

Guam Plant Extinction Prevention Program



UNIVERSITY OF GUAM
COLLEGE OF NATURAL
& APPLIED SCIENCES





Tinospora homosepala

Tinospora homosepala is a climbing vine that is a part of the Menispermaceae family. This vine is endemic only to the island of Guam and considered very rare. The woody climber contains prominent lenticels along its vine and produces a milky or yellowish sap. The flowers are tiny and unisexual. The plant can only produce asexually as only male flowers have been observed.

The Guam Plant Extinction Prevention Program (GPEPP) is an island-wide program dedicated to preventing the extinction of Guam's rarest plant species. GPEPP works with conservation partners to protect wild populations, preserve their genes, and reintroduce plants to their natural habitat.



UNIVERSITY OF GUAM
COLLEGE OF NATURAL
& APPLIED SCIENCES

Claoxylon marianum
Katot

Katot is one of the rarest trees on Guam. Only 4 trees are known, all occurring in the limestone forests of northern Guam. The trees have very soft wood but can grow up to 10 meters tall. The leaves have serrated margins and the fruit matures from a green to purple color with a yellow flesh around the seed.

GPEPP engages in five primary activities to carry out its operations: monitoring, collecting, surveying, managing, and reintroducing.

Protecting biodiversity is an essential part of natural resources management. This requires knowledge of the benefits of natural diversity, contributions to medicine, biodiversity and agriculture, environmental monitors, ecosystem services, other economic and intangible values.





Cyathea lunulata
Tsatsa

Cyathea lunulata or tsatsa is a tree fern that grows in savannas and narrow ravines of Guam. Indigenous to the island, tsatsa can be recognized by its stature, due to its trunk, which can grow up to 5 m tall, and its large tripinnate fronds which average 2 m in length. Healthy fronds are located near the top of the trunk. When they are fertile, the fronds are covered with sori that can be seen on the underside. As the fronds get older, they eventually drop off.





