Cassia javanica L.

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FABACEAE (BEAN FAMILY)

No synonyms

Acacia rosada, apple-blossom cassia, apple-blossom senna, casia rosada, lluvia de rosas, nodding cassia, pink cassia, pink shower, rainbow shower, white shower

Native to the tropical regions of Asia, *Cassia javanica* is distributed naturally from India to Malaysia, Sumatra, Indonesia, southern China, and the Phillipines. In America, the species has been introduced in southern Florida, Puerto Rico, Cuba, Mexico, and across Central America.

Cassia javanica is a fast-growing, semideciduous tree up to 25 m in height and 35 cm d.b.h. The species blooms best in places with well-drained and deep soils. The trunk frequently has many shoots. The crown, consisting of descending branches with sparse foliage, is wide-open, arched, and spread out. The leaves are paripinnate, made up of 12 pairs of leaflets that are elliptic or oblong and rounded at the apex and base.

Irwin and Barneby (1982) consider *C. javanica* as a complex series of geographical varieties that are found across their areas of natural distribution. In these areas, *C. javanica* forms vary in the shape of their leaves, the color and size of their flowers, and their chromosomal number. The varieties are: *C. javanica* L. var. *javanica*, *C. javanica* L. var. *indochinensis* Gaghepain, *C. javanica* L. var. *pubifolia* Merrillk, and *C. javanica* L. var. *microcalyx* Irwin & Barneby.

Cassia javanica is cultivated as a shade and ornamental tree along streets and in parks and gardens.

The flowers are pale rose to crimson and arranged in racemes. *Cassia javanica* blooms during the spring, and the fruits (legumes) ripen in the fall. The legumes are hanging, thin, cylindrical, 30 to 40 cm long, 1.5 cm in diameter, dark brown to black, transversally septate, and indehiscent when ripe, with ligneous and thin valves. Inside each septum one seed is surrounded by a viscous, brown pulp. Each fruit contains numerous seeds (Holdridge and Poveda 1975, Irwin and Barneby 1982, Isely 1975, Little and others 1967). The seeds are obovate, biconvex in cross section, ventrally flattened, 6.5 to 8.9 mm long, 5.6 to 7.0 mm wide, and 2.5 to 5.5 mm thick. The seedcoat is dark brown, smooth, shiny, and cartaceous and has fracture lines.

The fruits are gathered when their pericarp is dark brown or black, indicating that they are ripe. Poles with metal hooks are used to collect ripe fruits from the trees. The fruits are ground in wood mortars as the first step to extracting the seeds. One of three processes can be used to separate seeds from legume residues. To remove impurities the seeds are submerged in containers of water. The good seeds will sink. On the surface, pieces of fruit will float and can be gathered with a strainer. If the impurities are smaller, they can be separated using sieves. They can also be eliminated using a vertical column blower. The seeds are washed vigorously with running water to remove the residues of pulp and pericarp that adhere to them. The cleaned seeds are placed in the sun to dry. Seeds average 3,250 per kg (Food and Agriculture Organization 1957).

