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Eucalypts of Perth: Field Keys

The eucalypts (gum trees) seen in Perth either grow here naturally or have been introduced from other parts of Australia, such as the Eastern States or the Western Australian Goldfields.

This key will distinguish from one another the 16 eucalypt species that grow here naturally. More and more people are recognising their value. They are suited to Perth's conditions and are an important part of the region's natural setting and character. They are also particularly valuable as habitat for wildlife, such as birds and insects, with which they have evolved.

How to Use the Keys

If the eucalypt you want to identify is growing in a bush area, you can be fairly sure that it is one of the 16 natural species. Most planted eucalypts, however, are introduced species, and are therefore not covered by the keys.

If the eucalypt you are examining is on the coastal plain, use the key on pages 2-3; if in the Darling Range, then turn to pages 4-5. Start by choosing between the two alternatives at the left-hand side of the sheet. Whichever you choose will lead you on to a further choice. Three to five choices will lead you to a name of a species at the right-hand side. For instance, if your specimen is growing on the coastal plain, has rough bark throughout, has leaves darker on one side than the other, and has chunky bark, then it is a marri.

You may need to examine the buds or fruits ('nuts'). If they are out of reach, look for them on the ground; eucalypts almost always shed some.

Buds and fruits are easy to tell apart. Fruits are thicker and harder than buds. And whereas buds have a cap (its join with the rest of the bud is invisible in some species), fruits have 3 or 4 valves, and sometimes a definite opening. For a few species the key refers to the seeds; you will probably not be able to see these. For every species, however, there are sufficient other clues to determine its identity.

The keys allow for the variation within each species. For example, jarrah leaves vary in colour on trees in different

areas; so does the amount of rough bark on flooded gums.

Some Explanations

The 'coastal plain' comprises all land west of the Darling Scarp, including the gravelly soils at the foot of the Scarp.

A 'mallee' is a shrubby eucalypt, with several, more or less equal, stems arising from the ground.

'Glossy' foliage glistens in the sunlight, or has a sheen; if it does not, it is 'dull'.

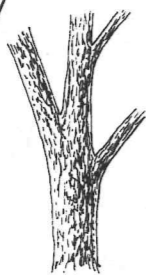
Getting to Know Perth's Eucalypts

Once you have identified a Perth eucalypt, note its general features, such as its size, growth-patterns, colours, bark and foliage. Look for other specimens of the same species elsewhere. After a while you will reach the satisfying stage of recognizing the species at a glance. It is then easy to learn more about it; for example, where it occurs and whether it is cultivated. Once you can recognize several Perth eucalypts, bush remnants take on more meaning.

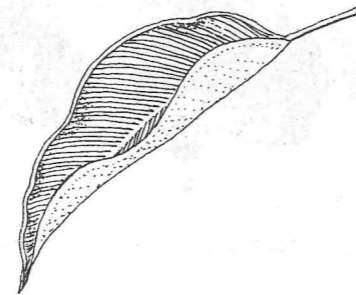
To find out more about Perth's eucalypts see Robert Powell's *Leaf and Branch: Trees and Tall Shrubs of Perth* (Perth: CALM, 1990).

If eucalypt growing on coastal plain, start here.

Bark rough throughout



Leaves much darker on one side than the other

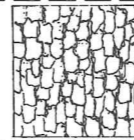


Bark stringy. Fruits less than 2 cm long



jarrah
(*Eucalyptus marginata*)

Bark chunky. Large fruits, more than 3 cm long



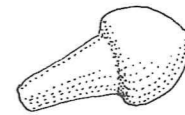
marri
(*E. calophylla*)

Leaves the same or similar colour both sides

Bud-caps rounded or hemispherical

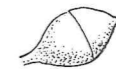


Large tree, usually well over 15 m tall. Foliage glossy. Bud-cap much broader than rest of bud



tuart
(*E. gomphocephala*)

Small to medium-sized tree, less than 15 m tall. Foliage dull. Bud-cap same width as rest of bud

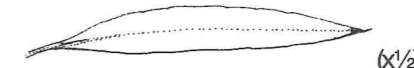


pricklybark
(*E. tottiana*)

Bud-caps conical, or narrow and cylindrical



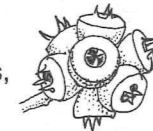
Mallee, usually less than 5 m tall. Leaves slender, about 1 cm across



Fremantle mallee
(*E. foecunda*)

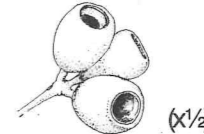
Tree (can occasionally be a mallee), usually well over 5 m tall. Leaves well over 1 cm across