Bulbophyllum guamense
Siboyas hãlom tãno

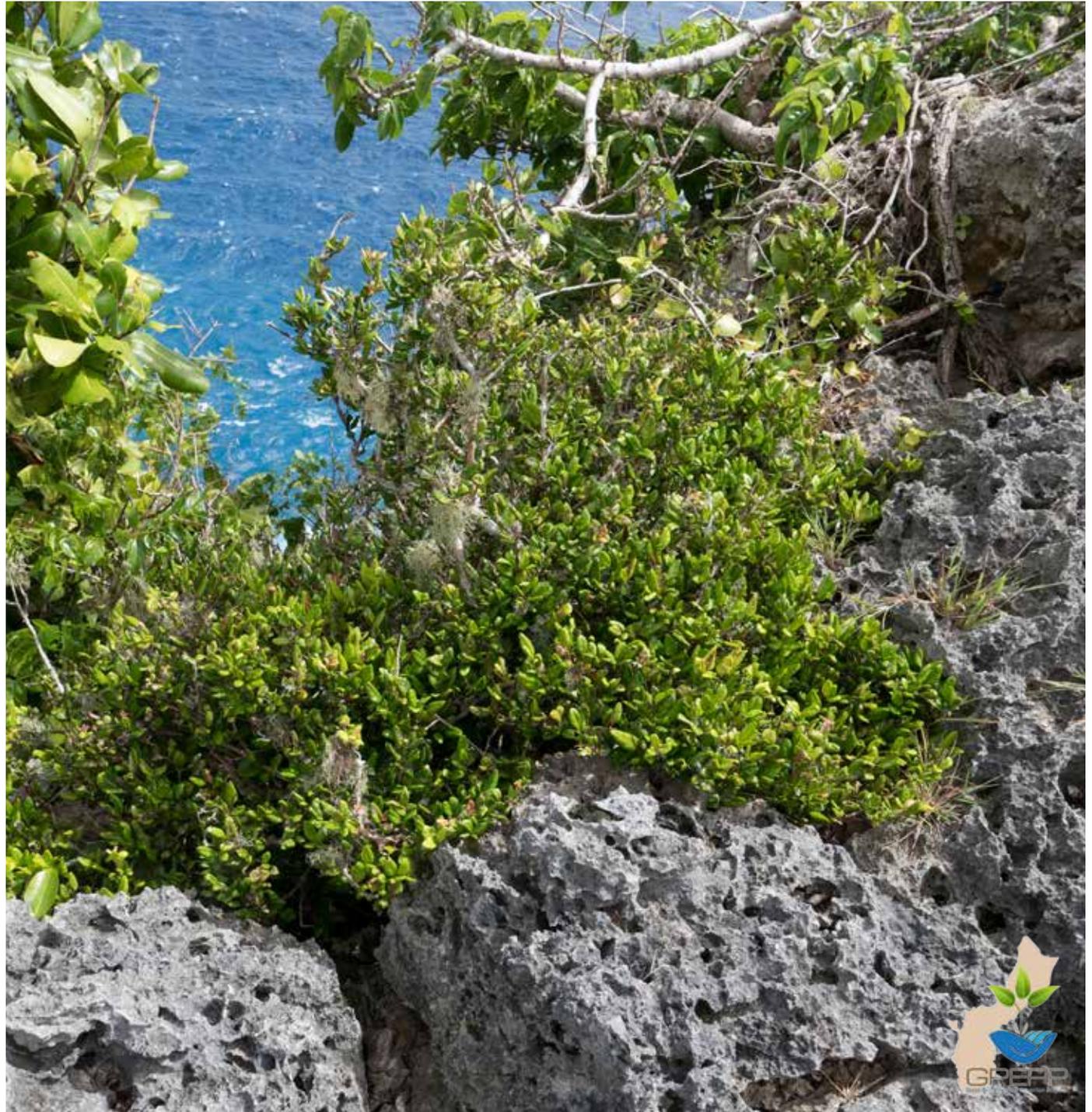
Bulbophyllum guamense is an epiphytic orchid that occurs in large mat-like formations on tree trunks and branches of different tree species. It is found in humid, moist areas with a distinct pseudobulb about 2.5 cm long. Pseudobulbs are pear-shaped with single leaves emerging from the top of the pseudobulbs. Leaves are 10-15 cm long and 2.6-3.8 cm wide and appear fleshy and stiff with an oblong, elliptic shape. Flowering occurs throughout the year and each pseudobulb has a single flower of a greenish-yellow color. Once pollinated, it forms fruit that resembles a ribbed capsule about 5 cm long and 1 cm wide, where dust-like seeds develop. *B. guamense* is endemic to Guam and Rota.



Eugenia bryanii

Eugenia bryanii is a 2-3 meter shrub that is endemic to Guam. *E. bryanii* has opposite leaves that are 1-2 cm long, 5-7 cm wide and are light to medium green. The flowers are white, and the fruits are a bright red globose-truncate berry 5-8 mm thick. It can be found on the limestone cliffs of Guam.

Eugenia bryanii has been federally listed as an "Endangered" species since November 2, 2015.





Heritiera longipetiolata
Ufa hãlom tãno

Heritiera longipetiolata are endangered trees found throughout the Marianas. This medium-sized tree has ovate-oblonged leaves attached to long petioles. It has a unique appearance of a dark green upper surface and a yellowish-brown (tawny) lower surface. The fruits often appear light green to a brown-woody nut. *Heritiera longipetiolata* can be found along limestone areas and cliffsides.





Maesa walkerii

Maesa is a small shrub found only in Guam's southern mountain range. This shrub grows in areas of constant wind, often on the windward slopes of hills and mountains in limestone outcroppings. The plants are often found in clusters. *Maesa* produces an abundance of fruits that are translucent when ripe.



