

***Euphydryas editha quino* (Behr), 1863**
Quino Checkerspot
(Nymphalidae: Melitaeinae: Melitaeini)

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SUMMARY

The distribution and abundance of the Quino Checkerspot have been dramatically reduced during the past century as a result of agricultural and urban development and other land-use changes in southern California. Other impacts include type conversion of native habitats by non-native grasses and forbs, fire management (suppression) practices and grazing. The Quino Checkerspot is the second subspecies of the widespread butterfly *Euphydryas editha* to be listed under the Endangered Species Act (The Bay Checkerspot, *E. e. bayensis*, being the other; see Red List profile for more information).

CONSERVATION STATUS

Xerces Red List Status: Critically Imperiled

Other Rankings:

Canada – Species at Risk Act:	N/A
Canada – provincial status:	N/A
Mexico:	None
USA – Endangered Species Act:	Endangered
USA – state status:	None
NatureServe:	G5T1
IUCN Red List:	N/A

SPECIES PROFILE

DESCRIPTION

The Quino Checkerspot is in the Nymphalidae (brush-foot) butterfly family. It is a medium sized butterfly, with a wingspread of about 3 cm. The dorsal surface of the wings are a checkerboard of brown, red and yellow spots. The Quino Checkerspot tends to be darker and redder than other subspecies.

TAXONOMIC STATUS

Euphydryas editha quino (Behr), 1863. This butterfly was previously placed within the *E. chalcedona* complex. However, it is considered that it should correctly be placed within the *E. editha* complex (Mattoni et al 1997). The Quino Checkerspot has also been incorrectly referred to as Wright's Checkerspot (*Euphydryas editha wrighti* Gunder, 1929).

LIFE HISTORY

Adults usually fly from late-February to mid-April, during which time they mate and lay eggs. The eggs hatch about a week and a half later and the larvae begin feeding. The larvae may use either dwarf plantain (*Plantago erecta*) or exerted Indian paintbrush (*Castilleja exserta* spp. *exserta*; also called purple owl's clover), both of which may be common in meadows and upland sage scrub/chapparral habitat. These plants are annuals which die back in the summer and the larvae thus have a period of summer diapause during which they do not feed. In the late winter and early spring, as the plants appear again, the larvae commence feeding again and then enter a short pupal phase. Because of their dependence on annual hostplants that dry up and senesce, pre-diapause larvae are the stage most susceptible to mortality. It is vital that newly hatched larvae locate a hostplant rapidly.

This life history is similar to that of the Bay Checkerspot (*Euphydryas editha bayensis*). It has been shown experimentally that nectar feeding by adult Bay Checkerspot females is important in maximizing egg production. Adult Quino Checkerspots nectar primarily on annuals (their flight period is too early in the season for most perennials to be in bloom) including goldfields (*Lasthenia* sp.), cryptantha (*Cryptantha* sp.), gilia (*Gilia* sp.), linanthus (*Linanthus* sp.), and trefoil (*Lotus* sp.).

DISTRIBUTION

The Quino Checkerspot once thrived in the entire area from the Santa Monica Mountains south to the northern parts of Baja California. There are now only six known U.S. populations in southwestern Riverside and San Diego counties, and one population near Tecate, Mexico.

THREATS

The major threat is loss and modification of habitat due to development, grazing, and changes in fire regimes. In addition, the wildfires that ravaged much of the area around San Diego during 2003 burnt many areas of Quino Checkerspot habitat. It is not known what the long term impact of these will be on the butterfly's populations.

CONSERVATION STATUS

Monitoring of the reference population shows a sharp decline in this animal from 1998 population levels. Proposed development at Temecula, San Diego County, will further reduce suitable habitat.

The Quino Checkerspot is a federal endangered species (*Federal Register* 62: 2313; June 1, 1976).

Recovery Plan: Recovery Plan Quino Checkerspot Butterfly (final; 9/17/03)
Critical Habitat: Designated (*Federal Register* 67:18355-18395; 4/15/02)

The California Endangered Species Act does not allow listing of insects, so despite its precarious status, the Quino Checkerspot has no protection under state legislation. The California Department of Fish and Game includes this butterfly on its Special Animals list.

CONSERVATION NEEDS

The draft recovery plan states: “Immediate protection and management of the habitats that support the species, initiation of a captive propagation program, and development of the monitoring scheme and research agenda will be necessary to prevent extinction.”

RESEARCH NEEDS

Too little is known of the butterfly’s habitat needs and population dynamics to be able to design appropriate reserves and prepare a management program. Research should also be focused on the impacts and recovery from the San Diego fires of 2003.

RESOURCES

CONTACTS

U.S. Fish & Wildlife Service: Alison Anderson at the Service's Carlsbad Fish and Wildlife Office, 2730 Loker Avenue West, Carlsbad, California, 92008. Telephone: (760) 431-9440.

Urban Wildlands Group, Inc.: Travis Longcore, longcore@urbanwildlands.org P.O. Box 24020, Los Angeles, CA 90024-0020.

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REFERENCES

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WEBSITES

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