

*Selected*  
FLOWERING EUCALYPTS  
*of*  
WESTERN AUSTRALIA



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*Front cover :*  
Illyarrie (*Eucalyptus erythrocorys*)

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## FOREWORD

One hundred and sixty-five species and a number of varieties of the genus *Eucalyptus* have been recorded in Western Australia. Included in the list are two new members, *Eucalyptus laeliae* and *E. roycei*, which were named in the last five years, while another four are currently being described. It is quite possible that the number will further increase in future years.

Most of the species are endemic to Western Australia and a number of them have unique characteristics of colour or shape of the buds, flowers or fruits. Foresters operating through the southern part of the State have built up an interesting collection of photographs of some 29 species and 5 varieties of these attractive eucalypts, and in this booklet they are presented in 65 full-colour reproductions, together with black and white illustrations (natural size) of the buds and fruits of each species.

It is hoped that this booklet will add further to the prestige of the world renowned flora of the "Wildflower State".



*Conservator of Forests*

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## ACKNOWLEDGEMENTS

The department is grateful for the assistance and co-operation of many people in the preparation of this booklet.

In particular, thanks are expressed to:

Mr. G. E. E. Brockway who, from his extensive knowledge of West Australian eucalypts, prepared the basic text and made available colour photographs from his own collection.

Mr. R. D. Royce, Curator of the State Herbarium, who advised on technical matters and made available a large number of photographs.

The Director-General, Forestry and Timber Bureau, Canberra, and the Director of the Royal Botanic Gardens and National Herbarium, New South Wales, for permission to reproduce illustrations of the buds and fruits of the eucalypts described in the booklet.

Dr. J. S. Beard, Director and Chief Botanist, Royal Botanic Gardens and National Herbarium, New South Wales, who made available photographs from his collection.

The late Mr. C. A. Gardner, who also supplied a selection of photographs from his own collection.

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## INTRODUCTION

The genus *Eucalyptus* includes in its 600-odd species and varieties not only trees of high commercial value for their timber, tanning materials and oil-producing foliage, but also many trees and shrubs of considerable aesthetic value.

Any healthy tree may be considered to possess aesthetic value but this publication is concerned mainly with those members of the genus which show outstanding beauty in blossoms, fruits or unique foliage or bark. Some 30 such trees and mallees occur in the southern portion of Western Australia, a section of the State which enjoys a mild climate and receives a predominantly winter rainfall. The outstanding trees of the northern part of the State have not been included.

The general statement has been made that "the smaller the eucalypt the bigger its blossom". Actually the converse is nearer the truth as many small eucalypts have very small blossoms, nevertheless, most large eucalypt flowers are produced by species of small size.

Most of the small eucalypts assume the "mallee" form with a large woody rootstock or lignotuber from which several distinct stems arise. If the stems are destroyed or removed, fresh shoots will arise from the lignotuber and it is this characteristic which enables mallee plants to rejuvenate vigorously without the necessity for actual replacement by replanting.

The table of distribution (p. 44) shows that more than half of the species listed occur in the 11 in. to 20 in. rainfall belt, the area where the greater part of the State's agricultural development has taken place. This means that their occurrence throughout their natural range is becoming increasingly fragmentary and many are now extremely rare. The remnants must be rigorously conserved otherwise most of them will, within the not-too-distant future, cease to exist in the wild state, and posterity could well be forced to rely on cultivated specimens to ensure the perpetuation of the species.





## TREES OF THE HUMID AND SUB-HUMID ZONES

### Marri

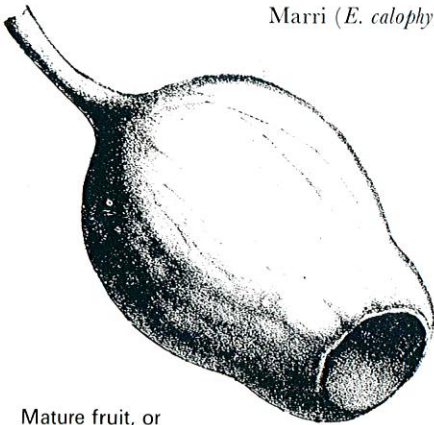
#### *Eucalyptus calophylla*

Marri (sometimes known as redgum) is one of the most widely distributed eucalypts in the south-west of Western Australia and is well known to the apiarist as a “honey” tree and to the farmer as a shade tree. It reaches its best development in the higher rainfall areas south of the Blackwood River where trees up to 150 ft. in height and 15 ft. in girth are relatively common. It extends, although in progressively diminishing size, northwards almost to the Murchison River; inland beyond the Great Southern railway; and along the south coast for some 50 miles north-east from Albany.

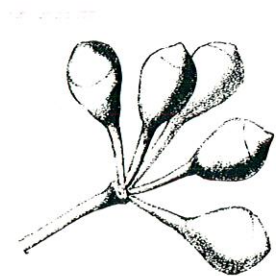
Marri belongs to the “bloodwood” group of eucalypts and in common with other members of this group displays its flowers to great advantage clear of the leaves. When grown as an isolated tree free from competition it develops a large globular crown which when covered with blossom makes a striking spectacle.

The blossom is characteristically white but a limited number of trees have been located which produce pink flowers. This “variety *rosea*” has proved so popular as an ornamental tree that it is now the only type of marri regularly distributed from Forests Department nurseries. Unfortunately the pink colour is not “fixed” and a small proportion of the seedlings from a pink parent will produce the normal white blossom. The name *calophylla* signifies beautiful leaf, while children know the large fruits as “hockey nuts”.

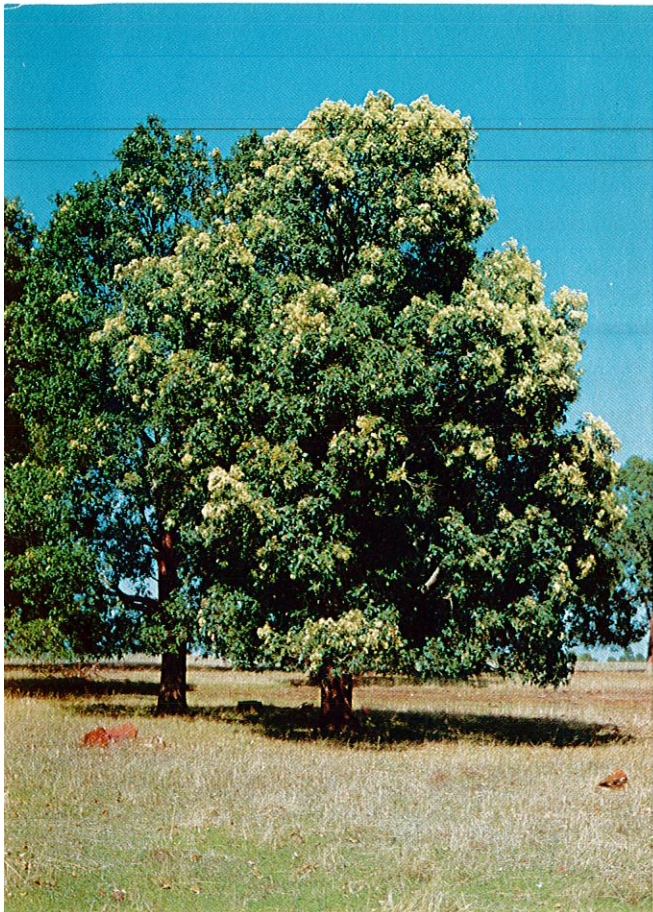
Marri (*E. calophylla*)



Mature fruit, or “hockey nut”, and buds of *E. calophylla*



Left: A forest, too, may be beautiful! Although not noted for beautiful flowers, karri, particularly after bark-shed in late summer, forms one of the world's most magnificent and scenically beautiful hardwood forests.



Above: Pink-flowered marri

Top, left: Marri shade trees on the coastal plain south of Perth.

Bottom, left: A young pink-flowered marri tree in flower.

## Red-flowered gum

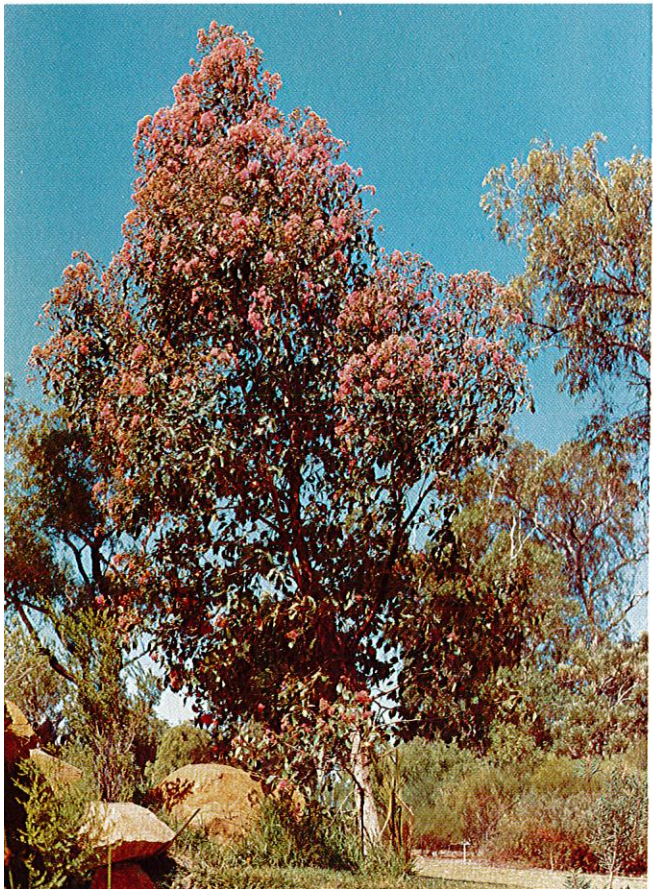
### *Eucalyptus ficifolia*

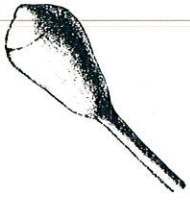
Undoubtedly the most spectacular of the flowering eucalypts, red-flowered gum (another bloodwood) is restricted in its natural habitat to only a few acres near Nornalup on the south coast. Well grown trees somewhat resemble marri but are smaller in stature (heights to 50 ft.) than that species and their crowns are more dense and compact.

At its best, the colour of the blossom is bright vermilion or scarlet, but there is considerable variation from tree to tree, ranging from pale salmon red to deep crimson.

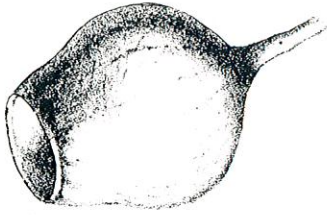
In Western Australia it is prone to attack by a fungal canker, which also affects marri, but less severely. The resultant disfigurement, loss of vigour and ultimate death, has proved a serious deterrent to its more widespread use in this State.

In other Australian States, as well as in overseas countries with comparable climates, where freedom from canker infection can be assured, *E. ficifolia* is held in high regard.





