



EucMedia

EucMedia 12

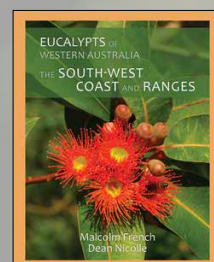
Malcolm French

Aug 2019

Welcome to **EucMedia 12.**

And yes,
welcome to a
**new
eucalypt
book!**

Read on!



Corymbia ficifolia (Western Australian red-flowering gum)



Winter brings into flower one of my
favourites,

Eucalyptus educta.





One of our single-budded icon species,
E. rhodantha (rose mallee),
is splendid in winter flower.

And not to be outdone is one of our lesser known wheatbelt species, *E. stowardii* (fluted horn mallee), commencing flowering in early August.



Despite hundreds of images of our

salmon gums,

their very appearance in stature and autumn colours makes you stop and admire and add images to your collection.



E. salmonophloia (salmon gum), north-west of Kalgoorlie



E. salmonophloia (salmon gum), south-west of Coolgardie

Similarly, one of the gimlets,

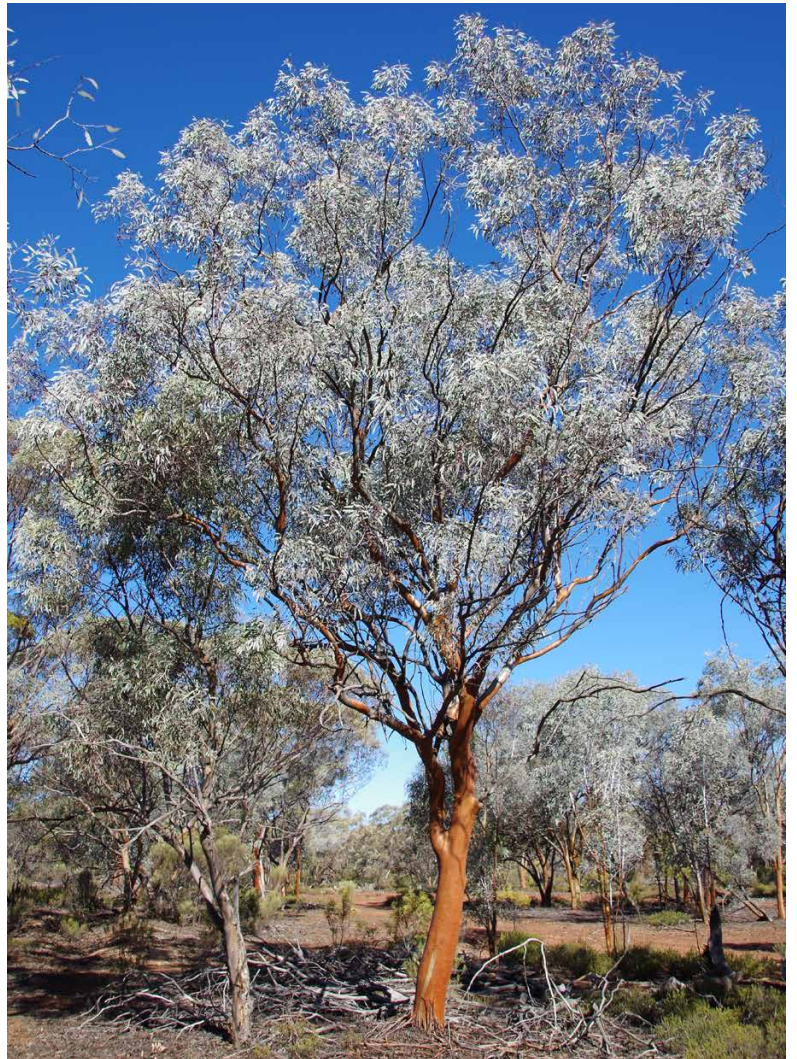
E. ravid
(silver-topped gimlet).



