

Azanza garckeana

(F. Hoffm.) Exell et Hillc.

Malvaceae

LOCAL NAMES

Afrikaans (snotappel); Bemba (chinga,mukole); English (azanza,tree hibiscus,snot apple,quarters,wild hibiscus,African chewing gum); Lozi (muneko); Lunda (mukole); Ndebele (uxhakuxhaku); Nyanja (mkole); Shona (mutohwe); Swahili (mtobo); Tongan (muneko); Tswana (morajwa)

BOTANIC DESCRIPTION

Azanza garckeana is a deciduous shrub or small, spreading tree, 3-13 m high, with a diameter at breast height of up to 25 cm; bark rough, greyish-black, fibrous, with longitudinal fissures and brown to yellow slash; young branchlets stellate-tomentose, becoming glabrescent when mature.

Leaves alternate, palmate with 3-5 lobes, up to 20 x 20 cm; suborbicular in outline; stellate-pubescent to nearly glabrous above; densely pubescent to tomentose underside; lobes shallow and rounded or deep and acute, cordate at the base.

Flowers large, up to 6 cm long, solitary, yellow with a purple-brown centre, borne on long, jointed pedicels in axils of uppermost leaves; petals globose or obovoid capsules up to 4 cm long, 3 cm thick, opening in 5-6 thick, red and glutinous segments.

Fruit a globose, woody capsule, 2.5-4 cm in diameter, clearly divided into 5 segments, with red, silky hairs, the remains of the calyx and epicalyx at the base; seeds hemispherical, up to 10 mm long, 7 mm thick, with brownish and woolly floss.

The source of the generic name is obscure. The strips of desert coast extending below the equator in Africa were once known as the 'courses of Azania', the name Azania being based on a word meaning 'black and surviving in Zanzibar', and it is possible that 'azanza' is derived from this. The specific name 'garckeana' was given after Professor August Garcke (1819-1904), a German botanist.

BIOLOGY

Flowering takes place during the rainy season; fruit ripening occurs during the dry season. It takes about 6 months from flower fertilization to fruit ripening. In southern Africa, flowering occurs from December to May and fruiting from February to September.



Azanza garckeana (Patrick Maundu)

ECOLOGY

A. garckeana grows naturally in miombo wooded grasslands, open woodlands and thickets. It is widespread in tropical eastern and southern Africa. Commonly associated tree species include *Berchemia discolor*, *Cassia abbreviata*, *Cassia singueana*, *Combretum molle*, *Dalbergia melanoxylon*, *Ehretia* spp., *Grewia mollis* and *Tamarindus indica*. The tree is evergreen in the warmer areas but semi-deciduous in colder regions. *A. garckeana* is drought resistant but thrives with abundant water during the rainy season. It can withstand mild frost.

BIOPHYSICAL LIMITS

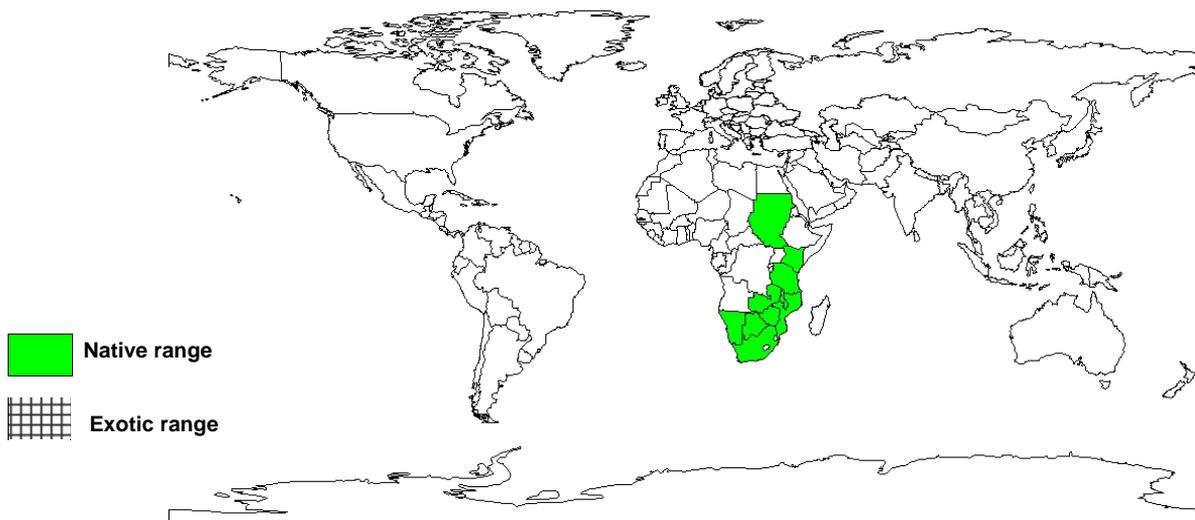
Altitude: 0-1900 m, Mean annual rainfall: 250-500 mm

Soil type: Prefers mostly light yellow-brown to reddish-yellow gritty, sandy clay loams, and often grows on black to dark grey and brown clays.

DOCUMENTED SPECIES DISTRIBUTION

Native: Botswana, Kenya, Malawi, Mozambique, Namibia, South Africa, Sudan, Tanzania, Zambia, Zimbabwe

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

Food: Ripe fruit carpels are edible and have an energy content of 8.10 kJ/g. A sweet mucilage comes out when chewed. The fruit may be eaten raw if gathered green and juicy and the rind is peeled off. Boiled, it is widely used as a relish or made into porridge. The fruit pulp at 52% dry matter contains 35% carbohydrates, 45% fibre, 1% fat, 12% crude proteins and 21 mg/100 g ascorbic acid. The leaves make a relish or can be burned to produce salts.

Fodder: Browsed by game and in the dry season by cattle.

Fuel: Provides valuable firewood.

Fibre: Good quality rope can be made from the fibres of the inner bark.

Timber: The deep brown mottled wood is used for making bows, tool handles, small pieces of furniture, implement handles and knife sheaths.

Medicine: A decoction is made from the roots and taken orally for painful menstruation and to treat coughs and chest pains. An infusion made from the roots and leaves is dropped into the ear to treat earache or taken orally as an antiemetic.

SERVICES

Shade or shelter: Groups of up to 15 trees can be planted in camps where shade is needed for cattle, small stock and game. It also makes an attractive garden shade tree.

Ornamental: *A. garckeana* makes a successful and interesting pot plant but must be kept in full sun.

TREE MANAGEMENT

The species requires large amounts of light; hence the planting site should be cleared before planting out. Intensive weeding is necessary during the 1st few years after planting. Annual fires wipe out most of the young seedlings and saplings. Therefore, protecting the woodland where the species grows naturally helps to propagate it. Coppicing is a suitable practice. The trees are reasonably slow growing, up to 600 mm/year in the warmer areas and up to 400 mm in areas receiving some frost.

GERMPLASM MANAGEMENT

Orthodox storage behaviour; dry seeds store well in cool circumstances.

PESTS AND DISEASES

The tree gets infested with leaf hoppers (Cicadollidae family) in both nursery and field. Control measures include use of malathion and dichlorophos. The tree is a host to the cotton stainer (*Dydercus nigrofasciatus*) and should therefore not be planted in cotton-producing areas.

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SUGGESTED CITATION

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