Delonix regia

(Hook.) Raf.

gold mohar

Fabaceae - Caesalpinioideae

LOCAL NAMES
Amharic (dire dawa zaf); Arabic (goldmore); Bengali (chura,radha); Burmese (seinban); Creole (poinciana royal); English (flamboyant flame tree,gold mohur,flame tree,julu tree,peacock flower,flame of the forest,gul mohr,flamboyant,royal poinciana); French (royal,flamboyant,poinciana); German (fammenßaum,Feuerbaum); Hindi (kattikayi,peddaturyl,gulmohr,shima sunkesula); Spanish (flor de pavo,clavellino,framboyán,flamboyán,guacamaya,Acacia roja,josefina,Morazán,poinciana); Swahili (mjohoro,mkakaya); Tamil (telugu,mayarum,mayirkonrai,panjadi); Thai (hang nok yung farang); Trade name (gold mohar); Vietnamese (phuong); Yoruba (sekeseke)

D. regia tree in flower, Zamarano, Honduras. (David Boshier)

Flower of D. regia. (Colin E. Hughes)

Delonix regia slash (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

BOTANIC DESCRIPTION
Delonix regia is a tree 10-15 (max. 18) m high, attaining a girth of up to 2 m; trunk large, buttressed and angled towards the base; bark smooth, greyish-brown, sometimes slightly cracked and with many dots (lenticels); inner bark light brown; crown umbrella shaped, spreading with the long, nearly horizontal branches forming a diameter that is wider than the tree's height; twigs stout, greenish, finely hairy when young, becoming brown. Roots shallow.

Leaves biparipinnate, alternate, light green, feathery, 20-60 cm long; 10-25 pairs of pinnae, 5-12 cm long, each bearing 12-40 pairs of small oblong-obtuse leaflets that are about 0.5-2 cm long and 0.3 cm wide; petiole stout. The numerous leaflets are stalkless, rounded at the base and apex, entire thin, very minutely hairy on both sides, green on the upper surface. At the base of the leaf stalk, there are 2 compressed stipules that have long, narrow, comblike teeth.

Corymbs 15-30 cm long, borne laterally near the end of the twig, each with loosely arranged, slightly fragrant flowers; flowers 5-13 cm across, with 5 equal petals, on slender stalks 5-7.6 cm long. Petals 5-6.5 cm long, 2-3 cm wide, orbicular, broadly spoon shaped, rounded but broader than long, slightly wavy-margined or crisp, tapering into claws about 2.5 cm long, widely extended and bending backwards before falling. Petals 4, orange-red, almost scarlet, 1 longer and narrower than the others, whitish inside with red spots and streaks; stalk very long, slender and hairy. Sepals 5, thick, green outside and reddish with yellow border within, reflexed when the flowers open, pointed, finely hairy, about 2.5 cm long. Stamens 5 with 10 red filaments; pistil has a hairy 1-celled ovary about 1.3 cm long and slender style about 3 cm long.

Fruit green and flaccid when young, turning to dark brown, hard, woody pods, 30-75 cm long, 3.8 cm thick, 5-7.6 cm broad, ending in a short beak when mature, with many horizontally partitioned seed chambers inside, indehiscent, finally splitting into 2 parts. The conspicuous pods hang down and remain attached most of the year even when the trees are leafless. Seeds 30-45, hard, greyish, glossy, to 2 cm long, oblong and shaped very much like date seeds, transversely mottled with a bony testa. They are arranged at right angles to the length of the pod.

The generic name, 'Delonix', is derived from a Greek delos (visible), and onyx (claw), in allusion to the conspicuously clawed petals. The specific name, 'regia', is from the Latin word 'regis' (royal, regal, magnificent). Most of its common names are derived from its large, flame-red flowers.

BIOLOGY
D. regia starts flowering in its 4th or 5th years. In Egypt, flowers appear in April with the 1st leaves and last for several months. In India, the tree remains leafless from March to May, the new leaves appearing at the end of the hot season in May or June. In moist places, the tree begins to develop young foliage before the flowering season and does not flower prolifically. It also flowers less prolifically on the shady sites than on the sunny sites. Planting of trees on dry sites therefore promotes copious flowering. In regions with heavy rainfall, every tree seems to follow its own rhythm of shedding of leaves and flowering. Pods of the previous year

keep hanging until they are dropped by wind currents, where they rot on the ground, releasing the seeds. Flowers are bisexual.

ECOLOGY
D. regia originates from Madagascar, where it is now almost extinct. It is now widespread in most tropical and subtropical areas of the world. Trees can grow at higher altitudes than recommended, but flowering becomes erratic. The tree demands light and grows weakly and sparsely under shade. It grows in areas with both high and scanty rainfall. D. regia has a superficial root system and competes successfully with the neighbouring shrubs and flowering plants, rendering bare the ground under its canopy. It should therefore be planted away from other plants in the gardens. Trees are deciduous only where the dry season is long and pronounced.