E. ravid (silver-topped gimlet), north-west of Kalgoorlie

And another gimlet, the fabulous, rare, silver-leaved

E. campaspe (silver gimlet),
flowering this autumn.



E. campaspe (silver gimlet), south-west of Coolgardie

Sorry, but the gimlet family to which there is nine species (eight mallets and one mallee) were on full show, the following is the most common and widespread,

E. salubris (gimlet).



E. salubris (gimlet), Old Hyden Road



And another! The colourful bark of a gimlet intergrade between

E. tortilis and *E. diptera*.

Winter heralds the flowering of other goldfields icon species,

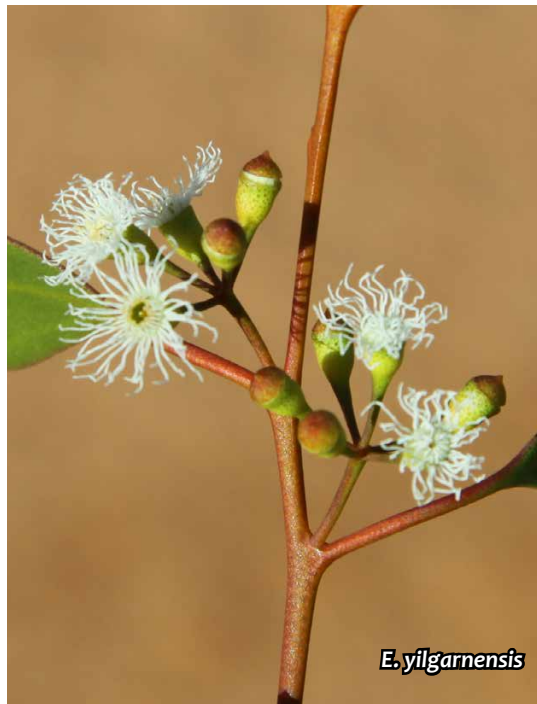
E. transcontinentalis
(redwood),
now in full flower.



E. transcontinentalis (redwood), south-west of Coolgardie

And

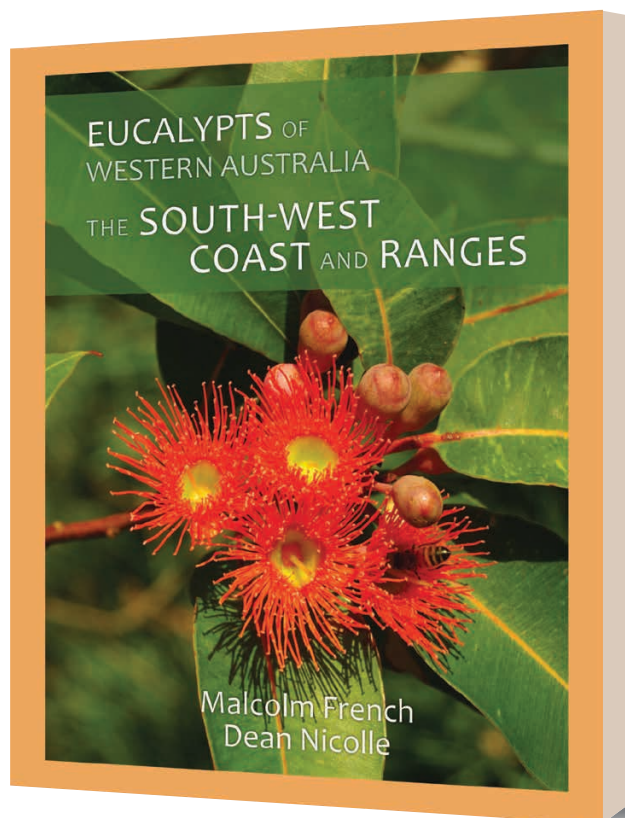
E. yilgarnensis
(yorrell) and
E. celastroides
(mirret)
in full bloom.



Lightning strike fires in the woodlands this summer and autumn have burnt over a large area and in WA, over two million hectares of bushland have been burnt. This image of burnt mallet woodland is just south-west of Coolgardie on Victoria Rock Road at 30° 20' 36"S, 120° 55' 25"E, dated 17th April 2019. If you're out that way, appreciate knowing the recovery – hopefully a mass of seedlings.

And finally, well,
here it is!

A collaboration from
eucalypt experts
Dean Nicolle and
Malcolm French.



EUCALYPTS OF WESTERN AUSTRALIA – THE SOUTH-WEST COAST AND RANGES

We are very privileged to formally launch the book at the Ravensthorpe Wildflower Show
on the 9th of September 2019.

Looking forward to seeing some of you there.

Similar in size and in most other respects to Malcolm's last book, *Eucalypts of Western Australia's Wheatbelt*, this new book covers the large coastal and subcoastal areas adjacent to the wheatbelt from **Dongara** to east of **Ravensthorpe**.

