Vangueria infausta

Burchell

Rubiaceae

LOCAL NAMES
Afrikaans (wildemispel,grootmispel); English (wild medlar); Swahili (viru,mviru,muiru,mtiegu); Zulu (umViyo)

BOTANIC DESCRIPTION
Vangueria infausta is a deciduous tree 3-8 m in height with a short trunk and hanging branchlets. Bark pale grey-brown, peeling in untidy flakes; branches usually opposite with reddish tomentose young branchlets.

Leaves dull green, opposite, rusty tomentose, medium to large, 5-24 x 3.8-15 cm, shape varying from ovate or obovate to lanceolate or rounded; net-veining, conspicuous below. Leaf apices either obtuse or sub-acuminate; base tapering; margin entire; petiole 3-10 mm long. Leaf stalks short, 5-10 mm long; stipules long, between young leaves.

Flowers about 4 mm long and 6 mm in diameter, hairy, profusely borne on opposite and axillary cymes; petals yellow-green, the corolla falling early to leave 5 triangular sepals less than 2 mm long on the young green fruit; buds pointed.

Fruit subglobose, glossy, 3-6.5 x 3.5-6 cm, greenish when unripe, turning brownish after ripening and with a soft fleshy pulp. The fruit bears a characteristic star-shaped scar from the remains of the calyx. It contains 3-5 hard-coated seeds, 2-3 cm long, 1-5 cm wide.

The generic name ‘Vangueria’ is derived from a Malagasy word, and ‘infausta’ means unlucky; making fire with the wood is taboo.

BIOLOGY
In southern Africa, the tree flowers from September to November and fruits from November to April.

Flowers (Botha AD)

The fruit is crowned with a circular scar left by the calyx. (Botha AD)

The bark is grey and smooth, becoming roughish and longitudinally grooved with age. (Botha AD)

ECOLOGY
V. infausta is found in all types of woodland, especially on rocky ridges and hillsides or in wooded grassland; also near the sea on sand dunes. It can withstand long periods of drought and frost. Widely distributed in savannah-like communities derived from forest (including forest remnants), and often in rocky or sandy places.

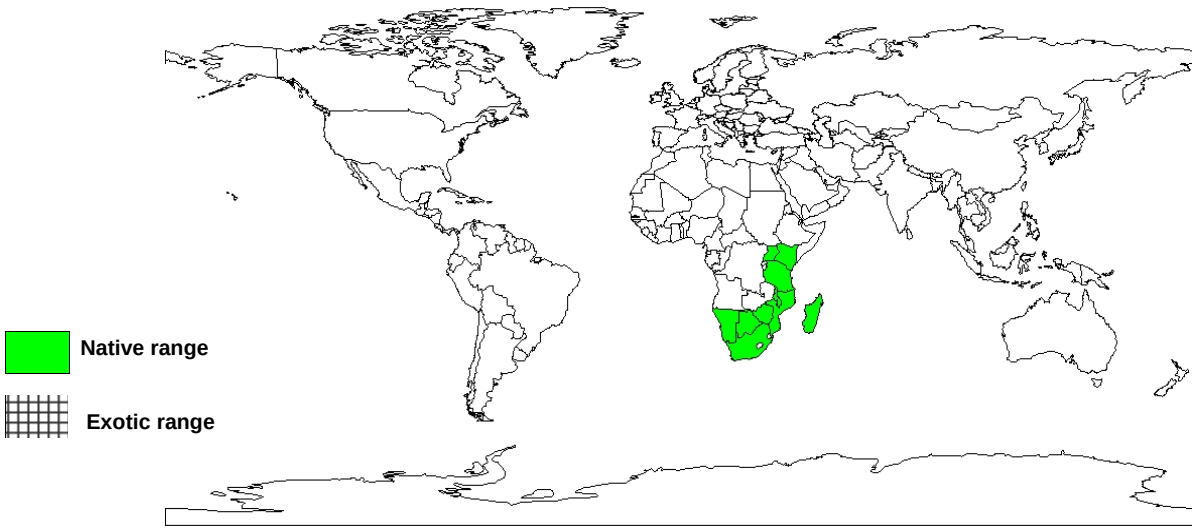
BIOPHYSICAL LIMITS
Altitude: 350-1 250 m, Mean annual temperature: 17-28 deg.C, Mean annual rainfall: 1 000- 1 500 mm

Soil type: Prefers red or yellow-red, gritty sandy clay loams (latosolic soils) and brown clay loams. Also found on red to dark red friable clays with laterite horizon and on coral-rag soils derived from granites and granodiorite rocks.

DOCUMENTED SPECIES DISTRIBUTION

Native: Botswana, Kenya, Madagascar, Malawi, Mozambique, Namibia, South Africa, Tanzania, Uganda, 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 fruits are eaten raw and the pulp sometimes soaked in water and then dried to use later. The pulp, when mixed with a little sugar and water, makes a good substitute for applesauce; it has a sweet and slightly sour taste. Each 100 g fresh fruit contain 3.7 g vitamin C, 1.4 g protein, 28 g carbohydrate, 28 mg sodium, 0.61 mg nicotinic acid and high levels of calcium and magnesium. Seeds can be eaten roasted.

Fodder: The leaves of V. infausta are seldom browsed by cattle, but very much so by goats, and the leaves and young branches are eaten by elephant, giraffe, kudu and nyala. Red-footed squirrels, bushbabies, vervet monkeys and baboons eat the fruit on the tree, and bushpig eat it on the ground.

Fuel: V. infausta is a good source of firewood.

Timber: Poles for houses, agricultural implements and handles are some of the ways in which the wood is utilized.

Alcohol: In South Africa, farmers distil ‘mampoer’ from the ripe fruit.

Medicine: Traditional healers use the roots for a variety of illnesses such as malaria and pneumonia. An infusion made from the roots is used to treat coughs and other chest troubles. A decoction from the root is used as a purgative and an anthelmintic (especially for Ascaris), and is also a popular snakebite remedy. The pounded leaves are applied to tick-bite sores on livestock and dogs to speed up healing. A poultice made of the leaves is used to treat swellings on the legs and inflammation of the navel in children. An infusion of the leaves is used in treating abdominal pain and for the relief of dental pain. In southern Africa, a decoction is used as a remedy for menstrual troubles.

TREE MANAGEMENT
Young plants transplant well but must receive regular watering for the 1st 5 weeks after transplanting. They are light demanding, and the growth rate is usually slow; 40-50 cm/year. Groups of V. infausta can be planted scattered in fields, near water points and along homestead fences. The flowers attract insects, which in turn attract insect-eating birds.

GERMPLASM MANAGEMENT
Seed storage behaviour is orthodox; seed can retain viability for up to 1 year in storage if dried properly. There are about 500 seeds/kg.

PESTS AND DISEASES
Fruit-eating birds feast on the abundant ripe fruit, sometimes leaving only the skin for the hungry traveller. Small gall-like growths that may appear on the leaf surfaces are caused by a species of fungus.

FURTHER READNG

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

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

FAO. 1983. Food and fruit bearing forest species. 1: Examples from Eastern Africa. FAO Forestry Paper. 44/1. Rome.

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.

Kokwaro JO. 1976. Medicinal plants of East Africa. East African Literature Bureau.

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).

Tietema T, Merkesdal E and Schroten J. 1992. Seed germination of indigenous trees in Botswana. Acts Press.

Venter F, Venter J-A. 1996. Making the most of Indigenous trees. Briza Publications.

Watt JM, Breyer-Brandwijk. 1962. Medicinal and poisonous plants of southern and eastern Africa. E & S Livingstone Ltd.

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/)