

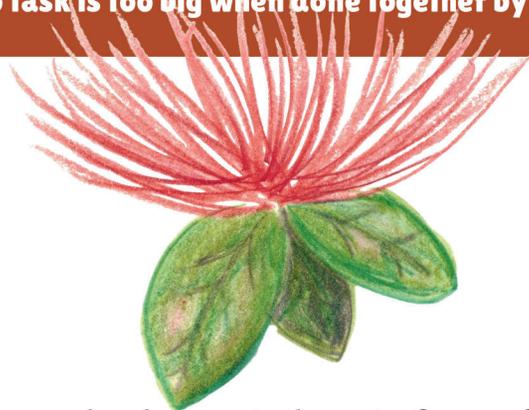


## Native Plant Guide Iliau Trail

Iliau Trail is a short one-third mile loop on the western slope of Waimea Canyon. Its trailhead can be found between the 8.5 and 9 mile markers on Koke'e Road / Hwy 552.



**A'ohe hana nui ka alu'ia.**  
No task is too big when done together by all.



The most abundant tree in the native forests of Hawai'i is also the backbone that holds the forest--and our watersheds--together. 'Ōhi'a is endemic to Hawai'i, meaning you won't find it anywhere else in the world.

'Ōhi'a forests also provide habitat for rare forest birds like 'i'iwi, 'apapane, 'akikiki, and 'anianiau. Hundreds of native arthropods have been collected from 'ōhi'a canopies. And 'ōhi'a welcome a wide variety of unique plants into their welcoming branches, leaves, and roots. One such plant is iliau. Iliau is not only endemic to Hawai'i, it's endemic to Kaua'i. And the best place to see iliau is along the trail named after this special species.

Unfortunately, many of the rare and endemic species of Hawai'i are threatened by invasives species. A non-native grass is invading iliau's habitat. And a fungal disease is killing 'ōhi'a and threatening Kaua'i's watershed.

But as the Hawaiian proverb suggests, no task is too big when tackled together. Let's pull together to save the native forests of Hawai'i.

Ka ua noelehua o Wai'ale'ale.  
The misty rain of Wai'ale'ale.

**'Ōhi'a**  
*Metrosideros polymorpha*



- Peak blooming takes place in late spring/early summer.
- Leaf shape, color, and texture varies across five species and ~11 varieties.
- Most common floral color is red but also produces yellow, salmon, and orange hues.
- What we think of as petals are actually a collection of pistils and stamen, the reproductive parts of the flower.
- Adapts easily to a range of habitats, growing as small shrub to 100-foot canopy tree. Also adapted to bog environments, growing in stunted form.

One of the first plants to start growing after a new lava flow, 'ōhi'a start forests and grow with them, becoming the most common forest tree across Hawai'i. Often called the keystone species of the forest, 'ōhi'a provide life history requirements for hundreds of other plants and animals in the forest. Unfortunately, 'ōhi'a are threatened by a deadly fungus.

Family: Myrtaceae

Endemic to Hawai'i

‘O ka iliau loho i ka lā, pū‘olo hau kakahiaka.  
The iliau plant drooping by day, the carrier of morning dew.

# Iliau

*Wilkesia gymnoxiphium*  
“Kaua’i greensword”

- Cream-colored flowers numbering 30-300 protrude on a stalk above the base.
- Peak blooming occurs in late spring/early summer.
- Long, narrow green leaves six to 20 inches long.
- Grows as erect unbranched shrub two to 10 feet tall.



Iliau take approximately seven years to flower—producing hundreds to thousands of seeds—and then completing their lifecycle. This characteristic is known as “monocarpic.”

Iliau are closely related to the silverswords of Maui and Hawai‘i and a member of the “Silversword Alliance,” made of nearly 30 species that evolved from a single ancestor in what is known as “adaptive radiation.”

