

Lagerstroemia speciosa

pyinma, arjuna

(L.) Pers.

Lythraceae

LOCAL NAMES

Burmese (gawknng-uchyamang); English (queen's flower, queen of flowers, queen crape myrtle, pride of India); Filipino (banaba); Hindi (arjuna, bondaro, challa, ajhar, jarul, varagogu, moto-bhandaro); Indonesian (bungur); Javanese (ketangi); Malay (bongor biru); Thai (tabaek dam, chuangmuu); Trade name (pyinma, arjuna); Vietnamese (b[awf]ng l[aw]ng n[uw][ows]c)

BOTANIC DESCRIPTION

Lagerstroemia speciosa is a deciduous or semi-deciduous small to medium-sized or rarely large tree up to 40(45) m tall; bole fairly straight to crooked, branchless for up to 18 m, up to 100(-150) cm in diameter, often fluted and sometimes with small buttresses, bark surface smooth or with small papery flakes, grey to light fawn-brown mottled, inner bark fibrous, grey-fawn to yellow, turning dirty mauve or purple upon exposure; crown usually bushy and spreading.

Leaves opposite, distichous, simple, entire, stipules minute or absent.

Flowers in a large, axillary or terminal panicle, often showy, calyx funnel or bell shaped, 6(9) lobed, petals often 6, inserted near the mouth of the calyx tube, white to pink or purple, clawed, wrinkled, stamens many, in several rows, ovary superior, 3-6 locular with many ovules in each cell, style 1.

Fruit a large woody capsule on the persistent calyx.

Seed with an apical wing.

The generic name commemorates M. Lagerstroem, 1691-1759, a Swedish patron of science and the specific epithet 'speciosa' is a Latin word for showy, referring to the flowers.

BIOLOGY

Trees shed leaves in the dry season. Saplings flower when only a few years old but viable seed production begins at 15 years old. Flowering is frequent, usually annually or even twice a year. Each flower lasts for only 2-3 days. In the Philippines, the tree flowers in April-June, in Java in July-October, and in Papua New Guinea in May-July, although flowers and fruits may be found throughout the year. Pollination is by large bees and seeds are dispersed by wind.



The tree is native of India. It is a medium-sized deciduous tree, generally up to 13 m in height. It is slightly messy, but there's no denying the beauty of the spectacular flowers in the summer. (Plant Creations)



The tree in blossom. (Plant Creations)

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ECOLOGY

It is found at low to medium altitudes in comparatively open habitats, in disturbed or secondary forest, grassland, and along rivers. The habitat may vary from well drained to occasionally flooded but not peat soil. It is resistant to fire.

BIOPHYSICAL LIMITS

Mean annual rainfall: 1200-2400 mm, Mean annual temperature: 25-28 deg.C

Soil type: The tree requires fairly fertile soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam

Exotic: Singapore



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.

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PRODUCTS

Fuel: The gross energy value of *L. speciosa* wood is 18 855-19 230 kJ/kg.

Timber: The medium-weight hardwood has a density of 505-810 kg/cu m at 15 % moisture content. Heartwood pale brown, yellow-brown, greyish or reddish to red-brown, not differentiated from the white or grey-white to yellow-brown, up to 8 cm wide sapwood. Grain straight or slightly interlocked, occasionally conspicuously wavy, texture moderately fine to rather coarse, lustrous. The timber is resistant to termites.

Tannin or dyestuff: Bark, fruit (14-17 %) and leaves (12-13 %) contain tannin.

Lipids: Seeds of *L. speciosa* yield an oil whose main constituents are linoleic (54.3%), a keto (9-ketooctadec-cis-11-enoic acid, 21.1%), oleic (10.3%), palmitic (9.7%) and stearic (4.6%).

Poison: Roots, stems and leaves contain hydrocyanic acid.

Medicine: A decoction of the bark is used against diarrhoea and abdominal pains. A leaf poultice is used to relieve malarial fever and is applied on cracked feet. A preparation from dried leaves, known as banaba, is widely used in the Philippines to treat diabetes and urinary problems.

SERVICES

Erosion control: Due to the tree's dense and widespreading root system, it is used in erosion control.

Reclamation: The tree has been used in reforestation of degraded hills in Java.

Ornamental: *L. speciosa* is cultivated for ornamental purposes and as a roadside tree.

Boundary or barrier or support: The tree is used as a support for rattan.

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TREE MANAGEMENT

In trials in Java, 15-year-old trees attained a mean annual increment of 0.9-1.1 cm in diameter and 0.7-0.9 m in height. In trials at 3 m x 1 m on fertile soil in Java the canopy closed after 6 years and the first thinning was necessary after 8 years. Due to poor natural pruning a spacing of 2.5 m x 1 m is recommended. At 15.5 years the clear bole yield in the trial was 47-55 m³/ha. It has been proposed to girdle trees 2 years before harvest to allow for easier seasoning. The tree coppices freely and is fairly resistant to fire.

GERMPLASM MANAGEMENT

There are 165 000-235 000 seeds/kg. Seed storage behaviour appears to be orthodox. Viability maintained after 2 years hermetic storage at room temperature. Germination increases during the first 3-12 months of storage (Hong et.al, 1996).

PESTS AND DISEASES

The fungus, *Rhizoctonia solani*, causes leaf web blight in forest nurseries.

FURTHER READING

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SUGGESTED CITATION

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