

# Native Bees of the Maya Golden Land-

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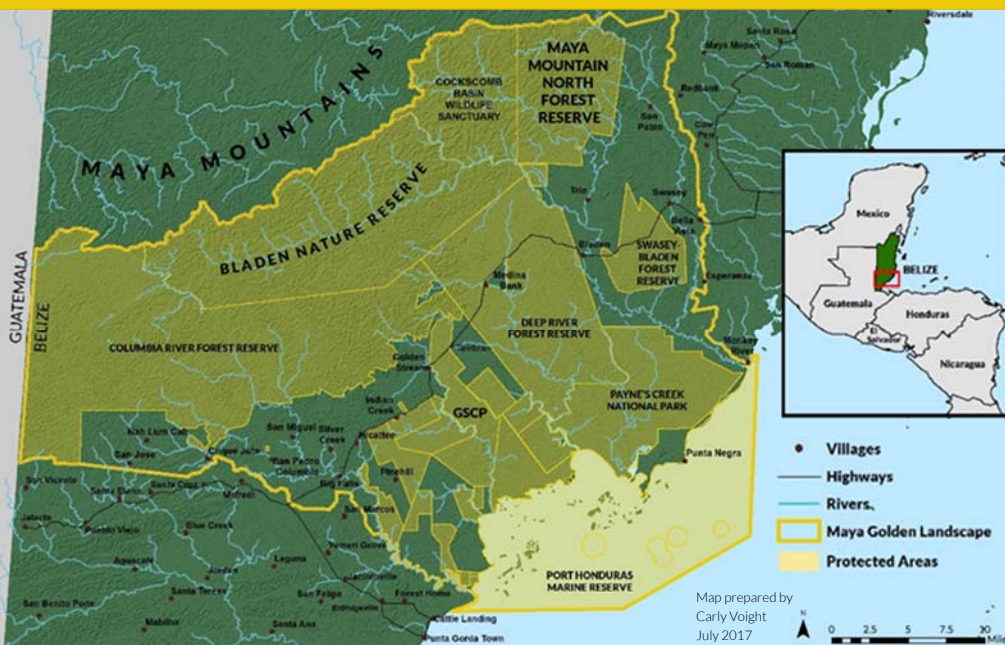
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## The Maya Golden Landscape (MGL)

The 275,000 ha MGL of southern Belize includes protected areas, private lands, and Maya communities. The landscape is dominated by moist broadleaf forests, with agricultural land and lowland savanna also prominent. The MGL plays an important role as part of the Mesoamerican Biological Corridor by connecting the coastal plains to the karstic ridges of the Maya Mountain Massif (elevation range 0 – 1133 m).

## Ya'axché Native Bee Inventory

Between 2019-2021, Ya'axché Conservation Trust conducted a native bee inventory within MGL protected areas and in the agricultural landscape of the buffering communities. Land uses sampled in the inventory include broadleaf forest, cacao agroforest, and pine savanna.



## In this guide

This guide includes photos, identifying features, geographic ranges, and plant associations for the 27 genera and 44 species of native bees found during the inventory. Species names are listed where known. On each page, the bee icon on the flower indicates the bee's actual size.

Bees in this guide are organized by broad group, or tribe. Bees within the same tribe are closely related and have similar behaviors.

## Native Bees of the Maya Golden Landscape



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## *Apis mellifera scutellata*

Common names: Africanized honey bee



**Size:** Approximately 15 mm



### **Key features for identification:**

Large bees with thick yellow hair on head and thorax. Similar in shape and color to *Melipona* species; can be distinguished by their hairy eyes. Abdomen with yellow and black bands; yellow bands thicker toward head.

### **Geographic range:**

Native to sub-Saharan Africa but naturalized world-wide

### **Plant associations:**

Generalist feeder and pollinator.

Honey bees—Apini

1



## *Centris* spp.

Common names: unknown



**Size:** Approximately 20 mm



### **Key features for identification:**

Bees in the genus *Centris* are moderate-sized to large. Hind legs of both sexes with long and dense hairs.

### **Geographic range:**

Neotropics through Mexico to central California, Kansas, and Florida

### **Plant associations:**

Pollinates cashew and *Tabebuia* species (mayflower and cortex). Collects oils from plants in the family Malphigaceae (example: craboo) among others.