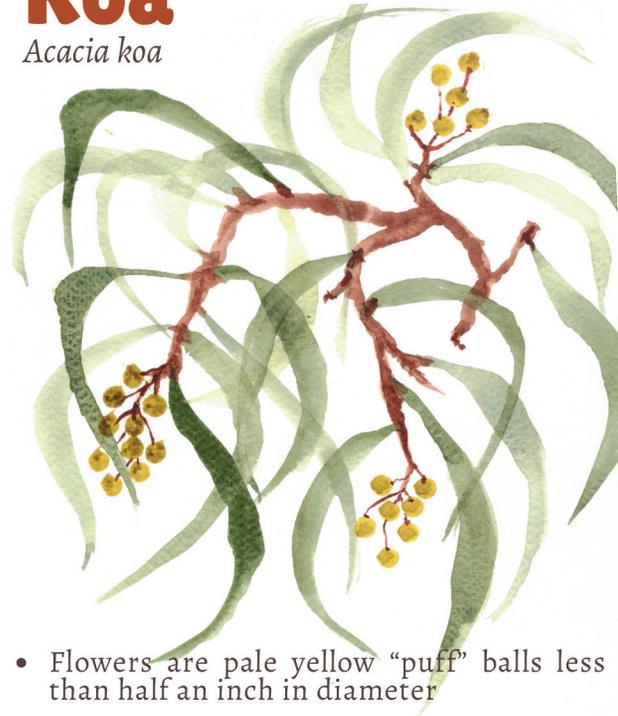
Family: Asteraceae

Endemic to Kaua‘i

E ola koa. Live like a koa tree.

# Koa

*Acacia koa*



- Flowers are pale yellow “puff” balls less than half an inch in diameter
- Leaves start as smallish pairs of leaflets but are soon replaced by sickle-shaped phyllodes (flat blades) that are an extension of the leaf petiole (stem) and grow from three to nine inches.
- Koa can grow to heights greater than 100 feet with a canopy spread of up to 40+ feet.
- Thrives best in the “middle forest zone” above two to three thousand feet.

Today, koa is prized by woodworkers to make furniture, bowls, instruments, jewelry, and more. At one time, the trunks of koa were used for wa‘a (canoe), bark was used as a red dye, leaves were added to lei, and various parts of the tree was used in traditional medicine. The tree’s Hawaiian name translates to English to mean brave, cold, fearless, warrior, fighter.

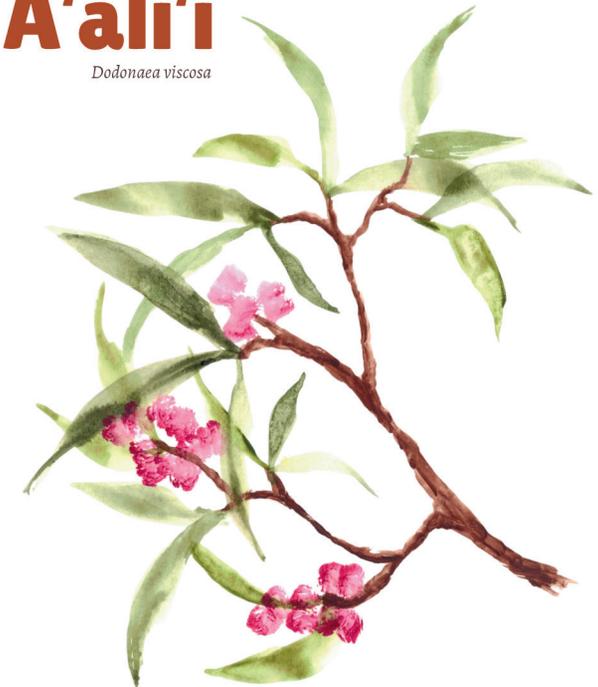
Family: Fabaceae

Endemic to Hawai‘i

He ‘a‘ali‘i kū makani mai au; ‘a‘ohe makani nāna e kula‘i.  
I am a wind-resistant ‘a‘ali‘i; no gust can push me over.

# ‘A‘ali‘i

*Dodonaea viscosa*



- Leaves are arranged alternately and, usually, glabrous (shiny).
- Flowers are small and appear on leaf axis and branch tips.
- Fruit ranges in color and is a seed capsule with paper-like wings.
- Grows as shrub and small tree, ranging in height from 1 foot to 30 feet.

