Pygarctia lorula (Spiny Sandbur)

No Photo Available

Taxonomy

- **Class**: INSECTA
- **Order**: Lepidoptera
- **Family**: Erebidae
- **Genus**: Pygarctia
- **Scientific Name**: Pygarctia lorula Dyar, 1914
- **Common Name**: Spiny Sandbur
- **Synonyms**:
- **Taxonomic Name Source**:Pohl, G.R. and S.R. Nanz (eds.). 2023. Annotated taxonomic checklist of the Lepidoptera of North America, north of Mexico. Wedge Entomological Research Foundation, Bakersfield, California. xiv + 580 pp.

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 moth’s habitat includes arid and semi-arid shrubland in the southwestern United States and northern Mexico (NatureServe 2026). Exact host plants are not known but members of this genus use a wide variety of host plants within the following genera: Euphorbs (Euphorbia), milkweeds (Asclepias), and dogbanes (Apocynum) (Forbes 1960, Covell 1984, NatureServe 2026). Adults' full flight range is unknown, but records are between April 3rd and October 19th (GBIF.org 2026, iNaturalist 2026). Adult food is unknown (NatureServe 2026). More research is needed into the ecology of the species.

Geographic Range:

This species occurs in the southwestern United States and northern Mexico (Pohl and Nanz 2023, GBIF.org 2026, iNaturalist 2026). The northernmost part of the moth’s range includes the western foothills of the Sacramento Mountains in New Mexico, then continues south within Carlsbad Caverns National Park and the Guadalupe Mountains in New Mexico (Pohl and Nanz 2023, GBIF.org 2026, iNaturalist 2026). The range thing continues southwest, occurring in the Austin and San Antonio, Texas metro areas, and continues straight south near Corpus Christi and McAllen, Texas. The southernmost part of its range includes Monterrey, Mexico (Pohl and Nanz 2023, GBIF.org 2026, iNaturalist 2026). The full range of this moth is unknown, and more research is needed.

Conservation Considerations:

There are no known range wide conservations actions in place for this moth but the moth was assessed as G2 Imperilled in a 2002 assessment by NatureServe (NatureServe 2026). However, at the time the species was thought to be endemic to Texas and has since been found in New Mexico and Mexico (GBIF.org 2026, iNaturalist 2026,

NatureServe 2026). This species has been recognized as a species of conservation interest in the Medina River watershed by Texas State University (Texas State University 2019). More research is needed into the range, ecology, and threats to this species.

Threats:

This moth'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, many Lepidoptera 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 also 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). Recently, Forister et al. (2021) found declines in abundance of most of 272 widespread western butterfly species. Using Bayesian Poisson regression to model trends in long term butterfly monitoring data across the United States, these declines were estimated to be a continual 1.6% decline in abundance per year. These declines in abundance of butterfly communities were found to be primarily correlated with warming temperatures during the fall season; the authors hypothesize this may be due to increased physiological stress on both plants and butterflies during this time. In a related effort, Forister et al. (2023) used biological, ecological, and climate data to rank the imperilment of western butterfly species for which long-term monitoring data are not available. As a western Lepidoptera species, this moth faces similar threats and may be experiencing similar declines. More research is needed into the threats of this butterfly.

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. Especially as several widespread, relatively common species of Lepidoptera are in decline across the western United States (Forister et al. 2021).

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More Information