

Poecilognathus scolopax (Prairie Bee Fly)



President and Fellows of Harvard College,

Taxonomy

- **Class:** INSECTA
- **Order:** DIPTERA
- **Family:** BOMBYLIIDAE
- **Genus:** Poecilognathus
- **Scientific Name:** *Poecilognathus scolopax* (Osten Sacken, 1877)
- **Common Name:** Prairie Bee Fly
- **Synonyms:** Phthiria scolopax Osten Sacken, 1877
Osten Sacken, 1877
- **Taxonomic Name Source:** Evenhuis, N.L. and T. Pape. 2024. Systema Dipteroorum, Version 5.0. Last updated: 7 January 2024. Online. Available: <http://diptera.org/>

Agency Status

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

Description

This is a small light brown fly (5-6 mm). It has large clear wings with black veins and spots, a small yellow head with an elongated proboscis, and yellow longitudinal stripes on the thorax (Osten Sacken 1877).

Habitat and Ecology

The habitats and ecology of this species are not well understood. It does seem to have been recorded in a variety of habitats, including a pinyon-juniper woodland in Santa Fe and a desert shrubland in Albuquerque, both in New Mexico, (GBIF.org 2024) and a short grass prairie at Soapstone Prairie Natural Area, in northern Colorado (Stoaks and Kondratieff 2012).

Larvae of *Poecilognathus scolopax* are parasitic like many bee flies, but the host is unknown (Garrett 2020). An interaction with a wasp in the genus *Clypeadon* was observed, but use of this species as host is unconfirmed (Garrett 2020). This species is an effective pollinator that flies in the early morning and feeds on the nectar of a flower by pushing its head far into the floral tube (Clinebell II *et al.* 2004). The adult fly is the primary pollinator of Berlandier's Sundrops (*Calylophus berlandieri* subsp. *berlandieri*) and is recorded pollinating Blazingstars (*Mentzelia* spp.) and Prickly Poppies (*Argemone* spp.) (Clinebell II *et al.* 2004). It is additionally a documented pollinator of several rare and imperiled plants endemic to Colorado, including the federal sensitive species Golden Blazingstar (*Mentzelia chrysantha*) (Anderson 2006a), Arkansas Canyon Stickleleaf (*Mentzelia densa*), and Pueblo Goldenweed (*Oenopsis puebloensis*) (Spackman Panjabi 2004). Adults are recorded as being active in July and August (Evenhuis 1982, Anderson 2006).

Geographic Range:

The majority of records of this species come from Colorado, New Mexico, and Texas, in the United States (Spackman Panjabi 2004, Stoaks and Kondratieff 2012, Evenhuis and Greathead 1999, GBIF.org 2024). It is possible the species has also been recorded in Arizona, Arkansas, California, Idaho, Minnesota, Mississippi, Nebraska, South Dakota, and Hidalgo, Mexico (Evenhuis and Greathead 1999), though collection records and locality information for these occurrences has not been uncovered by the assessors. Furthermore, since 1970, the species has only been sparsely recorded within Colorado and New Mexico (GBIF.org 2024), and since 2000, only at Soapstone Prairie, in northern Colorado, and at several sites in the Arkansas Valley of Colorado (Spackman Panjabi 2004, Anderson 2006, Stoaks and Kondratieff 2012).

Based on recent collection records only, this species has an estimated extent of occurrence (EOO) of just over 33,000 km² and an area of occupancy (AOO) as little as 24 km². The species is considered to be found in two to five locations.

Conservation Considerations:

There is no targeted conservation for this species. It is a pollinator for some plant species that are globally imperiled, and though these species are regionally protected, they are only present in a very small portion of the range of this fly (Spackman Panjabi 2004, Anderson 2006). Gaining an understanding of the habitats, distribution, and behaviors of pollinators in general that are associated with the threatened plants Golden Blazingstar, Arkansas Canyon Stickleleaf, and Pueblo Goldenweed is essential and recommended for the conservation of these plants (Spackman Panjabi 2004). This bee fly is not well understood and research on the current distribution, population size or trend, habitats and ecology, and threats is needed.

Threats:

The threats to this species are not well understood. It is unclear why the species has not been recorded across much of its distribution in the last 20 years. In the Arkansas Valley in Colorado, where many of the recent occurrences of the species have been taken, there are several rare plants known to be visited and pollinated by *Poecilognathus scolopax*. These plants, and therefore their pollinators, are threatened by habitat fragmentation as a result of mixed-use land management (Spackman Panjabi 2004). For example, Pueblo Goldenweed (*Oenopsis puebloensis*) is threatened by a local cement plant and development of the species habitat for housing (Panjabi and Smith 2017) and Brandegees' Buckwheat (*Eriogonum brandegeei*) is threatened by off-road vehicle use and other recreation, residential and commercial development, grazing, invasive species, and other threats (Anderson 2006b). Conversion of habitat for agriculture may also have been a historic threat to this species, as it has been recorded in short grass prairie habitats (Stoaks and Kondratieff 2012). North American prairies have decline by an estimated 99% in the last few centuries, primarily due to conversion for agriculture (Samson and Knopf 1994). This has resulted in long term declines of many insects, such as prairie butterflies (Swengel *et al.* 2011).

Population:

The population size and trend are unknown for this species. Since 2000, it has only been recorded at several sites in Colorado, which is likely due to lack of surveys, though it is possible the species has declined.

References:

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More Information