Hard wood used in building canoes and structures, and carved for agricultural tools and weaponry. Because of the wood’s density, it sinks in water and was used as bait sticks and spears for fishing. Seeds were boiled to make dye. Medicinal uses included relief for various skin conditions. Seed capsules and foliage continue to be used in lei making today.

Family: Sapindaceae

Native to Hawai‘i



**'Uki 'Uki**  
*Dianella sandwicensis*

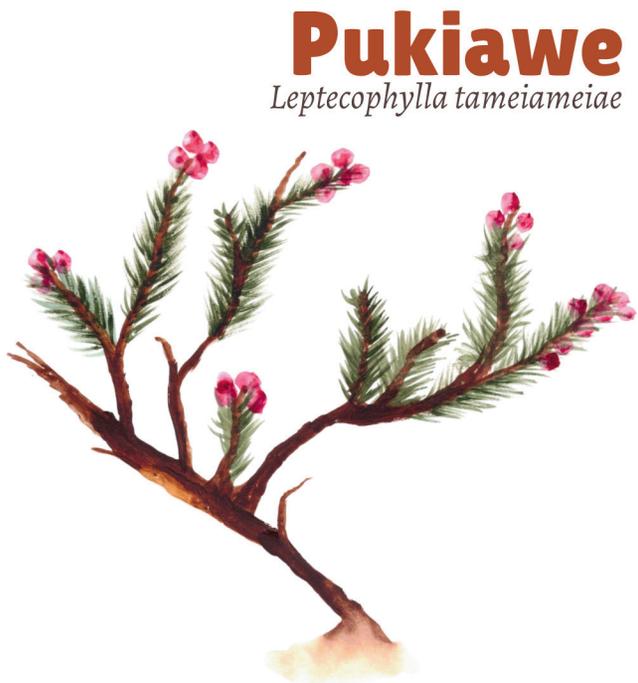
- Leaf blades are long, growing from 12 to 40 inches.
- Flowers are delicate and range from pale blue to white with orange filaments and yellow anthers.
- Fruits are deep blue-purple to brownish-purple.
- Grows from sea level to 5,000 feet.

Traditional Hawaiian uses include: leaves braided into cordage, as well as, used in thatching; and fruits used in dyeing and lei making.

Today, leaves and fruit are used in lei making and other floral arrangements.

Family: Asphodelaceae

Endemic to Hawai'i



**Pukiawe**  
*Leptecophylla tameiameia*

- Leaves are short and fine but also prickly.
- Flower color is variable, from white to pale pink.
- Fruit clusters can vary in color from white to pink to a dramatic dark red on the same plant.
- Grows as shrub to small tree, two to 15 feet tall.
- Found in many forest ecosystems, scrublands, and bogs at all elevations across Hawai'i.

Fruit are a good source of food for native birds.

Traditional uses include using leaves and fruit for lei making, using leaves to treat colds and headaches, and carving the wood into tools used in papa (barkcloth) making.

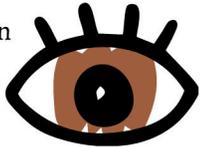
Family: Ericaceae

Native to Hawai'i

## What can I do to help?

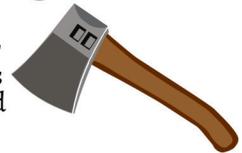
### 1 Keep your eyes open.

If you see 'ōhi'a with a limb or crown turning brown, take a picture, and email [saveohia@hawaii.edu](mailto:saveohia@hawaii.edu) or call KISC at (808-821-1490).



### 2 Avoid injuring 'ōhi'a.

Wounds serve as entry points for the fungus and increase the odds that the tree will become infected with ROD.



### 3 Clean gear and tools.

Clean gear and tools, including shoes and clothes, before and after entering the forest. Brush all soil off tools and gear, then spray with 70% rubbing alcohol. Wash clothes with hot water and soap.



### 4 Wash your vehicle.

Wash all mud off your vehicle (mountain bikes and motorcycles, too) with a high-pressure hose. Focus on tires but don't forget the undercarriage, too.