The book incorporates **Perth**, the **Swan Coastal Plain**, the **Darling**, **Stirling**, **Porongurup** and **Ravensthorpe ranges**, **Lesueur** and **Fitzgerald River national parks** and the mighty karri, jarrah, marri and tingle forests from **Albany**, **Walpole**, **Pemberton** and **Margaret River**.

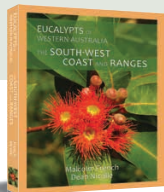
24 species are described in an illustrated book format for the first time.

Additionally, a quick reference guide to the **flowering times** of all 147 eucalypts has been included, which will be useful to apiarists, entomologists, bird enthusiasts and all growers of native plants.



For further information and to order your copy of the book, visit my website

<https://www.EucalyptsofWA.com.au/books>



EUCALYPTS OF WESTERN AUSTRALIA – THE SOUTH-WEST COAST AND RANGES

Buds and flowers

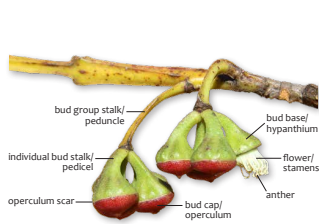
Groups of buds and flowers on a branch are known as the inflorescence. The inflorescences are axillary in many species, occurring in the axils where leaves join the stem, or occur in terminal sprays which are more conspicuous on the outside of the crown, such as in *Corymbia* species and *E. absita*.

Within an inflorescence are a number of umbels (groups) of buds and flowers, with each umbel consisting of a number (rarely one, sometimes three and usually seven or more) of individual buds, flowers or fruits. The number of buds, flowers or fruits per umbel is highly diagnostic. For example, *E. angulosa* has buds and fruits in groups of mostly threes, whereas the closely related *E. incrassata* has buds and fruits in groups of mostly sevens. When counting the number of buds/flowers/fruits per umbel, consider that some may have aborted, leaving a tiny scar at the top of the peduncle to indicate the original number.

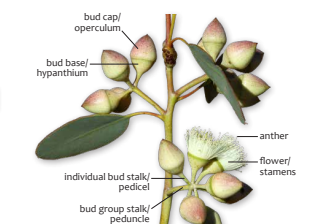
The structure of each umbel, including the orientation and length of the peduncle (the group stalk for a single umbel of

buds, flowers or fruits) and pedicels (the stalk of an individual bud, flower or fruit) is often diagnostic. Groups of buds and fruits may be loosely pendulous (e.g. *E. sepulcralis*), rigidly down-turned (e.g. *E. tetraptera*), or held rigidly erect (e.g. *E. preissiana*).

The features of the flower buds, including their size, shape and ornamentation, are also highly diagnostic. The bud consists of the bud base (the hypanthium) and the bud cap (the operculum), the latter which falls off to reveal the reproductive parts of the flower. The structure, size and shape of the bud cap, and how it joins to the bud base, are often important in identification, as are the structure of the filaments (stamens) which form the flower itself. The south-west coast and ranges of WA have many species with unique flowers, such as in *E. ser. Lehmannianae*, which have very large, greenish-yellow flowers, and a subgroup of these, *E. subser. Conjunctae*, which have their buds (and fruits) fused into single, large, woody inflorescences.



Bud and flower structure in *E. acies*.



Bud and flower structure in *E. drummondii*.



Scar caused by an aborted bud in *E. pendens*. Buds fused together to form large flower clusters in *E. lehmannii*. Stamens in quadrants in *E. gittinsii*. Colourful opercula in *E. dissimulata*.

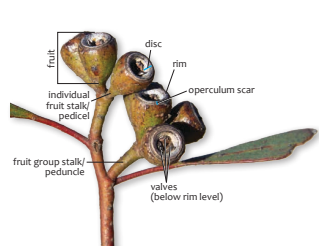
Fruits and seeds

The fruits (gum nuts) are highly diagnostic, and unlike the buds and flowers, they are more often found in the field due to their persistent nature in most species. Fruits can be found year-round in most species, although in some species with smaller fruits, such as *E. camaldulensis* and *E. rudis*, the seeds are released soon after fruit maturity and the fruits are shed from the tree soon after. Nevertheless, if live fruits in the canopy are not evident or are out of reach, dry fruits can often be found in the leaf litter underneath, although care must be taken to pair fallen fruits with the parent plant.

