

LOCAL NAMES

Bengali (harikakra); English (bucayo, coral bean, erythrina, swamp immortelle, purple coral-tree); Filipino (anii, korung-korung); French (bois immortel, immortelle blanche, immortelle blanc); Indonesian (cangkring, kane, rase); Javanese (cankring, cangkring); Khmer (rolouohs p-ông); Lao (Sino-Tibetan) (thong 'lang, th'o:ng hla:ng); Malay (dedap, dadap); Spanish (amapola, swamp immortelle, piñón del cauto, piñón francés, bucayo, búcare); Thai (thong lang nam, thong long); Vietnamese (v[oo]ng gai, c[aa]y son dong, v[oo]ng d[oo]ng)

BOTANIC DESCRIPTION

Erythrina fusca is a medium to large spreading tree, reaching 10-15 (max. 26) m tall; crown rounded; trunk short, spiny (spines 1-2 cm long), much branched, sometimes buttressed to 2 m; bark brownish-grey or olive-brown, flaky; branches spreading, spiny; branchelets stout, spineless or aculeate.

Leaves alternate, trifoliate; stipules and stipels orbicular, caducous; petiole up to 25 cm long, sometimes sparsely prickly; rachis up to 5 cm long, petiolule up to 1.5 cm; leaflets ovate to elliptical.

Inflorescence racemose, terminal, appearing when leaves are present, with pale brick-red or salmon flowers in fascicles scattered along the rachis, covered with deciduous, ferruginous hairs, mostly unarmed peduncle up to 13 cm long; rachis 8-30 cm long; pedicel up to 2 cm long; stamens 10, 4-6 cm long, 1 free, 9 united in lower half into staminal tube; pistil 4-6 cm long; ovary densely pubescent.

Fruit a woody, linear compressed pod, dehiscent, slightly constricted between 3-15 seeds; stipe stout, 1.5 cm long; beak 2 cm long, velvety, ferruginously hairy when young, later glabrescent; seeds oblong-ellipsoid, 12-18 x 5-8 mm, dark brown or black.

Erythrina comes from the Greek word 'eruthros'-red, alluding to the showy red flowers of the *Erythrina* species. The specific name, 'fusca', is a Latin word for tawny or brownish-grey.

BIOLOGY

The tree flowers when in leaf, and the flowers are frequently visited and pollinated by nectarivorous birds. The fruits mature in approximately 2 months. Hybridization is frequent with other *Erythrina* species. The seeds of *E. fusca* float in water and at times have been dispersed by ocean currents.

ECOLOGY

E. fusca is a pioneer species, most commonly found on the outer margins of swamps on sites that are not permanently flooded.

BIOPHYSICAL LIMITS

Altitude: 0-2 000 m, Mean annual temperature: 16-24 deg C, Mean annual rainfall: 1 200-3 000 mm

Soil type: It seems to prefer littoral locations with badly drained soils like swamps and stream banks and upland riverine marshes. In an experiment, *E. fusca* has shown better performance on acid soils of pH 4.3 and aluminum saturation of 80%.

DOCUMENTED SPECIES DISTRIBUTION

Native: Bolivia, Brazil, Colombia, Costa Rica, Guatemala, Honduras, Peru, Venezuela

Exotic: Australia, Comoros, India, Indonesia, Madagascar, Malaysia, Philippines, Tanzania



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

Food: The young leaves are eaten as a vegetable in Java and Bali, and the flowers in Guatemala.

Fodder: In Central America, *E. fusca* is used as a source of fodder.

Fuel: Farmers occasionally use the dry branches of *E. fusca* as fuelwood despite claims that the branches do not burn well and produce a lot of ash. It is used more because it is available rather than because it is preferred.

Poison: The presence of ant-repellent compounds in the nectar has been reported.

Medicine: The bark is used as a poultice on fresh wounds, and bark or root decoctions against beriberi.

SERVICES

Shade or shelter: *E. fusca* is often planted as a shade tree in cocoa and coffee plantations in Central America and less frequently in Southeast Asia.

Reclamation: The feasibility of using *E. fusca* in reforestation projects in the tropics as a nurse tree for other tree species is an alternative that can be explored.

Soil improver: In Bahia, Brazil, it has been observed that cocoa trees planted near *E. fusca* produce more pods than those growing farther away from the shade trees. This is attributed to increased litter fall in plantations with this species, which adds to the available amounts of nitrogen and phosphorus in the soil.

Ornamental: Like many *Erythrina* species, *E. fusca* is often planted for ornamental purposes.

Boundary or barrier or support: In Costa Rica, *E. fusca* is occasionally used in live fences although much less commonly than *E. berteroana* and other *Erythrina* species. The tree is also used as a support for black pepper vines.

Intercropping: Where rainfall is irregular and sometimes below 1000 mm per year, *E. fusca* has been noted to persist in prolonged drought without losing its leaves, recirculating nitrogen, phosphorus and potassium from prunings. It is therefore a promising species for agroforestry systems in such areas where it would be intercropped with maize and cassava.

TREE MANAGEMENT

Established trees stand regular pruning very well. They start sprouting rapidly and develop strong shoots. *E. fusca* is managed under a moderate regime of pruning if it is grown as a shade tree for cocoa. The trees are partially pollarded once every 1-2 years, leaving a few branches per tree to regulate light influx to the crop. A 6-month pollarding cycle is used for trees supporting black pepper vines.

GERMPLASM MANAGEMENT

Seed storage behaviour is orthodox.

PESTS AND DISEASES

In India increased numbers of root-knot nematodes (*Meloidogyne incognita*) have been observed in cardamom plantations with *E. fusca*. Two species of borer insects have been found: the stem borer (*Betocera* spp.) and a ring borer (Family Lecanidae). In pepper plantations in Sumatra, stakes of *Erythrina* spp. are frequently attacked by stem borers. The damaged stakes may fall over and the pepper may not produce fruits properly. Under conditions of high relative humidity, fungi such as *Calostibe striipora* may attack the bark of *E. fusca*.

FURTHER READING

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SUGGESTED CITATION

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