



## Plants

### 'Oha wai

*Clermontia peleana* ssp. *peleana*

#### SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

IUCN Red List Ranking – Extinct in the Wild (EW)

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

Endemism - Island of Hawai'i

Critical Habitat - Designated

**SPECIES INFORMATION:** *Clermontia peleana* of the bellflower family is an epiphytic shrub or tree 5 to 20 ft (1.5 to 6 m) tall which grows on 'ōhi'a, koa, *Cheirodendron trigynum* ('olapa), and *Sadleria* spp. (ama'u). The alternate, stalked, oblong or oval, toothed leaves reach a length of 3 to 8 in (8 to 20 cm) and a width of 1.2 to 2 in (3 to 5 m). Flowers are single or paired, each on a stalk 1.2 to 1.8 in (3 to 4.5 cm) long with a main stalk 0.3 to 0.7 in (0.8 to 1.7 cm) long. Five small green calyx lobes top the hypanthium (basal portion of the flower). The blackish-purple (ssp. *peleana*) or greenish-white (ssp. *singuliflora*) petals, 2 to 2.8 in (5 to 7 cm) long and 0.3 to 0.5 in (0.8 to 1.3 cm) wide, are fused into a one-lipped, arching tube with five down-curved lobes. Berries of ssp. *peleana* are orange and 1 to 1.2 in (2.5 to 3 cm) in diameter; berries of ssp. *singuliflora* are unknown. This species is distinguished from others of the genus by its epiphytic growth habit; its small green calyx lobes; and its one lipped, blackish-purple or greenish white corolla.

**DISTRIBUTION:** Historically, *Clermontia peleana* ssp. *peleana* has been found only on the island of Hawai'i on the eastern slope of Mauna Loa and the northeastern and southeastern slopes of Mauna Kea. Currently, this subspecies only occurs near Waiakaumalo Stream, by the Wailuku River, near Saddle Road, and between the towns of Glenwood and Volcano.

**ABUNDANCE:** The six known populations, which extend over a distance of about 12 by 5 miles are located on State and federally-owned land and contain a total of approximately eight known individuals.

**LOCATION AND CONDITION OF KEY HABITAT:** This subspecies typically grows epiphytically in Montane Wet Forests dominated by koa, 'ōhi'a, and *Cibotium* spp., and in *Sadleria* spp. (tree ferns) at elevations between 1,740 and 3,800 ft (530 and 1,160 m).

Associated species include 'olapa, *Melicope clusiifolia* (kolokolo mokihana), and *Scaevola chamissoniana* (naupaka kuahiwi).

#### **THREATS:**

- Feral pigs;
- Roof or black rat (*Rattus rattus*);
- Flooding, and stochastic extinction;
- Reduced reproductive vigor due to the small number of existing individuals.

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