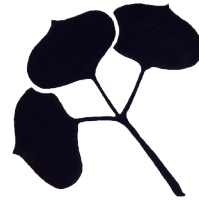


**H**ISTORICALLY FOUND ON THE Islands of O‘ahu and Moloka‘i, approximately 274 mature nioi trees remain on O‘ahu. The largest number of individuals occurs within the Kahuku Training Area in the northern end of the Ko‘olau Mountains. While these populations contain mostly seedlings and saplings, **the nioi in Kahuku Training Area represent more than 80% of the remaining plants in the world.**



## O‘ahu Army Natural Resources Program

*Mālama i ka po‘e ‘ōiwi o nēia ‘āina.  
Protecting the natives of this land.*



*The native plants and animals of our isolated islands evolved with limited competition and few predators. Nearly 9,000 of our native species are found nowhere else in the world, and many are listed as threatened or endangered. By working together, we can protect our remaining forests for future generations.*

For more information please contact the O‘ahu Army Natural Resources Program  
(808) 656-7741

[outreach@oanrp.com](mailto:outreach@oanrp.com)

<http://www.garrison.hawaii.army.mil/sustainability/NaturalResources.aspx>



The flower from the nioi was used in Hawaiian courtship practices.

If a person wanted to win the affection of another, he would tuck the flower near his chest, pace back and forth in front of his desired's hale, and chant a specific 'oli. This action was said to "awaken" and "capture" the love of the person within the hale. [1]

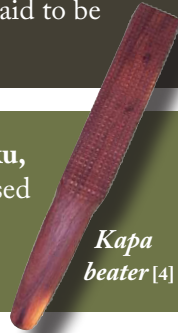


To tamper with the nioi was to invite serious trouble.

Said to be possessed by poison gods and regarded as having mana (divine power), nioi wood was carved into images called k̄alaipāhoa. Always in possession of the ruling chiefs, shavings from the back of the images were placed in an enemy's food to cause death.

Today, we know these trees to be harmless. It was only when sorcery was employed that they were said to be poisonous. [2]

Nioi wood was used to make i'e kuku, or kapa beaters. These tools were used to pound the inner bark of plants to produce kapa barkcloth. [3]



Kapa beater [4]

[1] Rock, J. Revised List of Hawaiian Names of Plants, Native and Introduced, with Brief Descriptions and Notes as to Occurrence and Medicinal or Other Values. Transcribed and Annotated by Samuel M. 'Ohukani' ōhi'a Gon III.

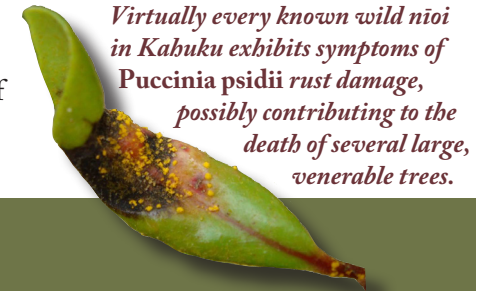
[2] Mitchell, Donald D. Kilolani. *Resource Units in Hawaiian Culture*

[3] Krauss, B. *Plants in Hawaiian Culture*. 1993.

[4] Image courtesy of www.kapahawaii.com.

## THREATS *affecting the nioi*

- ▶ **Feral pigs** degrade nioi habitat by digging up groundcover and hastening the spread of invasive weeds.
- ▶ **Non-native plants** alter nioi habitat, creating competition for moisture, light, nutrients and growing space.
- ▶ **Fire** poses a serious threat to remaining nioi populations.
  - The spread of highly flammable alien grasses increases the incidence and destructiveness of wildfires.
  - Fire can persist for weeks in the roots and leaf litter of the non-native ironwood tree (*Casuarina equisetifolia*), which covers much of the nioi habitat in Kahuku Training Area.
- ▶ **An introduced myrtaceous rust**, *Puccinia psidii*, prevents the growth of new leaves, subjecting the nioi to a slow death. *Puccinia* also affects the flowers and fruit, potentially limiting recruitment of new trees.



*Virtually every known wild nioi in Kahuku exhibits symptoms of Puccinia psidii rust damage, possibly contributing to the death of several large, venerable trees.*

## MANAGEMENT ACTIONS

*The O'ahu Army Natural Resources Program (OANRP) staff actively manage threats to nioi habitat.*

- ▶ Fences have been constructed around remaining wild populations of nioi to protect the plants from pig damage.
- ▶ Staff and volunteers make quarterly visits to these protected populations to maintain a "weed-free" buffer around the nioi and are experimenting with habitat restoration through outplanting of common native species.
- ▶ Nioi plants are grown from wild seed in OANRP's rare plant nurseries. Staff reintroduce plants into the wild at Kahuku Training Area and Waimea Botanical Garden to boost population numbers.
- ▶ OANRP has supported research on the introduced rust, *Puccinia psidii*, at the University of Hawai'i at Mānoa. OANRP is conducting further research on control methods using plants kept in the nursery living collection and those planted at Waimea Botanical Garden.



*A healthy nioi fruit (pictured left) matures in OANRP's rare plant nursery, where plants are protected from Puccinia psidii and other threats.*

