



Megalagrion nesiotes. Photo: Dan Polhemus, USFWS.

Terrestrial Invertebrates

Flying earwig Hawaiian damselfly

Megalagrion nesiotes

SPECIES STATUS:
Federally Listed as Endangered
State Listed as Endangered
State Recognized as Endemic

GENERAL INFORMATION: *Megalagrion nesiotes* (Perkins, 1899) is a large damselfly, distinguished from other Hawaiian species by the blue and black color pattern and enlarged terminal appendages of the male. Females are brown with black stripes on the thorax. As a dark-colored, weak-flying species that occurs in forest, it is relatively inconspicuous and difficult to observe. Never very common, this species had not been seen since the 1930s before it was rediscovered along a stream on Maui in the early 1990s.

DISTRIBUTION: Historically this species was known from windward East Maui and Hawai'i, mostly below 914 meters (3,000 feet) elevation. The last collections from Hawai'i were made in the 1930s, and intensive surveys at historical sites in Puna and Volcano have not recovered it. However, its coloration and habits may mean it has been overlooked. The only known population site is on the north slope of Haleakalā, where the species was rediscovered in the 1990s after a gap of 75 years.

ABUNDANCE: Unknown. The sole known population is small and vulnerable to stochastic events, and no individuals have been observed during recent visits.

LOCATION AND CONDITION OF KEY HABITAT: The breeding habitat is unknown. Based on its behavior and relationships, it is thought to breed in terrestrial or semiterrestrial habitat, such as uluhe mats, damp leaf litter, or wet banks. Because these are not associated with the introduced aquatic predators that have caused the decline of most *Megalagrion* species, the main driver of this species' decline is unclear.

THREATS:

- Habitat loss and degradation. Habitat is lost or degraded by erosion, the presence of feral ungulates, and alien aquatic plants.
- Predation. Non-native predators, including invasive invertebrates, 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 nesiotes* specifically, management needs include the following:

- Conduct surveys around the known population 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 the population in order to assess 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. 2010. Endangered and threatened wildlife and plants; listing the flying earwig Hawaiian damselfly and Pacific Hawaiian damselfly as endangered throughout their ranges. Federal Register 75:35990-36012.