*E. ficifolia* bud and fruit



Above: Red-flowered gum  
(*E. ficifolia*)



Left: A young red-flowered gum in  
Perth

## Eucalyptus laeliae

This species is one of the most recently named eucalypts in Western Australia and as yet has no common name. It has been called butter gum because of the butter-yellow colour of the new bark which is briefly exposed in autumn. It is closely related to powder-bark wandoo *E. accedens* with which it was earlier confused.

It has a limited occurrence in small pure stands on laterite-free soils in the Darling Range.

The tree reaches a height of 65 ft. and is characterised by a startling white powdery bark which persists to the smallest branches. Its specific name refers to *laelia*, one of the vestal virgins, and is thereby a reference to the white clothing of the tree.

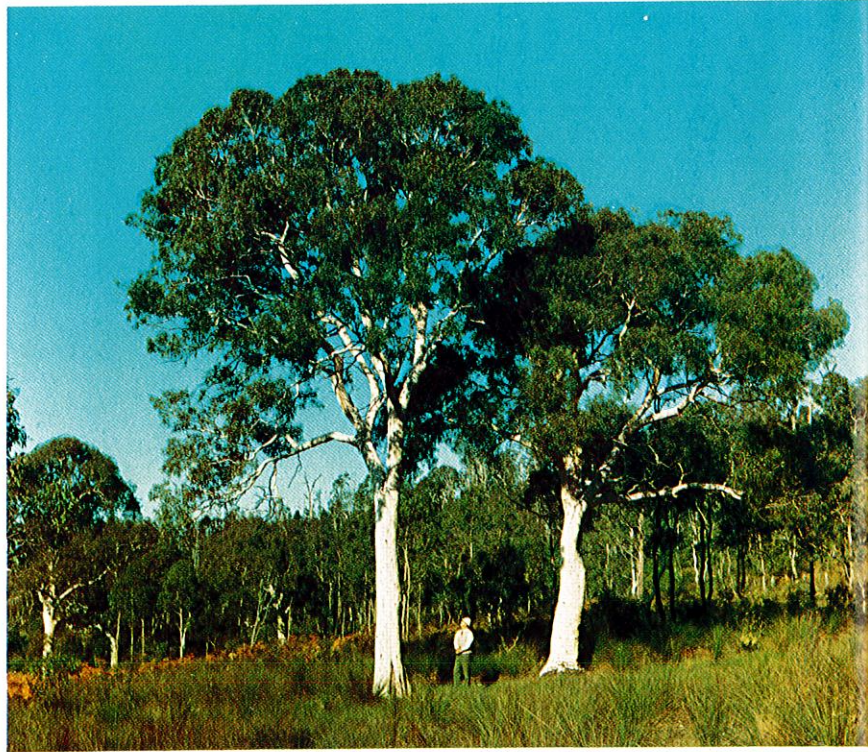
The tree frequently has a drooping habit and where open-grown in green fields of pasture it is a most pleasing sight.



*E. laeliae* buds



*E. laeliae* fruits usually have three valves, as distinct from *E. accedens* fruits, which usually have four



*E. laeliae* on the slopes of the Darling Range



Bald Island marlocks, nine years old, make a fine windbreak on the Esperance plain

## Bald Island marlock

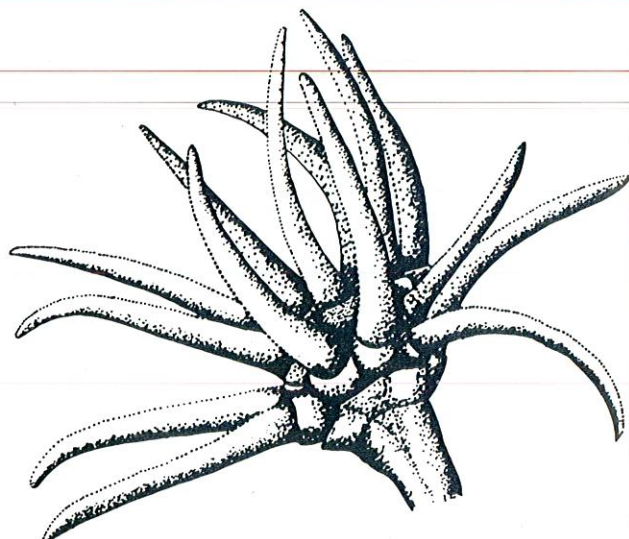
*Eucalyptus lehmannii*

In its native habitat this mallee or small bushy tree may attain a height of 30 ft. but usually it ranges from 10 ft. to about 20 ft. where it grows on the coastal stony hills between King George Sound and Cape Arid. The original specimens were collected by Ludwig Preiss on a hill at Cape Riche in 1840.

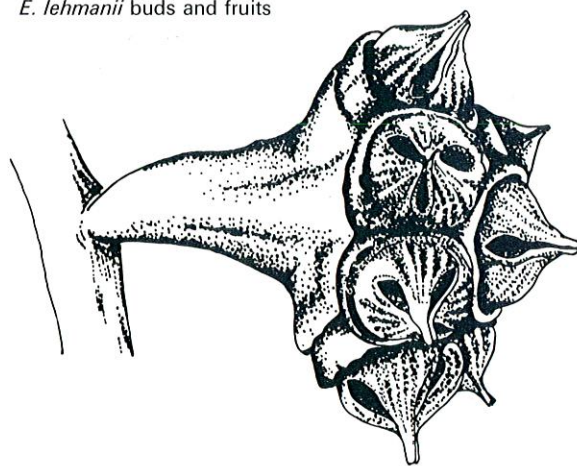
Usually smooth-barked, it has small deep green leaves and is one of the few Western Australian eucalypts with green or yellow-green flowers. The long finger-like opercula (budcaps) are unusual, as are the fruits which fuse together in a globular mass.

The undoubted value of this tree lies in its characteristic growth habit. It branches close to the ground and forms a dense globular crown and under suitable climatic conditions is an ideal shelter belt tree. It has proved adaptable and popular but prefers the lighter soil types.

Mature trees of *E. lehmannii*



*E. lehmannii* buds and fruits

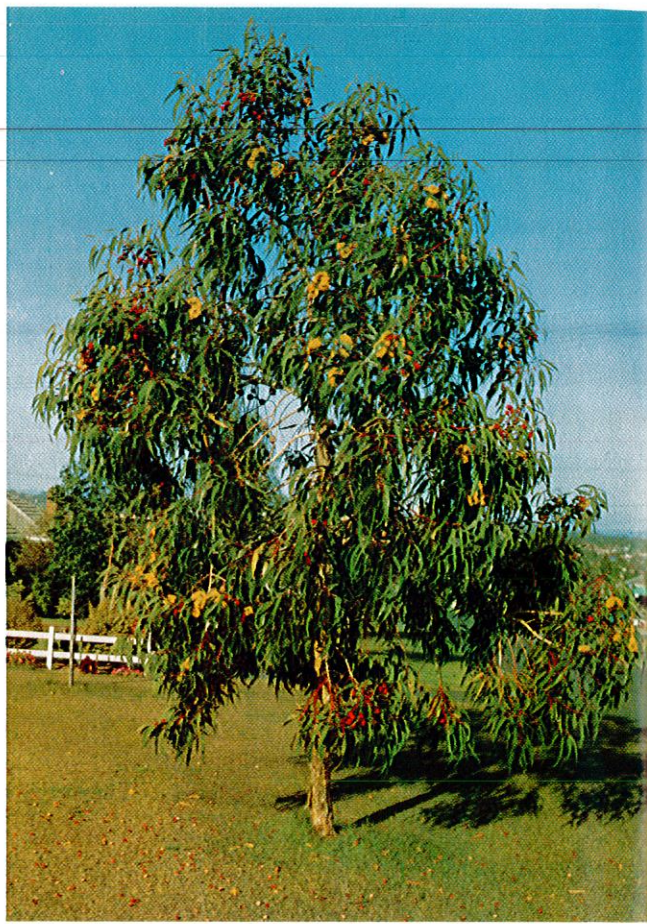


Bald Island marlock (*E. lehmannii*), buds, flowers and fruits



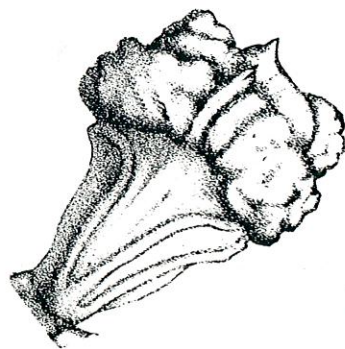


Illyarrie (*E. erythrocorys*)

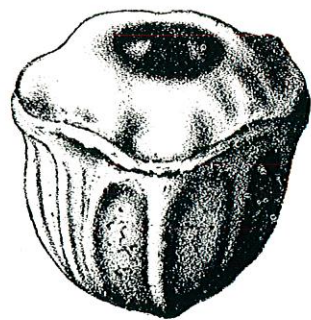


A young illyarrie in a Perth suburb

An older illyarrie in a Subiaco park



*E. erythrocorys*  
bud and fruit



## TREES OF THE SEMI-ARID ZONE

### Illyarrie

*Eucalyptus erythrocorys*

As a flowering eucalypt this small tree, which grows to a height of 25 ft., has a dual attraction. The brilliant red budcaps (opercula) which precede the blossoms are in themselves most striking but when the brilliant yellow of the flowers is added, the combination is both beautiful and unique.

With age the crown of Illyarrie tends to become sparse and ragged, but this can be easily overcome by light pruning if done early enough. The tree coppices readily and rejuvenation can often be effected by cutting it off near ground level and selecting the best of the subsequent coppice shoots as a replacement.

Although it occurs naturally on coastal limestone soils in the Geraldton region, illyarrie has shown itself to be quite adaptable as a garden subject, even as far inland as Kalgoorlie. It requires good drainage but being somewhat frost tender needs adequate protection for at least three years when being established in districts subject to frosts.

### Gungunnu

*Eucalyptus caesia*

This handsome mallee derives its specific name *caesia* from the Latin *caesius* (blue of the eyes) which refers to the blue-grey or pale-grey powdery appearance of the leaves, and more particularly the branchlets, buds and fruits. The flowers are quite large and, although lacking in brilliance, cover a pleasing colour range from pale pink to light red.

The geographic range of the species is extensive but fragmentary. It occurs near Brookton some 60 miles from Perth and extends eastwards to Fraser Range, a distance of 350 miles. It grows



Rich gungunnu (*E. caesia*) flowers at Manjimup

to a height of 20 ft. in sandy soils immediately adjacent to, or in soil pockets on the large granite bosses which are such a feature of southern Western Australia. These isolated patches, mostly separated by many miles from one another, have several recognisable strains.

