

Hedyotis schlechtendahliana var. *remyi***SPECIES STATUS:**

Federally Listed as Endangered

Genetic Safety Net Species

Hawai'i Natural Heritage Ranking - Critically Imperiled (G3T1)

Endemism – Lāna'i

Critical Habitat - Designated

SPECIES INFORMATION: *Hedyotis schlechtendahliana* var. *remyi*, a member of the coffee family (Rubiaceae), is a few-branched subshrub from 60 to 600 cm (24 to 240 in.) long, with weakly erect or climbing stems that may be somewhat square, smooth, and glaucous (with a fine waxy coating that imparts a whitish or bluish hue to the stem). The leaves are opposite, glossy, thin or somewhat thickened, egg-shaped or with a heart-shaped base and a very pointed tip, and 3 to 6 cm (1.2 to 2.4 in.) long. The margins of the leaves curl under. The veins of the leaves are impressed on the upper surface with hairs along the veins and raised on the lower surface. The lower surface of the leaves is usually glaucous, like the stems. The leaf stalks are up to 1 cm (0.4 in.) long, slightly fused to the stem, and bear stipules (appendages on the base of the leaf stalks). The inflorescence stalks are 2 to 15 mm (0.1 to 0.6 in.) long, square, usually glaucous, and borne at the ends of the stems. The flowers have either functional male and female parts or only functional female parts. Leaflike bracts are found at the base of each flower. The hypanthium is top-shaped and 1.5 to 2.2 mm (0.06 to 0.09 in.) wide. The calyx lobes are usually leaf-like and oblong to broadly egg-shaped, 2 to 8 mm (0.08 to 0.3 in.) long, and 1.5 to 2.5 mm (0.08 to 0.09 in.) wide, enlarging somewhat in fruit. The corolla is cream-colored, fleshy, usually glaucous, trumpet-shaped, with a tube 6 to 17 mm (0.2 to 0.7 in.) long and lobes 1.5 to 10 mm (0.06 to 0.4 in.) long when the anthers are ripe. The stamens reach only to 1 to 3 mm (0.04 to 0.1 in.) below the sinuses of the corolla lobes. The styles are woolly on the lower portions, and two to four lobed. The fruits are top-shaped to sub-globose capsules 2 to 4 mm (0.1 to 0.2 in.) long and 3 to 7 mm (0.1 to 0.3 in.) in diameter. The fruits break open along the walls of the cells within the fruit. Seeds are dark brown, irregularly wedge-shaped and angled, and darkly granular. This variety is distinguished from the other variety by the leaf shape, narrow flowering stalks, and flower color. It is distinguished from others in the genus by the distance between leaves and the length of the sprawling or climbing stems.

DISTRIBUTION: Historically, *Hedyotis schlechtendahliana* var. *remyi* was known from five locations on the northwestern portion of Lanaihale on the island of Lāna'i.

ABUNDANCE: Currently, this species is known from six individuals in three

populations on Kaiholeha-Hulupoe ridge, Kapohaku drainage, and Waiapaa drainage on Lanaihale.

LOCATION AND CONDITION OF KEY HABITAT: *Hedyotis schlechtendahlia* var. *remyi* typically grows in mesic windswept shrubland with a mixture of dominant plant taxa that may include *Metrosideros polymorpha*, *Dicranopteris linearis*, and/or *Styphelia tameiameia* (pukiawe) at elevations between 730 and 900 m (2,400 to 3,000 ft). Associated plant taxa include *Dodonaea viscosa* (a'a'li'i), *Sadleria* sp. (a' mau), *Dubautia* sp. (nae'nae), *Myrsine* sp., and several others. Alien species that have invaded this habitat include *Psidium cattleianum*, *Myrica faya* (firetree), *Leptospermum scoparium* (New Zealand tea), and *Schinus terebinthifolius* (Christmas berry).

THREATS:

- Habitat degradation and/or destruction by axis deer (*Axis axis*);
- Competition with alien plant taxa;
- Random environmental events and/or reduced reproductive vigor due to the small number of remaining individuals and populations.

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