

Hymenocardia acida

Tul.

Euphorbiaceae

LOCAL NAMES

Bemba (kapempe); French (digbe,coeurs-volants); Luganda (nabaluka)

BOTANIC DESCRIPTION

Hymenocardia acida is a small savannah tree or shrub about 9 m high. Branchlets become rusty brown as the bark peels. The bole is short, often flattened and usually crooked. The branches form a fairly heavy, somewhat rounded crown. Bark smooth or flaky, pinkish-brown when fresh but becoming pale brown or grey later.

Leaves thin, leathery, elliptic-oblong up to 8.75 cm long and 3.75 cm broad, apex obtuse to rounded, base obtuse; petiole slender, up to 1.8 cm long. Leaves usually pubescent when young with a dense mat of fine hairs and with golden glands beneath.

Flowers unisexual, male flowers reddish-yellow occurring in clusters of spikes up to 6.5 cm long; calyx cupular, red, anthers creamy white. Female flowers green, placed on axils of leafy lateral branches and bearing a prominent crimson stigma spreading about 1.25 cm.

Fruit compressed, obcordate and reddish-brown, 2.5 cm long and 2.5-3.75 cm broad. Developing in pairs along one edge, each with a thin pale brown nearly square wing.

Seed flattened, glossy brown.

The generic name *Hymenocardia* is derived from the Greek words 'hymen' - membrane and 'kardia' - heart, in reference to the heart-shaped fruits which have a transparent covering membrane (hymen). The specific epithet *acida* describes the sour taste of its fruits. Some authors consider the genus under the family Hymenocardiaceae.

BIOLOGY

H. acida is dioecious, male and female flowers occurring on different trees. In Zambia flowering starts from September-November. Seeds mature from June-September.



Hymenocardia acida slash (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)



Hymenocardia acida foliage (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)



Hymenocardia acida foliage (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

ECOLOGY

H. acida is commonly found in savannah, scrub and open woodland in association with *Parinari curatellifolia*, *Isoberlinia*, *Stereospermum kunthianum*, *Parkia clappertoniana* and *Protea madiensis*. Dry seasons last long in its natural range.

BIOPHYSICAL LIMITS

Altitude: 500-1 200 m

Soil type: Can grow on sandy, loam and clayey soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Angola, Cameroon, Chad, Congo, Cote d'Ivoire, Gambia, Ghana, Guinea-Bissau, Kenya, Mali, Mozambique, Niger, Nigeria, Senegal, Tanzania, Togo, 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 sour fruits are relished by children.

Fodder: Wildlife browse on the young shoots and leaves.

Apiculture: The flowers provide nectar and pollen to bees.

Fuel: The tree is used as firewood and for charcoal making.

Timber: The sapwood is ivory-white and the heartwood pink to light-brown darkening to orange on exposure. The wood is hard, close grained, very durable and termite resistant. Used for hut poles, stockades, and for making pestles and mallets.

Tannin or dyestuff: The bark is used for tanning in central Africa.

Medicine: Tannins from *H. acida* stem bark are used to treat diarrhoea and dysentery and show good activity. In Zambia the bark is used in concoctions as remedy for an unspecified disease condition, in east Africa the plant is used in treating wounds. Root bark extracts exhibited cytotoxicity against the 60 human cell lines of the National Cancer Institute (NCI). *H. acida* extracts demonstrated a marked antibacterial activity against *Klebsiella pneumoniae*.

SERVICES

Erosion control: *H. acida* protects surrounding soils.

Shade or shelter: *H. acida* is a good shade tree.

Soil improver: The leaf litter ameliorates soil physical and chemical properties.

Intercropping: *H. acida* casts a moderately light shade which is unlikely to fully deprive other crops of essential light.

Other services: *H. acida* is used magically for psychosocial ailments.

FURTHER READNG

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SUGGESTED CITATION

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