No Photo Available

Plants

Wawae‘iole

Huperzia stemmermanniae

SPECIES STATUS:
Federally Listed as Candidate Species
Genetic Safety Net Species
Hawai‘i Natural Heritage Ranking - Critically Imperiled (G1)
Endemism - Maui, Island of Hawai‘i

SPECIES INFORMATION: A pendent epiphyte. Sterile basal stem green to pale yellow. Fertile terminal branchlets 1-15 cm long (mostly longer than 5 cm), branching angles mostly 10-50 degrees from the main axis.

DISTRIBUTION: East Maui and northeastern Hawai‘i island.

ABUNDANCE: Known from ca. 20 plants in 4 populations. No current individuals known, but likely to be discovered with further surveys.

LOCATION AND CONDITION OF KEY HABITAT: Closed canopy *Metrosideros-Acadia koa* forest with mixed native tree understory, 975 – 1160 m elevation. These habitats are increasingly invaded by alien species such as *Passiflora mollissima, Psidium cattleianum, Clidemia hirta,* and *Miconia calvescens.*

THREATS:

- *Acacia koa* forests, is threatened by clearing for cattle ranching;
- Damage by feral and domestic ungulates;
- Fire;
- Competition from alien plant species.

CONSERVATION ACTIONS: The goals of conservation actions are to not only protect current populations, but to also establish further populations to reduce the risk of extinction. 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:

- Survey for populations and distribution in known and likely habitats;
- Monitor exclosure fences for damage and inside exclosures for signs of ungulate ingress;
- 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:

A.C. Mederios, W.H. Wagner, R.W. Hobdy. 1996. A New Hawaiian Hanging Firmoss (Lycopodiaceae: Phlegmariurus) from the Eastern Hawaiian Islands
American Fern Journal 86(3):89-97.

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