

Megachile melanderi (Melander's leafcutter bee)

No Photo Available

Taxonomy

- **Class:** INSECTA
- **Order:** Hymenoptera
- **Family:** Megachilidae
- **Genus:** Megachile
- **Scientific Name:** Megachile melanderi Mitchell, 1944
- **Common Name:** Melander's leafcutter 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:** [G2](#)
- **NHNM State:**
- **NM Endemic:** NO

Description

Habitat and Ecology

The bee's habitat includes arid grasslands and gypsum clay playas in the southwestern United States (Ascher and Pickering 2014, NatureServe 2026). There is little information on the ecology of this species but bees in the genus, Megachile, are generally cavity nesters, but it is not known for this species (Danforth et al. 2019, NatureServe 2026). The species is thought to be a Nectarivore, and adults have been reported on flowers of Tickseed (*Coreopsis*) and bladderpods (*Physaria*) (Ascher and Pickering 2014, NatureServe 2026). The full flight of this species isn't known, but records range from April 10 to May 23 (GBIF.org 2026). More research is needed on the ecology of this species.

Geographic Range:

This bee's range occupies the southwestern United States in arid grasslands and gypsum clay playas (Ascher and Pickering 2014, NatureServe 2026). There are four locations within Arizona, one is just south of Chiricahua National Monument, one is just southwest of Tucson, Arizona, one is in Wilcox, Arizona, and one is in San Simon, Arizona (GBIF.org 2026). There are three locations in New Mexico, one is east of Deming, New Mexico, one is within the Sevilleta National Wildlife Refuge, and one is within White Sands National Park (GBIF.org 2026). There are three locations in west Texas one in Verhalen, Texas, one in Imperial, Texas, and one in Rankin, Texas (GBIF.org 2026). One location is listed by Krombein et al. (1979) with an occurrence record in Inyo County, California, without a specific locality and year but has not been seen since in California. However, this species has only been seen in two locations in the 21st century (GBIF.org 2026, NatureServe 2026). Both locations are in New Mexico: Sevilleta National Wildlife Refuge and White Sands National Park (GBIF.org 2026, NatureServe 2026). More research is needed on the range of this species.

Conservation Considerations:

There are no known range wide conservation actions in place for this bee but the bee was assessed as G2 Imperilled globally in a 2019 assessment by NatureServe. In this assessment, the species was found to be Possibly Extirpated in Texas (NatureServe 2026). More research is needed on the range, ecology, and conservation needs of this species.

Threats:

This bee's range includes the Southwestern United States which 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) and droughts are projected to become more prolonged, severe, and common in the region under future climate change scenarios (USGCRP 2018). Drought conditions over the last few years have severely limited food and nectar resources (Hughes 2020) and environmental stochasticity, especially variation in host quantity, quality, and phenology (Ehrlich and Murphy 1987). This can further stress these species already living in these hot and dry environments, other insect species, even very common ones, have been experiencing widespread declines due to a series of threats that may be affecting this species as well (Forister et al. 2021). Land use and water use change have been shown to affect many other western United States species (Forister et al. 2010). A threat to this species is the potential for catastrophic wildfire. Fire suppression has been a key component of forest management in these regions since the early 1900s, resulting in dense conifer growth and increased fuel loads (Kaufmann et al. 1998). At least nine large fires have burned over 34,000 acres of land in the Sacramento Mountains in the last 50 years (Kaufmann et al. 1998). The impacts of fire on this species may depend on the intensity and size of the fire, as well as seasonal timing (USFWS et al. 2004). For example, if a small amount of meadow habitat was burnt, but adjacent forests were cleared, larval host and nectar plants may benefit from the disturbance caused by the fire, and lepidopterans may be able to disperse more readily between meadows. However, if a fire that was too hot or too widespread were to burn in the area, direct impacts may include mortality of adults, pupae, larvae, or eggs, depending on the time of year, and indirect effects might include loss of host plants and nectar sources. The impacts of land use on fire intensity and spread may also be consequential. For example, grazing may temper a fire, as grazed meadows carry less fuel load, but the presence of some invasive grasses which are more abundant in grazed areas, such as Kentucky blue grass (*Poa pratensis*), may cause fire to burn deeper and hotter, due to the formation of mats (USFWS et al. 2004). A NatureServe report in 2016 examined the conservation status of Leafcutter bees. They found *Megachile* bees to be the most at-risk group of all North American insect groups that have been comprehensively assessed (NatureServe 2026). The exact cause of declines is unknown, but as this species is a member of *Megachile*, more research is needed into the threats to this species.

Population:

The population size and trend are not known for this species. Determination of population size and monitoring of population trends is necessary to ensure the population is stable.

References:

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More Information