

Eucalyptus optima

Classification

Eucalyptus | Symphyomyrtus | Bisectae | Destitutae | Subulatae | Decurrentes

Nomenclature

Eucalyptus optima L.A.S.Johnson & K.D.Hill, *Telopea* 8: 203 (1999).

T: Western Australia: 20.2 km W of Balladonia Roadhouse on Highway 1, (32° 15'S 123° 26'E), 19 Oct. 1983, *K.D.Hill 212 & L.A.S.Johnson*; holo: NSW; iso: CANB, PERTH. (the CANB isotype not received 3 December 2019).

Description

Tree or mallet to 20 m tall. Lignotuber absent.

Bark smooth throughout, white to grey to pale pink to pale orange to pale salmon.

Branchlets usually glaucous; lacking oil glands in the pith.

Juvenile growth (coppice or field seedlings to 50 cm): stems glaucous (rarely non-glaucous), square in cross-section and prominently winged due to decurrent leaf bases; juvenile leaves opposite, sessile, broadly lanceolate to ovate, 3–17 cm long, 2–5 cm wide, dull grey-green to glaucous.

Adult leaves alternate, petiole 2–4 cm long; blade lanceolate to broadly lanceolate, 8–17.5 cm long, 1.5–3.4 cm wide, base tapering to petiole, concolorous, dull, blue-green to grey-green to rarely green, side-veins usually at an acute angle to midrib, sometimes wider, densely to very densely reticulate, intramarginal vein parallel to and just within margin, oil glands numerous and mostly intersectional.

Inflorescence axillary unbranched, peduncles 1–2.3 cm long, usually pendulous; buds 7 or 9, pedicellate, pedicels 0.4–1.1 cm long. **Mature buds** ± ovoid to oblong (1.6–2.4 cm long, 0.6–0.8 cm wide), usually glaucous, occasionally hypanthium slightly ribbed longitudinally, scar present, operculum beaked to horn-shaped (1–1.5 cm long, and 2 to 2.5 times length of hypanthium), stamens inflexed to irregularly flexed, anthers versatile, basifixed, globose, dehiscing by slits, style long, stigma tapered, locules 3 or 4, the placentae each with 4 vertical ovule rows. Flowers pale yellow.

Fruit usually pendulous, fruit pedicellate, pedicels 0.4–1.1 cm long, cup-shaped to hemispherical to truncate-globose to urn-shaped, usually glaucous but glaucescence weathering with age, 0.7–1.1 cm long, 0.8–1.2 cm wide, disc descending, valves 3 or 4, valve tips strongly exerted due to fragile style remnants.

Seeds brown to grey, 1.5–3 mm long, ovoid or flattened-ovoid, rarely pointed at one end, occasionally with shallow longitudinal furrows on otherwise smooth dorsal surface, hilum ventral.

Cultivated seedlings (measured at node 10): cotyledons Y-shaped (bisected); stems square in cross-section and prominently winged due to decurrent leaf bases, slightly glaucous; leaves opposite, sessile, ovate to elliptical, dull grey-green, 2.5–8 cm long, 1.7–4 cm wide, leaf base decurrent on stem.

Flowering Time

Flowering has been recorded in May, August and September.

Notes

A small to medium-sized tree (mallet) endemic to the eastern goldfields of Western Australia from the Fraser Range to Balladonia. Characterised by its tree habit, the smooth bark throughout, the glaucous branchlets and buds, and the relatively large truncate-globose fruit.

Eucalyptus optima belongs in *Eucalyptus* subgenus *Symphyomyrtus* section *Bisectae* subsection *Destitutae* because buds have two opercula, cotyledons are Y-shaped and branchlets lack oil glands in the pith. Within this subsection *E. optima* is part of a large taxonomic series *Subulatae* further characterised by globose basifixed anthers, grey smooth seeds with shallow longitudinal furrows, and fruit with persistent exerted style remnants. Series *Subulatae* is divided principally into four subseries based on the juvenile leaves, one with spiral, crowded seedling phyllotaxis (subseries *Spirales*), another with decussate and strongly decurrent seedling leaves (subseries *Decurrentes*), another with decussate non-decurrent seedling leaves (subseries *Decussatae*), and a fourth with disjunct, petiolate seedling leaves (subseries *Oleaginae*).



Eucalyptus optima is part of subseries *Decurrentes*. Within this group it is very closely related to *E. hypolaena*. *E. hypolaena* differs by having rough bark on the lower stems and is commonly a mallee. It is also closely related to *E. transcontinentalis* and *E. moderata* which both occur west of *E. optima*. Both differ by having smaller buds and fruit, with the fruit of *E. optima* being cup-shaped to truncate-globose, contrasting with the smaller urceolate fruit of *E. transcontinentalis* and *E. moderata*.

Within its area of occurrence it may be confused with another smooth-barked tree, *E. fraseri*. The latter belongs to an unrelated group and is easily distinguished by the almost sessile buds and fruit, the slightly ribbed opercula and glossy green leaves. South of Balladonia in the Mount Ragged area a related species, *E. luculenta*, occurs but is distinguished from *E. optima* by having mallee habit and smaller fruit (only 0.6-0.8 cm wide).

Origin of Name

Eucalyptus optima: Latin *optimus*, best, referring to the species being the largest in stature and buds and fruit in the Series.

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