

## Perdita claripennis (Andrenid Bee)

---

No Photo Available

### Taxonomy

- **Class:** INSECTA
- **Order:** HYMENOPTERA
- **Family:** ANDRENIDAE
- **Genus:** Perdita
- **Scientific Name:** *Perdita claripennis* Timberlake, 1968
- **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

This species is a small miner bee (4 mm) with a blue-green head and thorax, though the labrum and parts of the clypeus are dark black and some markings on the pronotum are white. The abdomen is black, with moderately broad white bands on tergites one through four, and two vestigial marks on tergite five. It is similar to *Perdita affinis* due to the dark scape, but it can be distinguished by its very narrowly interrupted bands on the abdomen, its whitish wings, and its smaller size (Timberlake 1968).

### Habitat and Ecology

Very little is known about the habitats and ecology of *Perdita claripennis*, as it is known only from one general collection locality near Deming, New Mexico. Deming is a city in the Chihuahuan Desert, so it is likely the habitat is arid shrublands or grasslands. While it is unknown what this species might feed on, 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 August of 1946 (Timberlake 1968).

Though the nesting habits of this species are unknown, *Perdita* generally nest in the soil, within burrows that branch, each ending 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 emergence 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, thirty-three miles east of Deming, in Dona Ana County, New Mexico, in the United States (Timberlake 1968). 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. Research is badly needed for this possibly threatened species, which has not been collected since it was described in 1946. This includes understanding the current distribution, population size and trend, habitats and ecology, and threats.

## Threats:

Threats to this species are not well understood, though drought may be adversely impacting the species. 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 one collection event in 1946, so it could be quite rare (Timberlake 1968).

## References:

- Michener, D.C.. 2007. The Bees of the World. The Johns Hopkins University Press, Baltimore : (953).
- Phillips, B.B., Shaw, R.F., Holland, M.J., Fry, E.L., Bardgett, R.D., Bullock, J.M. and Osborne, J.L.. 2017. Drought reduces floral resources for pollinators. *Global Change Biology* 24: (3226-3235).
- Timberlake, P.H.. 1968. A Revisional Study of the Bees of the Genus *Perdita* F. Smith, with a Special Reference to the Fauna of the Pacific Coast. Part VII. University of California Press, Berkeley and Los Angeles .
- Kazenel, M.R., Wright, K.W., Griswold, T., Whitney, K.D. and Rudgers, J.A.. 2024. Heat desiccation tolerances predict bee abundance under climate change. *Nature* 628: (342-362).
- Wilson, J.S. and Carril, O.M. 2016. The Bees in Your Backyard: A Guide to North America's Bees. Princeton University Press, Princeton, NJ .
- USGCRP. 2018. Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II. *U.S. Global Change Research Program* , Washington, DC, USA : (1515).
- ITIS. 2024. [Integrated Taxonomic Information System \(ITIS\). 2024. https://www.itis.gov/](https://www.itis.gov/)
- Williams, A.P., Cook, B.I. and Smerdon, J.E. . 2022. Rapid intensification of the emerging southwestern North American megadrought in 2020–2021. *Nature Climate Change* 12: (232-234).

## More Information

**iNaturalist**