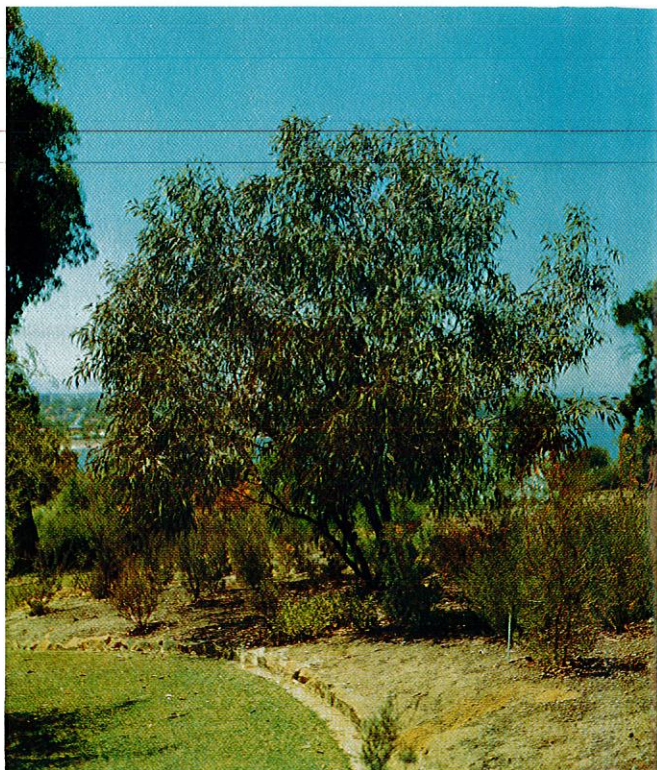




Above: Paler gungunnu flowers

Above, right: Gungunnu in King's Park, Perth

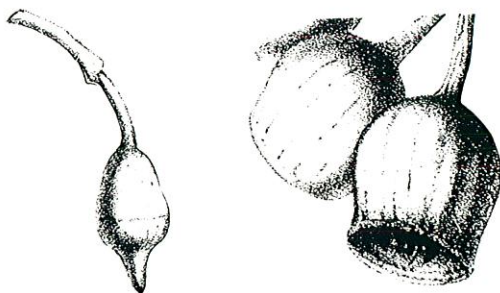
Below: Gungunnu with long pendulous branches, at Manjimup



The most attractive group located to date occurs in the Westonia district. The trees of this group are taller, the branches more pendulous and the flowers larger and of a deeper shade than those of any other known group.

Further features which lend added attraction to this particular group are the silvery white bloom on the buds and smaller branches and the unusual bark on the larger branches and trunk. The bark is reddish-brown and peels in thin reflexed strips revealing, at certain seasons, the green to golden brown of the freshly exposed bark layers.

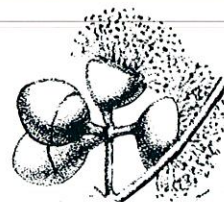
*E. caesia* can be grown quite readily in the Perth metropolitan area, but has proved less successful on heavier soils inland.



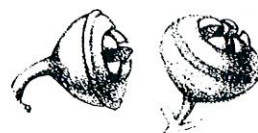
*E. caesia* bud and fruits



A seven-years-old Southern Cross mallee in the Narrogin arboretum



*E. crucis* buds, flowers and fruits



## Southern Cross mallee

*Eucalyptus crucis*

The Southern Cross mallee owes its popularity not to its flowers, which are relatively insignificant, but to the unusually decorative foliage of one strain of the species of very limited occurrence in the Westonia district. Here the mallee has developed round, almost sessile leaves of silvery-blue colour borne above rather rigid stems. Elsewhere the species produces the more common lanceolate leaves typical of most eucalypts and is of no particular decorative value.

*E. crucis*, which grows to a height of 25 ft. has the same attractive bark as *E. caesia*, a characteristic which appears to be confined to a number of eucalypts whose occurrence is restricted to the vicinity of granite rocks.

Like *E. caesia* it can be grown in the metropolitan area but is less successful on heavier soils inland.

## Weeping gum

*Eucalyptus sepulcralis*

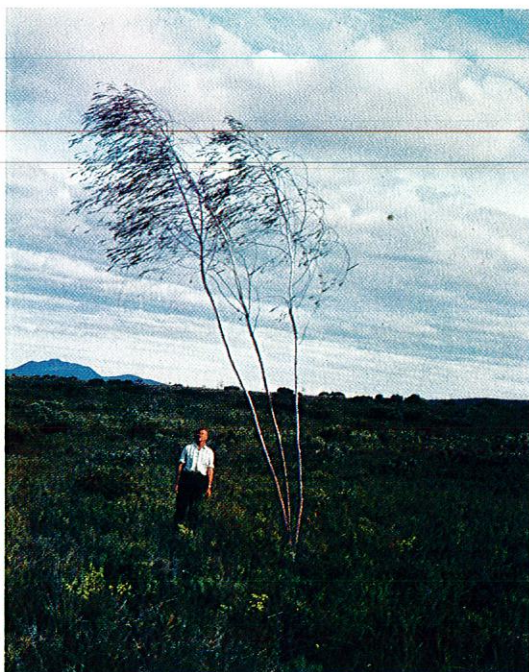
Another south coastal species, the weeping gum, is an exceedingly slender, graceful tree which grows in the sandy soils of the hills south of Ravensthorpe.

Perhaps the most unusual feature of the tree, which may attain a height of 25 ft., is that the bole rarely exceeds two inches in diameter. The bark is usually powder-white but may become plum-coloured according to the season of the year. The branches, the narrow shining olive-green leaves, the pale yellow flowers and the large "polished" olive-green fruits, are all pendulous.

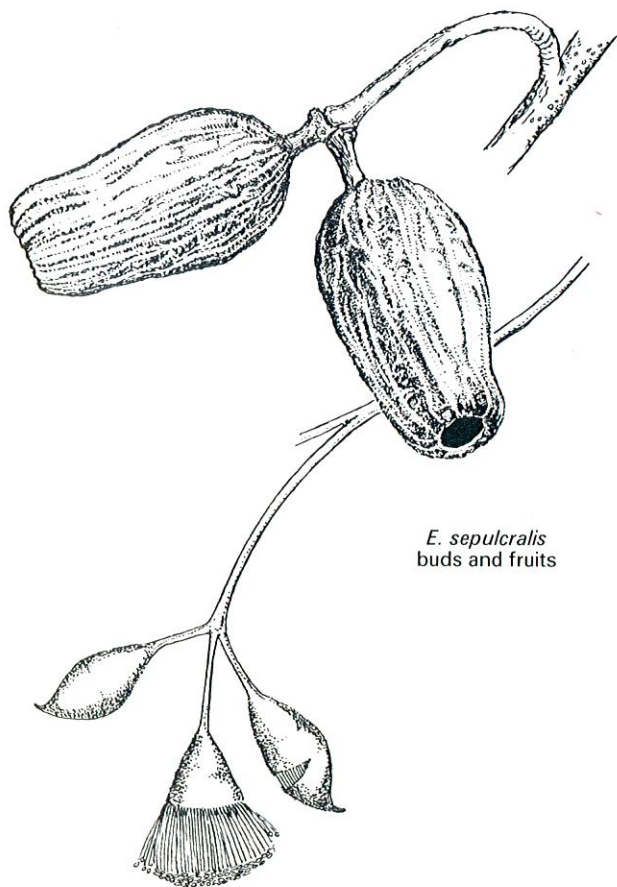
In naming this species (it was first collected from east of Esperance) Baron von Mueller stated that "It was chosen because it will be destined to add another emblem of sadness to the tree-



Weeping gum (*E. sepulcralis*)



A weeping gum in its natural habitat



*E. sepulcralis*  
buds and fruits

vegetation of cemeteries in climes similar to ours?.

Weeping gum grows readily in the sands around Perth, but is rarely seen in gardens. It flowers in January and February, germinates readily from seed, and should be well worth cultivating.

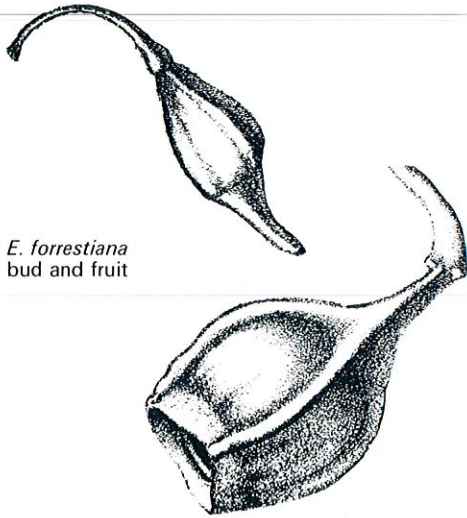
## Fuchsia mallee

### *Eucalyptus forrestiana*

Named after Lord Forrest this attractive shrub or small tree (heights to 20 ft.) has a restricted habitat, being found only on the heavier soils between Salmon Gums and Grass Patch, about 50 miles north of Esperance.

As the buds develop, their colour changes from green to scarlet and after flowering the maturing capsules gradually change to pale chestnut brown. The small yellow flowers are rather insignificant and the undoubted attraction of the species lies in the brightly coloured pendulous buds which for quite obvious reasons have earned for it the title of fuchsia mallee. The buds and capsules are square in cross section with a distinct rib at each angle.

It has long been grown in cultivation, but the cultivated specimens seldom show the vigour of the tree in its native habitat. Nevertheless they have a rather delicate beauty which gains them ready acceptance as excellent garden shrubs.



*E. forrestiana*  
bud and fruit



Fuchsia mallee (*E. forrestiana*)



A roadside tree of fuchsia mallee

## Scarlet pear gum

*Eucalyptus stoatei*

The first specimens of this small decorative tree were collected by Dr. T. N. Stoaite, a past Conservator of Forests in Western Australia. Its natural occurrence is confined to limited areas east of Ravensthorpe.

It is a small erect tree up to 25 ft. in height with dense, dark green foliage borne on rigid stems. The colour pattern of the buds, flowers and fruits is similar to that of the fuchsia mallee.

Scarlet pear gum (*E. stoatei*)



However, the fruits, which also are pendulous, are somewhat coarser and larger and moreover have numerous irregular longitudinal ribs compared with the four regular ribs typical of *E. forrestiana*.

To quote the late C. A. Gardner: "Of erect habit and small size, its dense, dark green foliage and the brilliant scarlet buds and young fruits render it at once conspicuous and attractive, and it deserves a place in any garden".

