

## Terrestrial Invertebrates



*Megalagrion xanthomelas*

**Orangeblack  
Hawaiian damselfly**  
*Megalagrion xanthomelas*

**SPECIES STATUS:**  
Federally Listed as Endangered  
State Listed as Endangered

**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 around 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 except Kaho‘olawe. However, it has apparently been extirpated from Kaua‘i and Lāna‘i (the Ni‘ihau population is unknown). On O‘ahu it was formerly widespread, including in basal spring wetlands around Pearl Harbor and the vicinity of Honolulu, but the alteration of wetlands and near-ubiquitous presence of alien fish and frogs reduced them to a single small population on the grounds of Tripler Army Medical Center. This population appears to have been extirpated, with the last sighting in April 2023, and the O‘ahu population currently exists only in captivity and at reintroduction sites. There are a few small, widely scattered populations on West and East Maui. Moloka‘i and Hawai‘i have several significant populations, dwelling in both streams and anchialine ponds near the coast. In November 2019, surveys of previously known populations on Lāna‘i failed to locate any extant populations. Most of the locations had been infested with mosquito fish. As of 2024, plans are underway to attempt reintroduction of the species to Lāna‘i.

**ABUNDANCE:** Unknown. The Moloka‘i and Hawai‘i populations are thought to be relatively large, though the anchialine ponds on the Kona coast of Hawai‘i are under threat from development, pollution, and introduction of fish. Maui populations are relatively small and fragmented. The O‘ahu wild 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* can 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.
- Continue captive rearing to maintain rare populations.
- Continue reintroduction efforts to expand its range.
- Use these results to create a management plan for species recovery.

**MONITORING:** Periodically census populations in order to assess their stability and trends. Regularly monitor any reintroduction sites.

**RESEARCH PRIORITIES:**

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

**References:**

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