

Oeneis ridingsii neomexicanus (Riding's Satyr)



Unknown,

Taxonomy

- **Class:** Insecta
- **Order:** Lepidoptera
- **Family:** Nymphalidae
- **Genus:** Oeneis
- **Scientific Name:** *Oeneis ridingsii neomexicanus*
Austin, 1986
- **Common Name:** Riding's Satyr
- **Synonyms:** Neominois ridingsii (Edwards, 1865)
- **Taxonomic Name Source:** Pelham, J.P. 2023. A catalogue of the butterflies of the United States and Canada. Revised 15 February 2023.
<http://butterfliesofamerica.com/US-Can-Cat.htm>

Agency Status

- **NMDGF:**
- **Federal Status:**
- **BLM Sensitive:**
- **USFS:**
- **IUCN Red List:** [Not Evaluated](#)
- **Nature Serve Global:** [G5](#)
- **NHNM State:** S1
- **NM Endemic:** NO

Description

Ridings' Arctic is translucent, pale tan to gray. Submarginal bands of elongated white patches mark forewing and hindwing, above and below. The forewing has two prominent black eyespots within pale submarginal areas.

Description courtesy of Steven J. Cary, [Butterflies of New Mexico](#), 2024

Habitat and Ecology

Little research has been done on the specific habitats and ecology of subspecies *neomexicanus*. However, in New Mexico this butterfly seems to prefer pine savannahs rather than the usual cold steppe grasslands and shortgrass prairie the species prefers throughout the northern parts of the range (Cary and Toliver 2024). The main host plant seems to be Blue Grama Grass (*Bouteloua gracilis*) though, *Agropyron longifolius*, *Koeleria macrantha* and *Stipa comata* may also be used and more research is needed on the subject (Cary and Toliver 2024). This butterfly is

univoltine with records spanning late May to late July (May 31st to July 26th) with flight peaking in June (Austin 1986, Cary and Toliver 2024). This butterfly overwinters as a middle instar larvae (Cary and Toliver 2024).

Geographic Range:

The New Mexico Arctic was described from Bluewater Lake State Park, just west of Grants New Mexico. It seems to be an isolate in far western New Mexico and eastern Arizona (Austin 1986, Cary and Toliver 2024), with specimens potentially ranging as far south as in the Gila region of New Mexico (Cary and Toliver 2024). This butterfly is usually found between 1920 and 2800 meters (6300 and 9200 feet) in elevation (Cary and Toliver 2024).

Conservation Considerations:

There are no known conservation actions being taken for this butterfly and no previous known assessments. With the large threat posed by climate change however, conservation actions are likely warranted. The most needed conservation action for this butterfly is undoubtedly just more research including better identification of host plants, number of colonies, range, threats to the butterfly and other life history characteristics as this information will be crucial to inform any future conservation for this butterfly.

Threats:

More research is needed on the threats to this butterfly though, several significant threats are suspected. As an arctic taxon, this species is highly adapted to cold weather conditions, with most of its distribution occurring in Canada and the northern United States, with just a few mountain top populations remaining southward (GBIF.org 2024). This subspecies is at the southern extreme of its range, and therefore is likely the most threatened by climate change. Many butterflies respond to climate change by moving to higher elevations or latitudes though, this is not an option for this taxon as there are no higher elevation habitats to shift to. As a result, a small amount of warming could impact all suitable habitat (Forister *et al.* 2010, Holland 2010, Rodder *et al.* 2021). Phenological mismatch with the host plant or nectar sources is also a potential consequence of this climate warming (Singer and Parmesan 2010, Patterson *et al.* 2019).

Additionally, wildfire and fire management may pose a serious threat to this species. Catastrophic wildfires could result in large amounts of direct mortality, whereas fire suppression could choke out the grasses this taxa relies on, as more shrubs and trees move in. In addition, invasive grass species may alter the fire regimes of these meadows and otherwise be able to outcompete the native grasses this taxa relies on.

This butterfly is also likely threatened by inbreeding depression as this subspecies is very isolated from any other *Oeneis ridingsii*. Inbreeding depression can result in these isolated populations when slightly deleterious alleles accumulate in small populations, 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 butterflies, including those that have an effect on population stability and persistence (Saccheri *et al.* 1998, Nieminen *et al.* 2001). A reduction in fitness resulting from the loss of genetic diversity significantly increases the risk of extinction when populations are subject to environmental stress.

Population:

The population size and trend are not known for this subspecies. 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 butterfly are in decline across the American west (Forister *et al.* 2021).

References:

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More Information