## Four-winged mallee

### *Eucalyptus tetraptera*

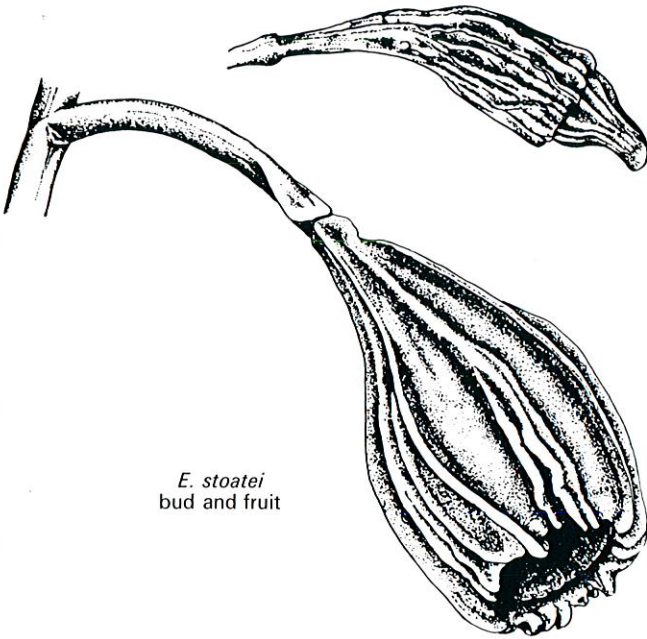
Discovered by James Drummond in 1847, this small mallee is characterised by probably the largest and thickest leaves and certainly the most remarkable fruits of the whole of the genus *Eucalyptus*. These unusual features have led to its widespread use as a horticultural novelty.

The bright green shining leaves are thick, leathery and some six inches in length and droop downwards along stiff erect stems. The buds and fruit are held rigidly by short grotesque sharply curved peduncles (stalks) and also point downwards almost parallel to the stems.

The blossoms are pink in colour but the buds and capsules show the same spectacular colour changes as the fuchsia mallee.

The name *tetraptera* refers to the four fleshy wings which project from the angles of the large four-sided fruits.

It occurs naturally in a stretch of country parallel to the south coast extending from the Stirling Range eastwards to Israelite Bay, nearly 350 miles. Although the species may attain a height of 10 ft. it is usually prevented from doing this in its natural environment by the periodic fires to which it is exposed. It is not unusual to see, amongst the heath vegetation of the southern sandplains, small shoots a couple of feet in height springing from old root stocks and with less than a dozen leaves bearing a small number of buds, blossoms and fruit.



*E. stoatei*  
bud and fruit

A roadside specimen of *E. tetraptera*





Four-winged mallee (*E. tetraptera*)

## Bell-fruited mallee

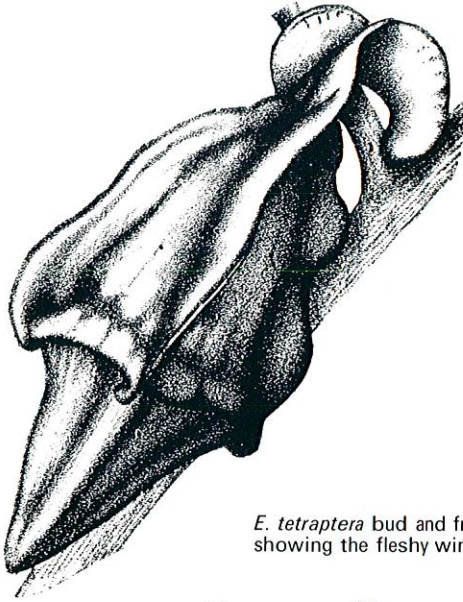
### *Eucalyptus preissiana*

One of the most attractive of our small shrubby species of eucalypts, the bell-fruited mallee is found in the south coastal districts from the western end of the Stirling Range as far eastwards as Stoke's Inlet some 40 miles west of Esperance. It grows in poor soils such as stony sandstone country usually on open heath. The Fitzgerald River area, about 20 miles north of Bremer Bay, would be about the centre of its distribution.

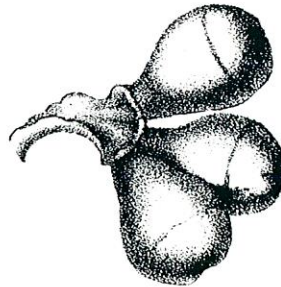
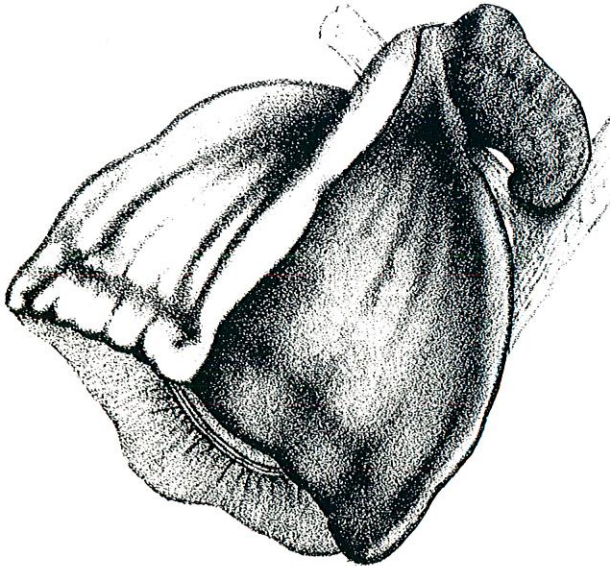
It rarely exceeds 6 ft. in height and has an untidy, straggling habit with stiff somewhat drab grey-green leaves. However these shortcomings are more than outweighed by its rich yellow blossoms and attractive bell-shaped fruits.

Although well known in cultivation, few specimens in the Perth metropolitan area compare with those in its native habitat, the flowers losing much in size and intensity of colour.

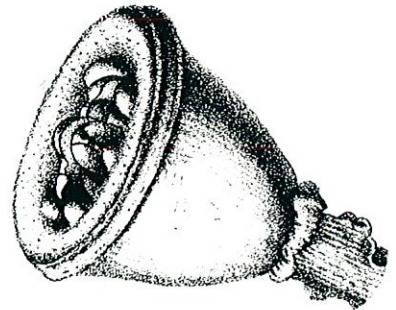
The specific name *preissiana* commemorates Ludwig Preiss, a botanist who visited the Swan River Colony in 1838 and resided here for four years. While on an overland journey with James Drummond he collected the type specimen on the hills of Cape Riche.



*E. tetraptera* bud and fruit showing the fleshy wings



*E. preissiana*. The mature fruit assumes a distinct bell shape





Bell-fruited mallee (*E. preissiana*)



Bell-fruited mallee in its natural habitat

## Mottlecah

### *Eucalyptus macrocarpa*

Although one of the smaller mallees, *E. macrocarpa* has the distinction of producing *the largest flowers and fruits of the whole genus*. In its native state it attains a height of about 10 ft. by which time it has become ragged and unattractive. This condi-

tion is usually remedied by uncontrolled fires killing it back to ground level, leading to the subsequent development of new vigorous shoots. Under culture this can be controlled by judicious pruning.

The leaves are silvery blue-green in colour, large, sessile and opposite, giving the shrub a most ornamental appearance when grown under cultivation. The blossoms are commonly deep red in colour but occasional plants produce blooms of paler tints of pink and yellow. The flowers are



Mottlecah (*E. macrocarpa*)



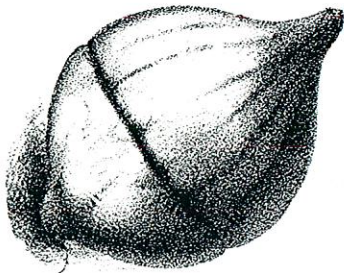
A specimen of mottlecah in King's Park, Perth

produced singly or in pairs close to the stem and while quite striking as individual blooms they do not produce any marked display on the bush.

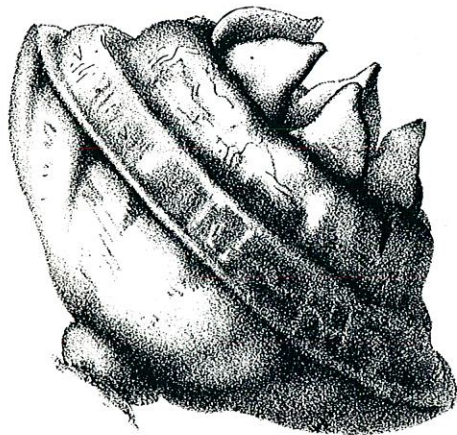
Being typically a species of the poor sandy gravels it long seemed that the future of the mottlecah was reasonably secure. However the widespread encroachment of agriculture on to these soils in recent years has radically altered the position and its complete elimination in the wild state is not beyond the bounds of possibility.

The shrub (6-15 ft. high) occurs, usually in small patches, in a relatively narrow zone of open sandplain ranging from Mingenew to Bruce Rock and Kulin.

*E. macrocarpa*, the largest of all eucalypt fruits



*E. macrocarpa* bud





## Rose mallee

### *Eucalyptus rhodantha*

The dividing line between this species and *E. macrocarpa* is not well defined. In fact rose mallee, which grows in the same areas as mottlecah, was at one time considered to be a variety of that species. However for horticultural purposes, by avoiding intermediate forms, specimens with very distinct characteristics can be selected.

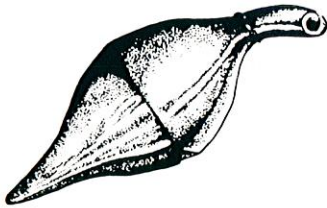
In its more distinct form, rose mallee differs from mottlecah in its denser foliage and its low, more spreading habit of growth. The leaves are similar in colour but smaller in size and more rounded in outline, while the blossoms are carried on short stalks which hold them slightly clear of the leaves. The fruits, although quite large by normal standards, are smaller than those of mottlecah and the flowers generally of a richer red colour although occasional paler specimens occur.

Rose mallee is a distinctive and desirable horticultural shrub.

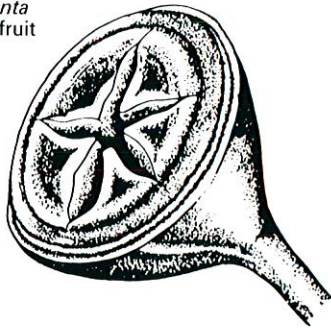


Rose mallee (*E. rhodantha*)

*E. rhodantha* at Perth Airport



*E. rhodantha*  
bud and fruit



## Black marlock

### *Eucalyptus redunca*

This small sandplain species, seldom more than 8 ft. high, occurs naturally from Broomchill southwards to the Kalgan Plains north of Albany and eastwards to Ravensthorpe.

It is one of the most floriferous eucalypts known. The horn-like budcaps conceal long yellow stamens which when released expand to form a profusion of yellow blossoms much larger than the small size of the fruits would lead one to expect.

As a garden subject black marlock should be better known and more often grown.



*E. redunca*  
buds and fruits

## Moort

### *Eucalyptus platypus*

*E. platypus* occurs mainly in a heavy grey clay soil which sometimes contains limestone. In many places whole colonies of this species are found growing as dense thickets to the exclusion of practically all other plant life. It usually occurs as a small tree 10 to 20 ft. tall in a region which extends from the Pingrup district south to Gnowangerup and east to Esperance, but its main occurrence is in the Ravensthorpe district.

Few observers seeing this species in the form of tangled thickets in which it occurs under natural conditions would rate it highly as an ornamental. Such a conclusion would be erroneous because, given adequate room to develop, it produces a dense rounded crown of dark shining green, not unlike that of the well known carob bean tree. At flowering time its copious cream blossoms considerably enhance its attractiveness.

