

Euhyarpax rosea (Rosea Moth)

No Photo Available

Taxonomy

- **Class:** INSECTA
- **Order:** Lepidoptera
- **Family:** Notodontidae
- **Genus:** Euhyarpax
- **Scientific Name:** Euhyarpax rosea Beutenmüller, 1893
- **Common Name:** Rosea Moth
- **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

This species is found in forests at high elevations. Its range is largely congruent with Gambel Oak (*Quercus gambelii*), but it has also been found within aspen and pine in the White Mountains of Arizona (Miller et al. 2021). The host plant is unknown, but it is thought that this species is an Oak feeder (Schweitzer pers. comm. 2002, NatureServe 2026). The full flight is unknown, but records stretch from July 15 to October 23 (GBIF.org 2026). More research is needed into the ecology of this species.

Geographic Range:

This species occurs in the southwestern United States in eastern Arizona and western New Mexico (Pohl and Nanz 2023, GBIF.org 2026, iNaturalist 2026). The moth is known from 4 locations within the Gila and Apache-Sitgreaves National Forests, one is north of Mount Baldy Arizona, one is east of Lilley Mountain, New Mexico, one is just north of the Pinoa Altos Mountain, New Mexico, and one is just east of the Blue Creek Wilderness Study Area, New Mexico. The full range of this moth is unknown, it is thought to occur in Sonora, Mexico but has not been found, more research is needed into the range of this species (Miller et al. 2021, NatureServe 2026).

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 2023 assessment by NatureServe (NatureServe 2026). This species is also listed in the Gila National Forest's sensitive species list (Forest Service 2013). 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). Many Lepidopterans respond to climate change by moving to higher elevations or latitudes however, this is not an option for this taxa where there are no higher elevation habitats to shift to and as a result just a small amount of warming could push this taxa into thin air driving it to extinction (Forister et al. 2010, Holland 2010, Rödder et al. 2021, Forister et al. 2023). Inbreeding depression is likely also a major threat to this moth as populations are small and isolated. Inbreeding depression results when slightly deleterious alleles accumulate in a small population, reducing the likelihood of population persistence (Hedrick 1994, Lynch et al. 1995). The accumulation of deleterious alleles and reduction in heterozygosity have been shown to reduce survival rates at several important life stages in lepidopterans, including those that have an effect on population stability and persistence, even after just one generation of mating between full-siblings (Saccheri et al. 1998, Nieminen et al. 2001). Nieminen et al. (2001) also suggests that inbreeding depression may pose an even greater problem in populations with minimal inbreeding in the past. A reduction in fitness resulting from the loss of genetic diversity significantly increases the risk of extinction when populations are subject to environmental stress. Saccheri et al. (1998) found that microclimatic conditions combined with inbreeding caused the extinction of a checkerspot population in Finland. 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).

References:

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More Information

