Tree factsheet

Acacia mangium Willd.

Tini Gumartini; edited by Leo Goudzwaard

taxonomy	
author, year	Willdenow, Carl Ludwig von, 1806
synonym	*Racosperma mangium* (Willd.) Pedley, 1987
family	*Fabaceae (*Subfamily *Mimosoideae)*
Eng. Name	black wattle, brown salwood, hickory wattle, mangium, sabah salwood, mangium wattle, mange, forest mangrove
other names	tange hutan, mangge hutan, Sabah salwood (Indonesia); biar (Papua New Guinea); krathin thepha, kra thin tepa (Thailand); maber (Philippines); mangium (Malay); zamorano (Spanish)
Dutch name	-
subspecies	
varieties	
hybrids	*A. mangium x A. auriculiformis*
references	Awang, Kamis and David Taylor, Eds. 1993. Acacia mangium Growing and Utilization. MPTS Monograph Series No.3.Bangkok, Thailand: Winrock International and FAO
	N.A.S. 1983d. Mangium and other acacias of the humid tropics. National Academy Press, Washington, DC
	CIRAD 2003 Tropix 5.0. Technological characteristics of 215 tropical species http://tropix.cirad.fr/asia/acaciamangium.pdf
	Lemmens, R.H.M.J.; Soerianegara, I.; Wong, W.C.; eds. PROSEA Project. 1995. Plant Resources of South-East Asia No.5 (2): timber trees: minor commercial timbers. Leiden, Netherlands: Backhuys Publishers. 655 p
	CAB International. 2005. The Forestry Compendium www.cabicompendium.org/fc
	www.hort.purdue.edu/newcrop/duke_energy/Acacia_mangium.html
morphology	
crown habit	oval
max. height (m)	up to 30-35
max. dbh (cm)	up to 50-90
actual sizes – location, country -	
oldest tree – location -	
leaf length (cm)	11-27 (3-10 cm broad)
leaf petiole (cm)	0.6-1
leaf colour upper surface	dark green
leaf colour under surface	dark green
leaves arrangement	alternate
flowering	March-May (Australia); April-July (PNG);June-July (Malaysia)
flowering plant	monocious
flower	hermaphroditic
flower diameter pollen cones	30-40 microns (note: this is diameter of polyad. *A. mangium* pollen comes in polyad form, each polyad consist of 16 pollen)
inflorescence description, length	loose spikes to 10 cm long
pollination	insects
fruit; length	7-8 cm long; 3-5 mm wide
fruit petiole (cm)	
seed; length (mm)	3-5mm x 2-3mm
seed-wing length (cm)	
weight 1000 seeds (g)	5.3-12.2 (Australia); 5.4-7.8 (Indonesia); 8.0-15.8 (PNG)
seeds ripen	October-September (Australia); July (Indonesia); October-November (PNG)
seed dispersal	Insects (e.g. Trigona and Apis spp)

habitat	
natural distribution	In Australia, species is found only in northern Queensland where it has a very limited distribution in two regions; from Jardine River (11º20'S) to Claudie River (12º44'S) and from Ayton (15º54'S) to south of Ingham (18º30'S). Disjunct distribution in New Guinea, Moluccas, Indonesian islands of Taliabu and Sanana.
introduced countries	Bangladesh, Cameroon, Costa Rica, Hawaii, Indonesia, Malaysia, Nepal, Papua, Philippines, South Africa, Thailand, Vietnam
area natural habitat (ha)	
soil type, water	tropical soils; granite soils; ferralsols; luvisols; red soils; alluvial soils; well-drained, deep soils
pH-KCl	4.5-6.5 (4.2-7.5)
soil fertility	tolerance to low soil fertility
light	shade intolerant
plant communities natural area	
climate	tropical dry to moist, subtropical dry to wet forest zones; best at areas with high rainfall
management	
status natural range	…
status introduced range	common plantation tree
first plantation outside natural range	
application	timber tree, erosion control, shade or shelter, nitrogen fixation, ornamental, intercropping
propagation	seed (direct sowing or in the nursery) and by air-layering cuttings, grafting and tissue culture
regeneration	stump plants; planting stock
optimal gap size for regeneration	
resprouting after cutting	yes
growth rate (M.A.I. in $m^3ha^{-1}y^{-1}$)	14-46; dbh 1.8-7.4 cm/year; height 1-5 (-7) m/year
diseases	Root rot (*Ganoderma sp*. and *Phellinus spp*); pink disease (*Corticium salmonicolor*); phyllode rust (*Atelocauda digitata*); heart rot (*Phellinus noxius*); sooty mold (*Irenopsis bergrennii*); leaf spot and leaf lesion (*Glomerella cingulata, Khuskia oryzae* and *Pestalotiopsis neglecta*); dieback; stem cankers (pathogens); *Thelephora ramarioides* Reid
insects	stem borer (*Zeuzera coffeae*), root pests (*Coptotermes curvignathus* and *Sternocera aequisignata*) and a shoot and stem girdler (*Sinoxylon sp*.); carpenter ants (*Camporatus sp*.), termites (*Coptotermes sp.*) and a Cerambycid wood borer (*Xystocera sp.)*
wood	
trade name	brown salwood, Acacia
wood structures key characteristics of pores	vessels (simple perforation, medium sized to moderately large, few to moderately few in number, mostly solitary, the rest in radial pairs and radial multiples of three; 6-8 vessels/mm2. diffused with a tendency to align in oblique lines, tyloses generally absent, gumlike deposits present)
density heartwood (kg/m^3)	avg 520 (420-690)* (at 12% moisture content)
elastic modulus (N/mm^2)	10.800*
fungi class durability heartwood	3-4; moderately to poorly durable
heartwood colour	dark brown
sapwood colour	light cream
contents	
products	firewood; sawn or hewn building timbers; for heavy construction; beams; containers; crates; boxes; woodware; industrial and domestic woodware; tool handles; brushes; turnery; furniture; veneers; wood based materials; particleboard; fibreboard; medium density fibreboard; pulp; charcoal
	* high variation observed depending on origin and tree age
non-timber products	
leaves	fodder, mulches
flowers	honey

Leaves and inflorescence © J.B. Friday, University of Hawaii