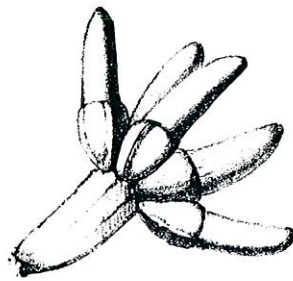
The ornamental value of moort as a street tree of moderate size was appreciated earlier in



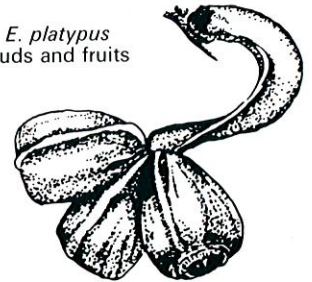
Black marlock *E. redunca* in bloom west of Ravensthorpe

California than in its own country and it is only within recent years that its use as an ornamental has become recognised here.

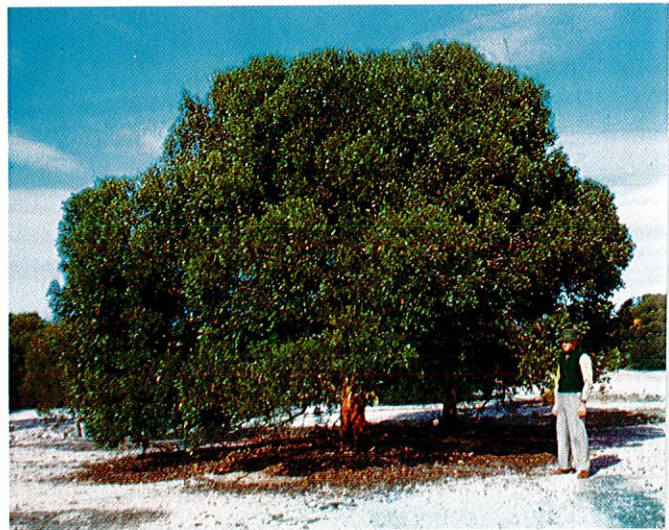
A glance at the formation of the buds of the species reveals the close resemblance to the hind foot of a platypus—hence the specific name.



*E. platypus*  
buds and fruits



An open-grown moort



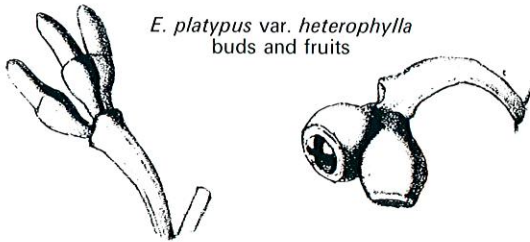
## Coastal moort

*Eucalyptus platypus* var. *heterophylla*

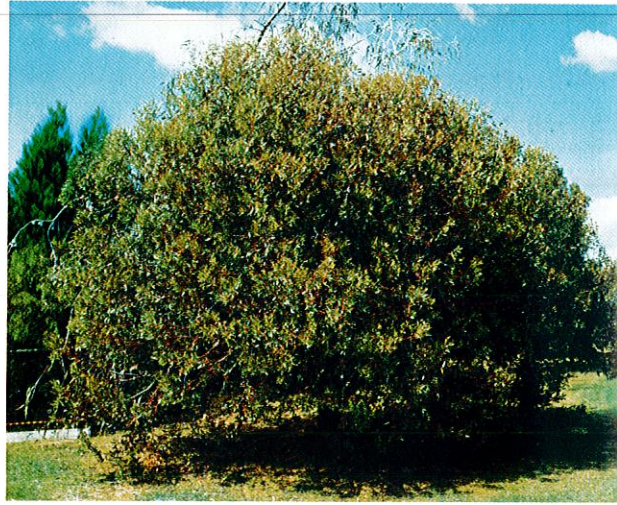
While moort is essentially a tree for heavy soils, coastal moort is similarly attractive but is more adaptable and thrives on lighter soils including coastal sands.

On Rottnest Island, experimental plantings of coastal moort in limestone soils exposed to salt-laden winds from the Indian Ocean, have demonstrated the remarkable ability of this small tree (10 ft. to 20 ft. in height) to tolerate extremely harsh conditions. The species also shows considerable promise where planted in salt-affected soils of the coastal plain up to 100 miles north of Perth.

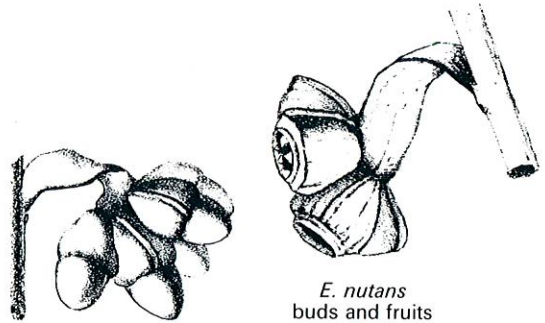
Because of its early rapid growth, compact bushy habit, shining leaves, tolerance to salt-laden winds and resistance to drought, the tree is becoming increasingly popular for planting in coastal suburbs of the Perth metropolitan area.



*E. platypus* var. *heterophylla*  
buds and fruits



A specimen of coastal moort in South Perth



*E. nutans*  
buds and fruits

Red-flowered moort (*E. nutans*)

## Red-flowered moort

*Eucalyptus nutans*

In its natural habitat between Bremer Bay and Ravensthorpe this small tree or shrubby mallee usually forms dense thickets 6-8 ft. high on heavy soils.

The flowers are rich crimson, tipped with white anthers, but are relatively small and appear insignificant against their heavy strap-like peduncles.

It is a popular garden species in the eastern states of Australia where it is known as Nodding Gum.



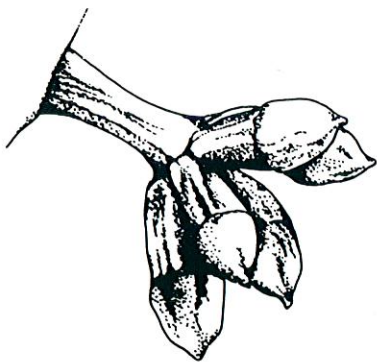
## Coarse-leaved mallee

*Eucalyptus grossa*

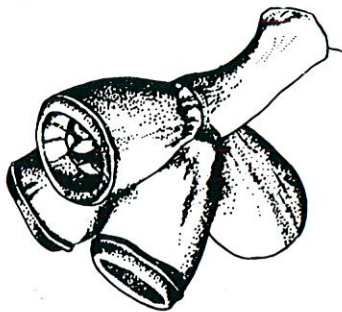
The main centre of distribution of this very small mallee lies to the east of Ravensthorpe along the upper reaches of the Young and Lort Rivers which run into Stokes Inlet, and northwards to Salmon Gums. Growing in clay and loam soils it is a shrub of spreading habit, up to 8 ft. in height and of unusual appearance. Its contorted branches covered with coarse stringy bark give it the appearance of venerable age rather reminiscent of the artificially dwarfed trees of Japanese gardens. The rough, stout appearance of the shrub inspired the name "grossa" from the Latin *grossus* meaning thick.

The leaves are dark shining green, coarse and large. The peduncles and buds are reddish-brown in colour but the greenish-yellow flowers are usually directed downwards and are not displayed to the best advantage.

It is the uniqueness rather than the beauty of this shrub that claims one's attention.



*E. grossa*  
buds and fruits



Coarse-leaved mallee (*E. grossa*)

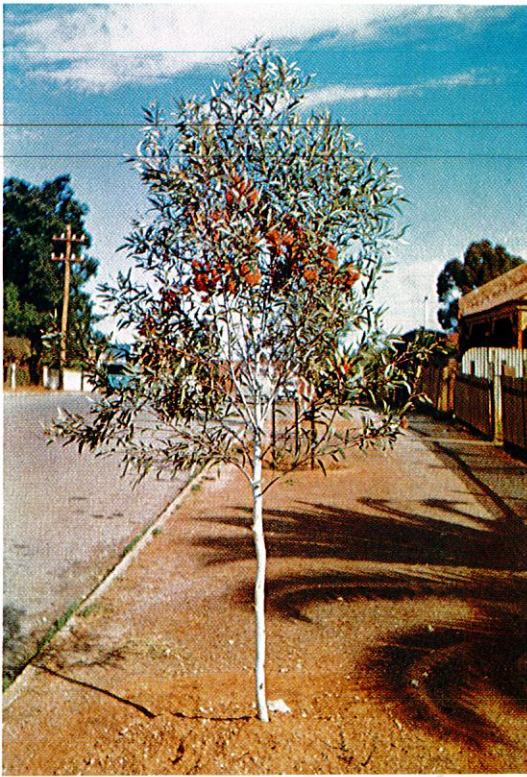


Coarse-leaved mallee in its natural habitat

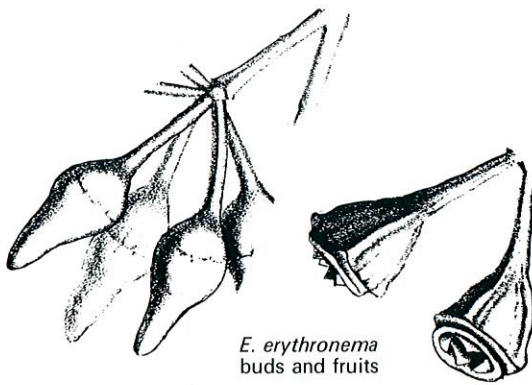
## White mallee

*Eucalyptus erythronema*

At its best this mallee (sometimes a small tree up to 20 ft. in height) produces the most intense red blossoms of any of the eucalypts. The specific name *erythronema* is derived from two Greek words: *erythros*—red, and *nema*—a thread, in allusion to the blood-red filaments common in the species. However, individual specimens may have flowers ranging in colour from creamy white, through pink to deep crimson.



A young white mallee in a Kalgoorlie street



Named in 1852, white mallee has an extensive range, occurring on heavy, usually grey, clay soils from Wongan Hills southwards to Cunderdin and Quairading and eastwards to Southern Cross. Observations suggest that the proportion of red and pink-flowered specimens is higher east of Merredin, and in this region the mallee is considered to be an indicator of excellent farming land.

In the northern extension of the range (Wongan Hills to Morawa) the variety *marginata* is found.

This variety is characterised by a wide collar (calyxine ring) around the capsules (fruit) and it also has a more upright but slender habit of growth.

Irrespective of their colour, the blossoms are most attractive and the species is a good garden subject, preferably for sites with good loamy soils.