Oil Collecting Bees—Centridini

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## *Epicharis lunulata*

Common names: unknown



**Size:** Approximately 20 mm



### **Key features for identification:**

*Epicharis* bees are distinguished from *Centris* by the presence of long, whip-like hairs located near the back of the head, behind the eyes.

### **Geographic range:**

Mexico and Central America

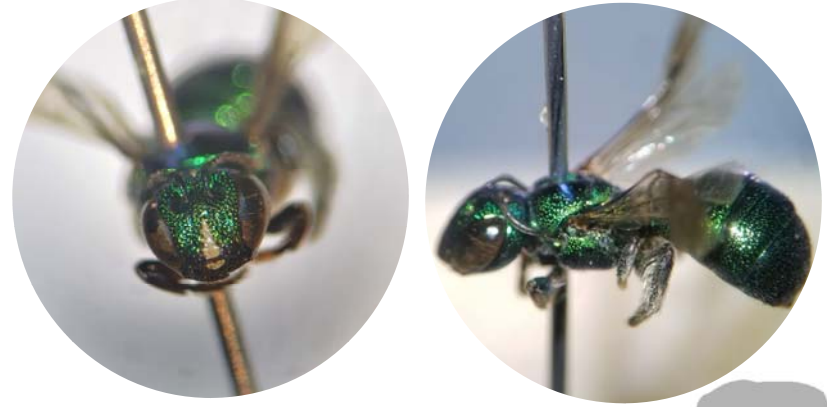
### **Plant associations:**

Collects oils from plants in the family Malpigiaceae (example: craboo) among others.



## *Ceratina chloris*

Common names: unknown



**Size:** 8 mm or less



### **Key features for identification:**

Body shiny, with no areas of dense hair. Large, deep green color with a pale yellow mark (often very small) on the lower margin of the face.

### **Geographic range:**

Belize and Costa Rica through northern South America

### **Plant associations:**

Contributes to pollination of coffee, peppers, and coriander



## *Ceratina eximia*

Common names: unknown



**Size:** 8 mm or less



### **Key features for identification:**

Female head and thorax bright metallic green. Face with a cream-colored central stripe and one small triangular mark on either side. Abdomen bright purple.

### **Geographic range:**

Mexico, Guatemala, Belize, Honduras, Costa Rica, and Panama

### **Plant associations:**

Contributes to pollination of coffee, peppers, and coriander



## *Ceratina marginata*

Common names: unknown



**Size:** 7 mm



### **Key features for identification:**

Female is deep metallic black, with a tinge of green on head and thorax. Antennae and legs black. Sparse white hairs. Smoky wings. The yellow mark on clypeus is long and narrow.

### **Geographic range:**

Mexico, Belize, Costa Rica, and Panama

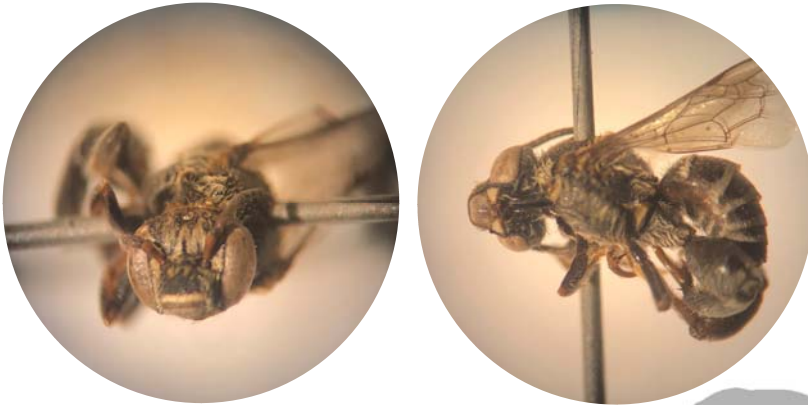
### **Plant associations:**

Contributes to pollination of coffee, peppers, and coriander



## *Ancyloscelis apiformis*

Common names: unknown



Chimney Bees—Emphorini

**Size:** 6–7 mm



### **Key features for identification:**

Male *Ancyloscelis* bees are easily recognized by their inflated and crooked hind legs. The genus name *Ancyloscelis* comes from the Greek words for “crooked leg.”

