



Tree factsheet

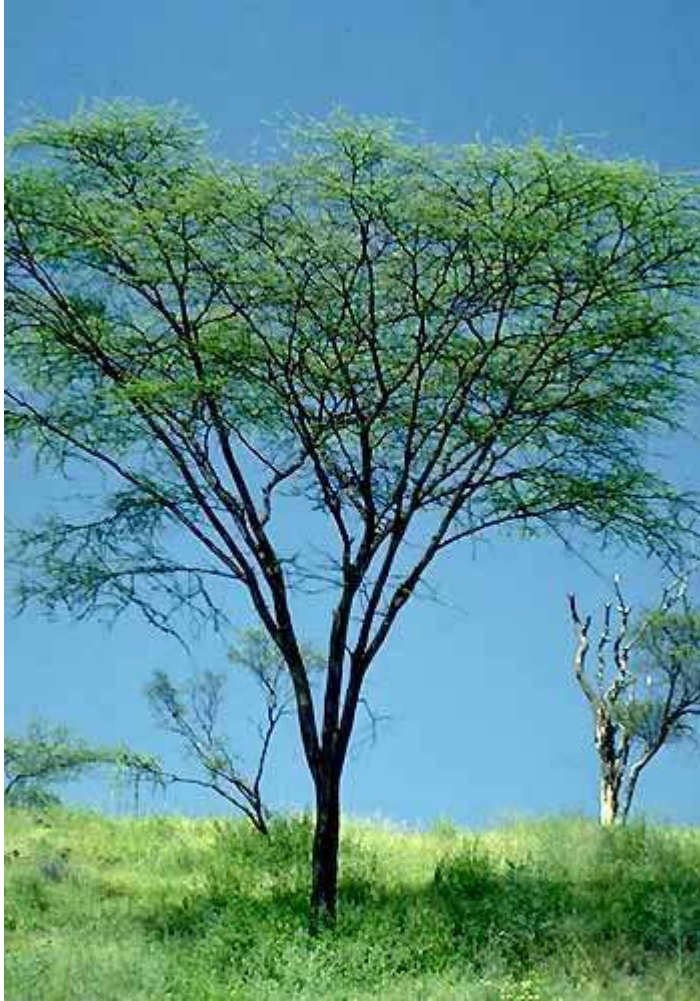
images at page 3

Acacia tortilis Hayne

Gabriel Muturi; edited by Leo Goudzwaard

Taxonomy	
Author, year	Hayne, ..
Synonym	<i>Acacia heteracantha</i> Burch., <i>Acacia fasciculata</i> , <i>Acacia raddiana</i> Savi, <i>Acacia spirocarpa</i> Hochst. ex. A. Rich., <i>Mimosa tortilis</i> Forsk.
Family	Fabaceae
English name	Umbrella thorn acacia
Other names	Mgunga (Swahili), Samar (Arabic)
Dutch name	N/A
Subspecies	<i>Acacia tortilis</i> subs. <i>heteracantha</i> ; <i>Acacia tortilis</i> subs. <i>raddiana</i> ; <i>Acacia tortilis</i> subs. <i>spirocarpa</i>
Varieties	<i>Acacia tortilis</i> var. <i>pubescens</i>
Hybrids	<i>Acacia tortilis</i> and <i>Acacia raddiana</i> hybridize where distribution overlaps
References:	Argaw, M., Teketay, D., Olsson, M., 1999. Soil seed flora, germination and regeneration pattern of woody species in an Acacia woodland of the Rift Valley in Ethiopia. <i>Journal of Arid Environments</i> 43, 411-435.
	Loth, P.E., de Boer, W.F., Heitkonig, I.M.A., Prins, H.H.T., 2005. Germination strategy of the East African savanna tree <i>Acacia tortilis</i> . <i>Journal of Tropical Ecology</i> 21, 509-517.
	Midgley, J.J., Bond, W.J., 2001. A synthesis of the demography of African acacias. <i>Journal of Tropical Ecology</i> 17, 871-886.
	Wickens G. E. 1995. Role of Acacia species in the rural economy of dry Africa and the Near East. <i>FAO Conservation Guide</i> 27
	Menwyelet Atsedu, D.L. Coppock and J.K. Detling. Fruit production of <i>Acacia tortilis</i> and <i>A. nilotica</i> in semi-arid Ethiopia. 1994. <i>Agroforestry System</i> 97 (1).
research projects	Gabriel M. Muturi: www.fem.wur.nl/UK/Research/Theme+1/muturi/ and: Ecophysiological basis of Prosopis juliflora invasion in the Acacia tortilis dominated Turkwell riverine forest, Kenya
Morphology	
Crown habit	umbrella shaped
Maximum height (m)	21m
Maximum dbh (cm)	-
Actual sizes, locality, country	-
Oldest tree – location	-
Leaf length (cm)	0.4-0.6
Leaf petiole (cm)	0.2-0.9
Leaf colour – upper surface	dark green
Leaf colour – lower surface	green
Leaf arrangements	bipinnate
Flowering	start of rainy season e.g. March and November in Kenya
Flowering plant	
Flower	
Flower diameter pollen cones	axillary, white to pale yellow, glabrous head on a peduncle of about 3cm long

