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Plants

Xylosma crenatum

SPECIES STATUS:

Federally Listed as Endangered
IUCN Red List Ranking – CR C2a, D

Genetic Safety Net Species

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

Endemism – Kaua'i

Critical Habitat - Designated

SPECIES INFORMATION: *Xylosma crenatum* is a dioecious tree which grows up to 50 feet tall. It was first collected in 1917 but remained undiscovered for decades due to a misidentification. Over 50 years later, a second collection was made in 1968 along the banks of Mohihi Stream at the edge of Alaka'i Swamp, Kaua'i. It was later recognized as a distinct species in 1972.

DISTRIBUTION: Northwest Kaua'i.

ABUNDANCE: Currently, it is known only from the island of Kaua'i in four different populations consisting of a total of 13 individuals. Two of these populations have only a single plant.

LOCATION AND CONDITION OF KEY HABITAT: Diverse koa-'ōhi'a montane mesic forest at an elevation of 975-1,065 meters. This species is found on State land, sometimes along stream banks. The habitat is threatened by invasion of alien plants and damage from feral pigs.

THREATS:

- Habitat degradation by feral pigs;
- Fruit predation by rats;
- 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/printpage.asp?spp=PDMAL0H0A0>.

US Fish and Wildlife Service. 1996. Final Listing, Endangered ETWP; Determination of End. Status for Six Plants from Kokee Region, Island of Kauai, Hawaii; Federal Register, Vol. 61, No. 153, (12-JUN-92), 50 CFR Part 17, RIN 1018-AB52, 57 FR 20580 20589, 10pp.

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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].