

## Anogeissus latifolia

button tree, axlewood

### LOCAL NAMES

Bengali (chakwa); English (button tree,ghatti tree,axlewood); Gujarati (dhave,dhendo); Hindi (bakli,bejjalu,chal,dhau,vekkali,dhawa,dhawra,dhemodo,uella-nagu); Nepali (banghi,bajhi,daura); Tamil (vekaynage); Thai (takhian-nu); Trade name (button tree,axlewood); Vietnamese (raam)

### BOTANIC DESCRIPTION

*Anogeissus latifolia* is a small to medium-sized tree up to 20(-36) m tall. Bole straight and cylindrical or sometimes more poorly shaped, branchless for 8(-10) m, up to 80(-100) cm in diameter, occasionally with small buttresses; bark surface smooth or with scales, pale to dark gray; branches drooping.

Leaves opposite or sub-opposite, variably distichous, simple, entire, exstipulate, with grayish-yellow or whitish hairs below.

Flowers sessile, in dense, globose heads on an axillary or terminal peduncle, 5-merous, small, sepals connate in a stalk-like tube, expanded at apex into a 5-lobed cup; petals absent; stamens 10, in 2 rows; disk intrastaminal, lobed; ovary inferior, 1-locular with 2 pendulous ovules, style simple.

Fruit a 2-winged pseudoachene, packed into a dense head, 1-seeded; calyx tube persistent and forming a beak.

The specific epithet *latifolia* is in reference to its wide leaves.

### BIOLOGY

In India, *A. latifolia* is leafless in February-May, flowers in June-September depending on locality, and mature fruits are present in December-March. Leaf flushing begins in the dry season, reaching a peak time before the onset of rains.

(Roxb. ex DC.) Wallich ex  
Bedome

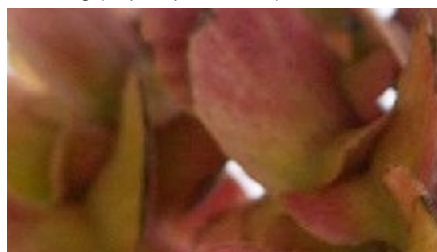
Combretaceae



tree (TopTropicals.com)



seedling (TopTropicals.com)



leaves (TopTropicals.com)

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### ECOLOGY

Found in deciduous or semi-evergreen forest, *A. latifolia* is a common element in teak forests but also occurs in the understorey of dipterocarp forest, in bamboo forest and even in vegetation under semi-arid conditions like savanna woodland and dry rocky hills. It is usually associated with *Albizia lebbeck*, *Dalbergia* spp., *Grewia tilaefolia*, *Albizia amara*, *Gyrocarpus jacquini* and *Mesua ferrea*.

### BIOPHYSICAL LIMITS

Altitude: up to 1 200 m

Mean annual temperature: 44 deg C

Mean annual rainfall: 625-2 250 mm

Soil type: Found on a variety of soil types but prefers deep alluvial soils. Does not tolerate waterlogging.

### DOCUMENTED SPECIES DISTRIBUTION

Native: India, Myanmar, Nepal, Sri Lanka

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.

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### **PRODUCTS**

**Fodder:** Tussar silkworms are fed on its foliage which is also used as fodder for cattle and buffaloes. *A. latifolia* leaves contain up to 45% digestible nutrients. The leaves contain 7.45-11.5% crude protein. The average digestibility coefficients of crude protein, ether extract, crude fibre, and N-free extract are 8, 53, 32 and 64 respectively. Total digestible nutrients per 100 kg of dry material work out to 48%. A seasonal variability in chemical composition of the leaves has been reported.

**Apiculture:** Its flowers are an important pollen source for bees.

**Fuel:** *A. latifolia* yields good charcoal and firewood with an energy value of 17 600-20 500 kJ/kg.

**Timber:** Produces a heavy hardwood with a density of 760-940 kg/cu m. Heartwood absent or small; texture fine to medium and even. Shrinkage upon seasoning is moderate to high, and the wood is difficult to season as it is liable to warping, splitting and surface checking. It is possible to modify surface checking completely by soaking in solutions of 50% polyethylene glycol-600 for 1 day. The wood is hard, strong, and can be difficult to saw. When mixed with other woods can make good packing and writing paper.

**Gum or resin:** Ghatty gum tapped from *A. latifolia* is a good substitute for gum arabic and is used in calico printing, for sweetmeats, in dye processes, and as a binding agent in pharmaceuticals.

**Tannin or dyestuff:** The leaves and bark are used for tanning, the leaves yield a black dye that is used commercially in India.

**Medicine:** Used in treating snake bites and scorpion stings in India.

### **SERVICES**

**Erosion control:** The tree is a good survivor on eroded land. Used in river bank stabilization.

**Soil improver:** Contributes to soil nutrient cycling, exhibiting high leaf-litter decomposition rates.

**Boundary or barrier or support:** Wood used for erecting fences on field bunds.

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### **TREE MANAGEMENT**

The leaves of the seedlings are killed by severe frost. Young trees are very intolerant of weed competition but can stand light shade when young, however, adult trees are strong light demanders. The tree produces root suckers, coppices and pollards well, but these exhibit great seasonal variability. Coppicing and pollarding should not be done during the rainy season. Thinning of coppice is necessary. *A. latifolia* is not very frost tender. Planting is done in 30 cu cm pits, usually after the monsoon rains (July-August). Planting operations must be suspended if no rain is expected for a few days after planting. Plantation areas need protection from animals.

### **GERMPLASM MANAGEMENT**

Fruits should be collected only when they are fully ripe as immature seeds fail to germinate. The ripe fruits are collected from the trees, dried in the sun and then stored. Generally seed viability is low but increases after very dry seasons. Seed germination is increased by a 3-min hot water seed treatment. Seed storage in metal tins or polythene containers is the best. There are 105 000-125 000 seeds /kg.

### **PESTS AND DISEASES**

The sapwood is susceptible to *Lyctus*, *Sarcinella apocynacearum*, *S. combratcearum*, *Tripospermum caseariae* and *T. lougurensis* are ectoparasitic fungi associated with living leaves. Both dead and dying trees are attacked by the stem borers, *Olenecamptus anogeissi* and *Olenecamptus indianus*. Wood products susceptible to marine borer attack mainly by the teredinids- *Teredo furcifera*, *Lyrodus pedicellatus*, *Martesia striata*, *Teredo parksi*, *Bankia campanellata* and *Lyrodus bipartitus*. The fungus *Uncinula* spp is reported in *A. latifolia*. Other fungi reportedly causing leaf spots are *Pestalotiopsis versicolor*, *Marssonina poonensis* and *Monochaetia jabalpurensis*.

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### **FURTHER READING**

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