Variation in the colour of the flowers of *E. erythronema* var. *marginata*

A deeper shade of blossom of white mallee. Note the calyxine ring or collar of the fruit



## TREES OF THE ARID ZONE

### Goldfields sand mallee

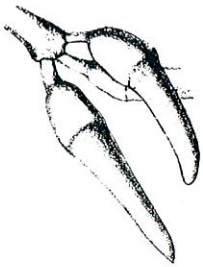
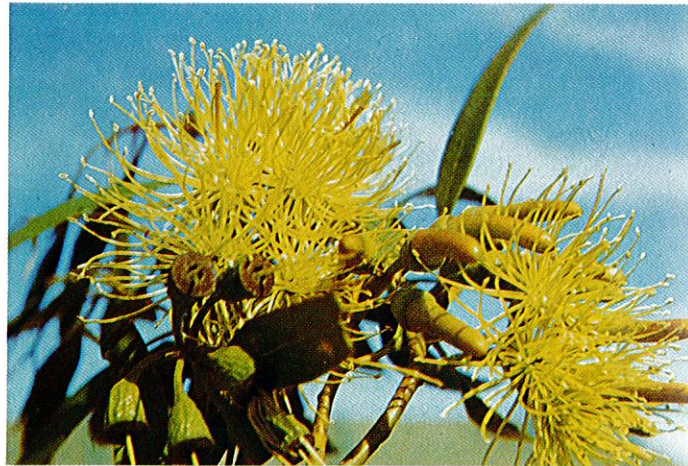
*Eucalyptus eremophila*

Although the specific name *eremophila* meaning "lover of the desert", might suggest its restriction to the more arid areas, the species in fact has quite a wide distribution extending through the wheatbelt to Kalgoorlie and to the mallee areas south and east of Norseman.

Nearly always a mallee, the species is seldom more than 7 to 10 ft. in height and the stems have a characteristic cinnamon-brown bark which is quite smooth except during the late summer months when it sheds the outer bark in rather thick strips. The typical form is seen between Merredin and Coolgardie, but southwards from Widgiemooltha the plant may reach a height of 20 ft. or more.

The blossoms are quite attractive, ranging in colour from deep blood red to yellow, although the reflexed peduncles do not permit them to be displayed to the best advantage.

It has not been extensively cultivated to date but could make a useful ornamental shrub. In its natural habitat it grows in sandy loams and sands.



*E. eremophila*  
buds and fruits



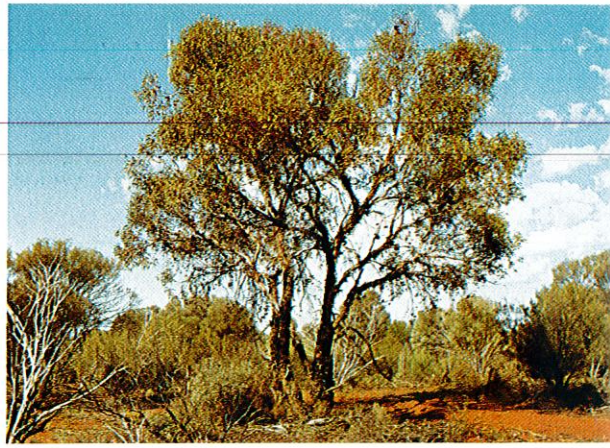
*E. eremophila*—showing three variations  
of flower colour

## Eucalyptus youngiana

Until quite recently this large-fruited mallee of the arid region was erroneously named *E. pyriformis*. It has now been shown that the correct name is *E. youngiana* and that the variety *E. pyriformis* var. *elongata* is the true *E. pyriformis*.

*E. youngiana* attains a height of 15 to 20 ft. and occurs on sandy and light loamy soils in the arid region fringing the eucalypt zone. It also occurs in small belts of eucalypts which extend as outliers far into the mulga zone beyond the Eastern Goldfields, and it extends into South Australia.

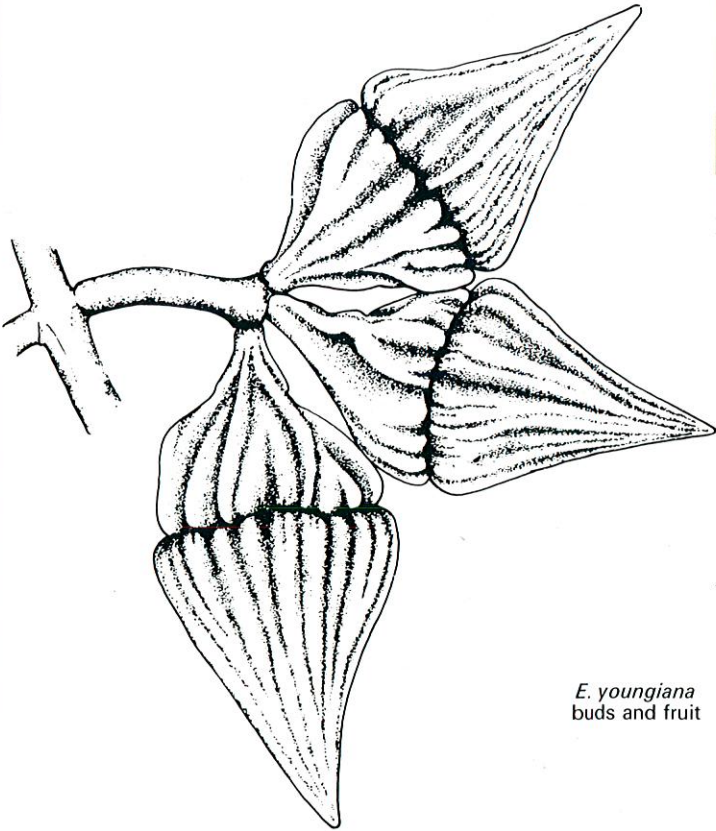
The large fruits and spectacular flowers of this mallee are surpassed in size and colour only by one other eucalypt, the mottlecah. The blossoms, which are borne on short pedicels, have a wide range of colour varying from light butter yellow to deep red. It is not unusual to see a tree with the lighter coloured flowers growing adjacent to one with those of the deepest shade.



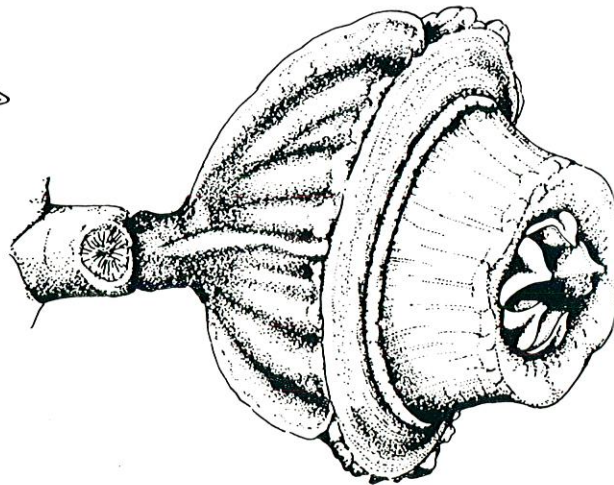
*E. youngiana* growing in mulga country



Flower of *E. youngiana*. The flowers of the species have a wide range of colours

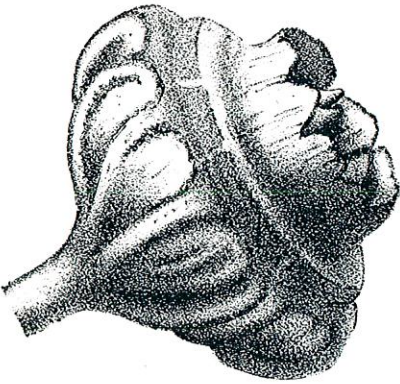


*E. youngiana*  
buds and fruit





*E. pyriformis*  
bud and fruit



## Pear-fruited mallee

### *Eucalyptus pyriformis*

As indicated earlier this species was thought to be the western form of what is now known as *E. youngiana*.

The mallee, which may reach 10 to 12 ft. in height, grows in sandy soils in the Dowerin-Wongan Hills region. Compared with *E. youngiana*, it has a more dwarfed growth habit, the buds, fruits and pedicels are more elongated, and the blossoms, which have a similar colour range, are slightly smaller.

Both species are quite attractive garden subjects.



Pear-fruited mallee (*E. pyriformis*)





*E. kingsmillii*

## Kingsmill's mallee

### *Eucalyptus kingsmillii*

This species is closely related to *E. youngiana* and the similarities and differences may be summarised as follows:

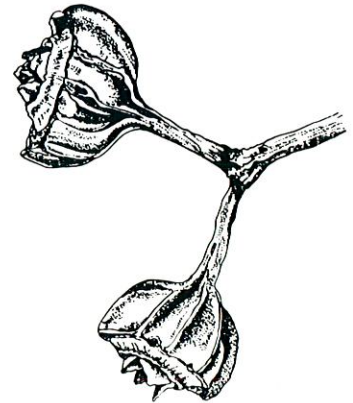
It also occurs in arid country but has a more northerly geographical range extending through the Murchison and Eastern Goldfields areas. The late Mr. C. A. Gardner, in 1932, found it on the summit of Mt. Bruce in the Hamersley Range. Mt. Bruce (4024 ft.) is the second highest peak in Western Australia and is situated barely 25 miles E.N.E. of the iron ore mining town of Tom Price.

Both species flower during the winter months but the blossoms and fruits of *E. kingsmillii* are smaller in size, although the colour range and shape, respectively, are similar.

The growth habit of *E. kingsmillii* is more bushy and compact so that as an ornamental shrub it is undoubtedly the more attractive species. It grows to a height of 15 ft.



*E. kingsmillii*  
bud and fruit



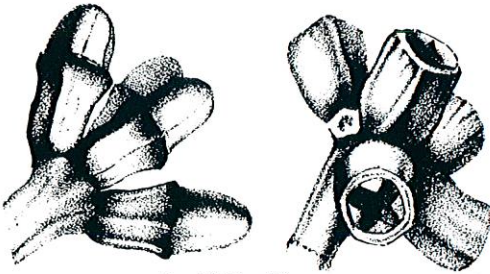
## Yellow-flowered blackbutt

*Eucalyptus stricklandii*

Yellow-flowered blackbutt is a colourful tree with its short heavy trunk, wide spreading branches, shining light green leathery leaves, and masses of vivid lemon-yellow flowers. The lower part of the trunk is covered with almost black tessellated bark which terminates abruptly and is succeeded by smooth reddish-grey or cinnamon-coloured bark.

The tree attains a height of 30 to 35 ft. and is restricted in its habitat to stony hills of basic rock in the Eastern and Dundas Goldfields. In cultivation it gives quite good results on the heavier loams of the wheatbelt but has been disappointing on the lighter soils.

Its specific name commemorates a former Governor of Western Australia, Sir Gerald, later Lord Strickland, who was subsequently Governor of New South Wales, and of Malta.



