

Paruroctonus pecos (Pecos Scorpion)

No Photo Available

Taxonomy

- **Class:** ARACHNIDA
- **Order:** Chelicerata
- **Family:** VAEJOVIDAE
- **Genus:** Paruroctonus
- **Scientific Name:** Paruroctonus pecos Sissom & Francke, 1981
- **Common Name:** Pecos Scorpion
- **Synonyms:**
- **Taxonomic Name Source:** Sissom, W. D. & Oscar F. Francke. 1981. Scorpions of the genus Paruroctonus from New Mexico and Texas (Scorpiones, Vaejovidae). Journal of Arachnology 9(1): 93-108.

Agency Status

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

Description

Habitat and Ecology

The species occupies somewhat sandy habitats in grasslands with a few records from mesquite and shinnery oak habitat blends (McWest et al. 2015, Saavedra 2022). The sand is consolidated, with a mix of buffalo grass (*Bouteloua dactyloides*), yucca, and creosote scrub (*Larrea tridentata*) (Sissom and Francke 1981, McWest et al. 2015, Saavedra 2022). This scorpion is a burrower in sandy soil and is an opportunistic hunter for other arthropod species (McWest et al. 2015, Saavedra 2022). Nothing is known about the mating behavior of this species; more research is needed on the ecology of this species.

Geographic Range:

The species is known from 6 locations, near drainages of the Pecos and Canadian Rivers in New Mexico and western Texas. The southernmost location is from the holotype, 15 miles east of Loving, New Mexico (McWest et al. 2015). One is just southwest of Levelland, Texas (McWest et al. 2015). One is east of the Grulla National Wildlife Refuge on the New Mexico and Texas border (McWest et al. 2015). One is northeast of Santa Rosa, New Mexico (GBIF.org 2026). One is 20 miles west of Caprock, New Mexico (Sissom and Francke 1981). And one is along I40 east of Tucumcari, New Mexico (McWest et al. 2015, GBIF.org 2026). The full scope of this spider's range is unknown. More research is needed into the range of this species.

Conservation Considerations:

There are no known active range-wide conservation actions in place for this scorpion. More research is needed into the ecology, range, and conservation actions needed for this species.

Threats:

This scorpion'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 resources (Hughes 2020) and environmental stochasticity, especially variation in plant quantity, quality, and phenology in other arthropod groups (Ehrlich and Murphy 1987). As this scorpion likely relies on small insects for food, any insect declines will affect this species. This scorpion has likely been in slow decline, due to land use changes in the region, since the arrival of European settlers (Swengel et al. 2011). North American prairies have declined by an estimated 99% in the last few centuries, primarily due to conversion for agriculture (Samson and Knopf 1994). These isolated patches remain threatened by habitat loss and degradation from urban development, intensive grazing regimes, pesticide use, silviculture, the invasion of non-native plants (Wright et al. 2003, Selby 2005). Intensive grazing has been shown to adversely impact other prairie arthropods, likely due to loss of nectar sources, loss of larval host plants, changes in vegetative structure and trampling of larvae and eggs (Dana 1991). Invasive species such as Smooth Brome (*Bromus inermis*), Kentucky Bluegrass (*Poa pratensis*), Leafy Spurge (*Euphorbia esula*), and woodland invasion by both native and non-native plants also threatens prairie remnant habitats. Being a grassland specialist, the scorpion will face the same threats as grasslands such as grazing. Though some argue grazing has no impact on different species and may even be beneficial due to decreased fire potential (fuel loads), there is some evidence over grazing may be harmful. For some arthropods, including the Sacramento Mountains Checkerspot Butterfly, grazing also directly degrades the habitat by reducing the health and abundance of host plants (by as much as 60% in some studies) (McIntyre 2010), and promotes the spread of invasive species, which outcompete host plants and change the composition of vegetation communities (Souther et al. 2019). Oil and gas is a major industry within the scorpion's range. Studies have shown oil wells have negative effects in grassland ecosystems (Nasen et al. 2011). Nasen et al. 2011, compared the conditions of relatively ungrazed grasslands surrounding leased oil well sites and sites with no oil well. The study found a significant difference in the soil pH, presence and pervasiveness of nonnative plant species, and the percent of bare ground present (Nasen et al. 2011). Another threat facing grassland arthropods is catastrophic fire or lack of fire. 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). With population numbers in small areas one fire, controlled or wild, could wipe out a large percentage of what's left of this species and potentially cause its extinction (Cary et al. 2004, Wasserman et al. 2023). However, at the same time with no fire these grasslands may grow senescent or be succeeded which will also drive the taxa towards potential extinction (Cary et al. 2004, Wasserman et al. 2023). 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 Cheatgrass (*Bromus tectorum*), may cause more frequent fires due to invasive grasses adding novel and continuous fuels (USFWS et al. 2004, Fusco et al. 2019).

Population:

The population size and trend are not known for this species. The species has been reported as infrequent in collection efforts (Saavedra 2022). Determination of population size and monitoring of population trends are necessary to ensure the population is stable.

References:

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