Apiocera hamata (Rio Grande Flower-loving Fly)

No Photo Available

Taxonomy

- **Class**: INSECTA
- **Order**: DIPTERA
- **Family**: APIOCERIDAE
- **Genus**: Apiocera
- **Scientific Name**: *Apiocera hamata* Cazier, 1982
- **Common Name**: Rio Grande Flower-loving Fly
- **Synonyms**:
- **Taxonomic Name Source**:Cazier, M.A. 1982. A revision of the North American flies belonging to the genus *Apiocera* (Diptera, Apioceridae). Bulletin of the American Museum of Natural History 171: 287-467.

Agency Status

- **NMDGF**:
- **Federal Status**:
- **BLM Sensitive**:
- **USFS**:
- **IUCN Red List**: Not Evaluated
- **Nature Serve Global**: GNR
- **NHNM State**: S2
- **NM Endemic**:NO

Description

Species in the genus *Apiocera* are stocky Mydas-like flies, with shorter antenna. This species, *Apiocera hamata* is medium-sized and narrow. It appears to be most closely related to *A. minckleyi*, though it can be easily distinguished because it has black, rather than white, long hairs on the dististyles (which are the blade-shaped accessory parts of the male genitalia). Among other slight differences, it also has elongate, rather than triangular, dorsolateral black markings on abdominal segments two through four (Cazier 1982).

Habitat and Ecology

Little is known about the habitats and ecology of this species, though the majority of specimens have been taken in sandy habitats in close proximity to water sources, such as the Rio Grande River. Specimens have been collected from April through June (GBIF.org 2024).

Breeding sites for other species of *Apiocera* are typically in proximity to a water source and are near oviposition sites. Generally, females are thought to lay their eggs in soft, sandy soils where there is at least sparse plant cover for projection. Sand dunes are particularly favorable to many species, and individuals tend to be most abundant around the sparsely vegetated edges of dunes. Other types of habitats that are also favorable for egg laying include sand deposits along rivers, streams, creeks, and around springs and lakes. The larval food source is unknown for the entire genus, though it is possible the larvae feed on plant tissues near the oviposition sites. *Apiocera* species have a muscoid, sponging type mouthpart, which are not suitable for accessing the nectaries of flowers or for consuming pollen grains. They are designed instead to soak up water from damp sand and sponge honey-dew from aphid infested plants. Aphid honey dew is the only known food source of adult *Apiocera*. Most species seems to need access to water, where they are often found visiting the damp sand or soil. In arid habitats, it is likely they can travel a considerable distance from breeding areas to find water sources. These flies are often called flower-loving flies, which is a misnomer. While they are sometimes observed visiting flowers and do incidentally pick up the occasional grain of pollen, this is seemingly not an important part of their ecology (Cazier 1982).

Geographic Range:

This species is found primarily in proximity to the Rio Grande River, along a 100 m stretch in the border region of southern New Mexico and West Texas, in the United States (Cazier 1982, GBIF.org 2024). It occurs along the border of Chihuahua, Mexico, so it may be found there as well. There are a couple records outside of this primary region. For example, the holotype male was taken from San Ysidro, in northern New Mexico (Cazier 1982). It is unclear if the gap in occurrences represents a true disjunction, or if survey effort is simply lacking. There is another occurrence east of the Sacramento Mountains, in the prairie region of eastern New Mexico (GBIF.org 2024), which may or may not be valid.

Conservation Considerations:

There are no conservation measures in place for this species and it is unknown whether it occurs in any protected areas. Research is needed on the distribution, population size and trend, habitats and ecology, and threats to this species.

Threats:

Threats to this species are not well understood, though inferences can be made based on threats to the habitat. Sand-dominated ecosystems in the southwest are threatened by motility, especially as a result of drought conditions (Bogle *et al*. 2015), which are expected to become more severe, prolonged and frequent due to climate change (USGCRP 2018). In addition, this species depends on consistent water sources (Cazier 1982), which may become less available as droughts increase and as cities and agricultural areas expand, putting higher demand on groundwater and surface water resources (Yongmei *et al*. 2005). Sand dunes are also popular sites for off-roading, especially where this species is found near El Paso, Texas (Luna 2022). Off road vehicles haven been shown to alter habitat structure and function in many systems by disturbing soil, creating loss of vegetative cover, and changing plant community structure and function (Reviewed in Ploughe and Fraser 2022).

Population:

The population size and trend are not known for this species. It has not been recorded since 1983 (GBIF.org 2024), though it is unlikely any surveys have been attempted.

References:

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More Information