Perdita senecionis (Andrenid Bee)

No Photo Available

Taxonomy

- **Class**: INSECTA
- **Order**: HYMENOPTERA
- **Family**: ANDRENIDAE
- **Genus**: Perdita
- **Scientific Name**: *Perdita senecionis* Cockerell, 1896
- **Common Name**: Andrenid 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**:YES

Description

Perdita senecionis is a small (7mm) miner bee with a dark olive-green head and thorax. The abdomen is black above, with eight white marks. This general form is very similar to the species *Perdita affinis*. However, its head is longer, with narrower lateral face markings, it is larger in size, and the glossa only has a small patch of hairs near its tip. By contrast, *P. affinis* is strongly hairy. *Perdita octomaculata*, also similar in form, also has a hairy glossa compared to *P. senecionis* (Cockerell 1896).

Habitat and Ecology

Very little is known about the habitats and ecology of *Perdita senecionis*, as it is known only from the general collection locality of Las Cruces. Las Cruces is a city in the Chihuahuan Desert, so it is likely the habitat is arid shrublands or grasslands. The species was collected from butterweed (*Senecio douglasii*), which is a plant in the Asteraceae family (Cockerell 1896). 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). This species was collected in early October of 1895 (Cockerell 1896).

Though the nesting habits of this species are unknown, *Perdita* generally nest in the soil, within branched 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:

This species is known only from the type locality, Las Cruces, New Mexico, in the United States. It was collected there in October of 1895 (Cockerell 1896). It is unknown whether the species remains extant, or if it may be found in a wider distribution. Surveys are needed.

Conservation Considerations:

There are no conservation measures in place for this species. Research is badly needed for this possibly threatened species, which has not been collected since it was described in 1895. This includes understanding the current distribution, population size and trend, habitats and ecology, and threats.

Threats:

The threats to this species are not well understood. It has only been collected in the general locality of Las Cruces, which is a city in the Chihuahuan Desert. The city has grown substantially since this species was collected there in 1895, though it is unclear if this urbanization has impacted this species. Similarly, agriculture has expanded since the time of description, as Las Cruces is located along the Rio Grande river, a vital water source in an otherwise arid landscape. Lastly, this species may be impacted by drought due to climate change. 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. It is known from just six specimens, collected during the same event in 1895 (Cockerell 1896), so it could be quite rare.

References:

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More Information