### **Geographic range:**

Southern USA, Mexico, Central America, and South America

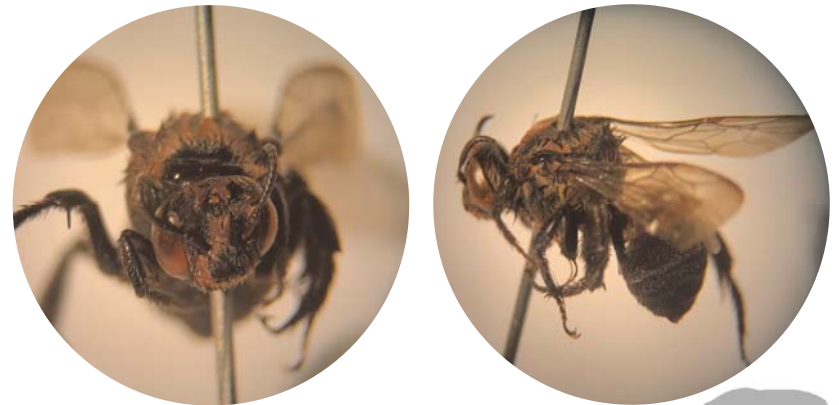
### **Plant associations:**

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## *Melitoma* spp.

Common names: unknown



Chimney Bees—Emphorini

**Size:** 10–13 mm



### **Key features for identification:**

Moderate-sized with distinctive pattern of hairs of different colors on thorax. Abdomen with narrow pale hair bands.

### **Geographic range:**

*Melitoma* species are known from USA (New Jersey and North Dakota) south through Central America and South America

### **Plant associations:**

Specialist pollinator of *Ipomoea* species (morning glories).

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## *Melissodes thelypodii*

Common names: unknown



Long Horn Bees—Eucerini

**Size:** Approximately 11 mm



### Key features for identification:

Thorax with bright orange-red hairs. Female tibiae (calves) of leg with pale, golden-red hairs; integument usually black; eyes gray to grayish-blue, rarely greenish-blue; wing membranes clear, yellowish, darker toward end, veins red to dark reddish-brown.

### Geographic range:

Mexico, Belize, Guatemala, and Honduras

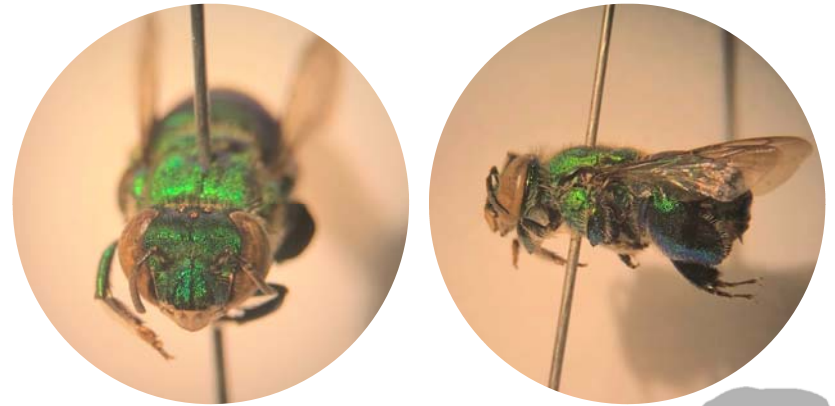
### Plant associations:

Specialist pollinator of *Ipomoea* species.



## *Euglossa townsendi*

Common names: unknown



Orchid Bees—Euglossini

**Size:** 13 mm



### Key features for identification:

Large, shiny green metallic bees. Males have large, inflated hind legs modified to store floral oils.

### Geographic range:

Mexico, Belize, Brazil, and Trinidad and Tobago

### Plant associations:

Pollinates achiote.



## *Eulaema cingulata*

Common names: unknown



**Size:** Female 8–11 mm, Male 20 mm



### Key features for identification:

Large, hairy bees. Mostly black with yellow-orange hair bands. Males are distinguished from bumblebees by large, inflated hind legs where they store floral oils.

### Geographic range:

Mexico, Central America, South America, and Trinidad and Tobago

### Plant associations:

Pollinates achiote, eggplant, tomato, pepper, potato, and *Stanhopea* orchids.



