

Ocotea usambarensis

East African camphor wood, camphor

Engl.

Lauraceae

LOCAL NAMES

English (East African camphor wood, camphor); Swahili (mkulo); Trade name (East African camphor wood, camphor)

BOTANIC DESCRIPTION

Ocotea usambarensis is a large tree, 3.5-36 (max. 45) m high with a spreading crown and stem diameter of (min. 1.25) 3.75-9.5 m. Bole straight, slightly fluted, buttressed at the base, unbranched for 9-15 m. Bark grey or reddish brown, much fissured, granular, scaly and flaking off in small round patches or thick squares; slash white or faintly pink with a characteristic sweet scent.

Leaves opposite (alternate on sucker shoots), simple, elliptic to elongate-ovate or almost round, 4-16.5 cm long, 2.5-9 cm wide, dark green above, whitish below and camphor scented; margin rolled under in mature leaves, glabrous to shortly tomentose or pubescent with spreading ferruginous hairs, rounded to sharply acuminate at the apex, cuneate, rounded or truncate at the base, venation closely reticulate above, lateral nerves impressed above; veins wavy and brown; petiole 0.5-2.2 cm long.

Cymose panicles tomentellous, axillary and terminal, 1.2-2.5 cm long, greyish or ferruginous, pubescent; peduncles 2-5 cm long; pedicels less than 2 mm long; bracts ovate about 2 mm long, obtuse, densely pubescent, soon deciduous. Perianth green, whitish or yellow, pubescent, about 1.5 mm long; inner lobes ovate, outer elliptic-oblong, 3 mm long, spreading. Separate male and female flowers, 8-10, each 5 mm long, yellow-white-green, hairy, stalked, held in a calyx cup. Stamens of hermaphrodite flowers with linear filaments as long as anthers; stamens of 3rd whorl with yellow, subglobose sessile or shortly stalked glands inserted on either side at the base; staminodes filiform, 1 mm long with dark tip. Female flowers with stamens and staminodes much reduced. Ovary ovoid, glabrous; style slender, 1 mm long; stigma discoid.

Fruit a glabrous drupe, ellipsoid or globose, 8-11 x 1-6.5 mm, borne in a cup 4-6 mm wide and 2-3 mm long, smooth and green when mature; pedicel thickened below cup. Seeds very small and surrounded by pulp.

BIOLOGY

In Kenya, flowering can be observed in February in Chogoria Forest, and in May and June in Ragati Forest.



Seeds of *Ocotea usambarensis* (Thomas Raussen)



8-year-old stand: The tree on the left is about 6 m tall. Kinale, Kenya. (Bernard Kigomo)



Bark (Gerard D. Hertel, West Chester University, www.forestryimages.org)

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ECOLOGY

O. usambarensis is found in diverse mountain forest associations, the so-called ocotea forest. The tree is distributed throughout East Africa and common in wetter forests. Where it occurs naturally, there is a distinct dry season of 2-3 months, but with mist or clouds present throughout the year. It is found mainly in Kenya and Tanzania and sparsely in Uganda. In Kenya, it occurs on the moist slopes of the Aberdares, Mt Kenya, Taita Hills and Nyambene; it was once a dominant tree in the wet forests of these areas but is now rare everywhere. In Uganda, it occurs in upland and mountain forests, commonly in the Impenetrable (Bwindi), Kalinzu and Kasyoha-Kitomi Forests. In Tanzania, it occurs on Mt Kilimanjaro, the Usambara, Pare and Uluguru Mountains, and in Tukuyu and Iringa.

BIOPHYSICAL LIMITS

Altitude: 1600-2600 m, Mean annual rainfall: 1600-2450 mm, Mean annual temperature: 12-26 deg.C

Soil type: *O. usambarensis* prefers deep, fertile soils with good drainage.

DOCUMENTED SPECIES DISTRIBUTION

Native: Kenya, Tanzania, Uganda

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.

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PRODUCTS

Fuel: *O. usambarensis* is a good source of firewood and charcoal.

Timber: The heartwood is light yellowish-brown, darkening to a deep brown on exposure; sapwood slightly paler, not clearly demarcated. The texture is medium to fine and even; grain interlocked producing a stripe figure; sometimes lustrous; timber has a distinct camphor scent. The wood seasons well and is resistant to acids and fungi but not to termites. It can be used for furniture, railway-coach frames, joinery, panelling, building poles and the production of veneer.

Medicine: Bark or roots are pounded, water added and the resulting paste applied on swellings such as those on the throat and other tumours. Inner bark may be pounded, mixed with *Brucea* spp and *Myrica salicifolia* and taken in a meat soup as a remedy for abscess, whooping cough and measles. In Kenya, the Taita people boil the bark in water and use it to treat a fatal childhood disease called 'nyago' characterized by strong muscular contractions, stomach pains and disturbed breathing, or it may be scraped and the resulting powder used to dress wounds. Malaria and backache are treated using juice obtained from roots that have been pounded and soaked in water.

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TREE MANAGEMENT

O. usambarensis is fast-growing and responds well to coppicing.

GERMPLASM MANAGEMENT

Seed storage behaviour is recalcitrant, but seed can be stored in containers with moist sawdust for a few days. On average, there are 15 000-20 000 seeds/kg.

PESTS AND DISEASES

Gall insects heavily attack fruits, and the wood is susceptible to termites.

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FURTHER READING

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