

Eucalypts—a simplified key to 17 W.A. species

Australia is one of the oldest land surfaces of the world. It is said that many ages ago the continent consisted of a vast undulating plain covered by a comparatively uniform vegetation.

Subsequently the country was subjected to a series of major climatic changes which greatly influenced the vegetation, causing considerable destruction, modification and migration of species and communities. Mountain building, glaciation and inundation of large areas all played their part in producing the present complex pattern of plant life.

Of particular interest is the way in which the southern half of Western Australia has been botanically isolated from the rest of Australia. Here a very characteristic flora has been developed as a result of a desert barrier (including the treeless Nullarbor Plain which was once covered by the sea) limiting migration and intermingling of plants.

Eucalyptus is by far the most important genus of Australian forest trees. Its members dominate 95 per cent of our forest area and spread out over much of the remainder of the country.

Eucalypts have been able to adapt themselves to a wide range of conditions in both tropical summer rainfall and cool temperate rainfall areas—from the deserts to the snows. They occupy both dry and wet sites, even swamps in places, exposed positions and sheltered congenial slopes and valleys, infertile sands, rich loams and intractable clays.

As would be expected in such a widespread genus, a great range in form is exhibited by members growing under different environmental conditions.

A number of eucalypts are of shrubby form and are of interest, in some cases, because of their decorative appearance and drought resistant properties.

Identification of eucalypts is often not a simple task and a single characteristic is rarely sufficient for the purpose.

Over 600 species and variations have been named. Many different eucalyptus species have similar characteristics, and even the identifying characteristics on one particular tree or trees of the same species can vary greatly: e.g. *E. loxophleba* (York Gum) in the key.

A positive identification can generally result only from the careful consideration of a number of features possessed by an individual tree. The most helpful of these are the general size and form; the nature of the bark on the trunk and branches; the adult leaf characters, including venation and oil dots; juvenile leaf forms; flower colour type and size, shape and structure of buds and fruits. Where naturally-occurring plants are concerned, the geographical location and habitat can be of great assistance in their identification as many species are strictly limited in their distribution.

In response to enquiries received by the Forests Department, this article includes a simple key for identification of 17 of Western Australia's more important species, compiled by Forests Department Silviculturist, Frank Batini.

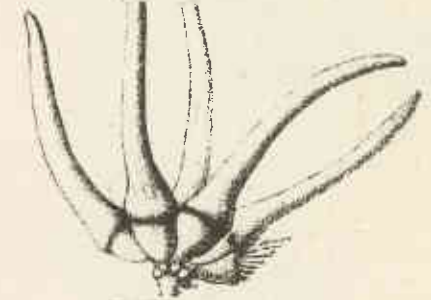
Example for using simplified key:
Assuming we have a tree with a smooth, greyish-white bark, large fruits and exert valves.

Under the major heading "Bark smooth", the specimen fits into the colour of bark category *greyish-white*. The large fruit and exert valves would then place the specimen into the first of the next two categories, which means that it is *E. megacarpa*, or Bullich.

Explanatory notes

Eucalypt buds consist of the *operculum* which protects the developing stamens and which is eventually shed as these mature; and the *calyx* which develops into the fruit.

Operculum longer than calyx



YATE (*E. cornuta*)

Operculum shorter than calyx



MARRI (*E. calophylla*)

When the seeds are ripe, the valves in the fruit open and the seeds are released. The valves may either be *exsert* or *enclosed*.

Exsert valves



BROWN MALLET (*E. astringens*)

