

## Plants

### *Abutilon eremitopetalum*



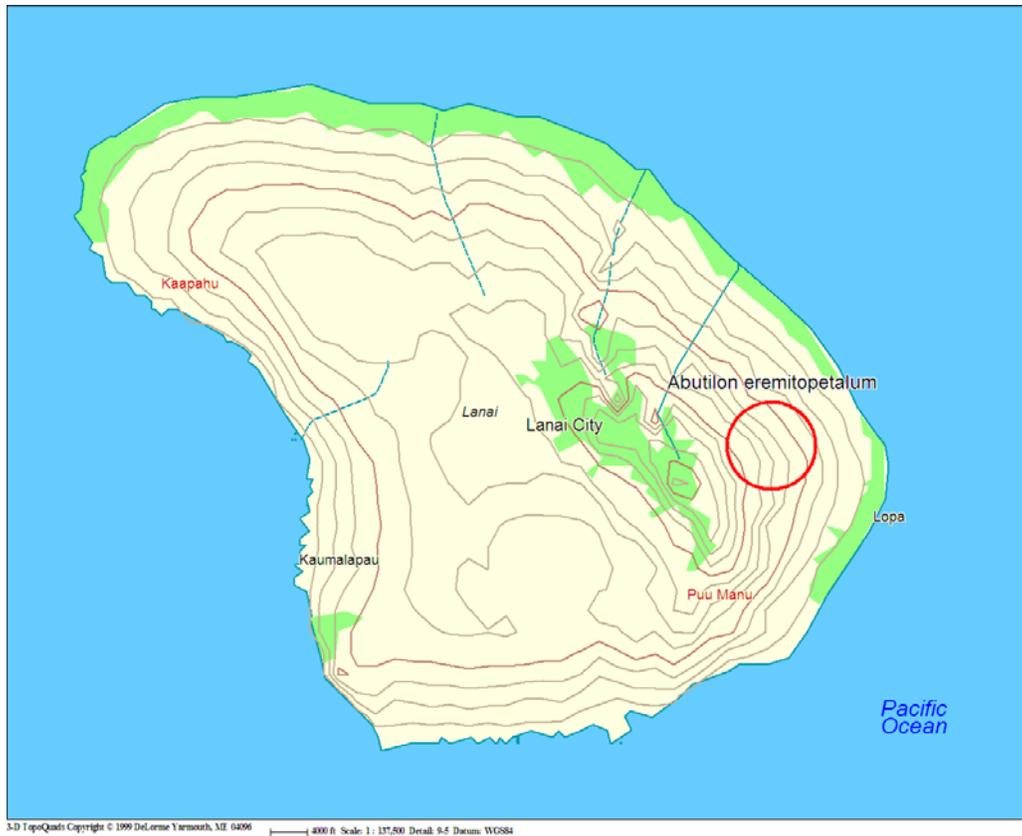
**SPECIES STATUS:**  
Federally Listed as Endangered  
Genetic Safety Net Species  
IUCN Red List Ranking - CR B2ab(iii)  
Hawai'i Natural Heritage Ranking - Endangered  
Endemism - Lana'i  
Critical Habitat - Designated

**SPECIES INFORMATION:** *Abutilon eremitopetalum* is a perennial shrub in the mallow family (Malvaceae) with grayish-green, densely haired, heart-shaped leaves; the leaves are 2.5 to 5 in (7 to 12 cm) long. One or two flowers on stems up to 1.5 in (4 cm) long are in the leaf axils. The calyx of the flower is green, cup-shaped, and about 0.5 in (1.5cm) long. The petals are shorter than the calyx and are bright green on the upper surface and reddish on the lower surface. The staminal column extends beyond the calyx and is white to yellow, with red style branches tipped with green stigmas. The fruit is a hairy, brown, dry, cylindrical capsule and about 0.3 in (1 cm) long. It is the only *Abutilon* in the Hawaiian Islands whose flowers have green petals hidden within the calyx.

**DISTRIBUTION:** *Abutilon eremitopetalum* was found in small, widely scattered colonies at elevations of between 700 and 1,000 ft (215 and 305 m, historically up to 520 m) in the ahupua'a (geographical areas) of Kalulu, Mahana, Maunalei, Mamaki, and Paawili on the northern, northeastern and eastern parts of Lana'i.

**ABUNDANCE:** Confined to a single site on the windward side of Lana'i, in Kahea Gulch, on private land. As of June 2005, *A. eremitopetalum* is known from one subpopulation containing 15 mature individuals and 15 juveniles. When first discovered in 1987, this subpopulation consisted of 60–70 plants, but by the mid-1990's it had been reduced by more than half. However, the population was subsequently fenced to protect the plants from introduced deer, and although there was abundant recruitment within the enclosure for a time, numbers undergo extreme fluctuations.

**LOCATION AND CONDITION OF KEY HABITAT:** Dry forest and shrub land gulches, 240 to 320 meters elevation. These habitats have been degraded by historic livestock grazing and heavily invaded by alien plants such as *Leucaena leucocephala*, *Lantana camara*, *Digitaria insularis*, and *Pluchea carolinensis*.



### THREATS:

- Browsing and habitat degradation by introduced axis deer and mouflon sheep;
- Competition from alien plants;
- Rocks rolling down slope have damaged the enclosure fence in the past;
- Loss of pollinators;
- Small number of individuals in the remaining population;
- Fire.

**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. An enclosure fence has been established around the core population. The USFWS has developed a recovery plan that details specific tasks needed to recover this species. Critical Habitat is designated for this entity. 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 enclosure fence for damage and inside enclosure 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:**

Center for Plant Conservation. 2005. National Collection of Endangered Plants.  
[http://www.centerforplantconservation.org/ASP/CPC\\_NCList\\_Quick.asp](http://www.centerforplantconservation.org/ASP/CPC_NCList_Quick.asp).

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>.

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