

LOCAL NAMES

English (vetch tree); Indonesian (kayu retak); Malay (daun berayai,betek,batai); Thai (khangten,fantae,di-ngu)

BOTANIC DESCRIPTION

Derris microphylla is a tree 5-20 m tall; crown feathery, branches ascending and umbrella-shaped; bark light grey to brown, slightly fissured; branchlets, petioles and buds golden-brown silky.

Leaves imparipinnate, petiole and rachis 9-20 cm long; petiolule 1-2 mm long; leaflets 19-43, elliptical-oblong, 1.5-3.2 x 0.8-1.2 cm, rounded-emarginate at both ends, both surfaces thinly appressed brown hairy, glaucous below.

Inflorescence an axillary raceme, 2-13 cm long, 1-3 together; flowers 7-8 mm long; pedicel 5-15 mm long; calyx campanulate; corolla dark-red to violet; standard 9 mm x 7 mm, bearing 2 glands at the base; stamens 10, monadelphous, 1 stamen free at the top and bottom adnate to stamen tube in center.

Pod flat, elliptical to linear-lanceolate, 2.5-7 cm x 1.2-1.7 cm, 1-2(-5) seeded, indehiscent, narrowed at both ends, glabrous to puberulous, leaf-like along dorsal suture with a 1-2 mm wide wing.

Seed 6 mm x 3 mm, brown-green.

Derris is derived from Greek, meaning leather covering or skin, specific epithet means small-leaved.

BIOLOGY

Vetch tree flowers from August-January in Java.

ECOLOGY

Locally common in secondary forest especially old ladangs in Upper Dipterocarp forest.

BIOPHYSICAL LIMITS

Altitude: 200-1 200 m

Soil type: The tree is tolerant of soils too poor for other species.

DOCUMENTED SPECIES DISTRIBUTION

Native: Malaysia, Myanmar, Thailand

Exotic:



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

Fuel: The tree is a source of firewood.

Timber: Wood is used as building material.

Medicine: A poultice of roots or bark is used to treat itch in Malaysia.

SERVICES

Erosion control: *D. microphylla* has a superficial root system that protects soils against erosion.

Shade or shelter: It is occasionally grown as a shade tree in cocoa, coffee and tea plantations especially on poor soils in Java.

Reclamation: The tree establishes well on poor soils and may be used for reclamation.

Soil improver: Vetch tree is used as green manure.

Ornamental: Its abundant purple flowers make it a distinctive ornamental tree.

TREE MANAGEMENT

Spacing recommended when planting for firewood and timber is 3 m x 3 m, with gradual thinning out to a final spacing after 10 years of 10 m x 10 m. Vetch is slow growing and requires little maintenance. It tolerates pruning and pollarding.

PESTS AND DISEASES

D. microphylla is attacked by the fungi *Ganoderma pseudoferreum*, *Rosellinia* and *Ustulina zonata* which affect its root system, and by several bagworm species.

FURTHER READNG

Burkill HM. 1994. Useful plants of West Tropical Africa. Vol. 2. Families E-I. Royal Botanical Gardens, Kew.

Faridah Hanum I, van der Maesen LJG (eds.). 1997. Plant Resources of South-East Asia No 11. Auxillary Plants. Backhuys Publishers, Leiden, the Netherlands.

Whitmore TC. 1972. Tree Flora of Malaya Vol. I. Forest Department, West Malaysia.

SUGGESTED CITATION

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