

Ricinodendron heudelotii

musodo, erimado, corkwood

(Baill.) Pierre

Euphorbiaceae

LOCAL NAMES

English (ground nut tree,cork wood,African wood-oil nut tree,African wood,African nut tree); French (bois jasanga); German (afrikanisches Mahagoni); Swahili (muawa); Trade name (musodo,erimado,corkwood); Yoruba (erimado)

BOTANIC DESCRIPTION

Ricinodendron heudelotii is a fast-growing tree, reaching up to 50 m in height and 2.7 m in girth; bole straight with short buttress; bark grey, smooth at first, becoming scaly with ageing; slash dark red, densely mottled with scattered pits and orange stone-cell granules.

Leaves alternate, digitately 3-5 foliate; leaflets sessile or subsessile, glandular, denticulate, often white-felted on the underside at 1st with stellate pubescent hairs, becoming glabrous; obovate to obovate-elliptic; apex long-acuminate; base cuneate; stipules large, foliaceous, persistent, deeply toothed.

Inflorescence yellow tomentose; male panicles up to 41 cm long; female panicles shorter and stouter; male flowers with 5 sepals, a 5-lobed corolla tube and 10 stamens; female flowers with stellate tomentose ovary and 2 styles, slender and bipartite.

Fruit indehiscent, 2-3 lobed, 2 celled, with a thick, hard shell and a smell of overripe apples; contains 2-3 red-brown-black seeds, rounded, flat, over 1 cm across.

Two varieties are recognized: *R. heudelotii* var. *heudelotii* in Ghana, and *R. heudelotii* var. *africanum* in Nigeria and westwards. The generic name is based on the Greek words for tick and tree because the seeds were thought to resemble ticks.

BIOLOGY

In Sierra Leone, flowering takes place in April and May, and the fruits, which are produced abundantly, are mature in September and October. The tree is leafless for a few weeks while the fruits fall. In open light spaces it will bear fruit in the 7th-10th year. Bats, hornbills and rodents are said to assist in seed dispersal. The capsule also breaks open and scatters seeds in all directions. It is also eaten by elephants.



Seeds are eaten to spice up soups and stews in west Africa, and used as a peanut substitute in Europe (Anthony Simons)



Farmers nursery near Yaounde, Cameroon (Anthony Simons)

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ECOLOGY

R. heudelotii is a tree of the fringing, deciduous and secondary forests common throughout the semi-dry, wooded-savannah zone of the region. From lower Senegal to west Cameroon and Fernando Po, to Democratic Republic of Congo, Angola and Tanzania, where it is found scattered in gaps at forest edges and in secondary scrub and thickets.

BIOPHYSICAL LIMITS

Altitude range: 100 - 1200 m

Mean annual rainfall: 1400-3500 mm

Mean annual temperature: 18 - 32°C

Soil: Prefers medium textured, freely draining/acidic soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Angola, Benin, Cameroon, Congo, Cote d'Ivoire, Democratic Republic of Congo, Gabon, Ghana, Guinea-Bissau, Kenya, Liberia, Nigeria, Senegal, Sierra Leone, Tanzania, Togo, Uganda, Zambia

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

Food: The seeds are edible but are not valued as food in all areas where it grows. The kernels can be eaten after boiling in water, or in sauce as in Cote d'Ivoire, or mixed with fish, meat or vegetables. In Gabon kernels are roasted and made into a paste.

Fuel: Wood of *R. heudelotii* is not popular as a fuel as it burns very quickly.

Fibre: *R. heudelotii* is perhaps suitable for paper pulp.

Timber: The dull, white wood is fibrous, soft, light and perishable. Used for rough planks, coffins, fishing net floats and rafts for heavy timbers. It is curved into fetish masks, spoons, ladles, plates, platters, bowls, dippers and stools. In the Democratic Republic of Congo, the wood is used for making drums, which are said to be very sonorous, and in southern Nigeria, Gabon and Angola, it is carved to make the whole or the resonant parts of musical instruments. In Ghana, it is currently recommended for use in insulation, and the sawdust is suitable for use in sun helmets.

Tannin or dyestuff: In Guinea the ash is used in indigo dyeing.

Lipids: Seed kernel is oil bearing and contains about 47% by weight of oil consisting of the fatty acids eleostearic 44%, oleic 16%, and 10% each of palmitic, stearic, linoleic and linolenic. The oil is light, yellow, drying, has a sweet taste, is usable in varnish and soft soaps and has industrial application in waterproofing materials.

Medicine: In Nigeria, root when ground up and mixed with pepper and salt bark is used for constipation. The Temne of Sierra Leone tie to the body bark that has been beaten and warmed to cure elephantiasis. Pregnant Liberian women take a bark liquor to relieve pains and prevent miscarriage. In Cote d'Ivoire, a root-bark decoction taken by mouth is considered a powerful antidiarrhoeal medicine. A bark decoction is taken in Gabon for blennorrhoea and painful menstruation and as a poison antidote.

Other products: The seeds are used in Sierra Leone in rattles for bundu dances. They are also used in by Nigerian Igbo in a game called 'okwe', and in Cameroon one called 'songo'. In Gabon, people of the interior relish a small, white mushroom, dibindi, which grows on the dead trunks.

SERVICES

Soil improver: The cake from seed-oil extraction is a good nitrogenous fertilizer.

Ornamental: *R. heudelotii* is a popular avenue tree in Uganda.

Intercropping: When not grown in pure stands, it has always been intercropped with coffee, cocoa or bananas.

Shade or shelter: *R. heudelotii* is a popular shade and shelter for cacao (*Theobroma cacao*) in smallholder cocoa cultivation areas in West and Central Africa.

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TREE MANAGEMENT

Stand establishment is mainly through direct sowing and planting stock. The species is suited for coppicing and pollarding.

GERMPLASM MANAGEMENT

The seeds are liable to insect attack and therefore ash is added to reduce insect damage before storing in a cool, dry place. There are about 5200 seeds/kg.

FURTHER READING

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SUGGESTED CITATION

Orwa C, A Mutua, Kindt R, Jamnadass R, S Anthony. 2009 Agroforestry Database: a tree reference and selection guide version 4.0 (<http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp>)