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Plants

Alani

Melicope lydgatei

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

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

Endemism – O'ahu

Critical Habitat - Designated

SPECIES INFORMATION: *Melicope lydgatei*, a long-lived perennial member of the citrus family (Rutaceae), is a small shrub that has leaves arranged oppositely or in threes, flowers 1-3 on slender inflorescences. This species has been observed to flower in May and fruit from June to July. The species' leaf arrangement, the amount of fusion of the fruit sections, and the hairless exocarp and endocarp distinguish it from other species in the genus.

DISTRIBUTION: Ko'olau mountains of O'ahu.

ABUNDANCE: Currently, 3-4 plants known.

LOCATION AND CONDITION OF KEY HABITAT: *Melicope lydgatei* typically grows in association with *Acacia koa*, *Bobea elatior*, *Dicranopteris linearis*, *Metrosideros polymorpha*, *Psychotria* sp., and *Syzygium sandwicensis* on ridges in mesic and wet forests at elevations between 349 and 671 m (1,145 and 2,201 ft).

THREATS:

- Habitat degradation by feral pigs;
- Competition from alien plant species;
- Stochastic extinction;
- Reduced reproductive vigor due to the small number of remaining individuals.

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=PDMALOH0A0>.

Wagner, W.L.; Herbst, D.R.; Sohmer, S.H., 1999. Manual of the Flowering Plants of Hawai'i-- Revised Edition. Honolulu, HI: University of Hawaii Press and Bishop Museum Press. 1853p.