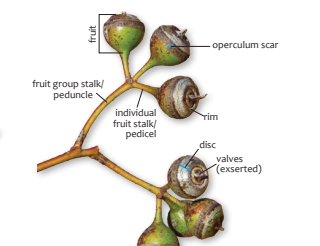
Diagnostic features of the fruits include their arrangement (held-erect, loose, pendulous, or rigidly down-turned), size, shape, ornamentation (smooth, ribbed or winged), as well as the number of valves per fruit, the prominence of the valves, and the fruit disc width and orientation.

The seeds are also highly diagnostic for many groups of species. For example, all members of *E. ser. Rufispermae* have shiny red-brown seeds. Likewise, the colour of the seeds can immediately differentiate the closely-related *E. camaldulensis* (yellow seeds) and *E. rudis* (black seeds), with hybrids between the two having a mix of seeds of both colour.

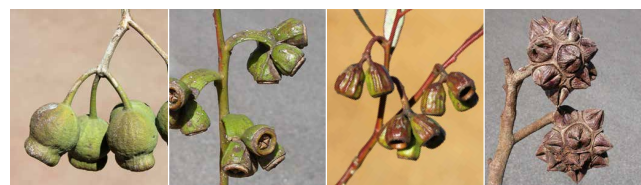
Due to the small size of eucalypt seeds, a dissecting microscope or good magnifying lens may be necessary to examine the seeds. To extract the seeds from the fruits, either for species identification or to grow them, simply cut off mature live fruits and put them in a paper bag in a warm, dry position (such as a sunny window sill). After a few days, the fruit valves will open, allowing the seeds and much 'chaff' (sterile seeds and other fine packing material in the fruit) to fall out. A pasta colander is useful to separate the seeds from the fruits at that stage.



Fruit structure in *E. incrassata*.



Fruit structure in *E. drummondii*.



Pendulous and urn-shaped fruits in *E. calophylla*. Sessile and cup-shaped fruits on flattened peduncles in *E. cernea*. Ribbed and barrel-shaped fruits on short pedicels in *E. incrassata*. Sessile and fully-fused fruits in *E. conferrumata*.

Corymbia ficifolia

(Western Australian) red-flowering gum

Name: From the Latin *ficus* (a fig tree) and *folius* (leaved), referring to the similarity of its leaves to some fig (*Ficus*) species.

Also known as **flowering gum**, **scarlet gum** and **scarlet-flowering gum**.

Authority: *Corymbia ficifolia* (F.Muell.) K.D.Hill & L.A.S.Johnson, *Telopea* 6: 245 (1995). T: Broken Inlet, WA, G.Maxwell s.n. (holo: MEL; iso: K).

Synonym: Originally known as *Eucalyptus ficifolia*. In 1995 the generic name of all bloodwoods was changed from *Eucalyptus* to *Corymbia* (Hill & Johnson 1995).

Features: Heavy-crowned tree or shrubby mallee, single- or several-trunked, lignotuber and trunk/branch resprouter. Bark rough, usually thick, fibrous to flaky. Leaves dark green on upper side, paler green beneath. Buds pear-shaped, in terminal clusters. Flowers red or orange (rarely pink), massed on outside of the canopy in summer. Fruits large, woody, egg-shaped to rounded.

Distribution & Habitat: Endemic to the south-west region. Its primary distribution is in coastal areas from just south-east of Walpole northwards to east of Mt Frankland. Several smaller outlying populations occur further to the east, at Boulder Hill (near Two Peoples Bay) and in the eastern part of the Stirling

Corymbia subg. *Corymbia*
sect. *Calophylla*

Range. The species grows on sandy soils in low-lying areas of heath or woodland. Commonly associated eucalypts include *C. calophylla*, *E. marginata* subsp. *marginata*, *E. megacarpa*, *E. patens* and *E. staeri*.

Notes: A distinctive species due to its leaves that are a paler shade of green on the underside, its large, woody, egg-shaped fruits, and its masses of colourful flowers on the outside of the canopy in summer. It is one of the most outstanding flowering trees in Australia, and is widely grown as an ornamental throughout southern Australia and abroad.

