



Plants

Hesperomannia arbuscula

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

B. Gagne © Smithsonian Inst., 2005 IUCN Red List Ranking - CR A2ac; B1ab(iii,v); C1+2a(i); D

Hawai'i Natural Heritage Ranking - Critically Imperiled (G1)

Endemism – O'ahu, Maui

Critical Habitat - Designated

SPECIES INFORMATION: *Hesperomannia arbuscula*, a member of the aster family (Asteraceae), is a small shrubby tree, 7 to 11 ft (2 to 3.3 m) tall. Leaves are elliptic, generally 4 to 7 in (10 to 18 cm) long and 2.2 to 4.5 in (5.5 to 11.5 cm) wide, although leaves on juvenile plants can sometimes be larger. Flower heads are erect and arranged in clusters of four or five heads. Each head comprises many yellow to yellowish-brown florets, with a tube of fused petals 0.9 to 1.2 in (2.5 to 3 cm) long and a threadlike style extending beyond them. The fruit is a 0.3 to 0.4 in (0.8 to 1 cm) long achene, crowned by a ring of bristles nearly the same length as the petals. This species can be distinguished from other members of the genus by the erect flower heads and the leaves, usually hairy beneath, which are one to two times as long as wide.

DISTRIBUTION: Historically, *Hesperomannia arbuscula* is known from the central and southern Wai'anae Mountains from Makaleha to Pu'u Kanehoa, and from West Maui.

ABUNDANCE: This species is currently known to be extant on the Makaha-Waianae Kai Ridge on O'ahu; and in Iao Valley, Honokohau, and Waihee on West Maui, all on State land. The two known populations on O'ahu are about 0.8 mi (1 km) apart. Including the 3 populations from West Maui, this species numbers about 50 individuals.

LOCATION AND CONDITION OF KEY HABITAT: *Hesperomannia arbuscula* typically grows on slopes and ridges in mesic to wet forest dominated by koa and 'ōhi'a at an elevation of 1,200 to 3,000 ft (350 to 900 m). Associated native species include *Bidens* (ko'oko'olau), *Alyxia oliviformis* (maile), and *Psychotria* (kopiko). Alien species that have invaded these habitats include blackberry, Christmas berry, Koster's curse, and strawberry guava.

THREATS:

- Habitat degradation by feral pigs;
- Competition from alien plant species;
- Trampling or collection by humans.

CONSERVATION ACTIONS: The goals of conservation actions are not only to protect current populations, but also to establish new populations to reduce the risk of extinction. The USFWS has developed a recovery plan that details specific tasks needed to recover this species. In addition to common statewide and island conservation actions, specific actions include:

- Survey historic range for surviving populations;
- Establish secure *ex-situ* stocks with complete representation of remaining individuals;
- Augment wild population and establish new populations in safe harbors;

MONITORING:

- Continue surveys of population and distribution in known and likely habitats;
- Monitor plants for insect damage and plant diseases.

RESEARCH PRIORITIES:

- Develop proper horticultural protocols and pest management;
- Survey *ex-situ* holdings and conduct molecular fingerprinting;
- Conduct pollination biology and seed dispersal studies;
- Map genetic diversity in the surviving populations to guide future re-introduction and augmentation efforts.

References:

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International Union for Conservation of Nature and Natural Resources, 2004, IUCN Red List of Threatened Species: Data Base Search, <http://www.redlist.org/search/search-basic.html>.

US Fish and Wildlife Service. 1991. Final Listing, Endangered ETWP; Determination of Endangered Status for 26 Plants from the Waianae Mountains, Island of Oahu, Hawaii; Federal Register, Vol. 56, No. 209, (29-OCT-91) 56 FR 55770-55786, 17 pp.

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