Adenanthera pavonina L.

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FABACEAE (BEAN FAMILY)

No synonyms

Arbre a réglisse, circassian bean, corail végétal, coral, coralillo, coralín, coralitos, jumbie-bead, mato colorado, palo de mato, peonia, peronias, peronias chatas, red sandalwood, réglisse, sandal beadtree

Adenanthera pavonina is found naturally in India. In America, it has been introduced in Puerto Rico, Cuba, Jamaica, Trinidad, Tobago, Venezuela, Brazil, Costa Rica, Honduras, and southern Florida.

Adenanthera pavonina is a deciduous tree that reaches 60 m in height and up to 45 cm d.b.h. The trunk is basically straight with smooth bark and many fissures. The spreading crown has relatively few leaves. The leaves are bipinnate and 30 to 60 cm long with numerous oblong leaflets that are rounded on both ends and have a small point at the apex.

Adenanthera pavonina has been planted as a shade and ornamental tree in urban centers and gardens (Food and Agriculture Organization 1957). The wood has a specific gravity of 0.60 to 0.80 and is strong and durable; it is used for firewood and in rural construction, carpentry, and cabinet making. It is also used to make red dye. The seeds are ground and mixed with water and borax to manufacture a type of cement. The seeds are also used as beads in necklaces and bracelets (Hoyos 1979, Kostermans 1980, Little and others 1967). The pulp of the fruit is used for medicinal purposes.

The tree blooms from the end of summer until winter. The flowers are pale yellow to orange and arranged in racemose inflorescences. The fruits (legumes) ripen in the fall or winter of the same year (Little and Wadsworth 1964). The dark brown legumes are straight or curved, narrowly oblong, laterally flattened, about 25 cm long and 1 cm wide and have dehiscent valves that twist as they open on ripe fruit (Isely 1973, Little and others 1967). The seeds are ovate to elliptic-lenticular, laterally flattened, biconvex in cross section, 9.0 to 9.4 mm long, 8.0 to 9.0 mm wide, and 5.8 to 6.2 mm thick. The seedcoat is scarlet red to coral red, smooth, shiny, bony, and very hard and generally has no fracture lines.