Corymbia ficifolia is closely related to the more widespread *C. calophylla* (marr), which can be distinguished by its adult leaves having visible oil glands (a hand lens is often needed to assess this), its more distinctly tessellated bark, its generally taller and more erect stature, its white or rarely pale pink flowers which occur later in the summer, its generally larger and consistently urceolate fruits, and its non-winged seeds. Hybrids between *C. ficifolia* and *C. calophylla* are rare in the wild but are common in cultivation. Such hybrids can be identified by their intermediate habit, flower colour, and fruit shape and size.

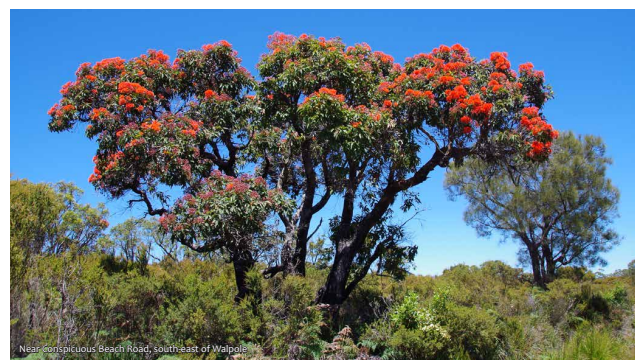
Corymbia ficifolia is similar to two other bloodwood species that occur further north in the region: *C. haematocylon* (mountain marr), from the Whitcher Range and the Darling Range, and *C. chlorolampra* (Mount Lesueur bloodwood), from the Mt Lesueur area. Both these species can be distinguished from *C. ficifolia* most reliably by their white flowers and their non-winged seeds.

Eucalyptus marginata (jarrah) and *E. staeri* (Albany blackbutt) are common associates and both have rough bark up to the branchlets, similar to *C. ficifolia*. However, both of these species are readily distinguished from *C. ficifolia* by the different texture of their bark, which is much more stringy-fibrous and held in flat, longitudinal strips, and also by their white flowers and much smaller fruits.

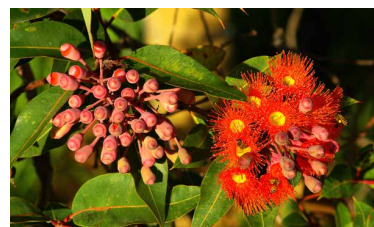
Conservation Status: Not currently conservation listed by WA (10th May 2019). Most populations occur in Walpole-Nornalup NP and Mount Frankland NP.



Boulder Hill, Two Peoples Bay, south of Manypeaks

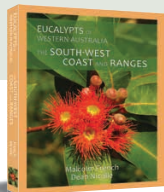


Near conspicuous beach road, south-east of Walpole



Painted seedling from Point Irwin

Description: Heavy-crowned tree or shrubby mallee, 2–12 m tall, lignotuberous. Bark rough up to the small branchlets, fibrous to flaky, weakly tessellated, grey to grey-brown, sometimes with red 'gum' (kino) exuding from the trunk. Branchlets not glaucous, without pith glands. Juvenile leaves ovate, not petiolate, stems and underside of leaves hairy. Adult leaves petiolate, broad-lanceolate to ovate, 70–150 mm × 25–55 mm, sometimes undulate, discolorous (dull to slightly glossy, dark green upper surface, paler below), oil glands lacking or obscure. Umbels arranged in terminal clusters, 7-flowered, held on terete peduncles 15–23 mm long. Buds clavate to pyriform, 9–16 mm long × 6–9 mm wide, pedicels 13–35 mm long. Opercula hemispherical. Flowers red or vermilion/orange (rarely pink), occurring in early and mid summer. Fruits pedicellate, woody, ovoid to globular, 20–35 mm long × 20–30 mm wide, disc descending, valves 3 or 4, deeply enclosed. Seeds 2black, with a terminal wing.

EUCALYPTS OF WESTERN AUSTRALIA –
THE SOUTH-WEST COAST AND RANGES*Eucalyptus tetraptera*

four-winged mallee

Name: From the Greek *tetra* (four) and *pterus* (winged), referring to its four-winged buds and fruits.

The common name refers to its four-winged buds and fruits, and its mallee habit. Also known as **square-fruited mallee**.

Authority: *Eucalyptus tetraptera* Turcz., Bull. Soc. Imp. Naturalistes Moscou 22(2): 22 (1849), T: Swan River to King George Sound [WA], J.Drummond 4: 71 (holo: LE; iso: BM, CGE, FI, G, K, PERTH).

