Eucalyptus saligna

Smith

Myrtaceae

Sydney blue gum

LOCAL NAMES
Amharic (saligna bahir zaf); English (Sydney blue gum,saligna gum,blue gum); Spanish (saligna,eucalipto); Swahili (muringamu,mtimbao,mkaratusi); Trade name (Sydney blue gum)

15 month-old plantation, northern Venezuela (Paul Bolstad, University of Minnesota, www.forestryimages.org)

BOTANIC DESCRIPTION
Eucalyptus saligna is a tall tree, 30-50 m in height, with a diameter at breast height of up to 2 m. Exceptional specimens grow 65 m tall and attain a diameter of 2.5 m. The trunk is generally of excellent form, straight and clear of branches for 1/2 to 2/3 of the total tree height. The bark is rough and persistent, brownish or greyish. A somewhat flaky bark is retained at the base for 1-4 m, decorticating in long strips to leave a smooth, bluish-grey to white surface.

Plant is heterophyllous, i.e., it has juvenile and adult phases; juvenile leaves are 1st opposite and then alternate, ovate to broadly lanceolate, green, strongly discolorous; adult leaves are alternate, simple pendulous, lanceolate, 9-17 x 2-3 cm; petiole 15-25 mm long, pinnately veined or with parallel veins, aromatic when crushed, glabrous.

Inflorescence simple, axillary, with 7-11 flowers; peduncles flattened, 4-18 mm long; pedicels are present, up to 3 mm long, or absent, angular; the angles often continuing as ribs on the hypanthia; buds more or less ovoid, 6-9 x 3-4 mm; opercula conical.

Fruits are sessile or very shortly pedicillate, campanulate, cylindrical or pyriform, 5-8 x 4-7 mm; disk narrow, descending; valves 3 or 4, usually with thin, pointed tips, erect, protruding just above the rim level or strongly exserted, usually conspicuously out-curved.

The genus Eucalyptus was described and named in 1788 by the French botanist l'Héritier. The flowers of Eucalyptus species are protected by an operculum, hence the generic name, which comes from the Greek words 'eu' (well), and 'calyptos (covered)'. The Latin word 'salignus' means 'willowy', 'willow-like'; the allusion is rather obscure. The common name 'Sydney bluegum' refers to the occurrence of the tree in the Sydney area of Australia and to the sometimes bluish appearance of the smooth bark.

BIOLOGY
Seed production commences when the tree is about 7-8 years old.

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ECOLOGY
The preferred climate is warm temperate to subtropical with a mild dry season of not more than 4 months. Although it can tolerate short dry periods, best growth is achieved on sites with a high rainfall well distributed throughout the year. While occurring naturally in a summer-rainfall zone, it has grown successfully in areas where there is a winter-rainfall maximum. Mainly a tree of fertile valleys and slopes. The species has been reported as tolerating light frosts.

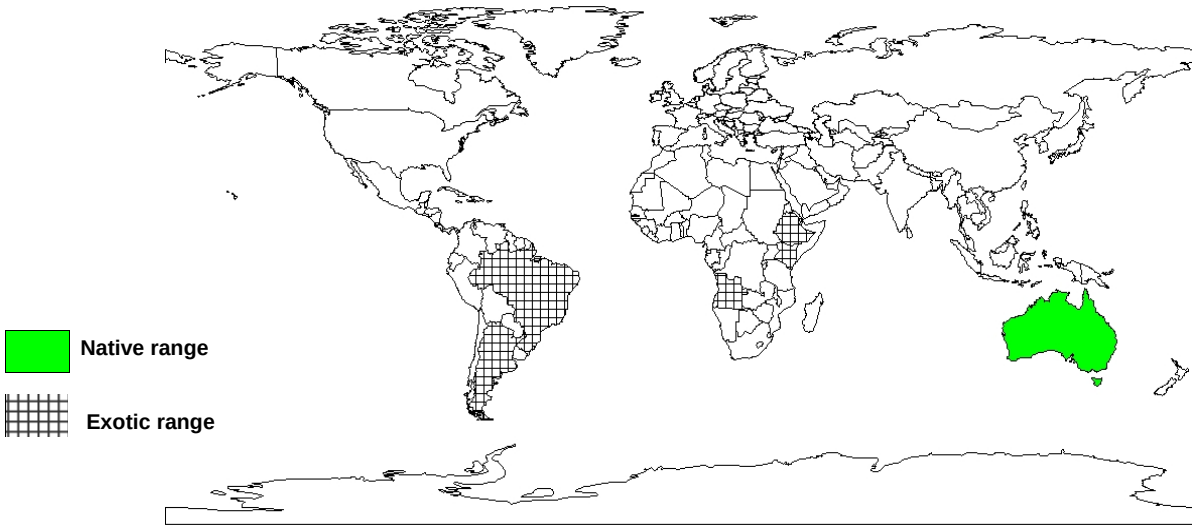
BIOPHYSICAL LIMITS
Altitude: 0-1100 m, Mean annual temperature: -2 to 8-24 to 33 deg. C, Mean annual rainfall: 800-1800 mm

