

# Corymbia ligans

## Classification

Corymbia | Rufaria

## Nomenclature

**Corymbia ligans** K.D.Hill & L.A.S.Johnson, *Telopea* 6: 263 (1995).

T: Queensland: 40.2 km S of Greenvale on Charters Towers road, 27 July 1989, *Blaxell 89/085*, L.A.S.Johnson & G.D'Aubert; holo: NSW; iso: BRI, CANB, DNA, MEL.

*Corymbia ligans* subsp. *novocastrensis* K.D.Hill & L.A.S.Johnson, *Telopea* 6: 265 (1995). T: Queensland: Newcastle Range, 32.5 km from Einasleigh towards Forsayth, 30 July 1990, *K.D.Hill 3754* & *L.Stanberg*; holo: NSW; iso: BRI, CANB, K, MEL.

## Description

**Tree** to 20 m tall. Forming a lignotuber.

**Bark** rough to the smallest branches, tessellated or shortly fibrous, grey and grey-brown.

**Branchlets** smooth (glabrous); lack oil duct in the pith.

**Juvenile growth (coppice or field seedlings to 50 cm):** stems rounded, smooth, if setae present then only on lowest internodes; juvenile leaves shortly petiolate (petioles < 1 cm long), opposite only at lower nodes, predominantly alternate, narrowly elliptic at lower nodes becoming lanceolate up the stem, (5.5)8–14 cm long, 1.3–1.8 cm wide, base tapering to petiole, apex bluntly pointed, green, discolorous, becoming glossy on upper growth, smooth except for sparse setae on veins on underside of lowest leaves.

**Adult leaves** alternate, petioles 0.8–1.9 cm long; blade narrowly lanceolate, 7.7–15(17.5) cm long, 0.8–1.6(2) cm wide, base tapering to petiole, margin entire, apex pointed, discolorous, glossy, green, side-veins at greater than 45° to midrib, reticulation very dense, intramarginal vein present and close to margin, visible at least on the underside, oil glands island, one per areole, or obscure.

**Inflorescence** terminal compound, peduncles 0.5–1.8 cm long, buds 7 per umbel, pedicels 0.3–0.6 cm long. **Mature buds** obovoid to narrowly pyriform, 0.7–0.9 cm long, 0.4–0.5 cm wide, scurfy (whitish scaly surface due to fragmenting cuticle), scar absent (both opercula shed together at flowering), operculum shallowly rounded, stamens inflexed, all fertile, anthers oblong, dorsifixed, versatile, dehiscing by longitudinal slits, style long and straight, stigma blunt and long-papillose, locules 4, the placentae each with ovule not arranged in distinct rows. Flowers not seen.

**Fruit** pedicellate (pedicels 0.2–0.6 cm long), elongated barrel-shaped tapering distally, sometimes slightly constricted below the rim, 1.1–2 cm long, 0.7–1.2 cm wide, always longer than wide (1.4–1.9 times as long as wide), surface ± smooth, disc descending vertically, valves 4, enclosed.

**Seeds** brown, 6–8 mm long, ellipsoidal with terminal wing, hilum subterminal.

**Cultivated seedlings (measured at ca node 10):** cotyledons large, reniform; stems rounded in cross-section, setose with short bristle-glands for up to ca 4 nodes then smooth; leaves always petiolate, opposite for ca 8 nodes then sub-opposite, narrowly elliptical or narrowly lanceolate, 7.5–9 cm long, 1.2–1.8 cm wide, base tapering to petiole, dull or slightly glossy, green, only sparsely setose on lower 4 pairs of leaves, then smooth.

## Flowering Time

Mature buds have been collected in January but actual flowering time has not been recorded.

## Notes

A bloodwood tree endemic to north-eastern Queensland and restricted to hills in the Greenvale area extending west to The Lynd, Einasleigh and the Newcastle Range, and with an outlier further to the south-east in the country west of Balfes Creek. It has been recorded as a component of savannah woodlands in a range of habitats from hillsides and elevated flat areas with shallow soil, to well-drained flats with deeper sandy soil near creeks. *Corymbia ligans* has rough tessellated bark extending to the smallest branches, a crown of adult leaves, glossy green above and always paler on the underside, small scurfy buds in terminal panicles and small ± barrel-shaped fruit that taper



slightly to the rim which is not flared. Juvenile growth is poorly known but from pot-grown seedlings the stems and leaves are only setose on the earliest internodes and lowest leaves, and the leaves are opposite to sub-opposite and narrowly elliptic to lanceolate.

In the field *C. ligans* looks very much like a depauperate form of the widespread tropical species *C. polycarpa*, having similarly scurfy buds and fruit of a similar shape, but differs in having smaller fruit with smaller seeds and predominantly narrower adult leaves (though with some overlap in dimensions in each case). The widespread bloodwood *C. clarksoniana* (here including *C. dolichocarpa* and *C. maritima*) is also closely related to *C. ligans* and overlaps in distribution, but differs in having larger buds, larger and more obese urceolate fruit, and wider adult leaves (but again with some overlap in dimensions). All the species mentioned in this paragraph, along with the northern *C. novoguineensis*, were once included in a wide-ranging and very variable *Eucalyptus polycarpa*. Collections of *C. ligans* are few and time will tell if it is worthy of specific distinction. See table below for fruit comparison of these four related species.

Hill & Johnson (1995) divided *C. ligans* into three subspecies based on fruit shape, fruit length: width ratios, and on stomatal distribution on the leaf surfaces. In EUCLID we regard *C. ligans* subsp. *novocastrensis* as the same as typical *C. ligans*, as it differs little in bud, fruit and leaf features. Stomata in subsp. *novocastrensis* are distributed on both leaf surfaces (only on the lower surface in subsp. *ligans*) according to Hill & Johnson (1995). The third subspecies, *C. ligans* subsp. *burdekinensis*, we regard as synonymous with *C. clarksoniana*, with which it completely overlaps in fruit shape and dimensions and almost completely overlaps in adult leaf dimensions, although the juvenile leaves are a bit smaller in the former (but again with some overlap).

Using a combination of bark, bud, fruit and adult leaf features, and geography, the botanist should be able to identify *C. ligans* as distinct from other bloodwoods in the area.

This table shows that fruit shape rather than dimensions is the best guide to these four related species:

Species	Fruit shape	Fruit length cm	Fruit width cm	Length: width ratio
<i>clarksoniana</i>	urn-shaped	1.2–2.5	0.9–1.6	1.1 to 1.8
<i>ligans</i>	elongated barrel-shaped, tapering distally, sometimes slightly constricted below the rim	1.1–2	0.7–1.2	1.4 to 1.9
<i>novoguineensis</i>	urn-shaped to barrel-shaped, contracted slightly in upper part with the rim slightly flared	1.7–2.4(3)	1.1–1.5(2)	1.3 to 1.7
<i>polycarpa</i>	elongated barrel-shaped	1.5–3.5	0.8–1.6	1.6 to 2.1

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#### Origin of Name

*Corymbia ligans*: Latin *ligo*, to tie or bind, an obscure and unexplained reference by the authors of this species, perhaps referring to its placement between *C. polycarpa* and *C. clarksoniana*.

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