



Megalagrion xanthomelas. Photo: Karl Magnacca.

Terrestrial Invertebrates

Orangeblack Hawaiian damselfly

Megalagrion xanthomelas

SPECIES STATUS:

Federal Candidate for Listing
State Recognized as Endemic

GENERAL INFORMATION: *Megalagrion xanthomelas* (Selys-Longchamps, 1876) is a small, relatively slender damselfly. Males are red on the head, thorax, and tip of the abdomen, and black across most of the abdomen; females are patterned similarly but with pale brown instead of red. Adults are found in the vicinity of standing pools or slow-moving stream sections that serve as breeding sites, usually not straying far from the breeding habitat. It occurs primarily in lowland areas, and is one of the most adaptable native damselflies, capable of breeding in brackish anchialine ponds, basal spring wetlands, pools in slow-moving streams, and artificial water bodies.

DISTRIBUTION: The most widely distributed species of native damselfly, *M. xanthomelas* has been documented from all the main islands, including Ni'ihau, except for Kaho'olawe. However, it has apparently been extirpated from Kaua'i and Maui (the Ni'ihau population is unknown). On O'ahu it was formerly widespread, including in basal spring wetlands around Pearl Harbor and in the vicinity of Honolulu, but the alteration of wetlands and near-ubiquitous presence of alien fish and frogs has reduced them to a single small population on the grounds of Tripler Army Medical Center. Lāna'i has a few locations, but the largest population appears to be in artificial ponds at Koele Lodge. Moloka'i and Hawai'i have several significant populations, dwelling in both streams and anchialine ponds near the coast.

ABUNDANCE: Unknown. The Moloka'i and Hawai'i populations are relatively large, though the anchialine ponds on the Kona coast of Hawai'i are under threat from development, pollution, and introduction of fish. The O'ahu population is extremely small and vulnerable to extirpation.

LOCATION AND CONDITION OF KEY HABITAT: The naiads inhabit still pools and slow-flowing sections of streams. Unlike most other species that occur in similar habitat, *M. xanthomelas* is able to live in many types of this form of water body, provided introduced fish and frogs are absent. As a result, they have persisted in what would be considered degraded sites, including drainage ditches, leaking pipes, and golf course water hazards.

THREATS:

- Habitat loss and degradation. Habitat is lost or degraded by development, stream diversion and alteration, and alien aquatic plants.
- Predation. Non-native predators, including invasive fish, frogs, ants, birds, and reptiles, consume this species.

CONSERVATION ACTIONS: The goals of conservation actions are not only to protect current populations and key breeding habitats, but also to establish additional populations, thereby reducing the risk of extinction. For *Megalagrion xanthomelas* specifically, management needs include the following:

- Conduct surveys around known populations to determine threat levels and control needs.
- Conduct studies on life history and essential habitats to better direct conservation measures.
- Use these results to create a management plan for species recovery.

MONITORING: Periodically census populations in order to assess their stability and trends.

RESEARCH PRIORITIES:

- Survey for additional populations, in both historical and novel sites.
- Conduct studies to determine if reintroduction to additional sites is feasible.

References:

Polhemus DA, and Asquith AA. 1996. Hawaiian Damselflies: A Field Identification Guide. Bishop Museum Press, Honolulu, Hawai'i.

U.S. Fish and Wildlife Service. 2012. Endangered and threatened wildlife and plants; endangered status for 23 species on Oahu and designation of critical habitat for 124 species; final rule. Federal Register 77:57648-57862.