Nervilia jacksoniae

This tiny plant is in the orchid family and is typically found on Guam and Rota in shady areas on humus and sandy soil. This plant grows from a 1-1.5 cm subterranean subglobose tuber. It usually is identified by the 3x5 cm, kidney shaped leaves. The leaves are covered with small hairs on their top surface. During dry season the leaves of *N. jacksoniae* wither. This ground orchid also produces a flower which blooms when the stem is 4-7 cm tall, in the months of June and July. *N. jacksoniae*'s flowers are white and less than 1cm in diameter with green hairs in the mid-lobe and green sepals.





Dendrobium guamense

Endemic to Guam, this endangered epiphytic orchid is commonly seen growing on tree trunks and branches throughout the Mariana Islands. The stems grow up to 60 cm tall and the leaves are oblong-lanceolate. *D. guamense* have two fragrant white flowers that arise from short pedicels, emerging from a sheath between two leaves. The flowers bloom several times a year lasting for only one day and become a yellow ball the next day.

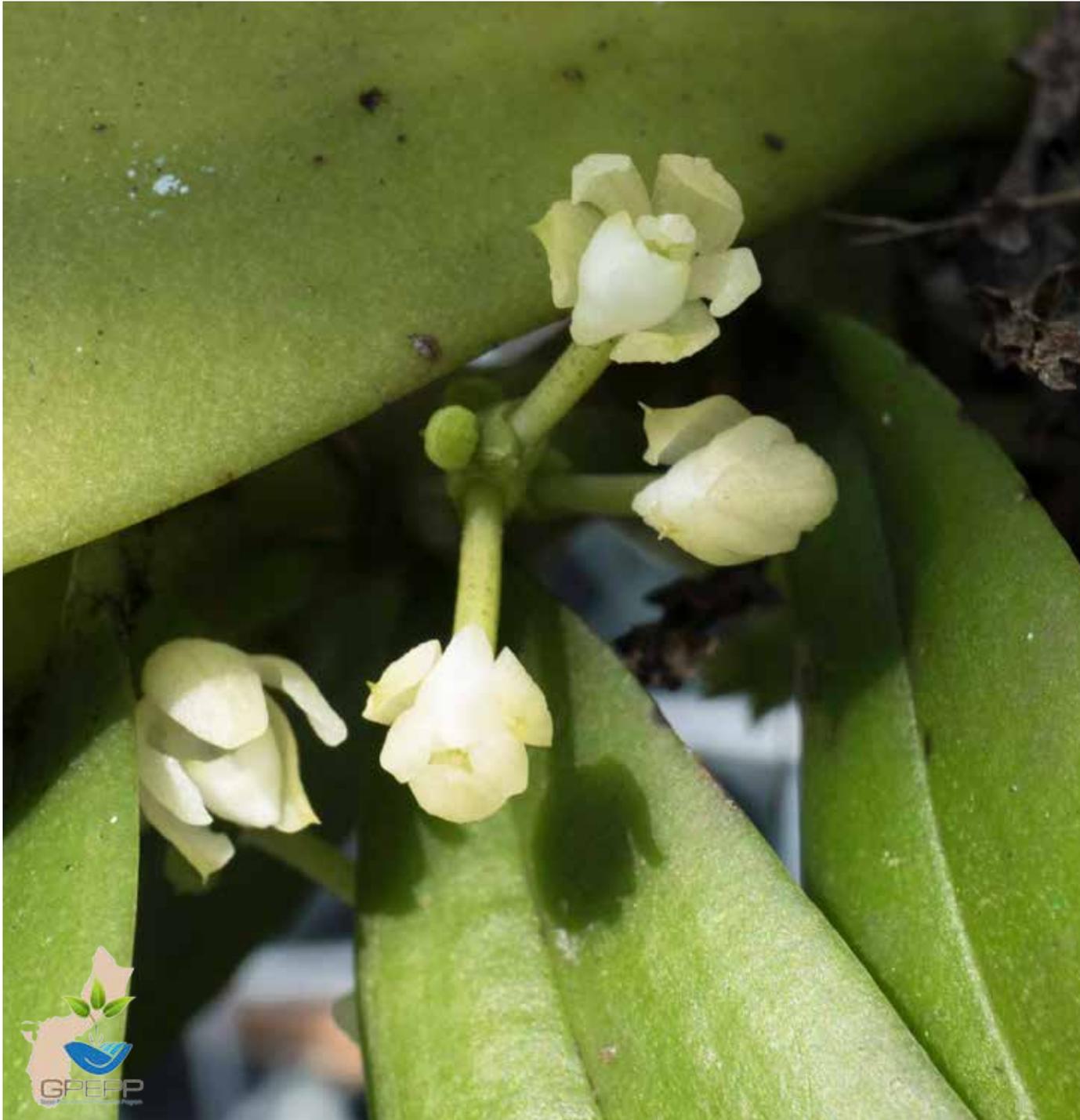


UNIVERSITY OF GUAM
