Schinia zuni (Zuni Flower Moth)

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Taxonomy

- **Class**: INSECTA
- **Order**: LEPIDOPTERA
- **Family**: NOCTUIDAE
- **Genus**: Schinia
- **Scientific Name**: *Schinia zuni* (McElvare, 1950)
- **Common Name**: Zuni Flower Moth
- **Synonyms**: Dasypoudaea zuni McElvare 1950 McElvare 1950
- **Taxonomic Name Source**:Lafontaine, J.D., and B.C. Schmidt. 2010. Annotated check list of the Noctuoidea (Insecta, Lepidoptera) of North America north of Mexico. ZooKeys 40:1-239.

Agency Status

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

Description

This is a small, light-brown colored moth with noticeable wide zig-zag silvery-white stripes across the forewings (McElvare 1950). The abdomen is yellow, and the hindwings are yellow with brown stripes and white fringe (McElvare 1950).

Habitat and Ecology

The habitats and ecology of *Schinia zuni* are not well understood. Most occurrences of this species are within the North Central New Mexico Valleys and Mesas and Semiarid Tablelands of the Arizona /New Mexico Plateau ecoregion (Griffith *et al*. 2006). This ecoregion is a mosaic of sparse semiarid grasslands and desert scrub shrublands (Ruhlman 2012).

Schinia moths are called the â€œflower mothsâ€• because as caterpillars they feed on buds or flowers of their host

plant. In most cases, *Schinia* are oligophagous, meaning specialized to feed on only one genus or a few related genera of plants (Mitter *et al.* 1993). In Texas, many species are known in association with Asteraceae plants. Larvae are short-lived, feeding for less than a month, perhaps due to this flower-specific lifestyle (Peigler and Vinson 1988). They are also found frequently as adults on flowers, resting and feeding on nectar during daylight hours or providing pollination services at night (BugGuide 2023).

Geographic Range:

Schinia zuni was named for its type locality on the Zuni Indian Reservation (Pueblo of Zuni) (McElvare 1950), which is located in western New Mexico. It also occurs in Sandoval, Rio Arriba, and McKinley Counties, New Mexico, and in Apache County, Arizona. Occurrences in Apache and McKinley Counties are within the Navajo Nation (GBIF.org 2024). With increased survey effort, the species may be found in additional localities.

Conservation Considerations:

This species occurs in some semi-protected federal lands, such as the Santa Fe National Forest (GBIF.org 2024). However, there is no conservation action currently in progress for *Schinia zuni*. There is a critical need for research to determine the full range, population size and trends, habitats and ecology (including host plant preferences), and threats.

Threats:

Threats to this species are not well understood, though threats to sympatric Lepidoptera species, including increased incidence and severity of drought due to climate change, livestock grazing, and invasive species, likely also negatively impact this 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). The impact of drought on specific Lepidoptera populations is not well understood, though advanced timing to adulthood has been observed in some butterfly species, which may lead to phenological mismatch with plant resources (Forister *et al*. 2018). Drought may also adversely impact larval host plants and nectar sources (Pettorelli *et al*. 2007, Gottfried *et al*. 2012).

Due to the aridity of this region, there is minimal forage for livestock, yet the region is used extensively as rangeland. Two thirds of Navajo rangelands were determined to be overgrazed as early as 1933. Drought conditions in northeastern Arizona in recent years, have further degraded rangeland by increasing wind erosion and sand-dune mobility (Rhulman 2012). Grazing has been know to degrade habitat for herbivorous insects, such as the Sacramento Mountains Checkerspot Butterfly, by reducing the health and abundance of host plants (McIntyre 2010). It often also promotes the spread of invasive species, which outcompete host plants and change the composition of vegetation communities (Souther et al. 2019).

Habitat on the Navajo Nation may be threatened by encroachment of invasive species, for example Saltcedar (*Tamarix* spp.) and Russian olive (*Elaeagnus angustifolia*) in riparian regions, and various nonnative forbs (e.g. thistles) and grasses in meadows (Mike and Talkington 2020). Because *Schinia zuni* has flower-feeding larvae, this habitat degradation likely threatens the abundance or establishment of this mothâ€™s host plant, like it does for the threatened

Great Basin Silverspot Butterfly (*Argynnis nokomis*) (Mike and Talkington 2020). Having a narrow host range, like other *Schinia* species (Mitter *et al*. 1993), may put this species at greater threat of habitat loss. However, research is needed to determine what host plants are utilized by *S. zuni*, and where they occur.

Population:

The population size and trend are not known for this species. It went unobserved for 60 years, until it was rediscovered by Chuck Harp in 2009 (Bettman 2012). Since 2009, over two dozen occurrences have been recorded (GBIF.org 2024). This likely indicates a historical lack of targeted surveys within this mothâ€™s range.

References:

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More Information

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