Inflorescence description, length	
Pollination	insects
Fruit; length	
Fruit petiole (cm)	
Seed; length (mm)	
Seed-wing length (cm)	
Weight 1000 seeds (g)	100-500
Seeds ripen	
Seed dispersal	livestock, wild herbivores and water
Habitat	
Natural distribution	Angola, Botswana, Egypt, Eritrea, Ethiopia, Iran, Israel, Kenya, Mozambique, Namibia, Qatar, Saudi Arabia, South Africa, Sudan, Swaziland, Tanzania, Uganda, United Arabs Emirates, Zambia and Zimbabwe.
Introduced countries	Benin, Burkina Faso, Cameroon, Chad, Cote d'Ivoire, Gambia, Ghana, Guinea, India, Liberia, Mali, Mauritania, Niger, Nigeria, Pakistani, Senegal, Sierra Leone and Togo.
Area natural habitat (ha)	widespread
Soil type, water	well drained non acidic soils
PH – KCl	6.5-8.5
Soil fertility	tolerates salinity, water logging and poor soils
Light	shade intolerant
Plant communities natural area	riverine forests, Savannah woodlands and deserts shrubs
Climate	100-1000mm rainfall, 0-50°C (23.4-31.3°C is optimum)
Management	
Status natural range	wild and subjected to varying anthropogenic pressure
Status introduced range	
First plantation outside natural range	
Application	sand dune stabilization, nitrogen fixing, windbreak, erosion control
Propagation	direct seeding and through nursery seedlings propagation
Regeneration	episodic depending on availability of conducive seed germination environment
Optimal gap size for regeneration	
Resprouting after cutting (coppicing)	good
Growth rate (M.A.I.in m ³ ha ⁻¹ y ⁻¹)	
Diseases	
Insects	<i>Callosobruchus chinensis</i> , <i>Caryedon gonogara</i> (bruchid), <i>Sinoxylon anale</i> and <i>Sinoxylon crassum</i>
Wood	
Trade name	-
Wood structures key characteristics of pores	-
Density heartwood (kg/m ³)	580 (not specified as heartwood)
Elastic modulus (N/mm ²)	-
Fungi class durability heartwood	
Heartwood colour	reddish brown
Sapwood colour	white
Contents	tannin
Products	fuel wood, charcoal, timber, poles, fodder, medicinal, tannin, molluscicide and algicide
Non-timber products	
Leaves	fodder
Flowers	honey
Bark	string medium
Gum	Arabic gum



young tree in the savanna © E.C.M. Fernandes at www.css.cornell.edu



Acacia tortilis adult tree at Serengeti National Park. © F. Dickert at Wikipedia