Soil type: Best development occurs on good quality, alluvial sandy loams. Other soils include Podsols and volcanic loams. Soils it prefers are generally moist but well drained.

DOCUMENTED SPECIES DISTRIBUTION

Native: Australia

Exotic: Angola, Argentina, Brazil, Cook Islands, Costa Rica, Ethiopia, Fiji, French Polynesia, Kenya, Kiribati, Marshall Islands, Morocco, Mozambique, New Caledonia, New Zealand, Norfolk Island, Papua New Guinea, Samoa, Solomon Islands, South Africa, Taiwan, Province of China, Tanzania, Tonga, Uganda, Uruguay, US, Vanuatu, Zimbabwe



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: Sidney blue gum is not reliable as a honey producer. It is however useful in stimulating colonies and may be helpful in queen-rearing and re-stocking programs. The honey is strongly flavoured, rather dark and frequently lacks density. It does not store well.

Fibre: Young, fast-grown trees are used for semi-chemical pulp. However, when E. saligna is grown slowly, the heartwood may become difficult to process.

Timber: The heartwood is red or pink, hard, stiff, coarse textured, usually straight grained, moderately durable, has a density of about 900 kg/cubic m, is easy to work and polishes. It is an important general-purpose hardwood in Australia, and is favoured for construction, flooring, cladding and panelling.

Essential oil: The essential oil yield is 0.3-0.5%. The major compound found in E. saligna is alpha-pinene (71-84%).

SERVICES
Reclamation: E. saligna is used in reforestation.

TREE MANAGEMENT
E. saligna has proved to be highly suited for short-rotation plantations in tropical montane regions. This fast-growing, light-demanding tree is highly sensitive to competition from weeds during the 1st 2 years, and therefore measures to control emerging weed growth must be carried out several times. The rapid early growth allows E. saligna to dominate competing vegetation. Stands grown for timber are thinned to about 50% of the original stem density when trees are 5-8 years old. Additional thinning is carried out every 8-10 years thereafter. At a rotation of about 35 years, the final thinning, which should be done when the trees reach marketable age, should leave approximately 70-120 stems/ha. Rotations of 6-10 years are used for producing fuelwood and pulpwood. E. saligna is a choice species for short coppice rotation. It can be successfully irrigated.

GERMPLASM MANAGEMENT
Storage behaviour is orthodox; hermetic storage at 4-6% mc and subzero temperatures is recommended; viability can be maintained for several years in hermetic storage at 3 deg. C with 6-10% mc. The mean number of viable seeds is 560 000/kg.

PESTS AND DISEASES
Natural forests may be severely damaged by psyllids of the genus Spondyliaspis, and the weakened trees may then become more susceptible to attack by the wood borer Xyleborus truncatus. Larvae of Phoracantha semipunctata have caused wood degradation in young plantations in Western Australia. Plantations in northern New South Wales have suffered little from insect attack. However, in scattered patches throughout the coastal area, E. saligna has been killed off by die-back disease. In the nursery, damping-off fungi such as Pythium spp. and Rhizoctonia spp. can reduce seedling survival. E. saligna is resistant to the root rot fungus, Phytophthora cinnamomi.

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SUGGESTED CITATION

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