Features: Sprawling, multi-stemmed mallee, lignotuber re-sprouter. Bark smooth. Adult leaves large, thick, green. Buds and fruits solitary, on robust, rigidly down-curved, broadly flattened stalks. Buds four-winged, red at maturity. Flowers bright pink. Fruits very large, four-winged.

Distribution & Habitat: Widespread but scattered along the south coast and subcoastal areas, from the Stirling Range area eastwards to the Russell Range, near Israelite Bay. It grows in mallee shrubland, usually on gravelly sands in undulating to hilly terrain, but also on sandy plains. Commonly associated eucalypts in the south-west region include *E. decurva*, *E. incrassata*, *E. lehmannii*, *E. pleurocarpa* and *E. preissiana*.

Notes: A distinctive species due to its low sprawling habit, its large, thick leaves, and its large, four-winged buds and

Eucalyptus subg. *Symphomyrtus*
sect. *Dumaria* ser. *Tetrapterae*

fruits. It has been widely planted in southern Australia as an ornamental and for its bizarre features.

The adult leaves of *E. tetraptera* are smallest in the west of its distribution (from the Stirling Range to Esperance) and are relatively much larger in the east of its distribution, on the plains north and east of Esperance.

Eucalyptus tetraptera is most closely related to *E. sweetmaniana* (Sweetman's mallee), which occurs near Cape Arid, east of Esperance and differs primarily in its smaller buds and fruits (fruits 34–38 mm long × 30–41 mm wide) which have slight ribbing between the four primary wings (ribbing between the wings is absent in *E. tetraptera*).

Eucalyptus tetraptera is also closely related to *E. brandiana* (four-winged mallet), a rare species known from only a few populations in Fitzgerald River NP. It differs from *E. tetraptera* most consistently in its non-lignotuberous, erect-stemmed mallet habit (it is an obligate seeder). *Eucalyptus brandiana* consistently has very large leaves, buds and fruits, whereas the size of these features in *E. tetraptera* is more variable across its distribution.

Rare hybrids involving *E. tetraptera* are sometimes conspicuous in the field, and displays features that are intermediate between the distinctive *E. tetraptera* and the other parent species. The two best-known hybrids involving *E. tetraptera* are *E. xerythrandra* (*E. tetraptera* × *E. angulosa*) and *E. xstoptera* (*E. tetraptera* × *E. stoatei*).

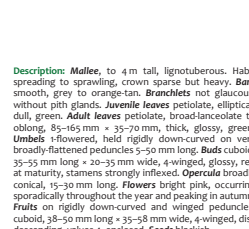
Conservation Status: Not considered threatened. Populations occur in Stirling Range NP and Fitzgerald River NP.



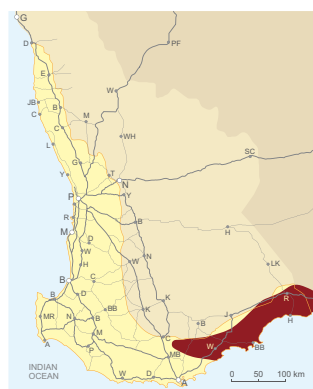
Red Gum Pass Road, Stirling Range National Park



North-west of Mount Waverley, north of Bremer Bay



Description: Mallee, to 4 m tall, lignotuberous. Habit spreading to sprawling, crown sparse but heavy. Bark smooth, grey to orange-tan. Branchlets not glaucous, without pith glands. Juvenile leaves petiolate, elliptical, dull, green. Adult leaves petiolate, broad-lanceolate to oblong, 85–165 mm × 35–70 mm, thick, glossy, green. Umbels 8-flowered, held rigidly down-curved on very broadly flattened peduncles 5–10 mm long. Buds cuboid, 35–55 mm long × 20–35 mm wide, 4-winged, glossy, red at maturity, stamens strongly inflexed. Opercula broadly conical, 15–30 mm long. Flowers bright pink, occurring sporadically throughout the year and peaking in autumn. Fruits on rigidly down-curved and winged peduncles, cuboid, 38–50 mm long × 35–38 mm wide, 4-winged, disc descending, valves 4, enclosed. Seeds blackish.

