Syzygium guineense (Willd.) DC.

Myrtaceae

LOCAL NAMES
Amharic (dokma); English (waterpear,waterboom,water berry,snake bean tree,woodland waterberry,mountain waterberry,bi-coloured waterberry); Luganda (kalunginsanvu,muziti); Ndebele (umdoni); Shona (mukute); Swahili (mzambarau,msambaran,mzambarani,mzambarau mwitu,mzuari,mzambarai); Tigrigna (liham)

BOTANIC DESCRIPTION
Syzygium guineense is a medium-sized or tall evergreen tree, 15-30 m high. The bark varies in subspecies and is greyish-white or silver mottled and smooth in young trees, turning rough, flaky, creamy, light grey, dark brown or black in older trees. Bark scales in rectangular flakes and produces red, watery sap if cut; slash is fibrous, even pale brown to dark red-brown. Branchlets sometimes drooping. Crown rounded and heavy; stems thick and angular. Bundles of fibrous aerial roots, about 2 m up the bole, have been observed in Botswana.

Leaves narrow at both ends, length 5-17.5 cm, width 1.3-7.5 cm; simple, opposite, elliptic, lanceolate or ovate-elliptic; with margins that are untoothed and sometimes slightly wavy and rolled inward; apex obtuse to acuminate and rounded, occasionally notched; base cuneate; stalk short and grooved; midrib sunken on top, raised below, with many fine, lateral veins; glabrous, grey-green, tough, shiny; fragrant when crushed.

Flowers (filaments) 1.5 cm in diameter, sessile or subsessile, fragrant, creamy white; borne in terminal panicles forming heads up to 10 x 10 cm, or with 4-8 widely spaced flowers in branched heads up to 3 cm in diameter; calyx persistent with 4 petals; stamens numerous, about 6 mm long. Petals fall early but the white stamens are showy, making a conspicuous short brush or puff contrasting with the red or pink calyx tips.

Fruits ovoid or ellipsoid drupes, 1.2-3.5 cm x 1 x 2.5 cm, 2-3 celled, in bunches of 20 to 30, whitish-green when immature, turning to shiny purplish-black and juicy after ripening; 1-seeded. Seeds are 1.3-1.4 cm in diameter, yellowish to brownish and rounded.

‘Syzygium’ is derived from the Greek ‘syzygios’ (‘paired’), on account of the leaves and twigs that in several species grow at the same point. The specific name means ‘of Guinea’, where the tree was first collected. The common name ‘water pear’ refers to its preference for stream banks and to its wood, supposedly like that of a pear.

BIOLOGY
S. guineense is able to interbreed with other species in the genus. Pollination agents are insects. Where there are 2 rainy seasons, the species flowers twice: during the short dry season and towards the end of the long rains. In areas with 1 rainy season, the species flowers once, starting towards the end of the dry season and extending into the rainy season.

Syzygium guineense foliage (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

Syzygium guineense bark (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

Syzygium guineense slash (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

ECOLOGY
S. guineense usually occurs in lowland rain forests, mountain rain forests, fringing riverian swampy forests and open Brachystegia - Faurea woodland. It usually grows in moist conditions, sometimes even in water, and is usually found along streams and wadis and on rocky ground in high rainfall savannah.

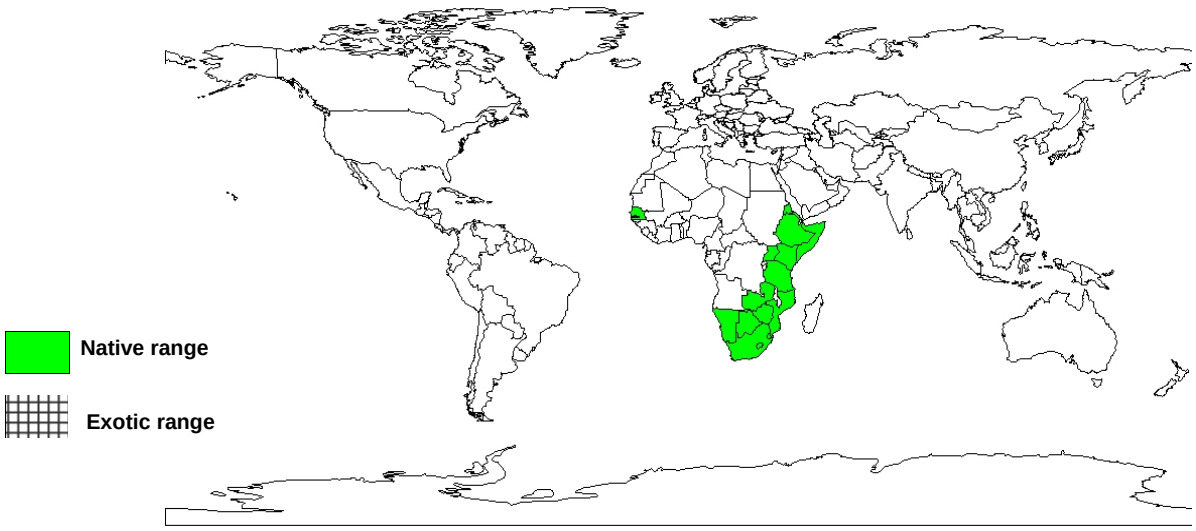
BIOPHYSICAL LIMITS
Altitude: 0-2 100 m, Mean annual temperature: 10-30 deg. C, Mean annual rainfall: 1 000-2 300 mm

Soil type: S. guineense prefers fresh, moist, well-drained soils with a high water table but will also grow in open woodlands.

DOCUMENTED SPECIES DISTRIBUTION

Native: Botswana, Eritrea, Ethiopia, Kenya, Lesotho, Mozambique, Namibia, Senegal, Somalia, South Africa, Swaziland, Tanzania, Uganda, 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: The ripe, pleasant-flavoured fruits of S. guineense are gathered and eaten.

Apiculture: Flowers provide good bee forage.

Timber: Syzgium guineense provides reddish-brown, hard, strong, durable wood, that is easy to work and is suitable for poles, posts and for building and bridge construction.

Medicine: Fruit is used as a remedy for dysentery, while a decoction of the bark is used as an antidiarrhoeic. In traditional medicine, liquid from the pounded bark and roots, mixed with water, is used as a purgative.

Poison: The poisonous bark has been reported to cause human deaths.

Fuel: S. guineense is used as firewood and in the production of charcoal.

Other products: Smoke from the burning wood is used to season milk containers.

SERVICES
Shade or shelter: The handsome evergreen tree is preserved in gardens for its deep shade.

TREE MANAGEMENT
S. guineense is planted on cleared sites, tolerates pollarding and is able to coppice. The species is sensitive to crown competition and is a strong light demander, thus it could be necessary to refine the crop in natural forests to distribute growth potential to trees.

GERMPLASM MANAGEMENT
Seed storage behaviour is recalcitrant with seeds being spoiled in less than 24 hours of storage. On average, there are 2 400 to 3 700 seeds/kg.

PESTS AND DISEASES
S. guineense is liable to attack by a cerambicid beetle larva, which makes the timber defective. Inflorescence is frequently attacked by insects, in which case flowers do not develop and a spherical greenish-yellow head, 7.6-10.2 cm in diameter, is formed instead of the normal panicle. Vervet monkeys eat buds and flowers.

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SUGGESTED CITATION

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