

**LOCAL NAMES**

English (macaranga)

**BOTANIC DESCRIPTION**

*Macaranga kilimandscharica* is a small to medium semi-deciduous tree 4.5-18 m, or large tree up to 27 m, often with a pyramidal crown, much branched, branches ascending, or with a broad, spreading crown. Bark green at first, later becoming greyish white, light or dark grey. Stem smooth or longitudinally striated or fluted, with fluted stems. Young shoots and inflorescence-axes densely ferruginous tomentellous at first, later glabrescent.

Leaves triangular-ovate, base cuneate, rounded, truncate or rarely subcordate, occasionally peltate, apex acuminate, 5-15 cm x 3-10 cm. 3-7 nerved from the base, rusty -tomentellous but glabrescent, densely glandular-punctate beneath.

Inflorescence 2-10 cm long, cyathia yellow-green. Male inflorescence paniculate, bracts ovate-lanceolate, 8-15 cm long, 2-3 mm wide, male flowers subsessile, stamens 2, filaments fused basally, anthers obscurely 4-5-lobed, 0.5 mm across. Female inflorescence racemose to subpaniculate, female flower pedicels 1-2 mm long, calyx cupular splitting into 2-3 lobes which flatten as the fruit matures, ovary 1-2 lobate, 1-1.5 mm long, 1-2 mm wide, densely yellowish granulate-glandular.

Fruit dull green, subglobose or 2-lobed, 4-6 mm x 5-11 mm densely glandular, 1-seeded.

*M. kilimandscharica* is placed in the tribe Acalypheae and has close affinities with the genus *Acalypha*.

The generic name is after a Madagascan native name and the specific epithet *kilimandscharica* refers to Mt. Kilimanjaro area of Tanzania.

**BIOLOGY**

*M. kilimandscharica* is a dioecious prolific seeder. Three species of turacos the great blue turaco (*Corythaeola cristata*), the Ruwenzori turaco (*Musophaga johnstoni*) and the black-billed turaco (*Tauraco schuettii*) reportedly disperse over 80% of ingested seeds away from parent trees.

**ECOLOGY**

*M. kilimandscharica* is a fast growing pioneer species of montane evergreen forest, and may be locally common to dominant in wetter vegetation types. It regenerates vigorously in clear-felled areas, secondary forest, forest edges, riverine forest and disturbed places. Usually associated with *Albizia gummifera*, *Polyscias fulva* or *Vernonia subuligera*, it often replaces selectively logged *Ocotea usambarensis*.

**BIOPHYSICAL LIMITS**

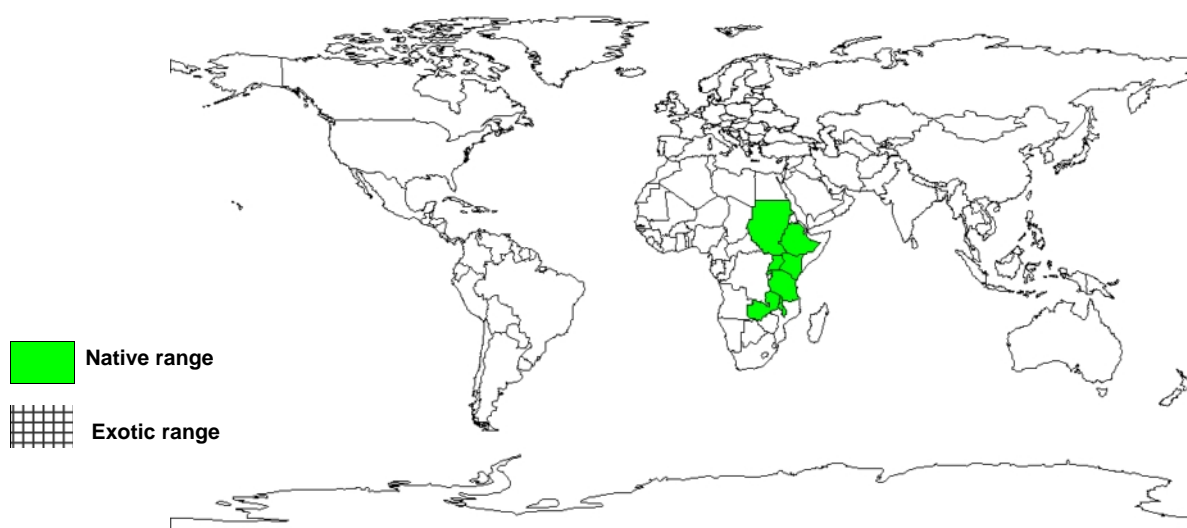
Altitude: 1 300-3 000 m, Mean annual rainfall: 1 500-2 500 mm, Mean annual temperature: 18-26 deg.C

Soil type: Loamy well drained soils.

**DOCUMENTED SPECIES DISTRIBUTION**

Native: Democratic Republic of Congo, Ethiopia, Kenya, Malawi, Rwanda, Sudan, Tanzania, 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.

**PRODUCTS**

Fuel: Macaranga is used as a firewood source.

Timber: Wood pink, soft, straight grained; weight 54-68 kg/cu ft, difficult to saw and apt to split in seasoning. Has been used for boxes and crates in Kenya.

Medicine: Root extracts are drunk for bilharzia treatment, the root decoction is drunk as a cough remedy and the leaf decoction for stomach ailments.

**SERVICES**

Erosion control: This is a useful pioneer species with potential use in protecting soils on logged sites.

Shade or shelter: *M. kilimandscharica* has a broad dense crown providing deep shade.

Soil improver: Leaf litter from the tree enriches surrounding soil.

Boundary or barrier or support: Dry wood from macaranga have been used for fencing.

Intercropping: Regeneration of *Ocotea usambarensis* is good under *M. kilimandscharica*. Macaranga is one of the species used in the complex multistoreyed Chagga homegardens. The high species diversity in these gardens minimises drought, pest and economic risks associated with monocultural farm systems. The species is also used as a coffee shade tree in the Ethiopian highlands.

**TREE MANAGEMENT**

M. kilimandscharica is a fast growing tree with little management needs once established. When still young care should be offered against injury and drought.

**FURTHER READNG**

Awoke TC. 1997. The culture of coffee in Ethiopia. *Agroforestry Today*. 9(1): 19-22.

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

Chin Sun et al. 1997. Effectiveness of three turacos as seed dispersers in a tropical montane forest. *Oecologia*. 112(1):94-103.

Smith AR. 1987. Euphorbiaceae (Part 1). In: *Flora of Tropical East Africa*. AA Balkema, Rotterdam.

**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>)