

# Perdita trinotata (Triton Fairy Bee)

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No Photo Available

## Taxonomy

- **Class:** INSECTA
- **Order:** HYMENOPTERA
- **Family:** ANDRENIDAE
- **Genus:** Perdita
- **Scientific Name:** *Perdita trinotata* Timberlake, 1964
- **Common Name:** Triton 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

In males of *Perdita trinotata* the head and thorax are primarily dark blue-green, with some white or yellowish white marks. The abdomen is black, with narrow, interrupted, yellowish white bands on tergites 3 to 5. Bands on tergites 4 and 6 are also interrupted on each side. Tergite 2 has two submedian spots. The wings are nearly clear. It resembles *P. confusa* and may prove to be a variety of that species, once it is better studied. It differs from *P. confusa* because the lateral and median marks on the clypeus are subequal, and the proboscis a little longer. (Timberlake 1964).

## Habitat and Ecology

The habitats and ecology are not well understood for this species. It is found across several ecoregion types in the Desert Southwest, though most occurrences are in the Chihuahuan Desert. 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). They nest in the soil within burrows with branches, 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 found in the southwestern United States, where it is known from scattered occurrences in Texas and one locality, the Sevilleta National Wildlife Refuge, in New Mexico (Chesshire et al. 2023).

## Conservation Considerations:

There are no conservation measures 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 better understand the current distribution, population size and trend, habitats and ecology, and threats.

## 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. In the last 20 years, this species has only been collected at the Sevilleta National Wildlife Refuge, which has an extensive bee monitoring program. It has not been recorded in Texas since 1965. Surveys are generally limited throughout the range, so a lack of records likely does not indicate true absence. However, the species should be confirmed across its distribution to ensure declines are not taking place.

## References:

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## More Information