*Eucalyptus diversicolor*

karri

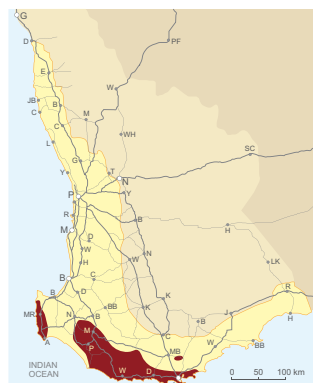
Name: From the Latin *diversus* (different) and *color* (colour), presumably referring to its discolorous leaves (a different shade of green on each surface of the leaf).

Karri is the indigenous name of the species.

Authority: *Eucalyptus diversicolor* F.Muell., *Fragm* 3(22): 131 1863 T: Wilson Inlet, WA, A.Oldfield 788 (Holo: MEL; iso: CGE, E, K).

Features: Grows in forests. Single-trunked tree, lignotuber absent, trunk and branch resprouter. Bark smooth, variously-coloured. Leaves lance-shaped, dark green on the upper surface, paler green beneath. Buds club-shaped. Fruits barrel-shaped.

Distribution & Habitat: Endemic to the south-west region. Restricted to the highest rainfall areas of the south-west, primarily in a belt from near Nannup to Denmark, where it grows in undulating to hilly terrain on red-brown loams, mostly in pure, even-aged stands. It extends eastwards along the south coast to Mt Manypeaks, where it usually grows around massive granite outcrops. Scattered populations also extend inland to Rocky Gully and the Porongurup Range. The species also occurs near the west coast, from north of Margaret River to near Cape Leeuwin, growing on loam overlying limestone. Commonly associated eucalypts include *C. calophylla*, *E. marginata* subsp. *marginata* and *E. megacarpa*.



Eucalyptus subg. *Symphomyrtus*
sect. *Inclusae*

Notes: *Eucalyptus diversicolor* is renowned for forming attractive forests of very tall, smooth-barked trees, as well as for its valuable timber. It is by far the tallest species from WA, and in Australia is only exceeded in height by a few other eucalypt species from eastern Australia. A tree felled at Pemberton in 1901 was measured at 87 m tall (Boland et al. 2006), with the tallest standing trees nowadays measuring around 80 m tall. A tree south of Pemberton, known as *The Tyrant*, is 69 m tall, 11.5 m in trunk girth, and has a wood volume of about 220 m³, and is thought to be the largest tree, by wood volume, in WA (NRBT 2019).

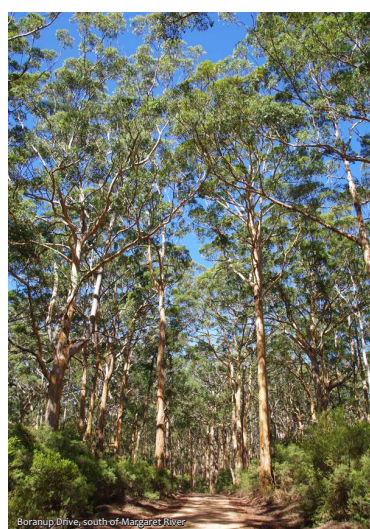
The timber is the second most important in WA (jarrah – *E. marginata* – being the most important), being hard, heavy and moderately durable, and useful for numerous building applications, as well as for paper pulp. Longer lengths are cut from this species than from any other hardwood (Boland et al. 2006). Its timber was exported in large quantities prior to World War II. Although the species can grow rapidly in plantations (a 73 metre-tall, 120 year-old cultivated *E. diversicolor* tree in Portugal represents the tallest tree in Europe), almost all cut timber is still sourced from natural stands, albeit more sustainably than in the past.

Perhaps the best karri forests occur in the area centred on Pemberton, and it is in that area where a number of trees have been converted into fire lookouts, by building platforms on the top of their lopped trunks. The trees would then resprout new branches along the lopped trunk. Some of these trees are publicly accessible (and climbable), including:

- The **Dave Evans Bicentennial Tree** in Warren NP (75 m tall);
- The **Gloucester Tree** at Pemberton (61 m tall);
- The **Diamond Tree** south of Manjimup (51 m tall).

Eucalyptus diversicolor, with its erect tree habit, its smooth, variably-coloured bark, and its discolorous leaves (a different shade of green on each side), is unlikely to be confused with any other species in its area of occurrence. It sheds its old bark in autumn in a spectacular display, revealing warm mottled colours of orange to yellow to creamy white.

