

Crotalaria trichotoma

Bojer

Fabaceae - Papilionoideae

LOCAL NAMES

English (West Indian rattlebox, curare pea)

BOTANIC DESCRIPTION

Crotalaria trichotoma is an erect annual or short-lived perennial herb, up to 2.7 m tall, stem ribbed, appressed puberulous.

Leaves trifoliate, without stipules; petiole 2-5 cm long; leaflets lanceolate to elliptical-oblong, 4-14 cm x 1-4 cm, base acuminate, apex acute or rounded, glabrous or rarely puberulous above, appressed puberulous below.

Inflorescence a terminal raceme, 30-40 (-90) cm long, flowers many, closely arranged; pedicel 4-8 mm long; calyx becoming truncate at base and deflexed against the pedicel, 4-6 mm long, glabrous or thinly appressed puberulous, the 5 lobes reduced to small, widely spaced teeth.

Pod shortly stipitate, sub-cylindrical, inflated, (30-) 35-45 mm x 7-11 mm, black when ripe, appressed puberulous, 50-70-seeded.

Seed obliquely heart-shaped, 2-3 mm long, smooth, orange-buff or terracotta.

The genus name '*Crotalaria*', meaning rattle, is indicative of the noise made by the seeds shaken in the mature pods. The specific epithet means having divisions always in threes in reference to the leaves.

BIOLOGY

C. trichotoma flowers are believed to be pollinated by insects before they open, suggesting cleistogamy and self-incompatibility.



Flowers at Ulumalu Haiku, Maui, Hawaii. (Forest & Kim Starr (USGS))



Fruit at Ulumalu Haiku, Maui, Hawaii. (Forest & Kim Starr (USGS))



Branch with flowers and pods at Haiku, Maui, Hawaii. (Forest & Kim Starr (USGS))

ECOLOGY

C. trichotoma is a plant of the humid tropics. It grows on grassy sites in coastal forest clearings, bushland, *Brachystegia* woodland, grasslands, roadsides and cultivated fields. It is fairly tolerant to drought.

BIOPHYSICAL LIMITS

Altitude: 0-1 800 m

DOCUMENTED SPECIES DISTRIBUTION

Native: Mozambique, Tanzania

Exotic: Angola, Argentina, Sri Lanka, Taiwan, Province of China, 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: Leaves and stems are very nutritious and are readily eaten by cattle and horses. They contain no alkaloids unlike many other species in the genus. It is grown for fodder often mixed with grasses.

Fibre: Bark contains fibre that can be used for cordage.

SERVICES

Reclamation: *C. trichotoma* performs better on degraded and compacted soils than other green manure crops and can be used for reclamation.

Soil improver: The plant is grown as green manure and cover crop in tea, coffee, rubber and citrus plantations.

Intercropping: It has been used as an intercrop with annual crops such as maize.

TREE MANAGEMENT

Planting in strips 0.3-1 m apart is recommended. Weeding twice is generally required before the crop covers the ground, which occurs after 3-4 months. Once established, *C. trichotoma* propagates abundantly by self-seeding. It is short-lived and does not tolerate frequent heavy lopping. Cutting should be done at a height of 40-60 cm above the ground, always leaving a few leaves.

PESTS AND DISEASES

C. trichotoma is severely attacked by the fungus *Parodiella spgazzinii*, which covers the upper surface of the leaves with a black soot-like layer causing them to curve upwards. It is occasionally ravaged by *Helopeltis antonii* and less severely by *Deiopeia pulchella*.

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.

Gillet JB et al. 1971. Leguminosae (Part 4), Sub-family Papilionoideae (Part 2). In: Flora of Tropical East Africa. Crown Agents, London, UK.

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>)