Perdita semicrocea (Half-scarlet Fairy Bee)

No Photo Available

Taxonomy

- **Class**: INSECTA
- **Order**: HYMENOPTERA
- **Family**: ANDRENIDAE
- **Genus**: Perdita
- **Scientific Name**: *Perdita semicrocea* Cockerell, 1895
- **Common Name**: Half-scarlet Fairy Bee
- **Synonyms**:
- **Taxonomic Name Source**:Integrated Taxonomic Information System (ITIS). 2008. World Bee Checklist Project (version 03-Oct-2008). Integrated Taxonomic Information System: Biological Names. Online. Available: http://www.itis.gov.

Agency Status

- **NMDGF**:
- **Federal Status**:
- **BLM Sensitive**:
- **USFS**:
- **IUCN Red List**: Not Evaluated
- **Nature Serve Global**: GNR
- **NHNM State**: S1
- **NM Endemic**:NO

Description

Perdita semicrocea is a small mining bee. It is a shiny black species with an orange-yellow abdomen. Some males have very large heads with broad but rounded and "unarmed" cheeks and white face marks. These characteristics of the head distinguish it from closely related species (Timberlake 1962).

Habitat and Ecology

Very little is known about the habitats and ecology of *Perdita semicrocea.* It has mostly been recorded in the Chihuahuan Desert, though there are several records from the Arizona/ New Mexico Plateau farther north and the lowlands of the Madrean Sky Islands to the west. This suggests it may be found in a variety of habitats including arid grasslands and shrublands. Species of *Perdita* are almost all oligolectic (Michener 2007). As such, their emergence is usually timed to coincide with the floral bloom period of their host plants (Wilson and Carril 2016). However, this species has been recorded on several plants in the Asteraceae family, including broom snakeweed (Gutierrezia sarothrae), southern goldenbush (*Isocoma pluriflora*), and goldenrod (*Solidago* spp.) and it has been observed from April through October, with most collections taking place in the late summer (Cockerell 1896, Ascher and Pickering 2024).

Though the nesting habits of this species are unknown, *Perdita* generally nest in the soil, within branching burrows that each end in a single cell, which is more or less horizontal (Michener 2007). A few species nest gregariously, with females nesting in close proximity to one another (Wilson and Carril 2016). Other species are communal nesters, with more than one female sharing a nest entrance (Michener 2007), yet others are more solitary. Instead of covering nest cells in a water proof coating, like other species in the family Andrenidae do, *Perdita* cover only the spherical ball of pollen provisioned for larvae in a coating (Wilson and Carril 2016). Many species are specific about the soil type they choose to nest in (Wilson and Carril 2016). Adult emergency seems to be dependent on humidity levels which indicate

significant rain events above ground, at least for desert species (Wilson and Carril 2016).

Geographic Range:

Perdita semicrocea has been recorded in the southern half of New Mexico and in the southeastern most tip of Arizona, in the United States, and in the northern tip of Sonora, Mexico (Timberlake 1968, Chesshire *et al*. 2023). In New Mexico it is known from Cibola, DoÃ±a Ana, Otero, Hidalgo, and Socorro counties, and in Arizona, from Cochise County.

Conservation Considerations:

There are no conservation actions in place for this species. It is known to occur in at least one protected area, the Sevilleta National Wildlife Refuge, though it is not removed from the main threat of severe drought in this refuge. Research is needed to verify the species remains extant. In addition, a better understanding of the distribution, population size and trend, habitats and ecology, and threats is needed for this species.

Threats:

The threats to this species are not well understood, though drought is likely the main threat. The southwestern U.S. saw its driest 22-year period from 2000 to 2021, since at least 800 CE (the time period used in previous climatic reconstructions) (Williams *et al.* 2022). Droughts are projected to become more prolonged, severe, and common in the region under future climate change scenarios (USGCRP 2018). Drought may negatively impact bee species by reducing floral resource availability (Phillips *et al.* 2017). In addition, declines observed in *Perdita* species at one site the Chihuahuan Desert have been attributed to small body size of these bees, and associated sensitivity to heat and desiccation (Kazenel *et al*. 2024).

Population:

The population size and trend are not known for this species. This species was reportedly quite commonly encountered on several plants in the Asteraceae family, in the late 1800s (Timberlake 1896). It is unknown if it remains common today, as it has only been recorded a few times in the last 20 years.

References:

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More Information