



PEPP

State of Hawai'i

Department of Land & Natural Resources

Division of Forestry & Wildlife

R A R E P L A N T

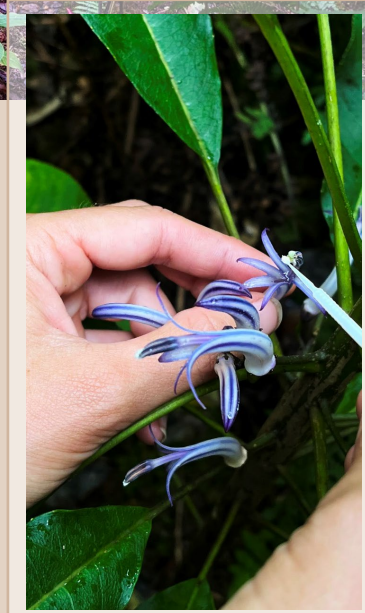
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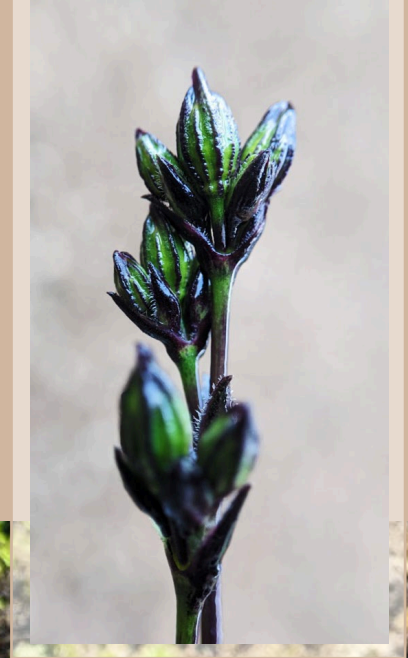
Kaua'i profile

Hawai'i Forestry and Wildlife and the Plant Extinction Prevention Program are working to restore populations of *Cyanea rivularis*, an endemic plant found near streams on Kaua'i. With funding support from the U.S. Fish and Wildlife Service and help from the National Tropical Botanical Garden seeds previously collected and stored at Lyon Arboretum were withdrawn and germinated. Now there are hundreds of new plants thriving in restoration sites on the north shore, attracting native animals such as 'amakihi and 'aumakua 'ōma'oma'o, a native moth.



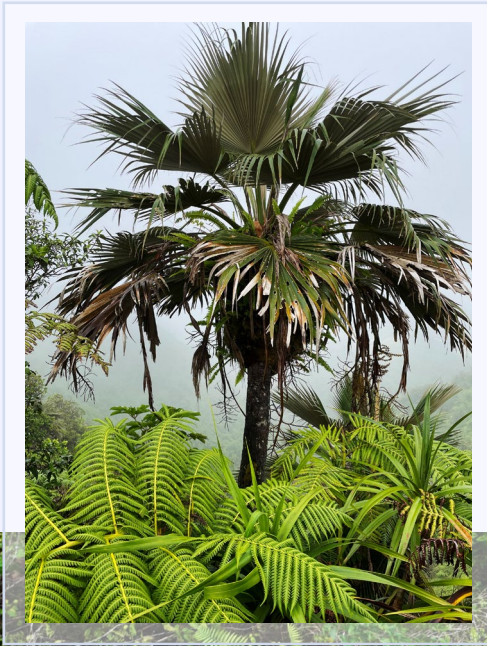
Cyanea rivularis

Kaua'i profile



Silene lanceolata

While exploring the steep cliffs of Waimea Canyon, botanists from the Plant Extinction Prevention Program rediscovered a species, which had not been seen since 1840, at the end of a rope! *Silene lanceolata* is still found on the islands of O'ahu, Moloka'i, and Hawai'i, but this incredible rediscovery on a small ledge that is inaccessible by goats shows just how rich and resilient our native flora is. In the coming year, seed collections will be secured to create new populations of *Silene lanceolata* in protected areas.