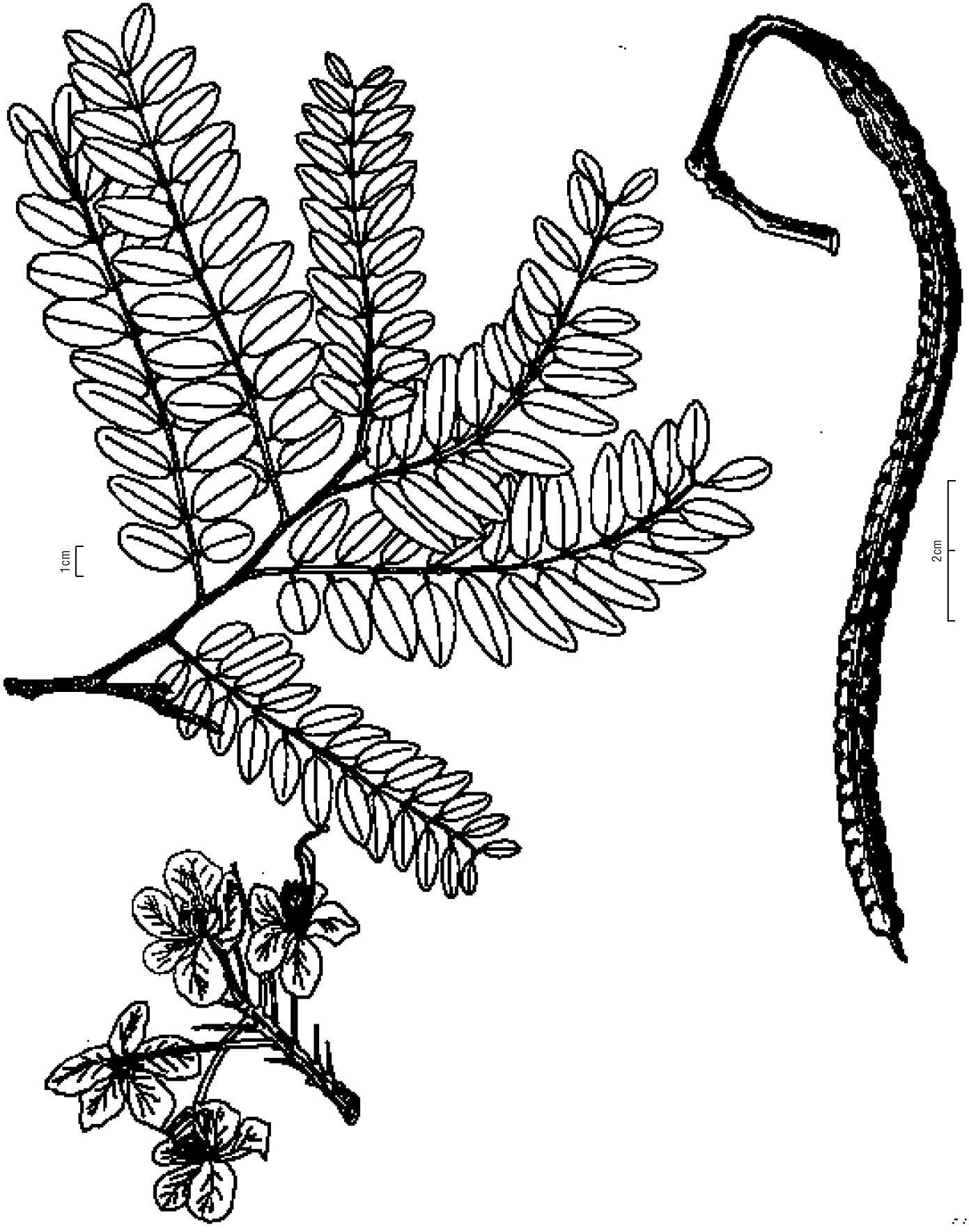
Dry seeds are stored in plastic containers. Few studies have been done on storing the seeds of this species. Frequently, they are stored in cold chambers at a temperature of 5 to 6 °C. It has been observed that after 1 year, seeds stored in cold chambers still germinate. However, there are no accurate assessments of this practice.

To stimulate germination, seeds can be placed in boiling water and soaked in the gradually cooling water for 1 day (Food and Agriculture Organization 1957).

ADDITIONAL INFORMATION

The vascular bundle is visible as a dark line that runs longitudinally to the seed through the middle part of its lateral surfaces. The hilum is subbasal, simple, puntiform, sometimes covered by a remnant of funicular tissue, and set deep in a small depression. The micropyle is indiscernible. The lens is

subbasal, near the hilum, on the opposite side of the micropyle, linear, and set deep in a depression. The endosperm is whole, more abundant in the lateral surfaces of the embryo, cornaceous, whitish, translucent, and gelatinous when it comes in contact with water. The yellow embryo has a straight axis and is almost bilaterally symmetrical. The cotyledons are obovoid, whole, expanded, flat, thin, twisted in the shape of an S, and independent of one another. The plumule is moderately developed in pinnae. The radicle is conical and not covered by the cotyledons (Niembro 1982, Shyam and Vartak 1985).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