



CEMML, CSU

## Plants

### Kio'ele

*Hedyotis coriacea*

#### SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

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

Endemism – O'ahu, Maui, Island of Hawai'i

Critical Habitat - Designated

**SPECIES INFORMATION:** *Hedyotis coriacea* of the coffee family (Rubiaceae) is a small shrub with leathery leaves which are generally elliptic to oblong in shape, 1.2 to 3.1 in (3 to 8 cm) long and usually 0.6 to 1.2 in (1.5 to 3 cm) wide. Flowers are arranged in clusters at the ends of the branches, a few flowers per cluster. The fleshy petals are fused into a tube 0.2 to 0.4 in (5 to 10 mm) long. The capsules, which split open to release dark brown seeds, are cup to top-shaped, 0.2 to 0.3 in (4 to 7 mm) long and 0.1 to 0.2 in (3 to 4 mm) in diameter. This species is distinguished from others of the genus by its small, triangular calyx lobes, which do not enlarge in fruit, and the combination of capsules which are longer than wide and flower buds which are square in cross section.

**DISTRIBUTION:** Historically, *Hedyotis coriacea* was known from the Wai'anae and Ko'olau Mountains on O'ahu and the U.S. Army's Pohakuloa Training Area on the island of Hawai'i. Considered extinct in recent years, this species was rediscovered in 1990 in the State owned Lihou section of the West Maui Natural Area Reserve: it conceivably could exist elsewhere on Maui. In September, 1991, two individuals of the taxon were rediscovered on the 1859 lava flow in the Pohakuloa Training Area, island of Hawai'i.

**ABUNDANCE:** Currently, only a single individual is known from West Maui and two from Hawai'i Island.

**LOCATION AND CONDITION OF KEY HABITAT:** *Hedyotis coriacea* is found on steep, rocky slopes in dry to mesic 'a'ali'i-dominated shrublands or forests at an elevation of 1,560 to 7,500 ft (470 to 2,330 m). Associated species include 'ōhi'a, pukiawe, *Alyxia oliviformis* (maile), *Bidens menziesii* (ko'oko'olau), and *Gouania*.

#### THREATS:

- Competition from alien plant species;
- Small number of remaining individuals;

- Fire.

**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. 1992. Final Listing, Endangered ETWP; Determination of Endangered of Threatened Status for 15 Plants from the Island of Maui, Hawaii; Federal Register, Vol. 57, No. 95, (15-MAY-92) 57 FR 46325, 57 FR 20772-20788, 17 pp.

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