## *Eulaema meriana*

Common names: unknown



**Size:** around 25 mm



### Key features for identification:

Very similar to *Eulaema cingulata*, with abdomen covered in black and yellow hair bands, but with hair that becomes reddish in the last band. Wings are darker at the base and become paler at the tips.

### Geographic range:

Mexico, Central America, and South America

### Plant associations:

Pollinates achiote, eggplant, tomato, pepper, potato, and *Stanhopea* orchids.





## *Eulaema polychroma*

Common names: unknown



Orchid Bees—Euglossini

**Size:** 20 mm

### Key features for identification:

Large, hairy bees. Mostly black with yellow-orange hair bands. Males are distinguished from bumblebees by large, inflated hind legs where they store floral oils.

### Geographic range:

Mexico, Central America, Colombia, Ecuador, and Peru

### Plant associations:

Pollinates achiote, eggplant, tomato, pepper, potato, and *Stanhopea* orchids.



## *Melipona beechei*

Common names: ch'ub, xuna'n kab, colel kab



Stingless Bees—Meliponini

**Size:** Approximately 10 mm

### Key features for identification:

Black thorax with dense orange-yellow hair. Black abdomen with well-defined yellow bands.

### Geographic range:

Mexico, Central America, Cuba, and Jamaica

### Plant associations:

Generalist feeder and pollinator, including craboo, guava, and achiote





## *Melipona belizeae*

Common names: unknown



**Size:** 8 mm



### **Key features for identification:**

Black and orange body. Sides of thorax with brown-red hair. Abdomen brown with yellow bands in the last segments.

### **Geographic range:**

Mexico, Guatemala, and Belize

### **Plant associations:**

Generalist feeder and pollinator



## *Melipona solani*

Common names: criolla, chac chow



**Size:** 8 mm



### **Key features for identification:**

Orange and black body with orange hair. Hair on face orange-brown with some black hair. Abdomen orange without lines.

### **Geographic range:**

Mexico, Guatemala, and Belize

### **Plant associations:**

Generalist feeder and pollinator



## *Nannotrigona perilampoides*

**Common names:** bo'ol, yax ich, serenita, doncelita-prieta, mehenbol, cigarrilla, mosquito, chicopipe



**Size:** 4 mm

### **Key features for identification:**

Black bees with yellow patterns. Wings dark; legs black with yellow knees. Looks very similar to *Plebeia* species but with body covered in dense pits so does not appear shiny.

### **Geographic range:**

Mexico, Costa Rica, El Salvador, Guatemala, Honduras, Panama

### **Plant associations:**

Generalist feeder and pollinator; pollinator of rambutan

Stingless Bees—Meliponini

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## *Partamona bilineata*

**Common names:** x'nuk, ch'o'och, sacar, cushpun



**Size:** 5.6 mm

### **Key features for identification:**

Black body. Hind legs with round, spoon-shaped structure for carrying pollen that is larger than with other stingless bees.

### **Geographic range:**

Mexico, Belize, El Salvador, Guatemala, and Honduras

### **Plant associations:**

Generalist feeder. Pollinates peppers. Could play role in pollination of squash, watermelon, and cucumber. Efficient pollinator of avocado.

Stingless Bees—Meliponini

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## *Plebeia frontalis*

Common names: us kab



**Size:** 3.5–4.4 mm

### **Key features for identification:**

Tiny bee. Black body with yellow markings. Black and yellow markings on legs.

### **Geographic range:**

Mexico, Central America, and Columbia

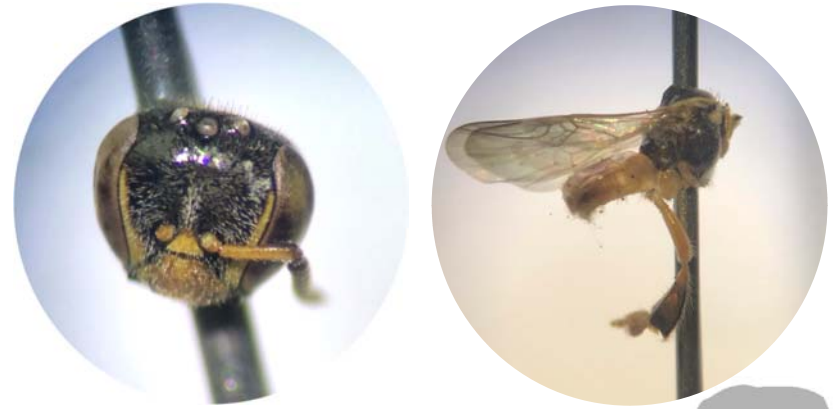
### **Plant associations:**

Generalist feeder. Pollinates peppers and avocado. Expected to play a role in the cross-pollination of coffee.



