

LOCAL NAMES

Filipino (u'pang); Indonesian (pete,petai papan,peuteuy); Javanese (petai gede,pete,segobang,petai pare); Malay (chou dou,petai,petah,patai,patag,nyiring,cong dou); Thai (sator,sataw,sator dan,sator kow,to dan,to khao)

BOTANIC DESCRIPTION

Parkia speciosa is a tree up to 15-40 m in height and 50-100 cm in diameter. Branchlets are hairy.

Leaves bipinnate on 2-6 cm long stalks with gland 7-15 mm above stalk base. Pinnae 10-19 pairs, 5-9 cm long, each with 31-38 pairs of opposite linear leaflets, 5-9 mm long and about 2 mm wide, with rounded tip and small pointed lobe or ear at base.

Flowers small and creamy white, found in densely crowded heads.

Pods large, 35-55 cm long and 3-5 cm wide, straight or more commonly twisted; dangling in small bundles, green becoming black. Each pod contains 10-18 large seeds. Valves swollen over seeds. Testa soft.

Robert Brown described the genus *Parkia* in 1826. He named it after Mungo Park, a Scot who made 2 remarkable journeys of exploration into the interior of West Africa in 1795-97 and 1805. The specific name, 'speciosa' is Latin for beautiful, showy.

BIOLOGY

P. speciosa is pollinated by bats, and birds disperse the seed pods. The peak flowering and fruiting season coincides with the period between August and October in its native range each year. There is also an observed smaller peak between January and March. Domesticated trees take up to 7 years to mature.

ECOLOGY

Parkia occurs in scattered lowland rainforests and sometimes also in tall secondary forest, on sandy, loamy and podzolic soils, also in waterlogged locations, in freshwater swamp forest and on riverbanks. The tropical lowland tree requires some shade when young.

BIOPHYSICAL LIMITS

Altitude: 0-1 000(1 400) m, Mean annual temperature: About 24 deg. C, Mean annual rainfall: 1 000-2 000 mm

Soil type: Prefers well drained loamy or clay-loam soils, but is also found in waterlogged soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Indonesia, Malaysia, Philippines, 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

Food: Seeds are sometimes used as a vegetable; they have a garlic flavour and a very strong odour. Due to the foul smell of the green seeds, they are sometimes referred to as the 'evil-smelling bean'. Half-ripe pods are pickled in salt. The young leaves and fresh parts of the flower stalks can also be eaten raw.

Fibre: The wood is used in the manufacture of paper.

Timber: Parkia yields a usually lightweight, occasionally medium-weight hardwood with a density of 350-810 kg/m³ at 15% mc. Heartwood white, yellow-white or pale yellowish-brown, with paler and darker streaks in older trees; not clearly differentiated from the rather wide sapwood, which is paler in colour; very occasionally, a darker-coloured core is present. Grain straight or slightly interlocked; texture moderately coarse and uneven. Wood with unpleasant garlic or beanlike odour when fresh. Shrinkage upon seasoning is low; degrading during seasoning is mainly due to insect attack and blue stain; end-checks have been observed in *P. speciosa*. Air-drying takes 3-4 months for boards 13 mm thick and 4.5-5 months for those 38 mm thick. Wood is non-durable with a service life of about 1 year, but preservative treatment is easy.

The wood of Parkia is used locally for temporary light construction, carpentry, furniture and cabinet making, mouldings, interior finish, cladding, concrete shuttering, boxes and crates, matches, clogs, disposable chopsticks and fishnet floats. General utility plywood has been manufactured from the wood.

Essential oil: Seeds of *P. speciosa* contain cystine.

Medicine: The seeds are known to be hypoglycemic (reducing blood sugar level), and is used traditionally for treating kidney pain, cancer, diabetes, hepatalgia, oedema, nephritis, colic, cholera and as an anthelmintic; also applied externally to wounds and ulcers. The seeds are also valued as a carminative.

SERVICES

Shade or shelter: *P. speciosa* is sometimes planted as a shade tree, for example, for coffee plantations and in nurseries.

TREE MANAGEMENT

For optimal growth ample space and light are necessary.

GERMPLASM MANAGEMENT

Seeds of *P. speciosa* lose their viability very rapidly.

PESTS AND DISEASES

Wood has no resistance to any kind of insect or wood borer attack or to wood-staining fungi; sapwood is susceptible to Lyctus borers. In the Far East, moth larvae (*Argyroplote illepida* and *Mussidia pectinicornella*) attack the seeds. The helmeted hornbill (*Rhinoplax vigil*) eats the fruits. In Malaysia, the banded leaf monkey (*Presbytis melalophus*) is known to eat the fruits as well as the flowers and buds. The black-banded squirrel and the slender squirrel are often seen stripping pieces of the outer bark from *P. speciosa* in Malaysia to eat the inner bark or cambium.

FURTHER READNG

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SUGGESTED CITATION

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