

LOCAL NAMES

English (caracas rattlebox); Thai (hinghai); Vietnamese (s[uj]c s[aj]c soc,s[uj]c s[aj]c cao)

BOTANIC DESCRIPTION

Crotalaria micans is a shrub up to 4 m tall; young branches angular, appressed pubescent.

Leaves trifoliolate; petiole 3-5 cm long, longitudinally grooved above; stipules linear, 0.5-7 mm long, caducous; leaflets oblong-lanceolate to narrowly elliptic, 4-10 cm x 1-4.5 cm, apex acute to acuminate or obtuse, base cuneate, lower surface and midrib above puberulous, upper surface glabrous, lateral leaflets slightly smaller than terminal one.

Inflorescence a rather dense, 15-30 flowered, terminal raceme, 15-30 cm long, often leaf opposed; bracts linear, about 1 cm long, very early caducous; pedicel 5-9 mm long; bracteoles similar to bracts but smaller, inserted just above the middle part of the pedicel, flowers bisexual, 5-merous, 12-18 mm long; calyx 8-13 mm long, appressed puberulous, tube campanulate, 5-6 mm long, bilabiate and 5-lobed, lobes longer than the tube, upper lobes triangular-acuminate, often coherent at the tips with the lateral lobes and woolly on the inside of the margins; corolla 14-18 mm long, yellow, purplish-veined.

Fruit an inflated, short-stipitate pod, sub-cylindrical, 3-4 cm x 1 cm, appressed puberulous, brown, dehiscent, with 16-20 seeds.

Seed unequal-sided heart-shaped, about 4.5 mm x 3.5 mm, fine papillate, yellowish-brown.

The genus name '*Crotalaria*', meaning rattle, is describes the noise made by the seeds shaking in mature pods. The specific epithet means gleaming or with a slight metallic luster.

BIOLOGY

Flowers bisexual. Seeds mature 7 months after sowing for instance in Indonesia.

ECOLOGY

C. micans is a species of savannas and other open places. The shrub tolerates a wide range of climatic and soil conditions. It grows in lowland areas generally and requires full sunlight. In high elevations, seed production is poor.

BIOPHYSICAL LIMITS

Altitude: 0-2 600 m

Soil type: *C. micans* is suited to damp places.

DOCUMENTED SPECIES DISTRIBUTION

Native: Colombia, Mexico, Panama

Exotic: Democratic Republic of Congo, Indonesia, Madagascar, Malaysia, Sri Lanka, Thailand, United States of America, Vietnam



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

Fodder: Young shoots and leaves are used as fodder for cattle; unlike many other *Crotalaria* spp., it is reported to be highly palatable and non-toxic. Young vegetative material contains 23% crude protein.

SERVICES

Erosion control: The shrub can be grown for erosion control.

Nitrogen fixing: *C. micans* forms root nodules with *Bradyrhizobium* spp. and fixes nitrogen.

Soil improver: The shrub is grown as a green manure and cover crop in plantations of coffee, tea, tobacco and rice. It is easily incorporated into the soil and decomposition is rapid.

Ornamental: Characterized by terminal inflorescences on which the large flowers are grouped tightly with prominent, long curled bracts and bracteoles, it is widely grown as an ornamental.

TREE MANAGEMENT

Early growth of *C. micans* is fast and can cover soil in 3 weeks after germination and reach 2.5 m after 3 months. It reseeds itself once established. *C. micans* can be cut repeatedly provided it is not cut too low and a few leaves per stem are left. Yields of 40 t/ha fresh material 4 months after planting have been reported from Java, containing about 150 kg nitrogen.

GERMPLASM MANAGEMENT

There are 55 000 seeds/kg.

PESTS AND DISEASES

Fungal diseases caused by *Corticium salmonicolor* and *Sclerotium rolfsii* have been reported in Java. It is a host to *Lasiodiplodia theobromae* affecting both cacao and tea. The *Crotalaria* bug (*Ragnus importunatas*) living on the underside of leaves and branch tips causes yellowing of leaves, which can be serious. The dadap fungus (*Septobasidium bogoriense*) grows on the base of the stem, making it susceptible to other diseases.

FURTHER READING

Faridah Hanum I, van der Maesen LJG (eds.). 1997. Plant Resources of South-East Asia No 11. Auxillary Plants. Backhuys Publishers, Leiden, the Netherlands.

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Windler DR and McLaughlin L. 1980. *Crotalaria*. In: Dwyer JD et al (Eds.): *Flora of Panama Part 5. Family 83, Leguminosae*. *Annals of the Missouri Botanic Garden*. 67: 606-607.

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>)