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Plants

Trematolobelia singularis

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

IUCN Red List Ranking -

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

Endemism – O'ahu

Critical Habitat - Designated

SPECIES INFORMATION: *Trematolobelia singularis*, a short-lived perennial member of the bellflower family (Campanulaceae), is an unbranched shrub with stems 0.6 to 1.5 m (2 to 5 ft) long. This species differs from others of this endemic Hawaiian genus by the unbranched, erect flowering stalk. This species has been observed in flower in October and has wind dispersed seeds.

DISTRIBUTION: *Trematolobelia singularis* has been reported only from the southern Ko'olau Mountains. Approximately 165 plants are known from 3 occurrences at Moanalua-Tripler Ridge summit to Pu'u Keahiakahoe, Konahuanui, and Pu'u Lanipo.

ABUNDANCE: Currently 165 plants observed. It is estimated that less than 1,000 plants exist.

LOCATION AND CONDITION OF KEY HABITAT: This species usually grows on steep, windswept cliff faces or slopes in *Metrosideros polymorpha-Dicranopteris linearis* lowland wet shrubland from 545 to 953 m (1,788 to 3,126 ft) elevation. The three known occurrences are located at Moanalua-Tripler Ridge summit to Puu Keahiakahoe, Konahuanui, and Pu'u Lanipo. These occurrences are found on State and private lands. This species' key habitat has been compromised due to the presence of introduced animal life, including feral pigs, rats and slugs. Each of these animals has potential to severely damage *T. singularis*. Associated native plant species include *Broussaisia arguta*, *Cibotium* sp., *Dubautia laxa*, *Eugenia* sp. (nioi), *Melicope* sp., *Sadleria* sp., and *Wikstroemia* sp.

THREATS:

- Competition with invasive alien plant taxa;
- Direct damage and habitat degradation from feral pigs and goats;
- Predation from rats and slugs.

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. In addition to common statewide and island conservation actions, specific actions include:

- Survey historical 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:

Hawai'i Natural Heritage Program. 2005. Hawaii Natural Heritage Program Search, <http://www.hinhp.org/printpage.asp?spp=PDMAL0H0A0>.

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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Wagner, W. L., D. R. Herbst, and D. H. Lorence. 2005-. Flora of the Hawaiian Islands website. <http://ravenel.si.edu/botany/pacificislandbiodiversity/hawaiianflora/index.htm> [August, 2005].