Acacia polyacantha ssp. polyacantha

Willd.

Fabaceae - Mimosoideae

falcon's claw acacia

LOCAL NAMES
Afrikaans (witdoring); Arabic (um siniena,kakamut); Bemba (munganunshi,chunganunshi,chibombo); English (white thorn tree,African catechu tree); Lunda (chombwe); Nyanja (ngowe); Swahili (mkengewa,mgunga); Tigrigna (ghomoro); Tongan (mumbu); Trade name (falcon's claw acacia)

2.5-year-old trees growing on vertisols in Shinyanga, Tanzania (Anthony Simons)

BOTANIC DESCRIPTION
Acacia polycantha ssp. polycantha is a large, deciduous tree 3.5-20 m high; bark yellow-brown, inclined to be thick or peeling in thick, corky flakes and loose strips, giving the trunk a whitish appearance; prickles in pairs just below the nodes, sometimes absent from the branchlets, recurved, 2-8 (12 max.) mm, strongly hooked prickles on woody bosses that are sometimes on the trunk but more frequently on the branches; stipules not spinescent; rather slender hooked prickles, pale to dark brown, produced in pairs just below each node.

Petiole 5-4 cm long, usually with a conspicuous, flattened, discoid or oblong gland, rhachis puberulous or pubescent, rarely subglabrous, a gland at the junction of the top 3-17 pinnae pairs; pinnae (min. 6) 14-60 pairs; leaflets (min. 15) 25-68 pairs per pinna, small, 2-5 x 0.4-0.75 mm, narrow to narrowly triangular.

Inflorescence spicate, solitary or fascicled; spikes 3-12 cm long, on peduncles; flowers yellowish-white, sessile, appearing with the new leaves; calyx puberulous or pubescent, rarely subglabrous or puberulous, on the lobes only; corolla 2-3 mm long, subglabrous or puberulous.

Fruit a straight, flat pod, brown, rarely puberulous, dehiscent, 7-18 x 2.1 cm long, tapering to both ends; seeds 9-7 x 6-8 mm, compressed; central areole 3-4 x 2.5-3.5 mm.

The generic name ‘acacia’ comes from the Greek word ‘akis’, meaning a point or a barb. The specific name ‘polycantha’ is based on the Greek word for many thorns.

BIOLOGY
Like most acacias, flowering depends highly on the rains. The cream-white, sessile flowers are inserted in spikes up to 15 cm long. They are produced together with new leaves. After pollination by insects, straight fruits with distinctly narrow, thickened margin are developed within 6 months, fruits are tapered on both ends. When mature the pods turn greyish-brown. The seeding period can be observed approximately 6 months after flowering.

ECOLOGY
The species occurs in wooded grasslands, deciduous woodland and bushland, riverine and groundwater forests in altitudes between sea level and 1800 m. It prefers sites with a high groundwater table, indicating eutrophic and fresh soils. It occasionally prospers on stony slopes and compact soils. In Kenya, it can be found at the coast, in the central highlands and the lake region.

