

## Plants



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### *Delissea niihauensis* subsp. *kauaiensis*

#### SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

Hawai'i Natural Heritage Ranking - Critically Imperiled (G1T1)

Endemism – Kaua'i

Critical Habitat - Designated

**SPECIES INFORMATION:** *Delissea niihauensis* subsp. *kauaiensis* are unbranched palm like trees 2 - 10 m tall; stems woody, 1- 5 cm in diameter, with a dense apical rosette of leaves. Leaves lanceolate, elliptic, ovate, or cordiform, blades 5 - 21 cm long, (3 - ) 3.5 - 10 cm wide, margins undulate or flat, denticulate, crenate, or coarsely serrate, apex acute to acuminate, base cordate, truncate, or cuneate, petioles 2 - 15 cm long. Inflorescences 5 - 20 flowered, peduncles 5 - 50 mm long, pedicels 3 - 13 mm long; hypanthium ovoid to ellipsoid, 3 - 7 mm long; calyx lobes triangular to subulate, 0.8 – 2 mm long; corolla greenish white, suberect, 16 - 25 mm long, with 1 dorsal and 2 lateral knobs; staminal column and anthers glabrous. Berries ovoid to globose, 6 – 12 mm long. Seeds 1 - 1.5 mm long. This subspecies of *Delissea* may be distinguished by its ovate leaves, blades (7 - )14 - 18 cm long, (3 - )7 - 10 cm wide, margins flat and coarsely serrate, apex acuminate, base cuneate to truncate, and peduncles 5 - 20 mm long.

**DISTRIBUTION:** Near Hanapepe Falls, and Kuia NAR, on Kaua'i.

**ABUNDANCE:** Five to ten plants still exist in the Kuia NAR.

**LOCATION AND CONDITION OF KEY HABITAT:** *Diospyros-Metrosideros-Acacia* Lowland Mixed Mesic Forest. Associated native species include *Pteralyxia kauaiensis*, *Pisonia umbellifera*, *Rauvolfia sandwicensis*, *Dodonaea viscosa*, *Psydrax odorata*, *Melicope ovata*, *Euphorbia haeleleana*, *Nototrichium sandwicensis*, *Bidens sandwicensis*, *Zanthoxylum dipetalum*, and *Streblus pendulinus*. Alien species that have invaded this habitat include *Lantana camara* and *Erigeron karvinskianus*, among many others.

#### THREATS:

- Habitat degradation by feral pigs;
- Deer;
- Goats;

- Fruit predation by rats;
- Competition from alien plant species;
- Stochastic extinction and/or 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 further 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:**

- 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:**

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/trackedspecies.asp?taxa=P&usesa=>.

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