

Mimosa scabrella

Benth.

Fabaceae - Mimosoideae

bracatinga

LOCAL NAMES

English (mimosa,bracatinga); French (mimosa); Portuguese (bracaátinga,abaracaátinga); Spanish (bracatinga,Bracaátinga,Abaracaátinga); Trade name (bracatinga)

BOTANIC DESCRIPTION

Mimosa scabrella is a small- to medium-sized tree 4-12 (max. 20) m high, with a tall, straight, slender trunk 10-50 cm in diameter in forest, or short and branched, with dense rounded crown of grey foliage, or a large shrub. Bark whitish-grey, almost smooth. Twigs densely scaly.

Leaves pinnate, compound and small, with axis 3-11 cm long and 3-9 pairs of pinnae 2-7 cm long, larger on vigorous twigs. Leaflets 15-35 pairs on each side of axis, narrowly oblong, tiny, 2-5 mm long, blunt, densely covered with fine, star-shaped hairs, upper surface yellow-green, paler underneath.

Flower clusters (short racemes) 1-3 at leaf bases or several along short axis, consisting of heads or balls, rounded or elliptical, 7-10 mm in diameter. Flowers many, small, whitish, 5-7 mm long, composed of tubular hairless calyx 1 mm long, united into tube near base, and pistil with narrow ovary and slender style.

Pods several in cluster, narrowly oblong, flattened, 2-4 x 5-9 mm, covered with tiny warts, separating into 2-4 joints or segments, 4-angled and 1-seeded, each splitting open. Seeds few, beanlike, egg-shaped, flattened, 3-6 mm long, brown.

The generic name 'mimosa' is from the Greek meaning to imitate or mimic. This refers to some species of the genus that may appear to imitate animals because the sensitive leaflets move and fold up when touched.

BIOLOGY

It has been suggested that *M. scabrella* is cross-pollinating.

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ECOLOGY

M. scabrella is native to the cool, subtropical plains of southeastern Brazil, but it is very robust and can grow in both warmer and drier areas. The species is not recommended, however, for areas with mean annual temperatures higher than 23 deg. C. Although in its natural range, rainfall is generally well distributed throughout the year, the tree can tolerate dry periods of up to 4 months. It is susceptible to strong winds.

BIOPHYSICAL LIMITS

Altitude: 200-2400 m, Mean annual temperature: 12-23 deg. C, Mean annual rainfall: 600-3500 mm

Soil type: Prefers free-draining soil. It tolerates strongly acid soils with pH as low as 4.8 and those with high aluminium content; it does not tolerate waterlogged, compacted or severely degraded soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Brazil

Exotic: Argentina, Cameroon, Colombia, Costa Rica, Democratic Republic of Congo, El Salvador, Ethiopia, Guatemala, Honduras, Jamaica, Kenya, Mexico, Nicaragua, Rwanda, Senegal, Spain, Uganda, Venezuela



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.

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PRODUCTS

Apiculture: Abundant flowering make it excellent for honey production.

Fuel: Produces high-quality firewood; however, the charcoal produces a large amount of ash. Before the advent of the diesel locomotive, *M. scabrella* wood was grown to fuel railroads in parts of Brazil.

Fibre: *M. scabrella* fibre is approximately 1.2 mm long, and its pulp is good enough to use in the manufacture of printing and writing papers.

Timber: A valuable source of timber. The heartwood is tinted a greyish-rose colour, is hard, moderately heavy, and with a specific gravity reported to range from 450 to 670 kg/cubic m; the sapwood is pinkish. The wood is used for lumber and is straight grained and medium textured with a moderately rough surface without lustre.

SERVICES

Shade or shelter: *M. scabrella* is used as a shade tree for highland coffee plantations in Cameroon and Central America.

Reclamation: As a pioneer species, it established pure, dense stands throughout vast areas in Brazil's Parana area after the native forests (*Araucaria angustifolia*) were cut and burned, indicating its reforestation potential.

Nitrogen fixing: The tree is able to fix atmospheric nitrogen.

Soil improver: Throughout the year, it sheds large quantities of nitrogen-rich leaves that decompose rapidly and form rich humus.

Ornamental: Commonly referred to as 'the tree with many white feathers', it makes a beautiful garden or avenue tree.

Boundary/barrier/support: The attractive flowers make it a pleasant live fence. Stakes are used as fence posts and in tomato production.

Intercropping: Often found growing in association with maize and beans.

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TREE MANAGEMENT

M. scabrella is a fast-growing tree. In 14 months it grows to 5 m; in 2 years, 8-9 m; and in 3 years it sometimes reaches a height of 15 m. Plantations have been harvested on rotations as short as 3 years. Fuelwood plantations in Brazil are commonly planted at spacings of 2 x 2 or 3 x 3 m and harvested on 3-7 year rotations. Planted in Costa Rica at a spacing of 4 x 5 m in deep, fertile, well-drained fertilized coffee plantations, it reaches 5-6 m in height and 8-11 cm in dbh at 16 months. It is not a good hedgerow species because it does not coppice, though it can be pollarded or pruned effectively.

GERMPLASM MANAGEMENT

Orthodox seed storage behaviour; viability is maintained for at least 3-5 years when stored in cold chambers. There are 65 000-70 000 seeds/kg.

PESTS AND DISEASES

In its native range, some 28 species of insects are reported to attack *M. scabrella*.

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FURTHER READNG

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SUGGESTED CITATION

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