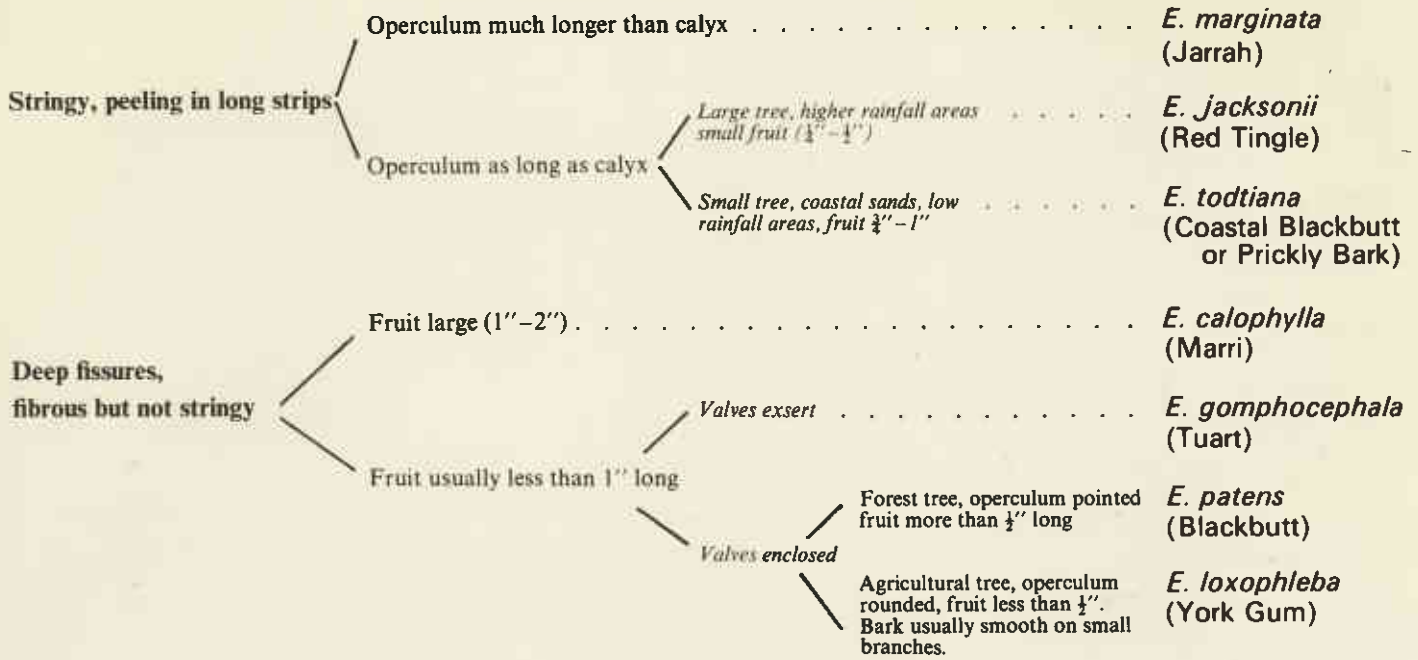
Enclosed valves



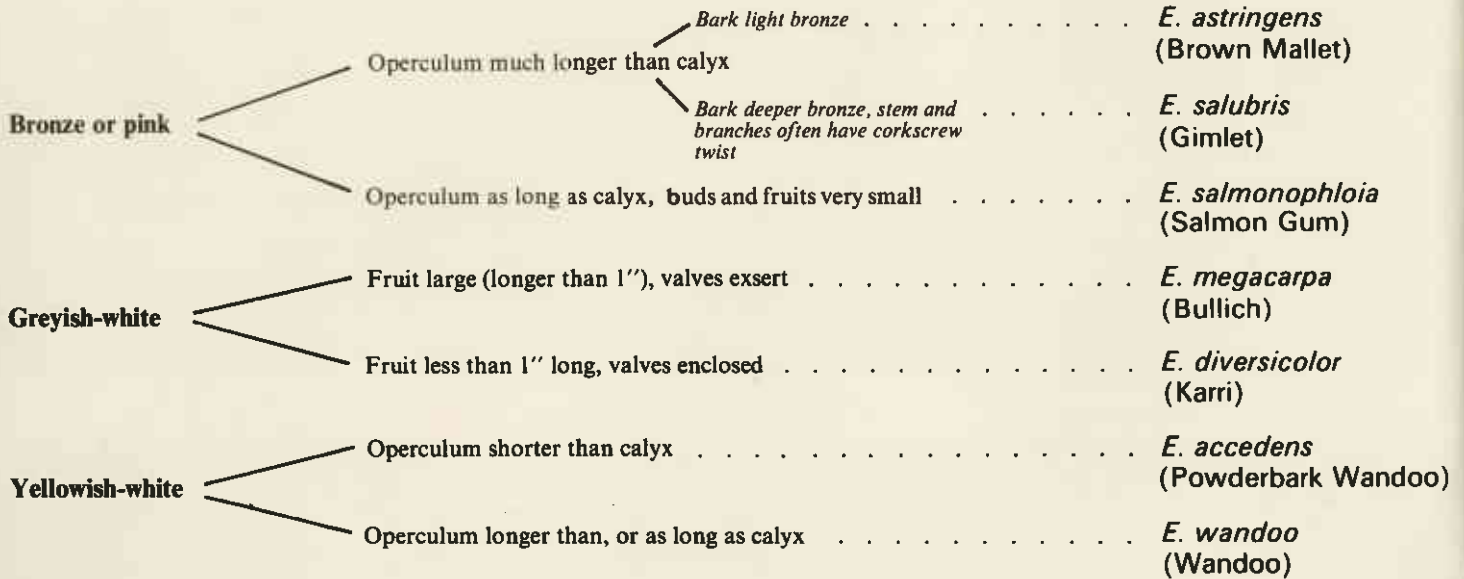
JARRAH (*E. marginata*)

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BARK THICK, ROUGH AND PERSISTENT