COLLEGE OF NATURAL
& APPLIED SCIENCES

Tabernaemontana rotensis

Tabernaemontana rotensis is an endemic tree to Guam and Rota. It can grow from 8-10 meters tall and has light green, opposite, elliptic-oblong leaves that are 15-30 cm long and 5-10 cm wide. The leaves have a milky sap which can be an irritant. *Tabernaemontana* has small white flowers and bright red fruits as they mature. The stem is a whitish color with prominent lenticels. It can be found in Guam's limestone forests. *Tabernaemontana rotensis* has been federally listed as a "Threatened" species since November 2, 2015.





Tuberolabium guamense

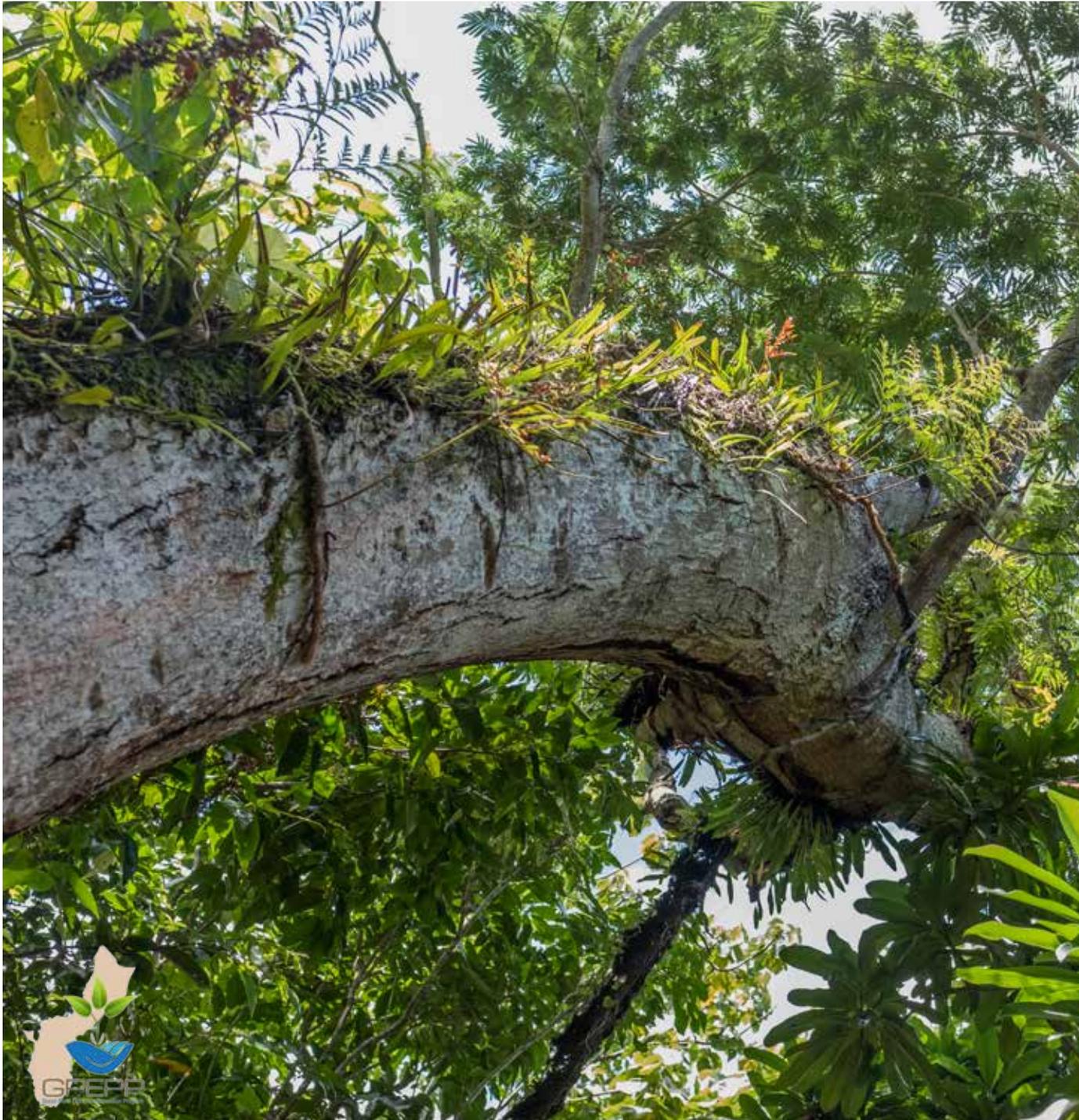
This native epiphytic orchid is monopodial (growing upward from a single point). It can be found in moist shady areas with filtered sunlight. It is common in the higher elevations of southern Guam and older limestone forests in northern Guam. The roots of *T. guamense* lift the orchid off its host tree and have leaves of an ovate-oblong shape. Flowers are small and white on a rachis, or stem, up to 4 cm long. Flowering occurs at various times of the year and flowers last up to two days.