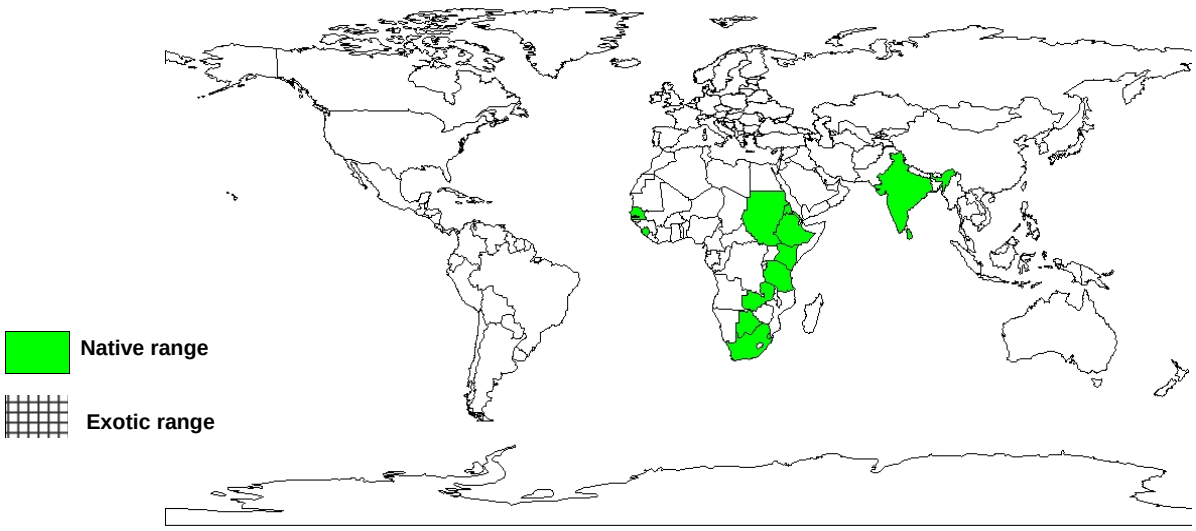
BIOPHYSICAL LIMITS
Altitude: 200-1 800 m, Mean annual rainfall: 300-1 000 mm

Soil type: Alluvial soils with a good mix of clay and sand. Occasionally found on stony slopes and compacted soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Botswana, Eritrea, Ethiopia, Gambia, India, Kenya, Senegal, Sierra Leone, South Africa, Sri Lanka, Sudan, Swaziland, Tanzania, Zambia

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.

PRODUCTS
Fuel: The wood of A. polyacantha ssp. polyacantha burns well, but the thorns make it difficult to handle.

Poison: The smell of the tree is useful repellent against snakes and crocodiles.

Medicine: Used as a remedy for snakebite and as an infusion in which to bath children who are restless at night.

Other products: In Tanzania and Zimbabwe the roots have the reputation of possessing considerable magical properties.

GERMPLASM MANAGEMENT
Seed storage behaviour is orthodox. A purity of 98% can be achieved. Seed weight depends on provenance and the climatic conditions of the ripening year. Mature and properly dried seeds can be stored in airtight containers at room temperature for at least 1 year, and at 10 deg. C for several years. Storing with insecticides is recommended. On average there are 15 000 seeds/kg.

FURTHER READNG

Beentje HJ. 1994. Kenya trees, shrubs and lianas. National Museums of Kenya.

Bein E. 1996. Useful trees and shrubs in Eritrea. Regional Soil Conservation Unit (RSCU), Nairobi, Kenya.

Coates-Palgrave K. 1988. Trees of southern Africa. C.S. Struik Publishers Cape Town.

Hines DA, Eckman K. 1993. Indigenous multipurpose trees for Tanzania: uses and economic benefits to the people. Cultural survival Canada and Development Services Foundation of Tanzania.

Hong TD, Linington S, Ellis RH. 1996. Seed storage behaviour: a compendium. Handbooks for Genebanks: No. 4. IPGRI.

Leeuwenberg AJM. 1987. Medicinal and poisonous plants of the tropics. Pudoc Wageningen.

MacDicken GK. 1994. Selection and management of nitrogen fixing trees. Winrock International, and Bangkok: FAO.

Mbuya LP et al. 1994. Useful trees and shrubs for Tanzania: Identification, Propagation and Management for Agricultural and Pastoral Communities. Regional Soil Conservation Unit (RSCU), Swedish International Development Authority (SIDA).

Noad T, Birnie A. 1989. Trees of Kenya. General Printers, Nairobi.

Sahni KC. 1968. Important trees of the northern Sudan. United Nations and FAO.

Storrs AEG. 1995. Know your trees: some common trees found in Zambia. Regional Soil Conservation Unit (RSCU).

Timberlake J. 1980. Handbook of Botswana Acacias. Ministry of Agriculture, Botswana.

Vogt K. 1995. A field guide to the identification, propagation and uses of common trees and shrubs of dryland Sudan. SOS Sahel International (UK).

SUGGESTED CITATION

Orwa C, Mutua A , Kindt R , Jamnadass R, Simons A. 2009. Agroforestree Database:a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/af/treedb/)