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Plants

Awiwi

Hedyotis cookiana

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

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

Endemism – Island of Hawai'i, Moloka'i, O'ahu, Kaua'i

Critical Habitat - Designated

SPECIES INFORMATION: *Hedyotis cookiana*, a member of the coffee family (Rubiaceae), is a small shrub with many branches 4 to 8 in (10 to 20 cm) long. The papery-textured leaves are long and narrow, 1.5 to 3 in (4 to 8 cm) long and about 0.2 to 0.5 in (0.5 to 1.2 cm) wide, and fused at the base to form a sheath around the stem. The bisexual or female flowers are arranged in clusters of threes on flower stalks about 0.3 to 0.6 in (8 to 15 mm) long, with the central flower on the longest stalk. Beneath the flower clusters are sharp-pointed bracts (modified leaves). The fleshy white corolla is trumpet-shaped and about 0.3 to 0.4 in (8 to 9 mm) long, with lobes about 0.08 in (2 mm) long. Fruits are top-shaped or spherical capsules about 0.1 in (3.0 to 3.5 mm) long and 0.1 to 0.2 in (3.5 to 4 mm) wide that open at maturity to release wedge-shaped reddish brown seeds. This plant is distinguished from other species in the genus that grow on Kaua'i by being entirely hairless.

DISTRIBUTION: Historically known from only three collections: Kealakekua on the island of Hawai'i; Halawa and Kalawao on Moloka'i; and at the foot of the Ko'olau Mountains on O'ahu. There is no evidence that it still exists on any of those islands. Species was re-discovered in 1991 on the island of Kaua'i in Waiahuakua Valley on State land. Between 50 and 100 plants were scattered along a 0.25 mi (0.4 km) distance in the streambed and lower part of the waterfall.

ABUNDANCE: Although this population has not been observed since it was discovered, it is still believed to be extant.

LOCATION AND CONDITION OF KEY HABITAT: *Hedyotis cookiana* generally grows in streambeds or on steep cliffs close to water sources in lowland wet forest communities.

THREATS:

- Stochastic extinction and/or reduced reproductive vigor;

- Competition with alien plants;
- Habitat modification by feral pigs and goats;
- Vulnerable to flooding and other natural disturbances, plants grow in a stream bed and on the side of a waterfall.

CONSERVATION ACTIONS: The goals of conservation actions are to not only protect current populations, but also establish new populations to reduce the risk of extinction. The USFWS has developed a recovery plan that details specific tasks needed to recover this species. 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:

- 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:

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US Fish and Wildlife Service. 1994. Final Listing, Endangered ETWP; Determination of Endangered or Threatened Status for 24 Plants From the Island of Kauai; Federal Register, Vol. 59, No. 38, (25-FEB-94), 59 FR 9304-9329, 26 pp.

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