## *Plebeia pulchra*

Common names: chelerita, serenita, boca de sapo



**Size:** 3.7–4.1 mm

### **Key features for identification:**

Yellow and black bees with yellow hair. Yellow markings along inner part of eyes. Abdomen dark yellow to orange with bands.

### **Geographic range:**

Mexico, Guatemala, Nicaragua, and Costa Rica

### **Plant associations:**

Generalist feeder. Potential mango pollinator.



## *Plebeia melanica*

**Common names:** chelerita, serenita, boca de sapo



**Size:** 5.0 mm



**Key features for identification:**

Very dark brown bee (almost black) without bright yellow markings; yellow hair. Dark brown wings; very dark brown legs; hind tibiae black with slightly orange-yellow hairs. Black or dark brown abdomen.

**Geographic range:**

Mexico, Guatemala

**Plant associations:**

Generalist feeder. Potential mango pollinator.



## *Scaptotrigona pectoralis*

**Common names:** k'an'tsak, xnuk, zagaño, enredapelos, soncuano, cacho-de-venado, congo-canche, tenchalita, alazana, zacarillo



**Size:** 5.4mm



**Key features for identification:**

Dark orange and black bee with orange hair. Orange legs that become darker toward the feet.

**Geographic range:**

Mexico through Central America

**Plant associations:**

Generalist feeder.



## *Scaura argyrea*

Common names: none



**Size:** 3.6–4.0 mm

10 mm

### **Key features for identification:**

Entirely black bees. Mandibles black with a reddish-brown band at the end. Wings translucent but darkened with very dark brown veins. Black legs, with basitarsus (ankle) large and inflated, wider than tibia (calf).

### **Geographic range:**

Mexico through Central America to Colombia

### **Plant associations:**

Generalist feeder.



## *Tetragona mayarum*

Common names: miel-de-leche



**Size:** 4 mm

10 mm

### **Key features for identification:**

Tiny bee. Black thorax with yellow “v”-shaped marking on back. Yellow abdomen, mouth-parts, and legs, with black pollen-carrying structure on hind legs.

### **Geographic range:**

Mexico, Belize, Guatemala, and Honduras

### **Plant associations:**

Pollinator of rambutan. Noted to nest in Spanish cedar, gumbo limbo, guanacaste, and madre de cacao.





## *Tetragonisca angustula*

**Common names:** mariola, jatay, angelitas, mosquito-amarelo



**Size:** 4.4–4.7mm

10 mm

### **Key features for identification:**

Tiny yellow and black bees with very narrow, yellow abdomen. Black face with yellow markings.

### **Geographic range:**

Mexico, Central America, and South America

### **Plant associations:**

Considered not to be an effective pollinator due to its small size.



## *Trigona corvina*

**Common names:** zagaña, atarrá, enredapelos



**Size:** 6 mm

10 mm

### **Key features for identification:**

Completely black bees with black hair. Darkened wings. Species very similar in appearance to *T. fuscipennis* but slightly larger; also similar in size and color to *Partamona bilineata* but without round tibiae of legs.

### **Geographic range:**

Mexico through Central America to Colombia

### **Plant associations:**

Builds external nests in hog plum (*Spondias mombin*) and mayflower (*Tabebuia rosea*).



## *Trigona fulviventris*

Common names: mu'ul kab, culo-de-vaca



**Size:** 6 mm



10 mm

### **Key features for identification:**

Black bees with orange abdomens, very occasionally black. Brown wings.

### **Geographic range:**

Mexico through Central America to Colombia

### **Plant associations:**

Pollinator of peppers and beans. Small species could be important pollinators of chayote. Nests in ramón (*Brosimum alicastrum*).