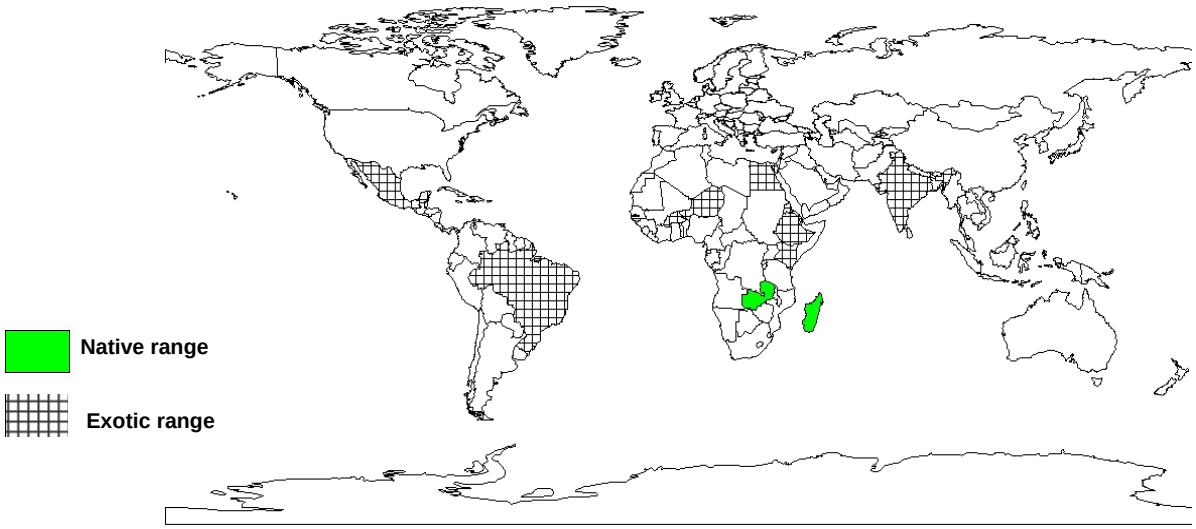
BIOPHYSICAL LIMITS
Altitude: 0-2000 m, Mean annual rainfall: 700-1200 mm, Mean annual temperature: 14-26 deg C.

Soil type: The species seems to tolerate many types of soils from clay to sandy, but it prefers sandy soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Madagascar, Zambia

Exotic: Brazil, Burkina Faso, Cyprus, Egypt, Eritrea, Ethiopia, India, Jamaica, Kenya, Mexico, Niger, Nigeria, Puerto Rico, Singapore, South Africa, Sri Lanka, Sudan, Tanzania, Uganda, US



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
Apiculture: Flowers are reputed to produce bee forage.

Fuel: The large pods as well as the wood are used for fuel.

Timber: The sapwood is light yellow, and the heartwood is yellowish to light brown. It is soft, heavy (specific gravity 0.8), coarse grained, weak, brittle, takes good polish and is rather resistant to moisture and insects although very susceptible to attack by dry-wood termites.

Gum or resin: The tree yields a thick mucilage of water-soluble of gum in yellowish or reddish-brown warty tears; the seeds contain gum that may find use in textile and food industries.

Medicine: Bark has medicinal properties.

Other products: The hard, elongated seeds are occasionally used as beads.

SERVICES
Shade or shelter: D. regia is planted as a shade tree in dairy farms, tea plantations and compounds.

Ornamental: It is mainly valued as a decorative tree, often being planted in avenues and gardens.

Boundary or barrier or support: D. regia can be planted as live fence posts.

TREE MANAGEMENT
D. regia can be planted in areas where rainfall is less than the recommended amount, as long as irrigation is practised. It is fast growing, and pollarding is a suitable practice. Careful pruning will achieve good crown form. The trees have shallow root systems and the wood is weak; they are therefore liable to being uprooted during strong storms and broken by strong winds. After the leaves are shed, the trees are less attractive, with their conspicuous pods remaining on the bare branches and with prominent tunnels and nests of termites that commonly attacks this species. Another objectionable feature is the surface root system, which sometimes breaks sidewalks and walls. Because of these undesirable characteristics, some authorities classify flamboyant as a tree that should not be planted.

GERMPLASM MANAGEMENT
Seeds can be stored for a long time if insect attack is avoided, which can be done by adding ash to the seeds. Seed storage behaviour is orthodox and a germination rate of 47% has been recorded after 9 years of storage at room temperature; no loss in viability following 4 years of storage. Viability is maintained following 3 years of hermetic storage at room temperature with 13-12% mc, and for at least 5 years in hermetic storage at room temperature. Average moisture of seeds is 10.45%, and there are about 2000-3245 seeds/kg.

PESTS AND DISEASES
Beetles and larvae of Poecilips sierralemensis bore into the pods to release the seeds. Trees are susceptible to attack by shoot borers and are occasionally defoliated by a caterpillar or an insect; leaves may be eliminated completely. D. regia is attacked by Ganoderma lucidum root rot, especially in the high rainfall areas.

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SUGGESTED CITATION

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