An invasive pest, the Coconut Rhinoceros Beetle (CRB), is rapidly expanding on O‘ahu and surrounding areas with native loulu palms. The beetles are native to Southeast Asia but were first detected in 2013 near Pearl Harbor. CRB feed on emerging palm fronds and can cause lethal damage to coconut trees and native loulu palms. Hawai‘i Forestry and Wildlife has secured funding from the U.S. Forest Service to conduct surveys of the five species of loulu that are found on O‘ahu to monitor for CRB damage and collect seeds. The seeds will be grown in nurseries to provide a back-up in case CRB invades wild populations of loulu.



O‘ahu profile

Pritchardia species



Lobelia species

Last summer, staff from Hawai'i Forestry and Wildlife, the Plant Extinction Prevention Program, and the National Tropical Botanical Garden visited Kualoa Ranch Hawai'i for a workshop on using drones to conduct botanical surveys of inaccessible cliffs. Expert drone pilots can maneuver into areas where even long ropes cannot reach, giving botanists an eye on never-before-seen areas of vertical terrain. Surprise! Several plants of an unknown *Lobelia* species were discovered, showing just how important this new technology is to our work. Next year, staff hope to return to the plants when they are in flower to identify the species and plan for fruit collections.



O'ahu
profile

Cyperus prescottianus

The Maui Plant Extinction Prevention Program found an endemic species of sedge, *Cyperus prescottianus*, growing along a stream bank near the coast in West Maui. The species had not been observed on Maui in over one hundred years! Since this rediscovery, the invasive weeds and trash have been cleared from the site and hundreds of seeds were collected to grow and plant out at new sites. This plant was known from lo'i kalo and streams on all the main Hawaiian Islands and these new plants will help reestablish it in restoration sites across the state.



Maui
profile



Mauna Kahālāwai

In November, a wildfire erupted above Lahaina and burned for several days through shrublands and forests that are home to several critically rare native plants. Populations of *Gouania hillebrandii*, *Cyanea heluensis*, *Hibiscadelphus stellatus*, and *Stenogyne kauaulaensis*, all endemic to Mauna Kahālāwai, were possibly impacted. Now that the fire is out, surveys will be conducted to determine the extent of the damage, to salvage any remaining plants, and to better understand the long-term indirect impacts, such as erosion and alien plant invasions. Wildfires impact our communities and natural resources and are preventable.



Maui profile



Cyanea profuga and *Pteris lidgatei*

The Plant Extinction Prevention Program and the Snail Extinction Prevention Program, tasked with finding and protecting Hawai'i's rarest plants and snails, teamed up to survey a remote area on Moloka'i to relocate rare species. The trip was a great success and populations of *Cyanea profuga* (five new plants), and *Pteris lidgatei* (maybe the same seven plants seen over 15 years ago!) were rediscovered near a hotspot for native snails. Field work is better when done together!



Moloka'i profile



Moloka'i profile



Scaevola coriacea

A long-standing partnership between Moloka'i Plant Extinction Prevention Program and the National Park Service at Kalaupapa got a boost in the last year with new outplantings of *Scaevola coriacea* (naupaka papa). Coastal plants keep our shorelines intact during high surf and wind events and provide habitat for seabirds and bees.





Gardenia brighamii

In November 2022, the last two (out of seven) known wild nā'ū (*Gardenia brighamii*) on the windward slopes of Lāna'i were fenced by the Plant Extinction Prevention Program and Pūlama Lāna'i Conservation staff. In total, seven wild nā'ū have been fenced over the past three years. In the process of fencing the individuals, one unknown nā'ū was discovered and another nā'ū was rediscovered. We are hopeful that additional survey work in remnant dry forest habitat in this part of the island will yield additional nā'ū discoveries in the years to come.