Conservation Status: Not considered threatened. It occurs in a number of reserves, with fine stands in parts of Beedelup NP, Brockman NP, Gloucester NP, Mount Frankland NP, Porongurup NP, Shannon NP and Warren NP.



Boranup Drive, south of Margaret River



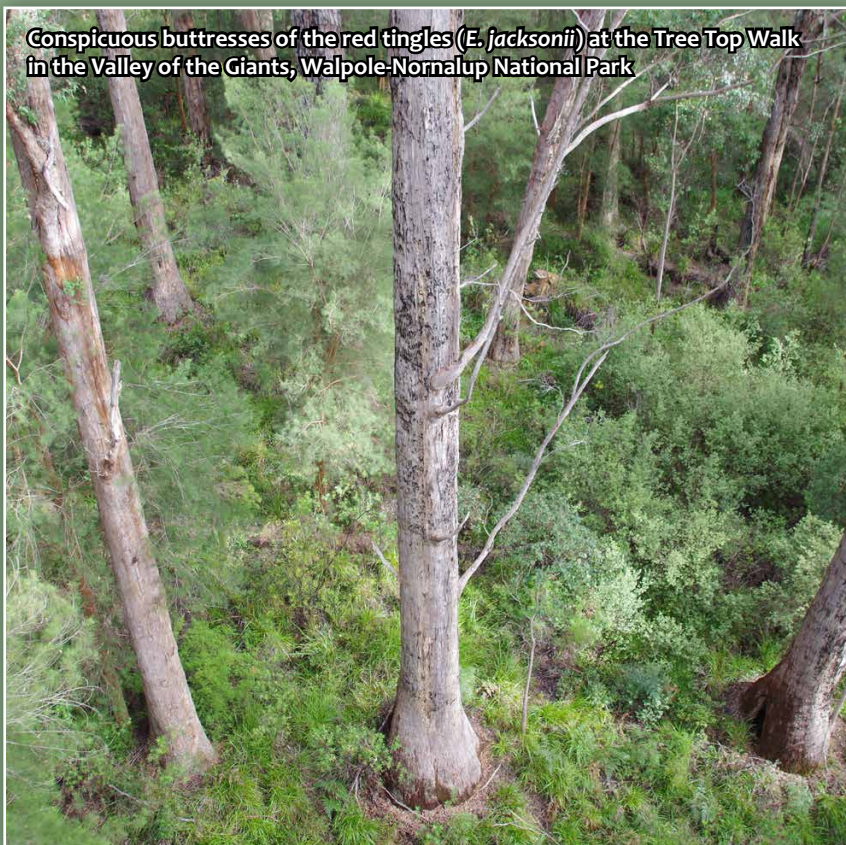
Dave Evans Bicentennial Tree, Warren National Park



Description: Tree, to 85 m tall, lignotuber absent but regenerating vegetatively via epicormic buds in the trunk and branches. Single-trunked, usually straight and non-branched to two thirds of its height in forest situations. Bark smooth, pale grey to pale pink-orange to yellowish to cream, shed in short strips. Branchlets not glaucous, without pith glands. Juvenile leaves opposite, petiolate, ovate to orbicular, discolorous, green. Adult leaves petiolate, lanceolate, 75–130 mm × 18–35 mm, discolorous, dull, dark green above, paler green below. Umbels 2-flowered, held on slender peduncles 12–30 mm long. Buds clavate to ovoid, 10–15 mm long × 5–7 mm long, pedicels 3–6 mm long. Opercula bluntly conical. Flowers white, occurring sporadically throughout the year and peaking in late summer and autumn. Fruits barrel-shaped, 8–12 mm long × 7–10 mm wide, rim thick, disc descending, valves 3, below rim level. Seeds grey.



Brilliant karris (*E. diversicolor*) down to the water's edge at Nornalup Inlet, Coalmine Beach, south of Walpole



Conspicuous buttresses of the red tingles (*E. jacksonii*) at the Tree Top Walk in the Valley of the Giants, Walpole-Nornalup National Park

A special thanks to many of you for assistance with the new book.

Thank you,
Malcolm

Any comments or questions, please contact me at
mef@eucalyptsofwa.com.au

Eucalypts of WA is now on Facebook

