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Plants

Ha'iwale

Cyrtandra viridiflora

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

Hawai'i Natural Heritage Ranking – Critically Imperiled

Endemism – O'ahu

Critical Habitat - Designated

SPECIES INFORMATION: *Cyrtandra viridiflora*, a member of the African violet family, is a small shrub, 0.5 to 2 m (1.6 to 6.6 ft) tall. The thick, fleshy, heart-shaped leaves are 6 to 15 cm (2.4 to 6 in) long, 3.5 to 7.5 cm (1.4 to 3 in) wide, and have toothed margins. Both the upper and lower surfaces have long, velvety, pale hairs. One to five green flowers are arranged on an inverse umbrella-shaped flowering stalk. The pale green calyx is 12 to 15 mm (0.5 to 0.6 in) long. The round, white berries are 1.3 cm (0.5 in) or longer. This species is distinguished from others in the genus by the leaves, which are thick, fleshy, heart-shaped, and densely hairy on both surfaces.

DISTRIBUTION: Historically, *Cyrtandra viridiflora* was known from seven scattered populations in the Ko'olau Mountains on the island of O'ahu.

ABUNDANCE: This species is now known only from four populations in the northern Ko'olau Mountains—Kawainui-Laie summit divide, Kawainui-Kaipapau summit divide, Maakua-Kaipapau Ridge, and the Peahinaia Trail. Fewer than ten plants are known from these four populations on State land and private land leased by the Department of Defense for Kawaihoa Training Area.

LOCATION AND CONDITION OF KEY HABITAT: *Cyrtandra viridiflora* is usually found on wind-blown ridge tops in cloud-covered wet forest or shrub land at elevations of 690 to 850 m (2,260 to 2,800 ft). Associated plant taxa include kanawao, 'ōhi'a, 'ōhi'a ha, 'uki, and uluhe.

THREATS:

- Habitat degradation or destruction by feral pigs;
- Potential impacts from military activities;
- Predation by rats;
- Competition with the alien plants Koster's curse and strawberry guava;

- Risk of extinction from naturally occurring events and/or reduced reproductive vigor due to the small number of remaining populations and individuals.

CONSERVATION ACTIONS: The goals of conservation actions are to not only protect current populations, but also establish further 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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US Fish and Wildlife Service. 1996. Final Listing, Endangered ETWP; Determination of Endangered Status for Twenty-five Plant Species From the Island of Oahu, Hawaii; Federal Register, Vol. 61, No. 198, (10-OCT-96), 61 FR 53089-53108, 20 pp.

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