Fruits hemispherical, less than 1 cm across, tightly clustered



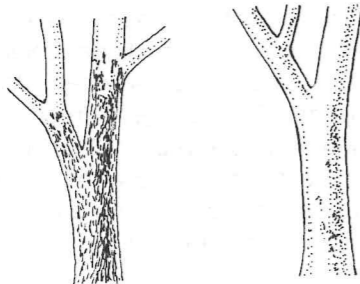
limestone marlock
(*E. decipiens*)

Fruits globular or cup-shaped, more than 1 cm across



jarrah
(*E. marginata*)

Bark not rough throughout: smooth and deciduous on upper branches or throughout



Tree, well over 5 m tall

Foliage glossy, green. Bud-caps hemispherical



salmon white gum
(*E. lane-poolei*)

Foliage dull, grey-green or bluish

Bark rough at base, and often also on the lower branches. Fruits broad; valves protrude prominently



flooded gum
(*E. rudis*)

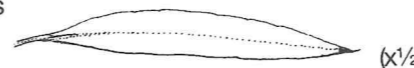
Bark of mature trees smooth throughout (saplings can be largely rough-barked). Fruits narrow; valves protrude only slightly if at all



wandoo
(*E. wandoo*)

Mallee, not more than 5 m tall

Leaves slender, about 1 cm across. Buds and fruits numerous



Fremantle mallee
(*E. foecunda*)

Leaves mostly well over 1 cm across

Bud-caps more than 5 mm long, pointed. Fruits with prominent, protruding valves



rock mallee
(*E. petrensis*)

Bud-caps less than 5 mm long, rounded. Valves of fruits protrude only slightly if at all



Yanchep mallee
(*E. argutifolia*)

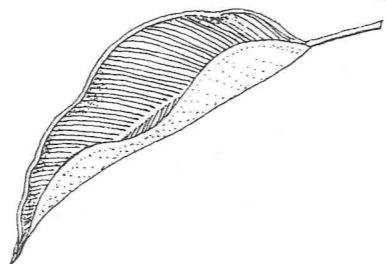


If eucalypt growing on Darling Scarp or Darling Plateau, start here.

Bark rough throughout

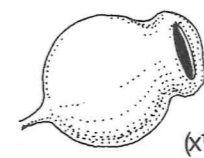


Leaves much darker on one side than the other



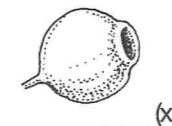
Leaves the same or similar colour both sides

Fruits 3-4 cm wide, with opening more than 12 mm across. Seeds black



marri
(*Eucalyptus calophylla*)

Fruits less than 2½ cm wide with opening less than 12 mm across. Seeds reddish-brown



lesser bloodwood
(*E. haematoxylon*)

Bark stringy. Bud-caps narrow. Seeds black, 4-6 mm long, ridged on one side



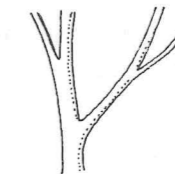
jarrah
(*E. marginata*)

Bark deeply furrowed. Bud-caps hemispherical; seeds brown, 2-3 mm long, D-shaped



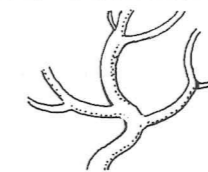
yarri
(*E. patens*)

Branches erect or curving upwards. Leaves dark green. Buds and fruits in groups of no more than three



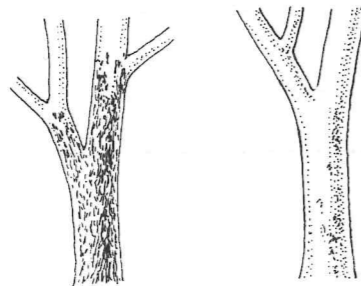
bullich
(*E. megacarpa*)

Branches meandering. Leaves mid green. Buds and fruits in groups of up to seven



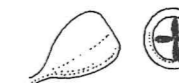
salmon white gum
(*E. lane-poolei*)

Bark not rough throughout: smooth and deciduous on upper branches or throughout



Foliage glossy. Mature buds about 1 cm across

Fruits 7-10 mm long, with usually 4 valves



powderbark
(*E. accedens*)

Bark powdery

Fruits about 5 mm long, with usually 3 valves

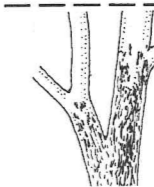


butter gum
(*E. laeliae*)

Foliage dull. Mature buds much less than 1 cm across

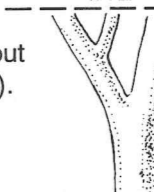
Bark not powdery

Bark rough at base, and usually rough to at least the lower branches. Fruits broad; valves protrude prominently



flooded gum
(*E. rudis*)

Bark of mature trees smooth throughout (saplings can be largely rough-barked). Fruits narrow; valves protrude only slightly if at all



wandoo
(*E. wandoo*)



Another Form of Key

Keys are used in many books on plant identification, such as *Flora of the Perth Region*, by N.G. Marchant *et al.*, and *How to Know Western Australian Wildflowers*, by Blackall and Grieve. Below is the complete key to Perth's eucalypts set out in the form that is used in such books.

The statements are written as numbered pairs.

Start with the pair labelled 1:

1. Growing on coastal plain (top)
1. Growing on Darling Scarp or Darling Plateau (p. 7)

Choose the one that fits your eucalypt, then consider the pair of statements that occurs immediately below your chosen statement (i.e. either the pair labelled 2 or the pair labelled 14). Repeat this process until you arrive at a species.

- | | |
|---|--|
| 1. Growing on coastal plain | |
| 2. Bark rough throughout | |
| 3. Leaves much darker on one side than the other | |
| 4. Bark stringy. Fruits less than 2 cm long | jarrah (<i>Eucalyptus marginata</i>) |
| 4. Bark chunky. Large fruits, more than 3 cm long..... | marri (<i>E. calophylla</i>) |
| 3. Leaves the same or similar in colour both sides | |
| 5. Bud-caps rounded or hemispherical | |
| 6. Large tree, usually well over 15 m tall. Foliage glossy. Bud-cap much broader than rest of bud..... | tuart (<i>E. gomphocephala</i>) |
| 6. Small to medium-sized tree, less than 15 m tall. Foliage dull. Bud-cap same width as rest of bud..... | pricklybark (<i>E. tottiana</i>) |
| 5. Bud-caps conical, or narrow and cylindrical | |
| 7. Mallee, usually less than 5 m tall. Leaves slender, about 1 cm across..... | Fremantle mallee (<i>E. foecunda</i>) |
| 7. Tree (can occasionally be a mallee), usually well over 5 m tall. Leaves well over 1 cm across | |
| 8. Fruits hemispherical, less than 1 cm across, tightly clustered..... | limestone marlock (<i>E. decipiens</i>) |
| 8. Fruits globular or cup-shaped, more than 1 cm across..... | jarrah (<i>E. marginata</i>) |
| 2. Bark not rough throughout: smooth and deciduous on upper branches or throughout | |
| 9. Tree, well over 5 m tall | |
| 10. Foliage glossy, green. Bud-caps hemispherical..... | salmon white gum (<i>E. lane-poolei</i>) |
| 10. Foliage dull, grey-green or bluish | |
| 11. Bark rough at base, and often also on the lower branches. Fruits broad; valves protrude prominently..... | flooded gum (<i>E. rudis</i>) |
| 11. Bark of mature trees smooth throughout (saplings can be largely rough-barked). Fruits narrow; valves protrude only slightly if at all.... | wandoo (<i>E. wandoo</i>) |
| 9. Mallee, not more than 5 m tall | |
| 12. Leaves slender, about 1 cm across
Buds and fruits numerous..... | Fremantle mallee (<i>E. foecunda</i>) |
| 12. Leaves mostly well over 1 cm across | |
| 13. Bud-caps more than 5 mm long, pointed. Fruits with prominent, protruding valves..... | rock mallee (<i>E. petrensis</i>) |
| 13. Bud-caps less than 5 mm long, rounded. Valves of fruits protrude only slightly if at all..... | Yanchep mallee (<i>E. argutifolia</i>) |

1. Growing on Darling Scarp or Darling Plateau

14. Bark rough throughout

15. Leaves much darker on one side than the other

16. Fruits 3-4 cm wide, with opening more than 12 mm across.

Seeds black..... **marri (*E. calophylla*)**

16. Fruits less than 2½ cm wide with opening less than 12 mm across.

Seeds reddish-brown..... **lesser bloodwood
(*E. haematoxylon*)**

15. Leaves the same or similar colour both sides

17. Bark stringy. Bud-caps narrow. Seeds black, 4-6 mm long,
ridged on one side.....

jarrah (*E. marginata*)

17. Bark deeply furrowed. Bud-caps hemispherical; seeds brown,
2-3mm long, D-shaped.....

yarri (*E. patens*)

14. Bark not rough throughout: smooth and deciduous on upper branches
or throughout

18. Foliage glossy. Mature buds about 1 cm across

19. Branches erect or curving upwards. Leaves dark green. Buds
and fruits in groups of no more than three.....

bullich (*E. megacarpa*)