*E. stricklandii*  
buds and fruits



Yellow-flowered blackbutt  
(*E. stricklandii*)



Coral-flowered gum (*E. torquata*)

## Coral-flowered gum

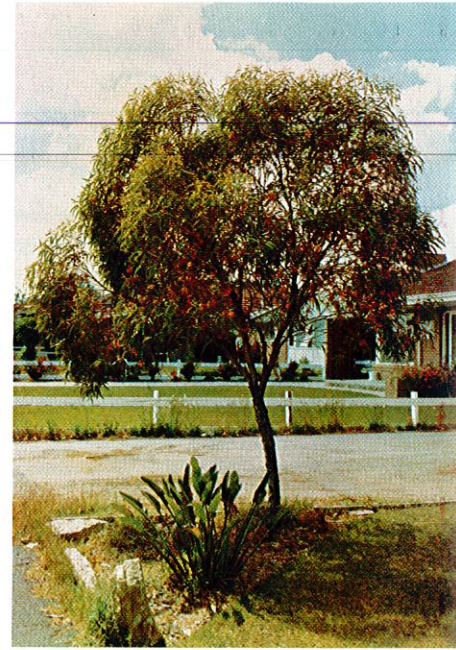
*Eucalyptus torquata*

The coral-flowered gum, sometimes known as the Coolgardie gum, is undoubtedly the best known and most widely planted of the inland flowering eucalypts. In its native state this small tree is confined to stony hills of basic rock extending from Coolgardie southwards to a few miles beyond Norseman. Its preference for soils derived from basic rocks such as greenstone, has led to it being regarded by some as an indicator of areas worth prospecting for gold, and now, nickel.

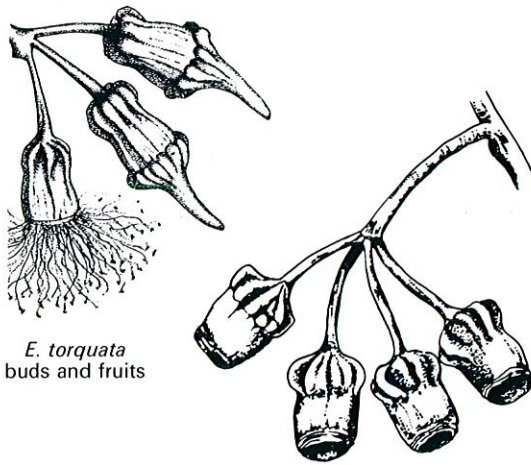
The tree seldom exceeds 25 ft. in height and when well-grown forms a symmetrical shady



A mature coral-flowered gum in its natural habitat near Norseman



A coral-flowered gum in South Perth



*E. torquata*  
buds and fruits



A young coral-flowered gum in Kalgoorlie arboretum

crown. Although the lack of gloss on the leaves and the dark-grey bark of the stem tend to give the tree a rather sombre appearance, the abundance of pink blossoms and the colourful uniquely shaped buds more than offset this.

As the buds develop they assume a yellow or red colour which is retained until after flowering is completed. The flowers which are produced in profusion, hang in pendulous clusters and at their best are an attractive coral pink. However a small proportion of trees may have yellow-white or pale pink blossoms. Limited flowering may occur on young trees not more than 3 ft. in height and under cultivation full flowering may take place within three or four years.

Under cultivation it thrives in the richer soils of the wheatbelt but when grown in light soils, including those of the metropolitan area, the flowers are usually not as rich in colour and the crown not as dense.

The specific name *torquata* is derived from *torquis* meaning a collar or ring. This refers to the ribbed swelling found at the base of the calyx tube and is extremely rare in the genus *Eucalyptus*.

The tree was first discovered by L. C. Webster near Coolgardie in 1901.

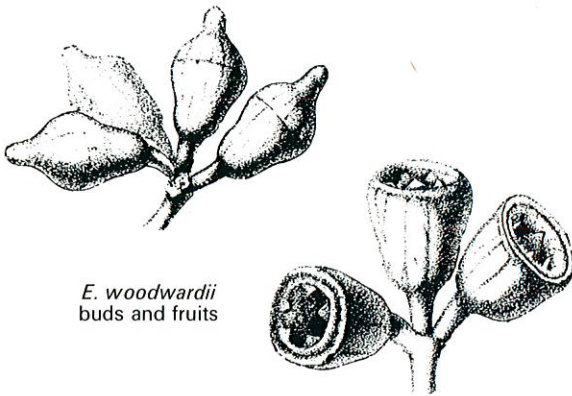
## Lemon-flowered gum

*Eucalyptus woodwardii*

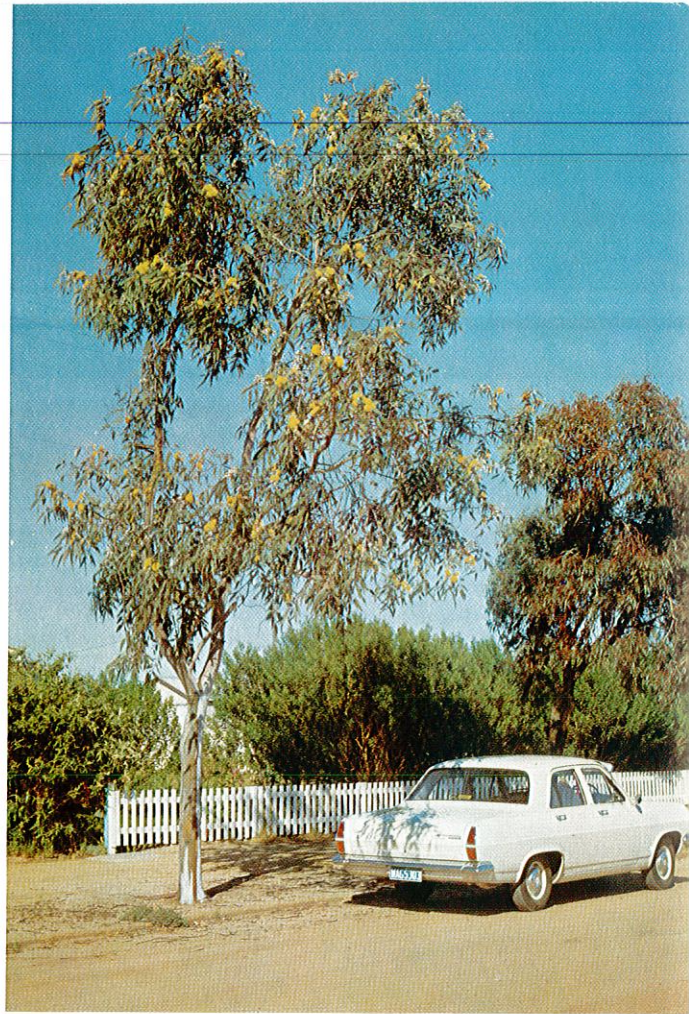
The natural habitat of this species is about 100 miles east of Kalgoorlie and a few miles north of the Trans-Australian Railway. Because of its remoteness it remained in obscurity for many years and even today is known to most people only as a comparatively young cultivated tree. Originally discovered by the botanist, Richard Helms in 1892, specimens were not again collected until Henry Dean, consulting engineer for the Trans-Australian Railway, obtained them near Zanthus in 1909. The same year the tree was given its specific name to commemorate Bernard H. Woodward, then Director of the Museum and Art Gallery in Perth.

Even under the arid conditions of its habitat it attains quite good form with a height of 40 ft. or more but the grey colour and sparseness of the foliage detract from its value for either shade or ornament. However the vivid colour and the copiousness of the blossoms make some amends for its other shortcomings.

The buds and branchlets are covered with a silvery-white powder giving them a frosted appearance which undoubtedly enhances the beauty of the flowers. Although the young trees usually produce their blossoms in normal upright branchlets some of the mature trees under natural conditions develop pendulous branchlets several feet in length and the unique sight of balls of yellow blossoms on these swaying in the breeze originally suggested the name lemon-flowered gum.



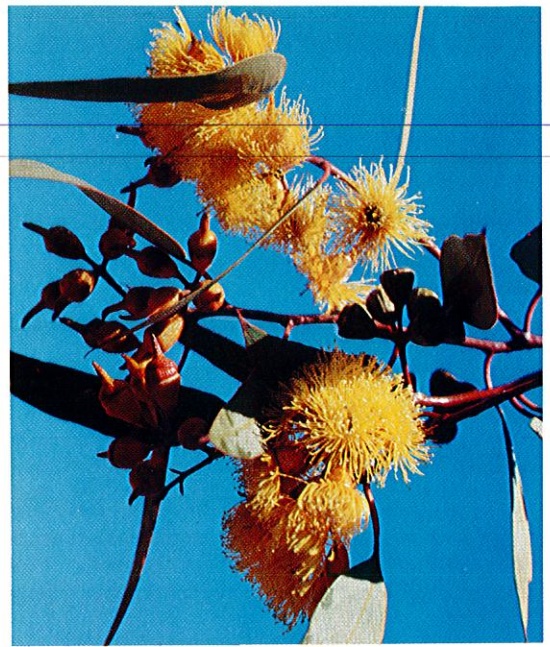
*E. woodwardii*  
buds and fruits



Lemon-flowered gum as a street tree in Merredin

Lemon-flowered gum (*E. woodwardii*)





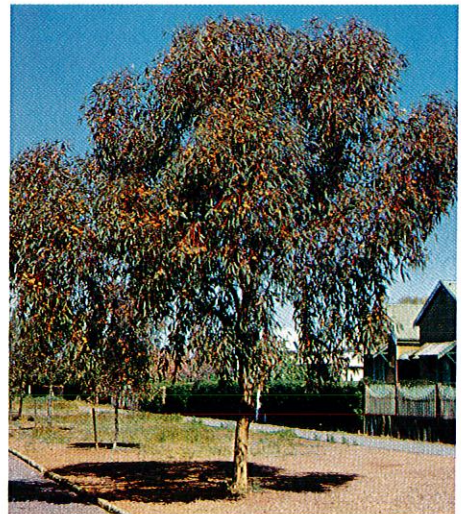
Two different flower types of torwood

## Torwood

*Eucalyptus woodwardii* × *E. torquata*

When these two species from widely separated areas of natural distribution are brought together under cultivation, hybridisation occurs freely. The progeny of two such colourful parents has naturally caused considerable interest in horticultural circles. When first raised in the Kalgoorlie nursery they were dubbed “torwoods”. As one would expect, wide variations in vigour, tree form, leaf formation and the colour of the flowers became apparent as they developed.

The parents of the *E. woodwardii* × *E. torquata* hybrid in the grounds of the North Kalgoorlie school



A torwood street tree—Kalgoorlie

will be of intermediate shades. While shades approximating to orange are general, some of the more spectacular blossoms show unusual dual tones, the outer part of the blossom showing a distinct colour difference from the centre.

## Boongul

### *Eucalyptus transcontinentalis*

Boongul is seen at its best on the Eastern Goldfields where it develops as a smooth, white-barked, shapely tree up to 50 ft. in height. The leaves are usually grey-green in colour and during spring and early summer it produces heavy crops of light yellow flowers. While it appears in its native state to have all the attributes of a desirable shade or ornamental tree it has not proved at all adaptable and efforts to grow it away from its natural environment have not been successful.

Away from the Eastern Goldfields it has a wide range extending into all the southern mainland States, generally in the form of a rather nondescript mallee with rough grey lower bark.