## *Trigona silvestriana*

Common names: drunken bayman, morocco, congo



**Size:** 8 mm



10 mm

### **Key features for identification:**

Black bee, mandibles reddish brown. Legs dark with lighter brown tibia (calf) and brown tarsi (feet). Short and broad abdomen.

### **Geographic range:**

Mexico through Central America; Colombia and Peru

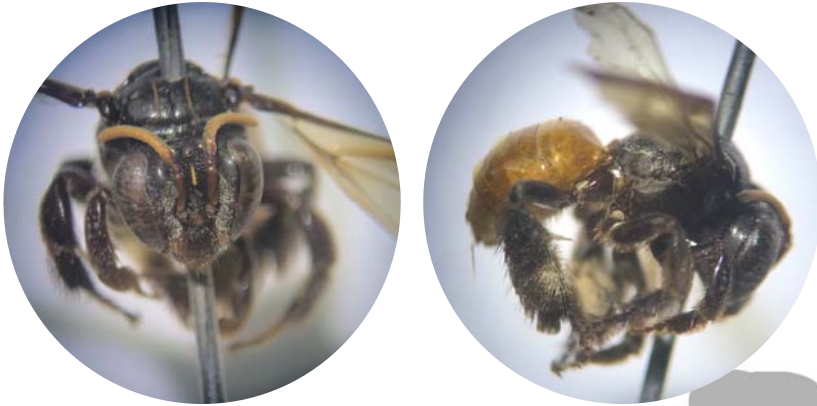
### **Plant associations:**

Pollinator of peppers and beans.



## *Paratetrapedia albilabris*

Common names: unknown



**Size:** 8 mm



### **Key features for identification:**

Similar in shape and size to *Trigona* bees; however, *Trigona* do not have stings and *Paratetrapedia* do. Front legs have specialized, short and thick comb-like hairs used to collect floral oils. Abdomen smooth and very shiny, with tufts of hair on the sides.

### **Geographic range:**

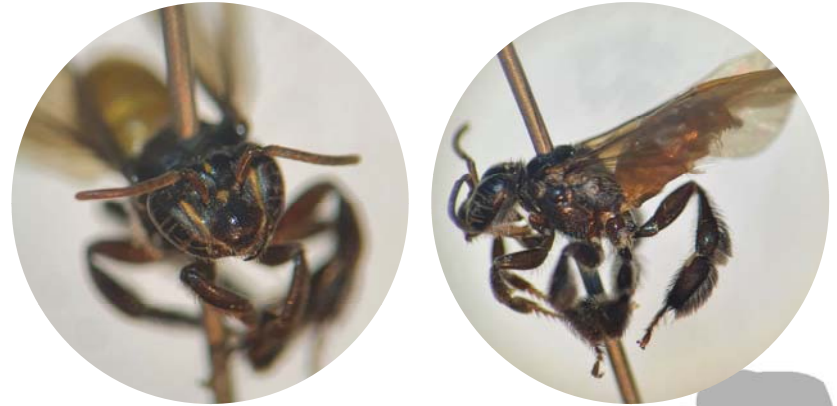
*Paratetrapedia* bees occur widely in Mesoamerica.

### **Plant associations:**



## *Paratetrapedia calcarata*

Common names: unknown



**Size:** 6.8–7.8 mm



### **Key features for identification:**

Abdomen color dark brown to brownish yellow. Differs from other *Paratetrapedia* by thinner yellow stripes on thorax; cheek of male with yellow stripe along most of the edge of the eye. Usually with smoky brown wings.

### **Geographic range:**

Mexico, Central America, Colombia, Ecuador, and Venezuela

### **Plant associations:**

Observed pollinating rambutan.





## *Paratetrapedia flavescens*

Common names: unknown



**Size:** Male 8.6 mm, Female 10 mm



### **Key features for identification:**

Male and female *Paratetrapedia flavescens* can be identified from other *Paratetrapedia* species by their yellow body color. Females with legs weakly dark brown.

### **Geographic range:**

Mexico and Costa Rica

### **Plant associations:**

Observed pollinating rambutan.



## *Paratetrapedia moesta*

Common names: unknown



**Size:** Male 6.7–10 mm, Female 6–9.3 mm



### **Key features for identification:**

Male with much of face covered in yellow markings. Female completely black. *P. moesta* differs from other similarly colored *Paratetrapedia* by its larger body size. Wing membrane smoky black.