BARK SMOOTH

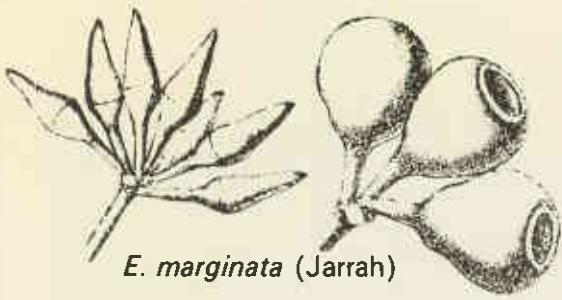


BARK ROUGH ON TRUNK, SMOOTH ON LARGER BRANCHES

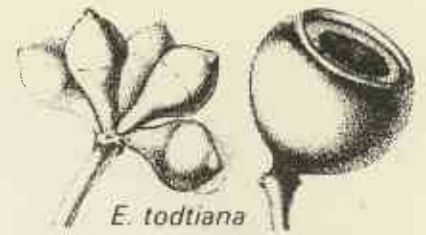
- Operculum much longer than calyx (4-5 times); distinctive beaked fruit *E. cornuta* (Yate)
- Operculum much longer than calyx (2-3 times), slightly ribbed, bell shaped fruit *E. occidentalis* (Flat-topped Yate)
- Operculum bluntly pointed, slightly longer than calyx *E. rudis* (Flooded Gum)
- Operculum shorter than calyx *E. loxophleba* (York Gum)

Buds and fruits of 17 W.A. eucalypts

(normal size)



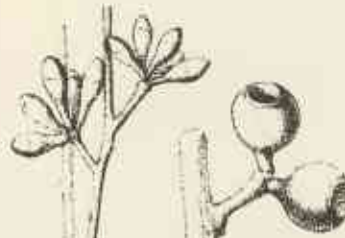
E. marginata (Jarrah)



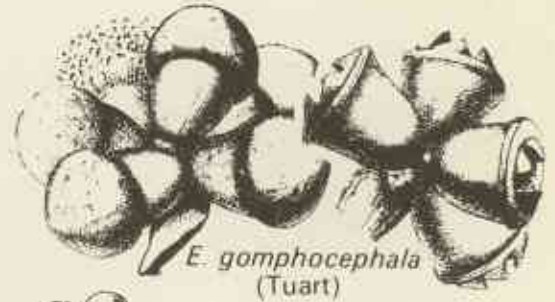
E. totiana
(Coastal Blackbutt or Prickly Bark)



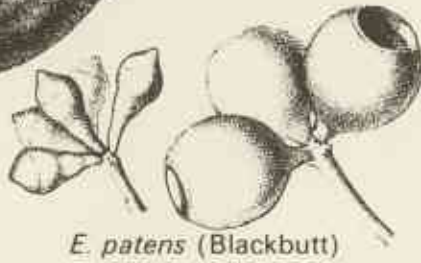
E. calophylla (Marri)



E. jacksonii (Red Tingle)



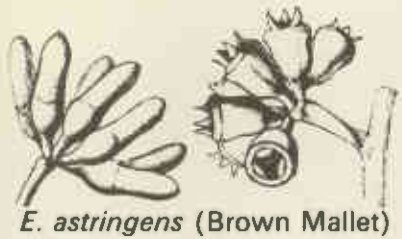
E. gomphocephala
(Tuart)



E. patens (Blackbutt)



E. loxophleba
(York Gum)



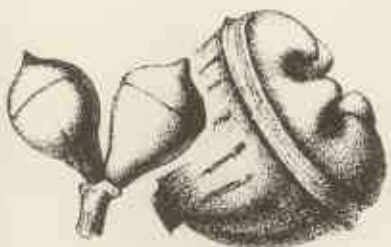
E. astringens (Brown Mallet)



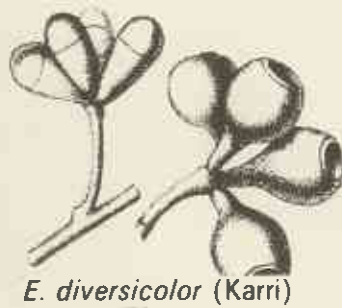
E. salubris (Gimlet)



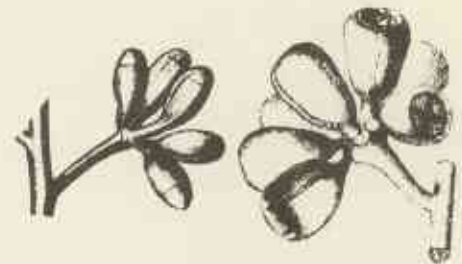
E. salmonophloia (Salmon Gum)



E. megacarpa (Bullich)



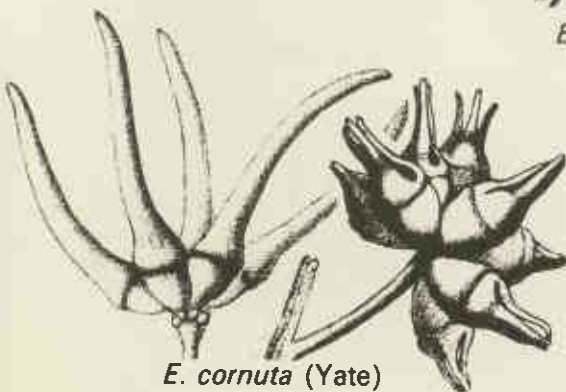
E. diversicolor (Karri)



E. accedens (Powderbark Wandoo)



E. wandoo (Wandoo)



E. cornuta (Yate)



E. occidentalis (Flat-topped Yate)



E. rudis (Flooded Gum)