Psychotria hombroniana
Aplokhating palao'an

Psychotria hombroniana is a small tree or shrub that is endemic to the Mariana Islands. There are several varieties of this species that have very few differences, which make it difficult to determine its variety type. *P. hombroniana* is found in the understory of undisturbed limestone community forests. The species has been reported on the islands of Alamagan, Rota, and Guam.





Serianthes nelsonii Håyun lågu

This species is found only on the islands of Guam and Rota. There is currently only one mature *Serianthes nelsonii* living on Guam. GPEPP is making efforts to propagate and outplant *Serianthes* seedlings in order to increase their numbers.

The current population on Rota is estimated to be approximately 35-40 trees. Håyun lågu is a handsome forest and shade tree. When in bloom, it gives the canopy a beautiful, fiery countenance.



UNIVERSITY OF GUAM
COLLEGE OF NATURAL
& APPLIED SCIENCES



Sources:
The Guam Plant Extinction Prevention Program. www.gpepp.org.

The Vegetation of Micronesia. 1960. Fosberg, F. R. Bulletin of the American Museum of Natural History.

Ferns and Orchids of the Mariana Islands. 1992. Raulerson, L. and A. Rinehart. Raulerson and Rinehart.

The Flora of Guam: A Manual for the Identification of the Vascular Plants of the Island. 1971. Stone, B.C. University of Guam.

Plants of Guam. 1979. Moore, P. H. and P. D. McMakin. CNAS Cooperative Extension Service, University of Guam.

The Useful Plants of the Island of Guam. 1905. Safford, W. E. US Government Printing Office.

GPEPP is partially funded by U.S. Fish & Wildlife Services and the U.S. Forest Service.

Photo Credits: John Horeg, Mario Martinez, Jim McConnell, Mathew A. Putnam

Layout and design: Olympia Terral
olympiat@triton.uog.edu

Botanical consultants: Jennifer Abrincia, Gregorio Borja III, Gerard Chargualaf, Jonathan "Kawika" Davis, Josh Fernandez, Mario Martinez