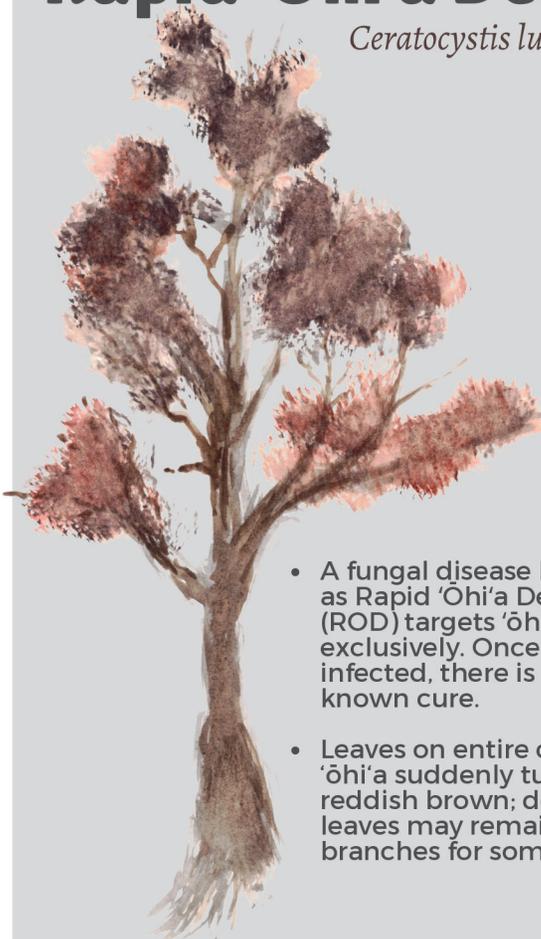
### 5 Don't move 'ōhi'a

Don't move 'ōhi'a wood or 'ōhi'a parts, including adjacent soil. The disease can be spread to new areas by moving plants, plant parts, and wood from infected areas to non-infected areas.



# Rapid 'Ōhi'a Death

*Ceratocystis lukuohia*



- A fungal disease known as Rapid 'Ōhi'a Death (ROD) targets 'ōhi'a exclusively. Once infected, there is no known cure.
- Leaves on entire crown of 'ōhi'a suddenly turn reddish brown; dead leaves may remain on branches for some time.

- ROD-causing fungi can't be seen from the outside; it grows and spreads within a tree for months or longer before the leaves start to wilt and brown.
- To confirm ROD in an 'ōhi'a tree, a wood sample must be taken and tested in a lab.
- Two different species fall under the umbrella of Rapid 'Ōhi'a Death. The entire leaf canopy of 'ōhi'a infected with *Ceratocystis lukuohia* (a wilt disease) tend to turn reddish brown all at once; whereas the leaves on 'ōhi'a infected with *Ceratocystis huliohia* (a canker disease) turn reddish brown a limb or two at a time.

Family: *Ceratocystis*

*Highly Invasive*

# Beardgrass

*Schizachyrium microstachyum*



- Perennial grass grows up to six feet.
- Branches near top of stem and produces broom-like tufted seed heads.
- Displaces native plants. Forms thick monotypic stands. High fire risk hazard.
- Native to South America.
- Numerous common names, including Colombian bluestem, bush beardgrass, and little bluestem.
- Unpalatable to goats and not regarded as an important forage grass.

Family: *Poaceae*

*Highly Invasive*

Plants in Hawai'i fall into two general categories: native and non-native. Native plants made their way to the islands in three ways: wind, wing, and water. Native plants may be found elsewhere in the world. Native plants that existed in isolation over millions of years and evolved into new species are considered endemic if they are found in one location and nowhere else in the world. Roughly 90% of native plants in Hawai'i are endemic. Non-native plants are those that have been introduced by humans, either intentionally or accidentally. Some non-native species become invasive if they cause economic or environmental harm or harm to human health.

For more info on native plants of Hawai'i:



Plant Pono



Native Plants Hawai'i



Plants of Hawai'i



Hui Kū Maoli Ola

Traditional sayings sourced from: *‘Ōlelo Nōeau: Hawaiian Proverbs and Poetical Sayings*  
by Mary Kawena Pukui.



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