Lāna'i profile

Mezzoneuron kavaense

Uhiuhi (*Mezzoneuron kavaense*) has been extirpated from Lānaʻi for many years. Over the past decade, botanist Joel Lau has been sending seeds from his Lānaʻi uhiuhi growing at his house on Oʻahu to Lyon Arboretum. A couple of years ago, Lyon sent uhiuhi seeds to Lānaʻi where Pūlama Lānaʻi's Conservation staff propagated them at their native nursery. In November 2022, the Plant Extinction Prevention Program and Pūlama Lānaʻi staff outplanted five uhiuhi at a fenced enclosure on Lānaʻi near the site of the extirpated wild population. Other individuals have been outplanted at two other sites with mixed success. If the uhiuhi does well at its new location, we look forward to continued propagation of the species and outplanting more individuals. Thanks to Joel Lau's collections, there are over 600 uhiuhi seeds remaining at Lyon Arboretum!



Lānaʻi
profile

Hawai'i profile

Cyanea shipmannii

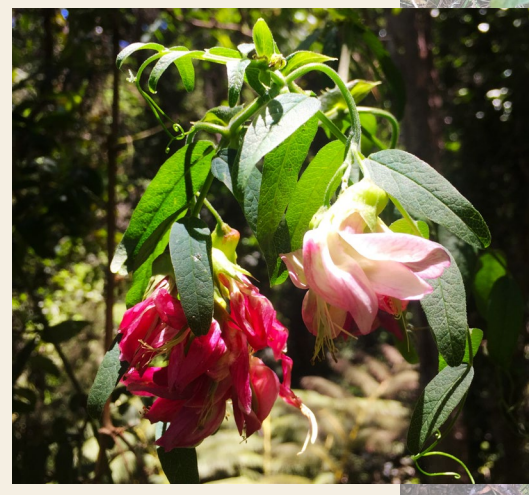
While conducting field work in a remote area of wet forest in East Hawai'i, the Plant Extinction Prevention Program discovered two new individuals of *Cyanea shipmannii*, a critically rare plant species with bright orange fruit and fern-like, finely divided leaves. This brings the total remaining wild population to 18. With support from the U.S. Fish and Wildlife Service, Hawai'i Forestry and Wildlife and the Plant Extinction Prevention Program are currently outplanting hundreds of plants into protected areas over the next few years as part of a Recovery Challenge. Seeds collected from these plants will be added to the sites to increase diversity and help to recover this species. What a great find!





Vicia menziesii

There are over 420 plant species across the State of Hawai'i on the U.S. Endangered Species List. The very first Hawaiian plant added to the List was *Vicia menziesii*, a woody vine (liana) that is endemic to Hawai'i island. In the last year, Kamehameha Schools, Hawai'i Forestry and Wildlife, the Plant Extinction Prevention Program, and the Volcano Rare Plant Facility worked to secure cuttings from the last remaining population. After bringing them into cultivation, the team will work together to propagate more plants and reintroduce them into protected sites across the island.



Hawai'i profile

MAHALO to all our conservation partners





Cover

James Harmon

Cyanea rivularis

Susan Deans, Scotty Heintzman, Adam Williams

Silene lanceolata

Susan Deans, Scotty Heintzman, Adam Williams

O'ahu Coconut
Rhinos Beetle

James Harmon, Miles Thomas, Susan Ching, Coconut Rhinos Beetle Response Program

O'ahu *Lobelia*
species

Kualoa Ranch, Ben Nyberg, James Harmon

Cyperus prescottianus

Hank Oppenheimer

Maui wildfire

Hank Oppenheimer, Zach Pezzillo

Moloka'i surveys

Ane Bakutis, Kawaila Purdy, Kristen Coelho

Gardenia brighamii

Kari Bogner

*Mezzoneuron
kavaense*

Kari Bogner

Cyanea shipmannii

Josh Vandemark, Erin Datlof, Dave Cole

Vicia menziesii

Josh Vandemark, Erin Datlof, Matt Keir, Reid Loo

Mahalo

Susan Deans

This page

Joshua VanDeMark, Susan Deans, Hank Oppenheimer

A special mahalo to the U.S. Fish and Wildlife Service's Lauren Weisenberger for her review and Susan Machida for her design of this report