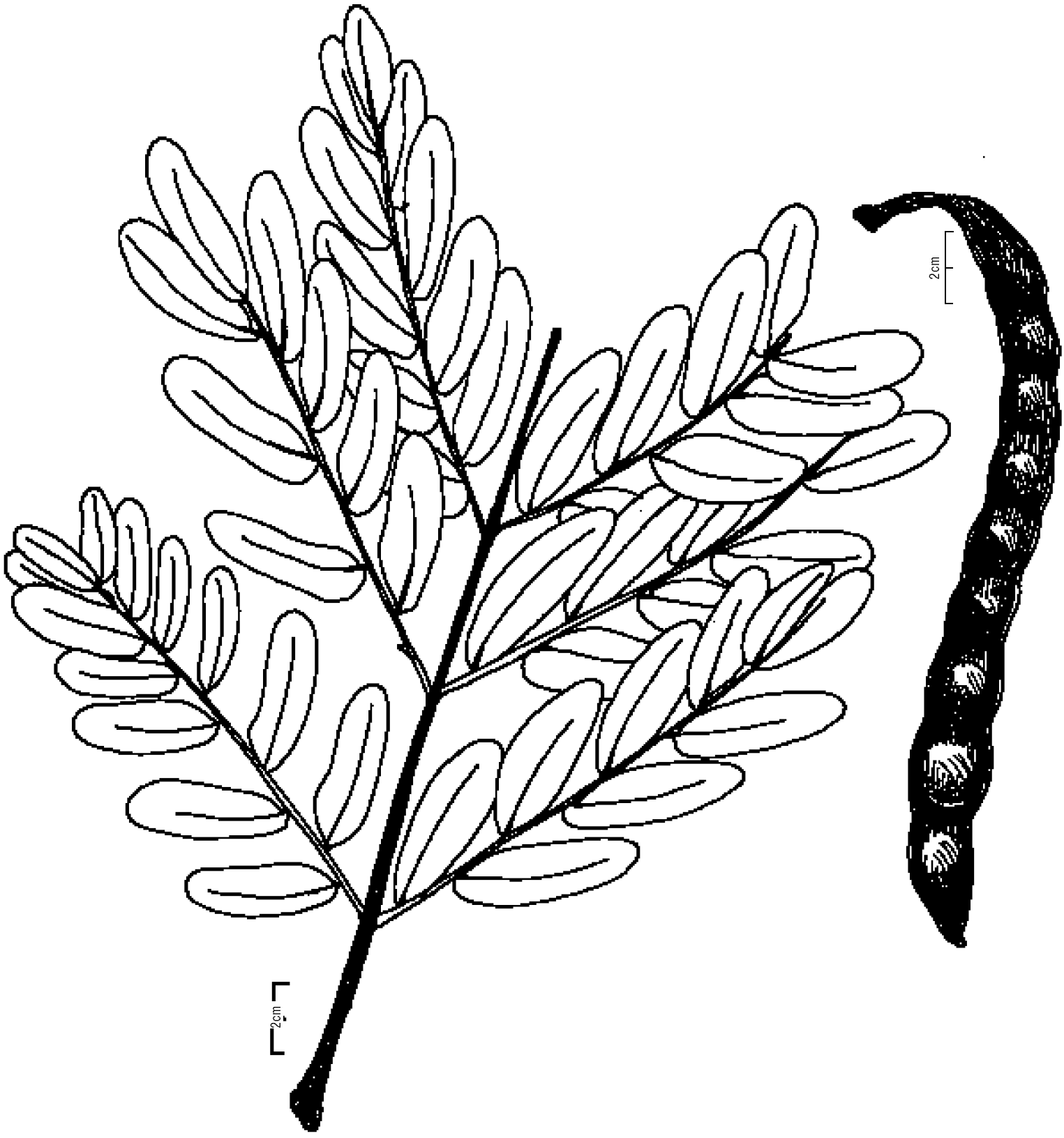
Because the fruits are dehiscent, collection is determined by the presence of warm, dry winds. Under these conditions, the fruits open quickly, releasing the seeds. Collectors watch for the change in coloring of the pericarp, which goes from green to brown and finally to dark brown. The fruits must be collected shortly before they open up and release the seeds. Seed collectors climb the trees and use poles with metal hooks to cut fruits from the trees. The fruits are placed in wooden boxes with metallic mesh bottoms and stored in sheds with good ventilation. As the fruits dry, the valves twist open, releasing seeds. The seeds are gathered by hand and passing them through sieves removes the impurities resulting from seed extraction. Small impurities and dust are removed using a vertical column blower. Clean seeds average 3,250 per kg (Food and Agriculture Organization 1957).

The seeds are stored in hermetically sealed plastic, glass, or metal containers at room temperature or in cold chambers with temperatures of 5 to 6 °C. The seeds of this species show a high capacity for germination (Food and Agriculture Organization 1957).

ADDITIONAL INFORMATION

The seeds have pleurogram or fissural line lateral surfaces that follow the contour of the seed and open up on the hilar end. The rose hilum is elliptic or puntiform, sometimes covered by a small funicular aril and pulp, and lobed. The micropyle is indiscernible. The lens is oblong at the opposite end from the micropyle. The endosperm is abundant, whole, located on the lateral surfaces of the embryo, cornaceoous, whitish, translucent, and gelatinous when it comes in contact with water. The yellow embryo has a straight axis and is almost laterally sym-

metrical. The cotyledons are shaped like the seed; they are whole, expanded, plano-convex, and independent of one another. The plumule is moderately developed in pinnae. The radicle is conical and partially covered by the cotyledons (Bravato 1974; Corner 1951, 1976; Gunn 1984).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