

PESTICIDAL PLANT LEAFLET

Zanthoxylum holtzianum (Engl.) P.G. Waterman.



Taxonomy and nomenclature

Family: Rutacea

Synonym: *Fagara holtzianum*

Vernacular/ common names

(English): Coral knobwood, lime Prickly ash, wild lime

(Kiswahili): Mjafari

(Giriama): Mdungu/Msasa

(Digo): Mjafari dume



Distribution and habitat

Zanthoxylum holtzianum (Engl.) syn. *Zanthoxylum fagara* (Engl.) is a tree, 2-15 m tall, endemic to Tanzania, native to temperate and sub-tropical regions in the world. In Africa, it is distributed in Tanzania, Kenya and Mozambique. It grows in woodlands, semi-evergreen bushlands and coastal forests or in thickets on coral rock. It grows best exposed to the sun, is drought tolerant, surviving in deserts. In Kenya it is present in Arabuko Sokoke forest,

Gede forest, Kaya Kinondo, Diani forest, Mrima hill, Shimoni, Mwasangombe forest and Sankuri hill in Lamu.

Uses

Pesticidal – It contains a variety of compounds; alkaloids, amides, flavonoids, lignans, sterols and terpenes, which can be used as biopesticides.

Medicinal – Dry root powder is used as a porridge to treat convulsion in Tanzania. The root extract is drunk or inhaled to treat hardened abscesses. Root powder or scrapings used as a dressing. Leaf sap is also drunk for treatment of malarial fever.

Botanical description

It is a shrub or small tree 2-15m in height and up to 35 cm in diameter. Trunk is corky with 3.5-5 cm bosses. Branches are glabrous with straight prickles, 2-7 mm long. Leaves are 7-9 foliolate, oblong-elliptical to ovate leaflets, obtuse to shortly acuminate at apex. Lateral leaflets have 1.5-4 mm long petiolules. Flowers are branched terminal, clustered of 4 on pedicels, 1-4 mm long, unisexual on different trees. Petals are white, 1.5-3 mm long. Male flowers with 4 stamens, variable in length, ovary rudimentary. Female flowers without staminoides, with superior ovary, 2 carpels partly united.

Fruit and Seed description

Fruits are spherical, 5 mm in diameter, greenish to reddish brown, densely gland-dotted. Seeds present in capsules. Unopened capsules discharge seeds when dry. Seeds can also be removed from capsules by winnowing or screening.

Flowering and fruiting habit

In Kenya, flowers appear between May and June. Fruits appear between July and September with fruits being ripe in August.

Propagation

Propagation is through seeds, stems and root cuttings. Seeds may be soaked in soapy water for 2 hours to soften seed coat for rapid seed germination and should be sown soon after collection, best from trees exposed to the sun.

Safety measure

Always use gloves, protective clothing and caution when handling and applying plant materials to field crops or stored commodities and minimise exposure of consumers. Avoid contact with the skin. In case of accidental contact, immediately wash the affected area with clean running water.

Selected readings

Colima, Lime Prickly Ash, Wild Lime, Una de Gato, Corriosa. *Benny Simpson's Texas Native Shrubs*. Texas A&M University.

Hyde, M.A., Wursten, B.T., Ballings, P., Dondeyne, S. & Coates Palgrave, M. (2014). *Flora of Mozambique: Species information: Zanthoxylum holtzianum*.

Lovett, J. & Clarke, G.P. 1998. *Zanthoxylum holtzianum*. The IUCN Red List of Threatened Species. Version 2014

2012 Conservatoire et Jardin botaniques & South African National Biodiversity Institute. African plant database.

Authors: P. Anjarwalla, Belmain, S., R. Jamnadass and P. Stevenson

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