Boongul is the aboriginal name for the tree and the red wood was often used by the natives for fashioning spears.

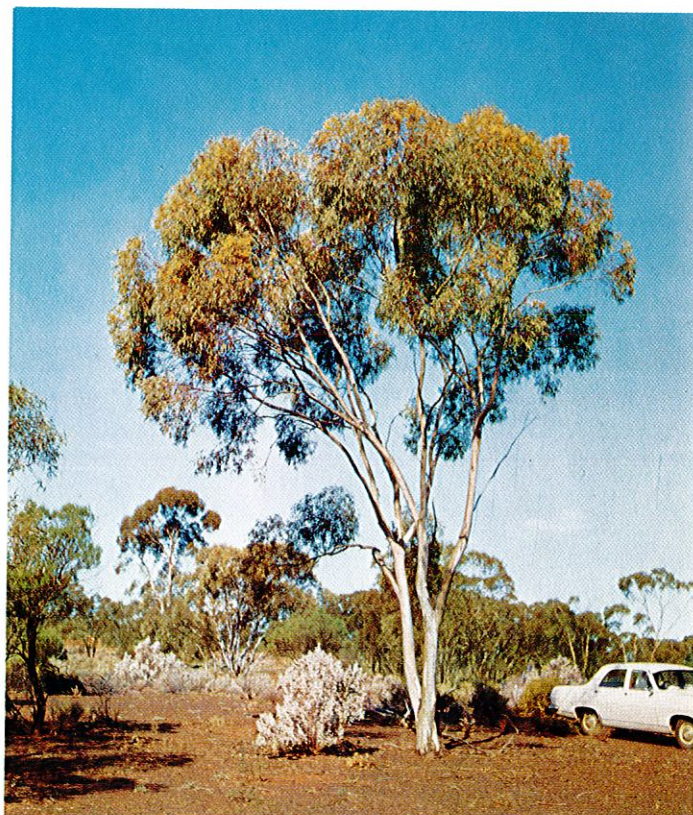
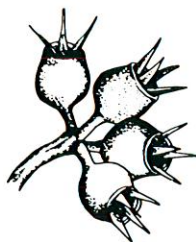


Boongul (*E. transcontinentalis*)

A boongul tree in its native habitat  
south of Kalgoorlie



*E. transcontinentalis*  
buds and fruits



## Kruse's mallee

*Eucalyptus kruseana*

A small shrubby mallee, about 10 to 15 ft. high in its native habitat, *E. kruseana* is probably the most unique of Western Australia's eucalypts. The small sessile (stalkless) grey-green leaves, more or less rounded in outline and closely crowded along the branchlets, give it an appearance somewhat suggestive of some of the inland acacias. Another less technical description, before the days of decimal currency, was that a branchlet of the mallee "looked like a row of two-bob bits on a string".

Bright yellow blossoms are borne in small umbels clear of the leaves and when a number of these appear simultaneously along a branchlet, they provide a spike-like display.

It was first collected in 1895 in the Fraser Range some 70 miles east of Norseman but was later found near Norseman and near the Trans-Australian Railway from 50 to 150 miles east of Kalgoorlie.

In its natural habitat it grows in shallow loams overlying granite and obviously can survive very harsh conditions. However, mere survival is not enough and to obtain satisfactory results under cultivation, care and attention are essential. When well grown it attains a height of about 15 ft. and makes a handsome and unusual shrub.



*E. kruseana*  
buds, fruits  
and flowers



Blue snap and rattle tree in its native habitat

## Blue snap and rattle

*Eucalyptus calycogona*

A slender mallee 15 to 25 ft. high, *E. calycogona* occurs in South Australia and Victoria as well as the dry inland areas of Western Australia. It is well regarded in the Eastern States where it is cultivated under the name of Gooseberry Mallee, a title scarcely applicable to any form found in Western Australia.

The mallee extends through the wheatbelt eastwards to Coolgardie and southwards to Norseman and Ravensthorpe, preferring heavier soils.

It has graceful pale-green foliage and silvery-brown bark. At their best the profuse blossoms are an attractive pink but more often white. The flowers tend to increase in size towards the south coast.



*E. calycogona*  
buds and fruits



## Eucalyptus "pterocarpa"

This rare tree has not yet been given a recognised botanical name and therefore the name used by most foresters has been accepted for this publication.

The buds, fruits, and seeds closely resemble those of *E. le souefii* (goldfields blackbutt) but *pterocarpa* has smooth bark and large, leathery, glossy yellow-green leaves, whereas goldfields blackbutt has rough bark at the butt and its leaves are usually dull grey-green in colour.

The outstanding characteristic of this shapely tree from the Norseman district is the deeply corrugated buds and fruit. Prior to flowering, the budcaps become bright yellow and these with the medium-sized creamy white blossoms make a pleasing combination.

The tree grows to about 40 ft. in height and in its natural habitat prefers heavy soils.

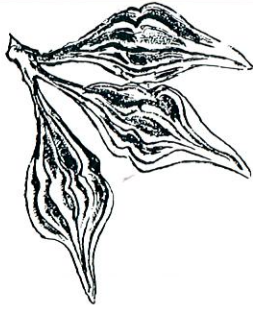


Blue snap and rattle (*E. calycogona*)

The buds, flowers  
and fruits of  
*E. "pterocarpa"*







*E. "pterocarpa"*  
buds and fruits



*E. "pterocarpa"* in  
its native habitat



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*E. laeliae*, Podger and Chippendale, 14  
*E. lehmannii* (Preiss ex Schau.) Benth., 15  
*E. macrocarpa*, Hook., 24  
*E. nutans*, F. Muell., 28  
*E. platypus*, Hook., 27  
*E. platypus*, Hook. var. *heterophylla*, Blakely, 28  
*E. preissiana*, Schau., 23  
*E. pyriformis*, Turcz., 33  
*E. redunca*, Schau., 27  
*E. rhodantha*, Blakely and Steedman, 26  
*E. sepulchralis*, F. Muell., 19  
*E. stoatei*, C. A. Gardn., 21  
*E. stricklandii*, Maiden, 35  
*E. tetraptera*, Turcz., 22  
*E. torquata*, Luehm., 35  
*E. transcontinentalis*, Maiden, 39  
*E. woodwardii*, Maiden, 37  
*E. woodwardii* × *E. torquata* (hybrid), 38  
*E. youngiana*, F. Muell., 32  
*E. "pterocarpa"*, 41

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## COMMON NAMES

- Blackbutt, yellow-flowered, 35  
Blue snap and rattle, 40  
Boongul, 39  
Gum, coral-flowered, 35  
Gum, lemon-flowered, 37  
Gum, red-flowered, 12  
Gum, scarlet pear, 21  
Gum, weeping, 19  
Gungunnu, 17  
Illyarrie, 17  
Mallee, bell-fruited, 23  
Mallee, coarse-leaved, 29  
Mallee, four-winged, 22  
Mallee, fuchsia, 20  
Mallee, goldfields sand, 31  
Mallee, pear-fruited, 33  
Mallee, Kingsmill's, 34  
Mallee, Kruse's, 40  
Mallee, rose, 26  
Mallee, Southern Cross, 19  
Mallee, white, 29  
Marlock, Bald Island, 15  
Marlock, black, 27  
Marri, 11  
Marri, pink-flowered, 11  
Moort, 27  
Moort, coastal, 28  
Moort, red-flowered, 28  
Mottlecrah, 24  
Torwood (hybrid), 38  
*Eucalyptus laeliae*, 14  
*E. "pterocarpa"*, 41  
*E. youngiana*, 32

## TABLE OF DISTRIBUTION AND OCCURRENCE

SOILS	ANNUAL RAINFALL					
	Humid (>30") Sub-humid (>20")		Semi-arid (11-20")		Arid (below 11")	
	Species	Ht.	Species	Ht.	Species	Ht.
Sands and Sandy Loams			<i>E. erythrocorys</i> (1)	25'	<i>E. eremophila</i> (105)	10'
			<i>E. caesia</i> (88)	20'	<i>E. youngiana</i> (600a)	20'
			<i>E. crucis</i> (587)	20'	<i>E. kingsmillii</i> (605)	15'
			<i>E. sepulcratis</i> (300)	25'		
			<i>E. platypus</i> var. <i>heterophylla</i> (100)	20'		
			<i>E. pyriformis</i> (600)	12'		
Gravelly or Stony Soils (light or heavy)	<i>E. catophylla</i> (32)	100'	<i>E. forrestiana</i> (596)	20'	<i>E. stricklandii</i> (91)	30'
	<i>E. ficifolia</i> (36)	50'	<i>E. stoatei</i> (161)	20'	<i>E. torquata</i> (159)	25'
	<i>E. lehmannii</i> (97)	30'	<i>E. tetraptera</i> (15)	10'		
			<i>E. preissiana</i> (246)	10'		
			<i>E. macrocarpa</i> (599)	10'		
			<i>E. rhodantha</i> (599a)	10'		
			<i>E. redunda</i> (115)	10'		
Loams	<i>E. lacliae</i> (125a)	65'	<i>E. platypus</i> (99)	20'	<i>E. woodwardii</i> (89)	40'
			<i>E. nutans</i> (101)	20'	<i>E. woodwardii</i> × <i>E. torquata</i> (hybrid)	40'
			<i>E. grossa</i> (94)	10'	<i>E. transcontinentalis</i> (581)	50'
			<i>E. erythronema</i> (171)	20'	<i>E. kruseana</i> (243)	15'
			<i>E. erythronema</i> var. <i>marginata</i> (171a)	20'	<i>E. calycogona</i> (561)	25'
					<i>E. "pterocarpa"</i>	40'

The numbers in brackets correspond with those used by W. F. Blakely in his book *A Key to the Eucalypts*, third edition.

# SOUTH WEST OF WESTERN AUSTRALIA

STATE FOREST



ISOHYETS



SCALE OF MILES



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## GLOSSARY

*Anther.* The pollen-bearing portion of a stamen.

*Calyx Tube.* The cup-like or tubular receptacle surrounding the ovary (in eucalypts).

*Capsule.* A dry fruit which opens to release the seed at maturity.

*Filament.* The stalk of a stamen.

*Inflorescence.* The disposition of the flowers on a floral axis.

*Lanceolate* (of leaf shape). Narrow, tapering to each end; in modern usage, the base is usually somewhat broadened, with the greatest breadth about one-third from the base—like a lance.

*Operculum.* The lid or cap which covers the stamens in the buds of eucalypts.

*Opposite* (leaves). Arranged directly opposite each other.

*Pedicel.* The stalk of an *individual* bud, flower or fruit.

*Peduncle.* The stalk supporting an inflorescence.

*Sessile.* Without a stalk.

*Stamen.* The pollen-bearing organ of a flower, consisting of an anther and its filament.

*Tessellated* (bark). Surface marked into square or oblong scales or blocks.

*Umbel.* An inflorescence in which the stalked buds or flowers all arise from the same point.

*Back cover :*  
Pink Marri (*Eucalyptus calophylla* "var. *rosea*")

