

Pycnanthus angolensis

(Welw.) Warb.

Myristicaceae

pycnanthus, lunaba, ilomba

LOCAL NAMES

English (pycnanthus,false nutmeg,cardboard,boxboard,African nutmeg); Igbo (oje,akwa-mili); Luganda (munaba,lunaba); Spanish (calabo); Trade name (pycnanthus,lunaba,ilomba); Yoruba (akomu)

BOTANIC DESCRIPTION

Pycnanthus angolensis is a tree to about 25-35 (40) m high and 60-100 (150) cm in diameter, occasionally more, evergreen; bole straight, cylindrical, without buttresses; bark grey, longitudinally fissured, flaking in patches, in old trees; slash reddish, exuding a sticky, honey-coloured sap turning red. Branches in whorls; twigs and foliage covered in rust-coloured felt.

Leaves 18-31 x 5-9 cm, usually with the margins nearly parallel, acuminate at apex, cordate at base, leathery, glabrous on the upper surface, densely covered beneath with a short rust-coloured felt which wears off with age. The leaves are so often eaten by insects that this is a characteristic feature; the midrib is very prominent beneath with the lateral nerves running at a wide angle to it and lopped close to the margin; stalk stout, about 1.3 cm long.

Flowers densely clustered at the ends of irregularly-branched panicles 7.5-15 cm long, upright among the leaves or slightly below them; branches stout, rust-coloured. Individual flowers cannot be easily distinguished, the clusters appear as a rust-coloured mass, but the stamens are conspicuous after the male flowers open.

Fruits (often occurring within the flowers) ellipsoid or almost spherical drupe, 2.5-3.8 cm long and 1.9-3.2 cm in diameter, often in dense clusters at the base of the twigs, opening by 2 valves and exposing a solitary black seed with a bright red aril much branched at the apex.

The generic name, *Pycnanthus* is derived from Greek, the literal meaning is 'dense flowers' and it refers to the numerous flowers crowded together.

BIOLOGY

The evergreen tree is monoecious, with the asexual flowers on different parts of the same branch. In its natural habitat the flowers are produced in October and November, at the same time as the previous years fruits are ripening. The fruits remain on the tree until about February. Dehiscence takes place on the tree, but many of the fruit clusters fall unopened.

Pycnanthus angolensis

(Welw.) Warb.

Myristicaceae

pycnanthus, lunaba, ilomba

ECOLOGY

P. angolensis is found in the moist lowland rainforests from West Africa to Uganda and Tanzania. The tree is mainly found in scattered fashion in the secondary formation of evergreen and semi-deciduous forests. When frequent in closed high forest it is usually an indicator of old secondary forest. It does not colonize in quantity but occurs as individuals in forest gaps and clearings. The boundaries of its natural range correspond to its minimum rainfall and a dry season of 3-5 months.

BIOPHYSICAL LIMITS

Altitude: 0-1 200 m

Mean annual rainfall: 1 300-1 800 mm

DOCUMENTED SPECIES DISTRIBUTION

Native: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Cote d'Ivoire, Gabon, Ghana, Guinea, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Tanzania, Togo, Uganda

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.

Pycnanthus angolensis

(Welw.) Warb.

Myristicaceae

pycnanthus, lunaba, ilomba

PRODUCTS

Fuel: The seeds burn like candles and seed oil is used as an illuminant in West Africa.

Timber: Wood is greyish-white or tinged with pink. It is light, very soft, of medium nervosity and shrinkage. Its natural durability is low, but it is easy to impregnate; mechanical properties are medium and it is easily machined. During seasoning the wood sometimes warps.

This easily worked, and straight-grained wood is used for veneer peeling, panels, furniture frames, box-making and minor joinery. In Cameroon it is split into rough planks for house building and roofing materials.

Lipids: Oil is extracted from the seeds and is used in making soap.

Medicine: Bark decoction is an emeto-purgative and can act as an antidote to poisoning; help treat leprosy and, if pounded, used for stomachic. Sap acts as a syptic (arrests bleeding). Leaf and bark help to relieve toothache. Leaf decoction as a drink or enema for dropsy. Seed fat and probably leaf juice is used in treating thrush. Root infusion acts as an anthelmintic.

SERVICES

Shade or shelter: In Uganda *P. angolensis* is often planted as a shade for bananas, coffee and cocoa.

Pycnanthus angolensis

(Welw.) Warb.

Myristicaceae

pycnanthus, lunaba, ilomba

TREE MANAGEMENT

P. angolensis is a sun-loving species with a medium rate of initial growth and an overall fast rate of growth. It reaches a height of 0.5 m in 1 year and 3-4 m in 4 years. At the age of 10 years the average height is 12-15 m, and reaches 20-25 m in 20 years. Early pruning is recommended.

The recommended planting density is 1 100 stems/ha. The first thinning should be carried out when the trees are about 7 years old to reduce the density to 300-350 stems/ha. Toward the age of 12 years a second thinning reduces density to 150-200 stems/ha. On good evergreen forest sites, the exploitable diameter of 50 cm is reached around the age of 30 years and that of 60 cm toward 45 years. At 15 years the mean volume increment is 15 m³/ha/year and at 30 years it is 10 m³/ha/year.

GERMPLASM MANAGEMENT

Seed storage behaviour is orthodox. There are about 500 seeds/kg.

Pycnanthus angolensis

(Welw.) Warb.

Myristicaceae

pycnanthus, lunaba, ilomba

FURTHER READING

- Abbiw D. 1990. Useful plants of Ghana. Intermediate Technology Publications and the Royal Botanical Gardens, Kew.
- Centre Technique Forestier Tropical. 1961. Monographie de l'Ilomba, *Pycnanthus angolensis* (Welw.) Warb. Publication No. 20 du Centre Technique Forestier Tropical. Norgent-sur-Marne. (Seine).
- Dupuy B, Mille G. 1993. Timber plantations in the humid tropics of Africa. FAO Forestry Paper. No. 98.
- Eggeling. 1940. Indigenous trees of Uganda. Govt. of Uganda.
- Hong TD, Linington S, Ellis RH. 1996. Seed storage behaviour: a compendium. Handbooks for Genebanks: No. 4. IPGRI.
- Katende AB et al. 1995. Useful trees and shrubs for Uganda. Identification, Propagation and Management for Agricultural and Pastoral Communities. Regional Soil Conservation Unit (RSCU), Swedish International Development Authority (SIDA).
- Keay RWJ, Onochie CFA, Stanfield DP. 1964. Nigerian trees. Vol. I. Department of Forest Research.
- Taylor CJ. 1960. Synecology and silviculture in Ghana. CJ Taylor.

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>)