Derris elliptica (Wallich) Benth.

Fabaceae - Papilionoideae

LOCAL NAMES
Burmese (hon); English (tuba root,derris); Fijian (nduva,duva ni vavalagi); Filipino (tugling-pula (Tagalog)); French (touba); German (Tubawurzel); Indonesian (oyod tungkul (Javanese)); Malay (akar tuba); Thai (lai nam (northern)); Vietnamese (d[aa]y thu [oos]c c[as])

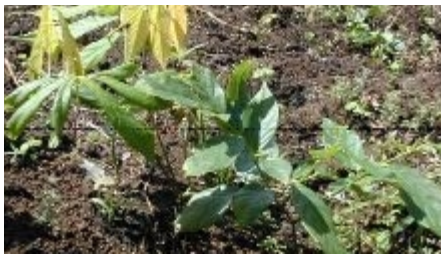
BOTANIC DESCRIPTION
Derris elliptica is a liana up to 16 m long, root reddish-brown, apical shoots often leafless for several meter and rusty pubescent.

Leaflets 7-15, mostly densely rusty hairy on both surfaces when young.

Inflorescences axillary or fascicled on older branches; flowers with rusty pubescent calyx and pinkish corolla, standard with basal callosities, rusty silky hairy.

Fruit oblong or oblong-elliptical, with a narrow wing along both sides.

BIOLOGY
D. elliptica may start flowering at 18 months of age. Wild plants flower and fruit normally. Pods ripen about 4 months after fertilization. In cultivation fruiting is rare.



Regrowth at Haiku, Maui, Hawaii (Forest and Kim Starr)

Habit at Hana Hwy, Maui, Hawaii (Forest and Kim Starr)

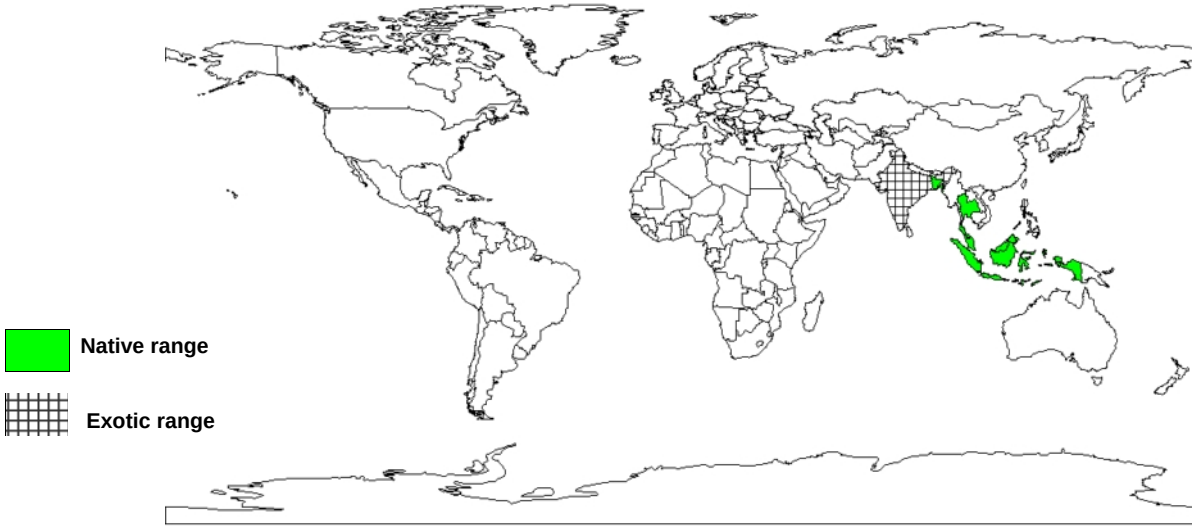
Strangling habit at Hana Hwy, Maui, Hawaii (Forest and Kim Starr)

ECOLOGY
D. elliptica is commonly found in forest edges, roadsides and along rivers, in Java up to 1500 m altitude. D. elliptica may occur as weeds in forest plantations of Acacia, Eucalyptus and Swietenia. D. elliptica can survive dry periods of up to 4 months. This species is often confined to low altitudes.

BIOPHYSICAL LIMITS
Altitude: Up to 1500 m.

DOCUMENTED SPECIES DISTRIBUTION

Native: Bangladesh, Indonesia, Malaysia, Myanmar, Thailand
Exotic: India, Papua New Guinea, Philippines



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Poison: D. elliptica is used as a fish poison throughout southern Asia and the Pacific. The pounded root is considered the strongest fish poison in South-East Asia. Rotenone is used in fisheries in the Philippines, Bangladesh and India to remove predatory and other undesired fish from rearing pods. An extract from the roots of D. elliptica is reported to be employed as an ingredient of arrow poison in Borneo. The powdered root of D. elliptica is widely used as an insecticide.

Medicine: D. elliptica is traditionally used for antisepsis and applied to abscesses and against leprosy and itch, and sometimes as an abortifacient. In Thailand, the roots are also used as emmenagogue and the stems as a blood tonic.

SERVICES

TREE MANAGEMENT
The yield of dried D. elliptica roots is 1100-1800 kg/ha, occasionally up to 3000 kg/ha, particularly when plants are trellised.

GERMPLASM MANAGEMENT

PESTS AND DISEASES
Diseases: Some fungal diseases are reported to damage planted D. elliptica: a rust (Ustilago derrides), a Gloeosporium sp. That causes the shoots tips to die, and an unidentified fungal disease that attacks cuttings in nursery beds.

Pests: Pests are not serious and are easily controlled.

FURTHER READNG

CSIR. 1950. The Wealth of India: A dictionary of Indian raw materials and industrial products. Vol. II. CSIR.

Hamid A.1999. Derris Lour. In de Padua, L.S., Bunyapraphatsara, N. & Lemmens, R.H.M.J. (Eds.): Plant Resources of South-East Asia. No. 12(1): Medicinal and poisonous plants 1. Prosea Foundation, Bogor, Indonesia. pp. 235-240.

SUGGESTED CITATION

Orwa C, A Mutua, Kindt R , Jamnadass R, S Anthony. 2009 Agroforestree Database:a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp)