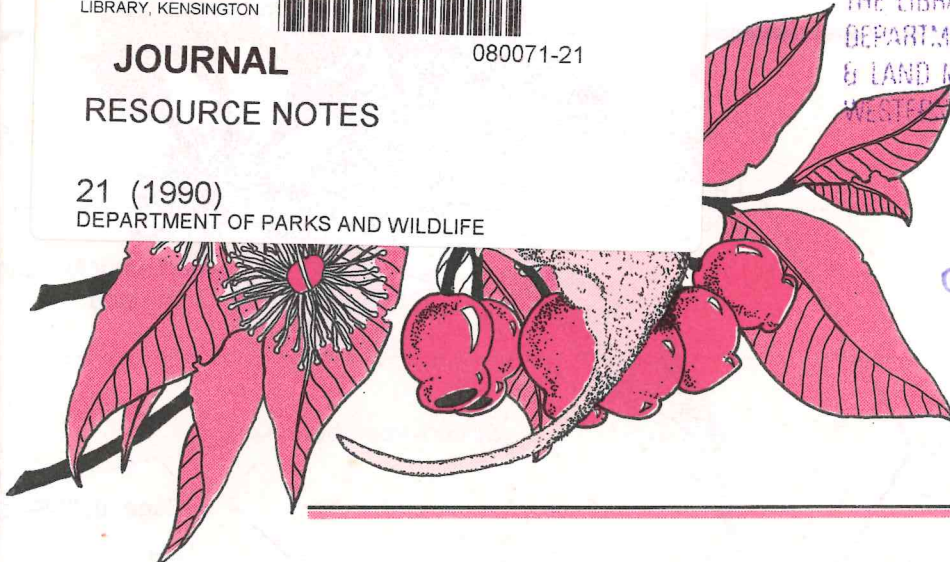




Resource Notes

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Number 21 June 1990
Department of Conservation
and Land Management, W.A.

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 recognizing 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.

All you need is a ruler. If you are 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 or four 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. 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.

To simplify the keys, yarri is treated as occurring in the Darling Range only. There is, however, one small population on the coastal plain, in Canning Vale.

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.

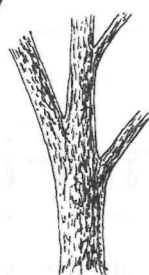
To find out more about Perth's eucalypts see Robert Powell's *Leaf and Branch: Trees and Tall Shrubs of Perth* (Perth: CALM, 1990).

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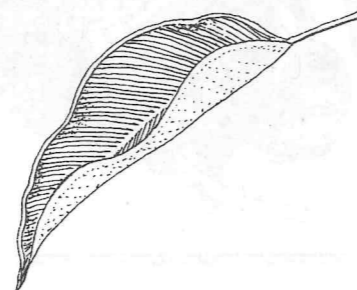
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EUC

If eucalypt growing on coastal plain, start here.

Bark rough throughout



Leaves much darker on one side than the other

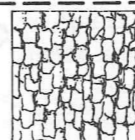


Bark stringy. Fruits less than 2 cm long



jarrah
(*Eucalyptus marginata*)

Bark chunky. Large fruits, more than 3 cm long



marri
(*E. calophylla*)

Leaves the same or similar colour both sides

Foliage dull

Bud-caps narrow



jarrah
(*E. marginata*)

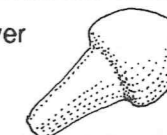
Bud-caps hemispherical



pricklybark
(*E. totiana*)

Foliage glossy

Large tree, usually well over 10 m tall. Leaves usually over 12 cm long. Mature buds about 2 cm long; bud-cap hemispherical, much broader than rest of bud



tuart
(*E. gomphocephala*)

Small to medium-sized tree, usually about 10 m tall. Leaves usually less than 12 cm long and more than 2 cm wide. Buds broad, 1 cm or more long when mature



limestone marlock
(*E. decipiens*)

Mallee, not more than 5 m tall. Leaves usually less than 8 cm long and less than 1 1/2 cm wide. Buds narrow, less than 1 cm long



Fremantle mallee
(*E. foecunda*)

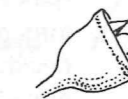
Foliage glossy, green. Bud-caps hemispherical



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

Tree, well over 5 m tall

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



flooded gum
(*E. rudis*)

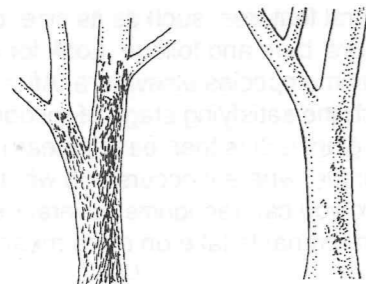
Foliage dull, grey-green or bluish

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

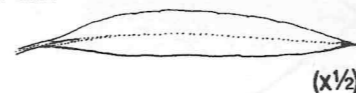


wandoo
(*E. wandoo*)

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



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



Fremantle mallee
(*E. foecunda*)

Mallee, not more than 5 m tall

Leaves mostly well over 1 cm across

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

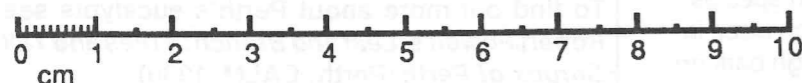


rock mallee
(*E. aff. falcata*) (aff. = affinity with/related to that species)

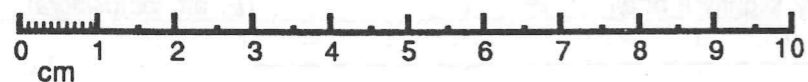
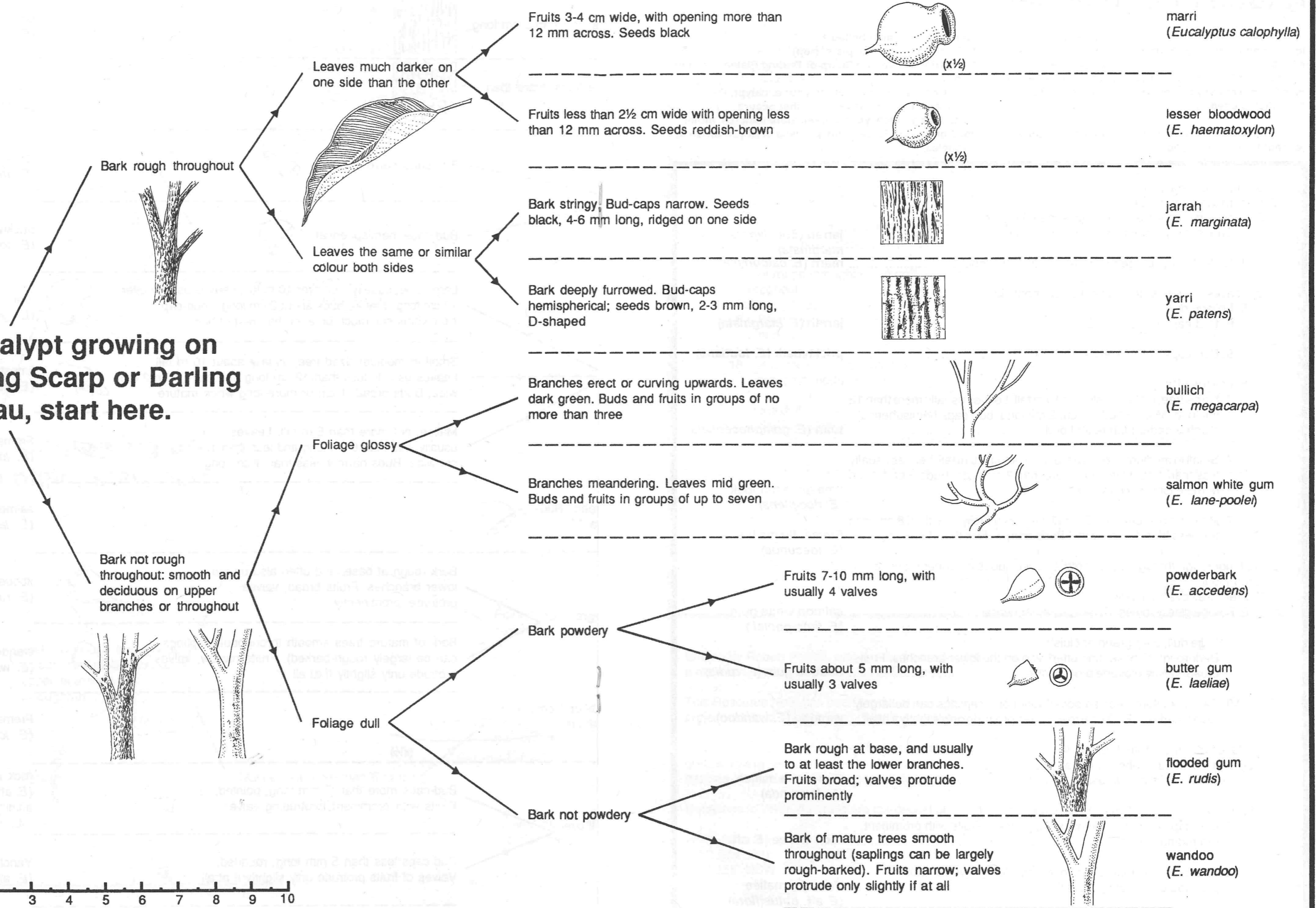
Bud-caps less than 5 mm long, rounded. Valves of fruits protrude only slightly if at all



Yanchep mallee
(*E. aff. obtusiflora*)



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



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 (except for the triplet, no. 7).

Start with the pair labelled 1:

1. Growing on coastal plain (top)
1. Growing on Darling Scarp or Darling Plateau (top of 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 no. 2 or no. 13). 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. Foliage dull | |
| 6. Bud-caps narrow..... | jarrah (<i>E. marginata</i>) |
| 6. Bud-caps hemispherical..... | pricklybark (<i>E. todtiana</i>) |
| 5. Foliage glossy | |
| 7. Large tree, usually well over 10 m tall. Leaves usually more than 12 cm long. Mature buds about 2 cm long; bud-caps hemispherical, much broader than rest of bud | tuart (<i>E. gomphocephala</i>) |
| 7. Small to medium-sized tree, usually about 10 m tall. Leaves usually less than 12 cm long and more than 2 cm wide. Buds broad, 1 cm or more long when mature..... | limestone marlock (<i>E. decipiens</i>) |
| 7. Mallee, not more than 5 m tall. Leaves usually less than 8 cm long and less than 1½ cm wide. Buds narrow, less than 1 cm long..... | Fremantle mallee (<i>E. foecunda</i>) |
| 2. Bark not rough throughout: smooth and deciduous on upper branches or throughout | |
| 8. Tree, well over 5 m tall | |
| 9. Foliage glossy, green. Bud-caps hemispherical | salmon white gum (<i>E. lane-poolei</i>) |
| 9. Foliage dull, grey-green or bluish | |
| 10. Bark rough at base, and often also on the lower branches. Fruits broad; valves protrude prominently..... | flooded gum (<i>E. rudis</i>) |
| 10. 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>) |
| 8. Mallee, not more than 5 m tall | |
| 11. Leaves slender, about 1 cm across | |
| Buds and fruits numerous..... | Fremantle mallee (<i>E. foecunda</i>) |
| 11. Leaves mostly well over 1 cm across | |
| 12. Bud-caps more than 5 mm long, pointed. Fruits with prominent, protruding valves..... | rock mallee (<i>E. aff. falcata</i>) |
| 12. Bud-caps less than 5 mm long, rounded. Valves of fruits protrude only slightly if at all..... | Yanchep mallee (<i>E. aff. obtusiflora</i>) |

1. Growing on Darling Scarp or Darling Plateau
13. Bark rough throughout
14. Leaves much darker on one side than the other
15. Fruits 3-4 cm wide, with opening more than 12 mm across. Seeds black..... **marri (*E. calophylla*)**
15. Fruits less than 2½ cm wide with opening less than 12 mm across. Seeds reddish brown..... **lesser bloodwood (*E. haematoxylon*)**
14. Leaves the same or similar colour both sides
16. Bark stringy. Bud-caps narrow. Seeds black, 4-6 mm long, ridged on one side..... **jarrah (*E. marginata*)**
16. Bark deeply furrowed. Bud-cap hemispherical; seeds brown, 2-3 mm long, D shaped..... **yarri (*E. patens*)**
13. Bark not rough throughout: smooth and deciduous on upper branches or throughout
17. Foliage glossy
18. Branches erect or curving upwards. Leaves dark green. Buds and fruits in groups of no more than three..... **bullich (*E. megacarpa*)**
18. Branches meandering. Leaves mid green. Buds and fruits in groups of up to seven..... **salmon white gum (*E. lane-poolei*)**
17. Foliage dull
19. Bark powdery
20. Fruits 7-10 mm long, with usually 4 valves..... **powderbark (*E. accedens*)**
20. Fruits about 5 mm long, with usually 3 valves..... **butter gum (*E. laeliae*)**
19. Bark not powdery
21. Bark rough at base, and usually rough to at least the lower branches. Fruits broad; valves protrude prominently..... **flooded gum (*E. rudis*)**
21. 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 at the W. A. Wildlife Research Centre. Illustrations by Margaret Pieroni.

This Resource Note has been produced as a contribution to the Perth Wildlife Watch, a public education project of World Wildlife Fund (WWF) Australia.

WWF Australia, one of 28 such bodies in different parts of the world, was formed in 1978 to provide a greater awareness of the needs of conservation. It raises funds for projects to conserve endangered species of wildlife, and has successfully funded over 200 projects throughout Australia.

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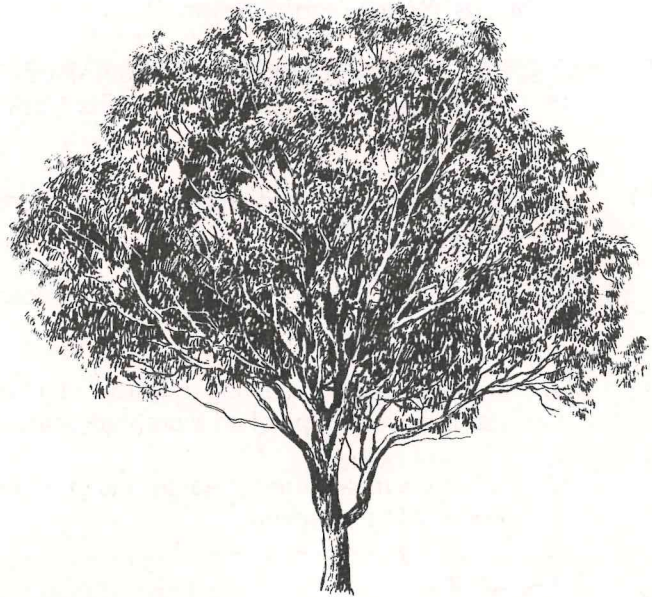
Some Eucalypts in Outline

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 generalizations. 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.



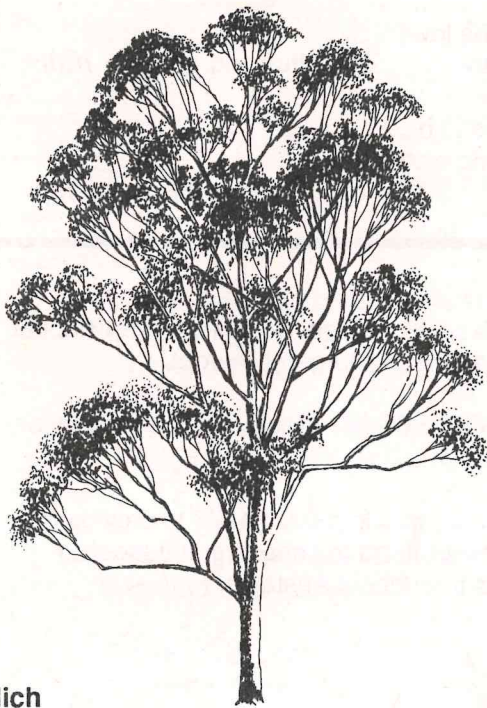
marri

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)