

THE HEAT IS ON

Species feeling the effects of climate change



Quino Checkerspot Butterfly

Euphydryas editha quino

Region:

Southwest

Area affected:

Southern California

Climatic change:

Drought, snowpack changes

Impact:

Loss of habitat and host plants

ABOUT THIS SPECIES

The Quino checkerspot is an endangered subspecies of the more broadly distributed Edith's checkerspot butterfly. The Quino has only been documented in a handful of counties in southern California and adjacent areas in northern Mexico. The range of these butterflies unfortunately overlaps significantly with the expanding footprints of San Diego and Los Angeles. Consequently, the species has lost more than 95 percent of its historical distribution to urban and agricultural development. Like many butterflies, Quino adults lay their eggs exclusively on just a few plant species—in this case, plantain and snapdragon—that become the food source of the newly hatched caterpillars. Adult Quinos feed on the nectar of flowers, but their short tongues limit them to a relatively small number of species that have shallow or open-shaped flowers. This means that the future of Quino populations is also tied to the ability of a select few flower species to adapt to climate change.

DESCRIPTION OF IMPACT

In addition to habitat loss, natural disasters exacerbated by climate change and urban sprawl negatively affect the Quino checkerspot. In Orange County, for instance, a large flood wiped out the last low-elevation population of the butterfly, and a wildfire extirpated the remaining high-elevation population. A comparison of Edith's checkerspot butterfly distribution in the early and late 20th century found that the species has vanished from many of its former locations in the southern part of its range and at lower elevations, a high proportion of which were likely the Quino subspecies. While many populations can move to higher elevations or northward to avoid climate change impacts, the Quino checkerspot's ability to adapt is limited by habitat fragmentation. Large cities like Los Angeles and suburban developments present physical barriers to a range shift. **Researchers predict that the current and projected range of Quino checkerspot butterflies will be uninhabitable soon due to climate change.** For this population to survive, drastic measures must be taken to establish critical habitat protections beyond the species' historical range.

Reference

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