### **Geographic range:**

Mexico and Central America

### **Plant associations:**

Observed pollinating rambutan and yellow bells (*Tecoma stans*).



## *Tetrapedia maura*

Common names: unknown



Other Bees—Tetrapediini

**Size:** 8–11 mm



### **Key features for identification:**

Resembles *Trigona* and *Paratetrapedia*. Black, shiny body with black hair. White hair on face. Legs covered with dense black hair, with yellow or yellowish-white patch at the end of the tibiae (calves).

### **Geographic range:**

Mexico, Central America, and Venezuela

### **Plant associations:**

Observed pollinating rambutan and yellow bells (*Tecoma stans*).



## *Xylocopa fimbriata*

Common names: unknown



Carpenter Bees—Xylocopini

**Size:** 20 mm



### **Key features for identification:**

Large, robust bees often confused with bumblebees. Can be separated from bumblebees by hairless upper surface of abdomen.

### **Geographic range:**

Mexico, Central America, South America, and the West Indies

### **Plant associations:**

Pollinates tomatoes, melons, passionfruit, and madre de cacao



## *Xylocopa viridis*

Common names: unknown



**Size:** 14–18 mm



### Key features for identification:

Both sexes of this species are easily recognized by the distinctive metallic green highlights on all body sections, yellowish hair on thorax, and yellow-white hair bands on abdomen.

### Geographic range:

Mexico through Central and South America

### Plant associations:

Pollinates tomatoes, melons, passionfruit, and madre de cacao



## *Augochlora nigrocyanea*

Common names: unknown



**Size:** 8-13 mm



### Key features for identification:

Head and thorax dark indigo-blue; abdomen black, with green reflections on the sides of the first two segments. Face with short, white hair. Wings smoky.

### Geographic range:

USA (Texas) south to Mexico, Belize, Panama, and Guyana

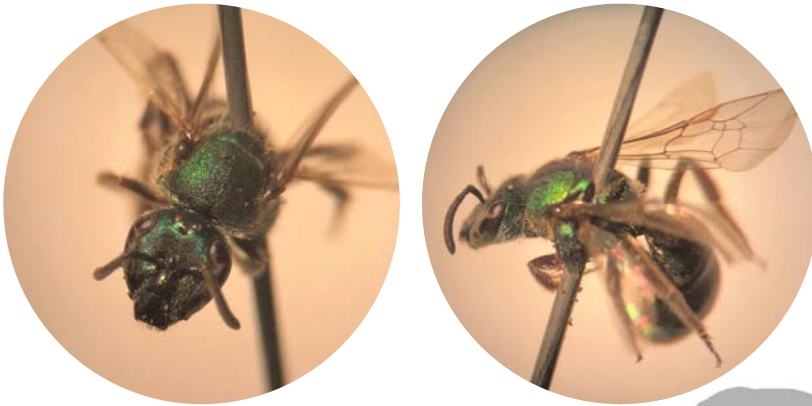
### Plant associations:





## *Augochlora quiriguensis*

Common names: unknown



Sweat Bees—Augochlorini

**Size:** 7-8 mm



### **Key features for identification:**

This species differs from *A. nigrocyanea* in its smaller size, narrower face, and the brilliant green head and thorax.

### **Geographic range:**

Mexico, Guatemala, Belize, and Panama

### **Plant associations:**



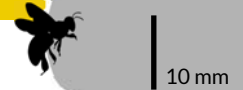
## *Augochlora smaragdina*

Common names: unknown



Sweat Bees—Augochlorini

**Size:** 7 mm



### **Key features for identification:**

Blue-green bee. Head and thorax with dense wrinkles, making surface almost dull. Antenna black. Abdomen iridescent blue; underside of abdomen black.

