



N. Tangalin, NTBG

## Plants

# Alani

*Melicope mucronulata*

### SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

IUCN Red List Status - CR B1+2c, C2b, D

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

Endemism - Maui, Moloka'i

Critical Habitat - Designated

**SPECIES INFORMATION:** A small tree, growing up to 4 m tall, with small oval leaves. Flowers are borne about 3-9 in axillary inflorescences.

**DISTRIBUTION:** Known from only one location each on Maui and Moloka'i; historically no additional range.

**ABUNDANCE:** Currently, three plants on Moloka'i and Maui.

**LOCATION AND CONDITION OF KEY HABITAT:** On Moloka'i: the species is found on State owned land and on Maui it is found on privately owned land. This species typically grows in west to north facing dry to mesic forests at an elevation up to 870m. Feral goats have been damaging the trees as well as degrading the habitat. Molasses grass has been encroaching the species and could easily over take any seedlings that may sprout. Associated native species include *Diospyros*, *Metrosideros*, *Ochrosia compta*, *Styphelia*, *Myrsine lanaiensis*, *Pittosporum*, *Coprosma*, *Dodonaea*, *Alyxia*, *Psychotria*, *Pleomele*, *Hedyotis terminalis*, and *Melicope hawaiiensis*.

### THREATS:

- Habitat degradation by feral pigs;
- Browsing by goats;
- 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:**

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>.

Hawai'i Natural Heritage Program, 2005. Hawaii Natural Heritage Program Search, <http://www.hinhp.org/trackedspecies.asp?taxa=P&usesa=>.

Wagner, W.L., Herbst, D.R., and 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.

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].