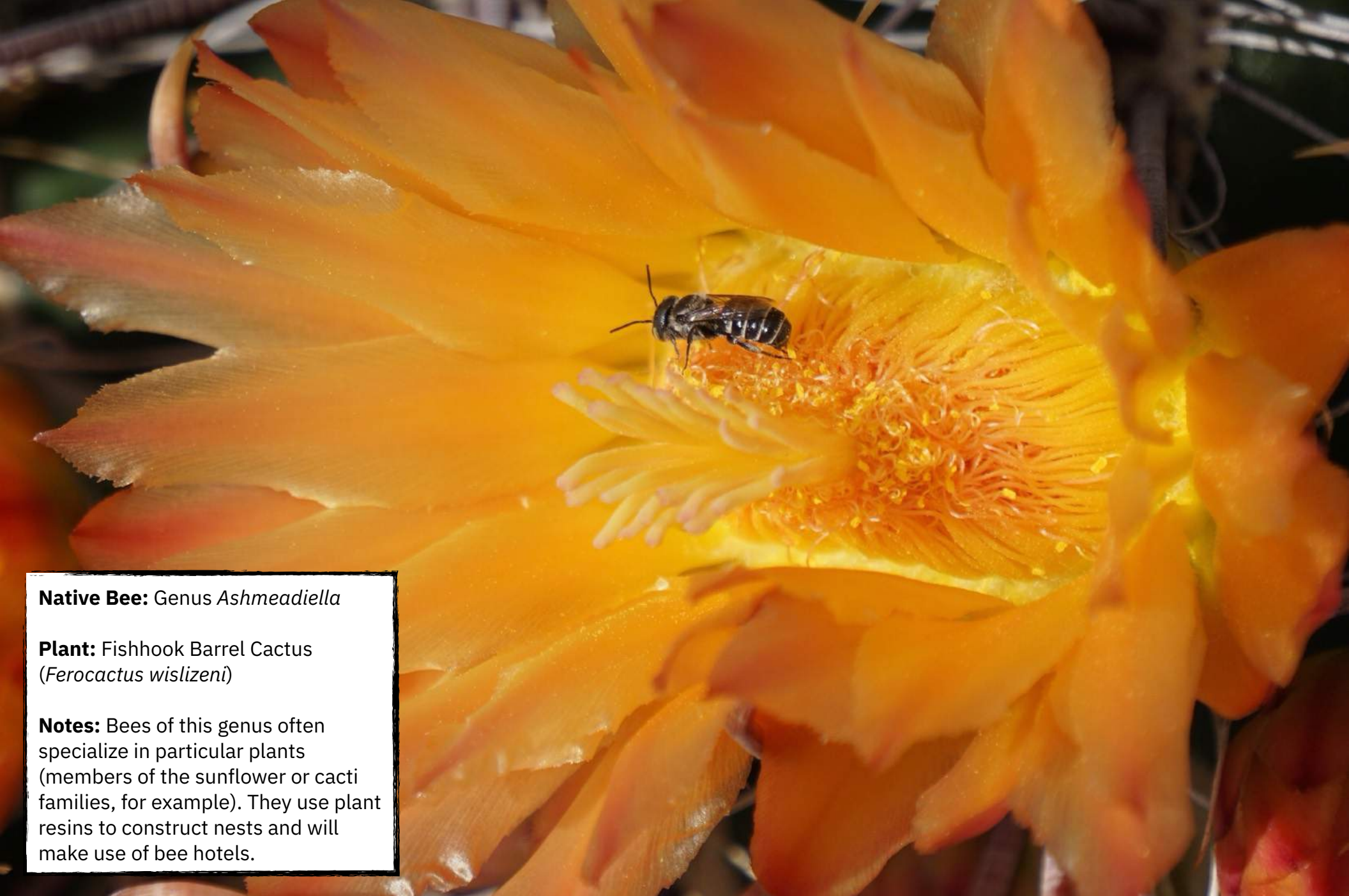
Scientific name: *Litaneutria ocularis*

Native Bees

The Sonoran Desert is considered to be a hotspot for bee biodiversity. On each of the next five pages a native bee is pictured on a native plant (all cacti). These are in contrast to the honeybee on page 95, which is an introduced species (though important to agriculture and honey production). On each photo the bee has been identified as best as possible. Please note that **these identifications are tentative** and may be revised in the future. In each case, the plant the bee is on has also been identified. The native bees have been presented in this way in order to show a small sample of the bee diversity here and to highlight their importance in pollinating the local flora.

Thank you to **Dr. Kathryn Busby** of the University of Arizona for reviewing and providing many of the bee factoids used in this section.





Native Bee: Genus *Ashmeadiella*

Plant: Fishhook Barrel Cactus
(*Ferocactus wislizeni*)

Notes: Bees of this genus often specialize in particular plants (members of the sunflower or cacti families, for example). They use plant resins to construct nests and will make use of bee hotels.

Native Bee: Tribe Augochlorini

Plant: A hybrid cholla
(likely *C. fulgida* x *C. leptocaulis*)

Notes: The far right image on page 109 shows the same type of bee in a saguaro flower. These are possibly in the genus *Augochlorella*. Bees in this group often have a shiny, metallic appearance. They are fairly small. Members of this family are commonly called sweat bees as they can be attracted to perspiration.



Native Bee: Genus *Lithurgopsis*

Plant: Engelmann's Pricklypear
(*Opuntia engelmannii*)

Notes: A member of the family Megachilidae – the leafcutter bees. *Ashmeadiella* on page 110 belongs to the same family. Bees in the genus *Lithurgopsis* have somewhat unique nesting habits. They carve out long tunnels in woody materials (including certain trees, wooden structures, and agave stalks), which they then fill with pollen. They lay their eggs inside these cavities, and the hatched larvae then consume the pollen.



Native Bee: Genus *Diadasia*

Plant: Engelmann's Pricklypear
(*Opuntia engelmannii*)

Notes: This bee was perched on the pricklypear but was observed visiting the flowers of an adjacent fishhook barrel cactus (*Ferocactus wislizeni*). These bees specialize in particular plants (mallows and cacti, for example). They nest underground in tunnels that are grouped together but not connected.





Native Bee: Genus *Svastra*
Plant: Fishhook Barrel Cactus
(*Ferocactus wislizeni*)

Notes: Males in the *Svastra* genus often sleep with their mandibles grasping the stem of a plant. The bees pictured on this and the preceding are possibly barrel cactus longhorns (*S. duplocincta*).



Native Bee: Genus *Xylocopa*

Plant: Palo Verde (*Parkinsonia*)

Notes: Two species of *Xylocopa* (carpenter bee) can be found within Vistoso Trails: the valley carpenter bee and the western carpenter bee. Both are large, robust bees. Females of the two species are all black and can be difficult to tell apart without close examination. Males have differing light brown to golden coloration that makes them easier to distinguish from one another (and from the females).



Not Pictured

As mentioned at the beginning of this section, countless insects live in the preserve but either have not yet been observed on iNaturalist or have not been properly identified. Whole families of insects are simply not yet represented. That doesn't mean they aren't out there. This guidebook will be gradually updated as observations are made to hopefully more accurately reflect the insect diversity in the preserve.

At right is a robber fly in the genus *Efferia* - a good example of an insect that is definitely in the preserve, but that has not yet been fully identified to the species level.

