

## Terminalia alata

laurel, Indian laurel

Heyne ex Roth

Combretaceae

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### LOCAL NAMES

Burmese (taukeyan); English (laurel, Indian laurel); Hindi (sadora, piasal, usan, amari, karimaridi); Lao (Sino-Tibetan) (suak 'mon, suak kieng, suak dam); Nepali (saj, asna); Thai (hok fa); Trade name (Indian laurel, laurel); Vietnamese (c[af] lich, c[aar]m li[ee]n, l[aw]ng)

### BOTANIC DESCRIPTION

*Terminalia alata* is a medium-sized to fairly large deciduous tree up to 35 m tall, bole up to 200 cm in diameter, bark surface with deep vertical fissures and transverse cracks, dark grey to blackish, inner bark reddish.

Leaves oblong to ovate-oblong, 7-20 cm x 4-10 cm, base obtuse, often oblique, apex rounded to acute, glabrous to tomentose, with 10-16 pairs of secondary veins, with a pair of stalked glands on the midrib near the base below, petiole 1-2 cm long.

Flowers in an axillary or terminal spike 6-15 cm long, calyx tube pubescent.

Fruit broadly ellipsoid, 4-6 cm x 2.5-5 cm, 5-winged, wings coriaceous, glabrous, 1-2 cm broad.

### BIOLOGY

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### ECOLOGY

*T. alata* is found in mixed deciduous forest, sometimes in dry dipterocarp forest.

### BIOPHYSICAL LIMITS

Altitude: Up to 1000 m.

Soil types: *T. alata* is found often on alluvial soils. For planting, *T. alata* requires moist soil conditions and deep, heavy, clayey soils.

### DOCUMENTED SPECIES DISTRIBUTION

Native: India, Myanmar, Nepal, 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.

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### **PRODUCTS**

Fodder: The leaves are used as fodder in Nepal.

Timber: The density of the dark brown wood is about 1040 kg/m cubic at 12% moisture content. *T. alata* is a valuable and commercial source of timber and may have potential in other South-East Asian countries. The wood is used as terminalia e.g. for house building, furniture, tool handles, and for underwater purposes. When quarter-sawn, the wood yields attractive veneer.

Tannin or dyestuff: The bark and especially the fruit yield pyrogallol and catechol to dye and tan leather.

Medicine: The bark is used medicinally against diarrhoea. Oxalic acid can be extracted from it.

### **SERVICES**

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### TREE MANAGEMENT

#### GERMPLASM MANAGEMENT

Seed of *T. alata* can be stored under ambient conditions for 2 years. The number of fruits per kg is 330-550 fruits.

#### PESTS AND DISEASES

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### **FURTHER READNG**

Boer E. et al. 1995. Terminalia L. In Lemmens, R.H.M.J., Soerianegara, I. & Wong, W.C. (Eds.): Plant Resources of South-East Asia No 5(2). Timber trees: Minor commercial timbers. Prosea Foundatiion, Bogor, Indonesia. pp 474-492.

CSIR. 1976. The Wealth of India: Raw materials. Vol X Sp-W. CSIR.

Hocking D. 1993. Trees for Drylands. Oxford & IBH Publishing Co. New Delhi.

Singh RV. 1982. Fodder trees of India. Oxford & IBH Co. New Delhi, India.

### **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>)