### **Geographic range:**

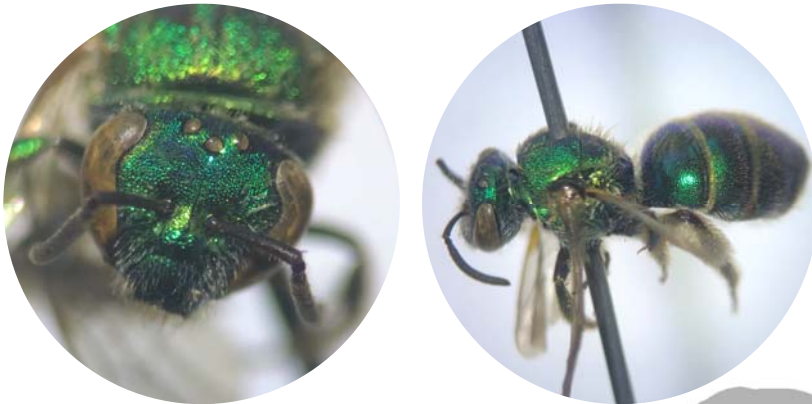
Mexico, Belize, Costa Rica, and Panama

### **Plant associations:**



## *Augochloropsis pallitarsis*

Common names: unknown



Sweat Bees—Augochlorini

**Size:** 8 mm



### Key features for identification:

Golden-green, narrow body. All tarsi (feet) yellow. Mandible brown, antenna black. Abdomen gold-green, dimpled but still shiny, with single long yellowish hairs. Underside of abdomen green and very shiny, becoming dull brown toward end. Legs green, whitish hair.

### Geographic range:

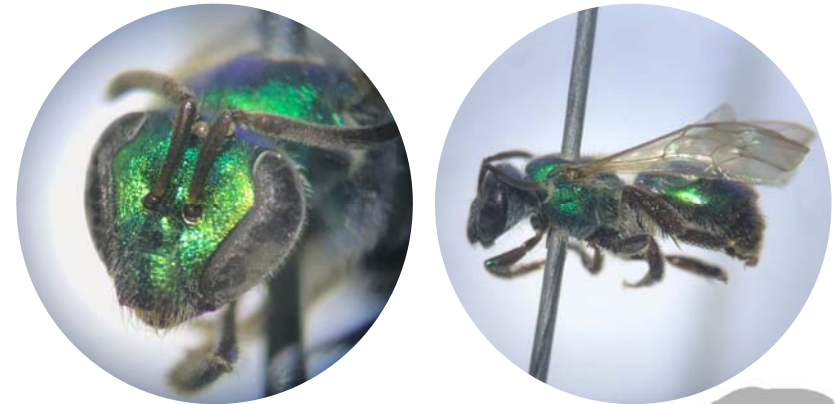
Belize, Costa Rica, and Colombia

### Plant associations:



## *Caenaugochlora* spp.

Common names: unknown



Sweat Bees—Augochlorini

**Size:** Approximately 7 mm



### Key features for identification:

Moderate-sized, bright metallic green body. Distinguished from other Augochlorini by its hairy eyes.

### Geographic range:

Mexico, Central America, and Colombia

### Plant associations:



## *Pseudaugochlora graminea*

Common names: unknown



**Size:** 8–10 mm



10 mm

### **Key features for identification:**

The color is extremely variable; most commonly green with yellowish and bluish highlights; some specimens have bronze highlights and other are strongly bluish.

### **Geographic range:**

USA (Texas) through Central America and South America

### **Plant associations:**



## *Lasioglossum hewetti*

Common names: unknown



**Size:** 5 mm



10 mm

### **Key features for identification:**

Tiny bee. Dull black to dark green in color.

### **Geographic range:**

Mexico, Guatemala, and Belize

### **Plant associations:**

Pollinates watermelon, eggplant, tomato, pepper, and potato. May assist in the pollination of cacao.





## *Megachile albitarsis*

Common names: white footed leafcutter bee



### Size:

### Key features for identification:

Similar in size to honeybees, but with long, thick hair on the underside of the abdomen used for carrying pollen.

### Geographic range:

Southern USA, Mexico, Guatemala, Belize, and Nicaragua

### Plant associations:

Pollinates peas and sunflowers.



## *Megachile chichimeca*

Common names: unknown



Size: 10 mm



10 mm

### Key features for identification:

Small and slender body, with prominent tufts of white hair near the base of the wings and along the back edge of the thorax. Females with thick hairs on abdomens that are white toward the front and rust-colored toward the end.

### Geographic range:

USA (Texas) south through Central America

### Plant associations:

Cabbage bark (*Andira inermis*)



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# Native Bees of the Maya Golden Land-



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