19. Branches meandering. Leaves mid green. Buds and fruits in
groups of up to seven.....

**salmon white gum
(*E. lane-poolei*)**

18. Foliage dull. Mature buds much less than 1 cm across

20. Bark powdery

21. Fruits 7-10 mm long, with usually 4 valves.....

powderbark (*E. accedens*)

21. Fruits about 5 mm long, with usually 3 valves.....

butter gum (*E. laeliae*)

20. Bark not powdery

22. Bark rough at base, and usually rough to at least the lower
branches. Fruits broad; valves protrude prominently.....

flooded gum (*E. rudis*)

22. Bark of mature trees smooth throughout (saplings can be
largely rough-barked). Fruits narrow; valves protrude only
slightly if at all.....

wandoo (*E. wandoo*)

Written by Robert Powell, who has had a lifelong interest in Perth's native trees, and Dr Stephen Hopper, a research botanist who is the Director of Kings Park and Botanic Garden. Illustrations by Margaret Pieroni.

This Resource Note has been produced as a contribution to Greening Western Australia's Schools Education Program. The Program aims to develop students' understanding of, involvement in and long-term commitment to the conservation, restoration and expansion of local native vegetation to contribute to sustainable land-use practices throughout Western Australia.

The Program provides:

- ❖ curriculum materials and supporting resources
- ❖ professional development training for teachers
- ❖ "Grow Us A Home" revegetation projects.

For further information please contact:

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1118 Hay Street
WEST PERTH 6005

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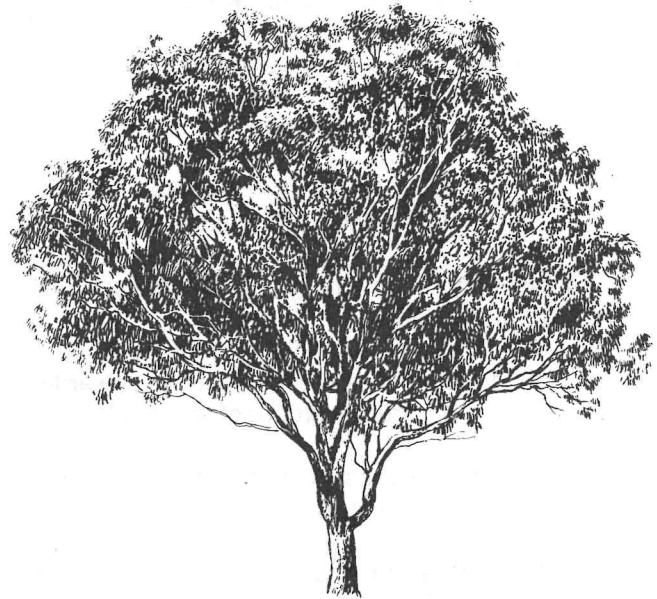
Some Eucalypts in Outline

Once you are familiar with Perth's eucalypts you can often identify one of them by seeing no more than its outline, for example in silhouette against the sky. Different species have characteristic patterns of growth; four examples are shown below. These distinctions, however, are only generalisations. Individual trees of the one species vary enormously; that is particularly true of mature specimens growing in natural conditions. One need therefore never tire of looking at Perth's eucalypts.



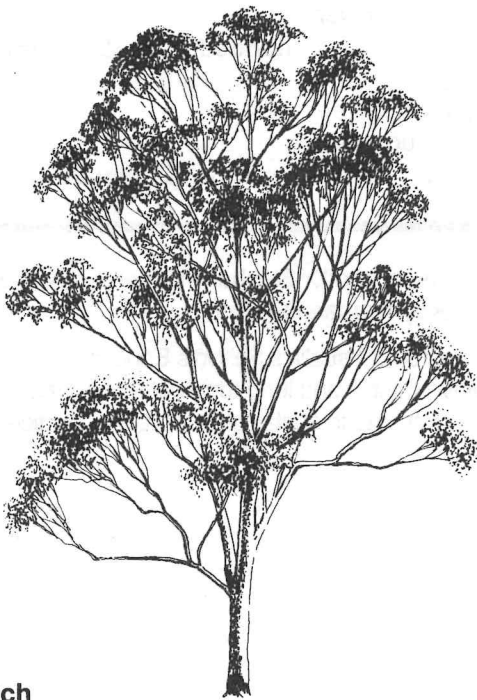
marri

Often has a prominent main trunk; branches wiggle or meander



flooded gum

Often divides evenly into many branches; foliage usually dispersed



bullich

Open tree with foliage in tight clumps; branches straight or curving upwards. (Occurs sparsely in Jarrahdale area and to the south.)



Fremantle mallee

Typical mallee form: two or more slender stems arise from a rootstock (lignotuber)