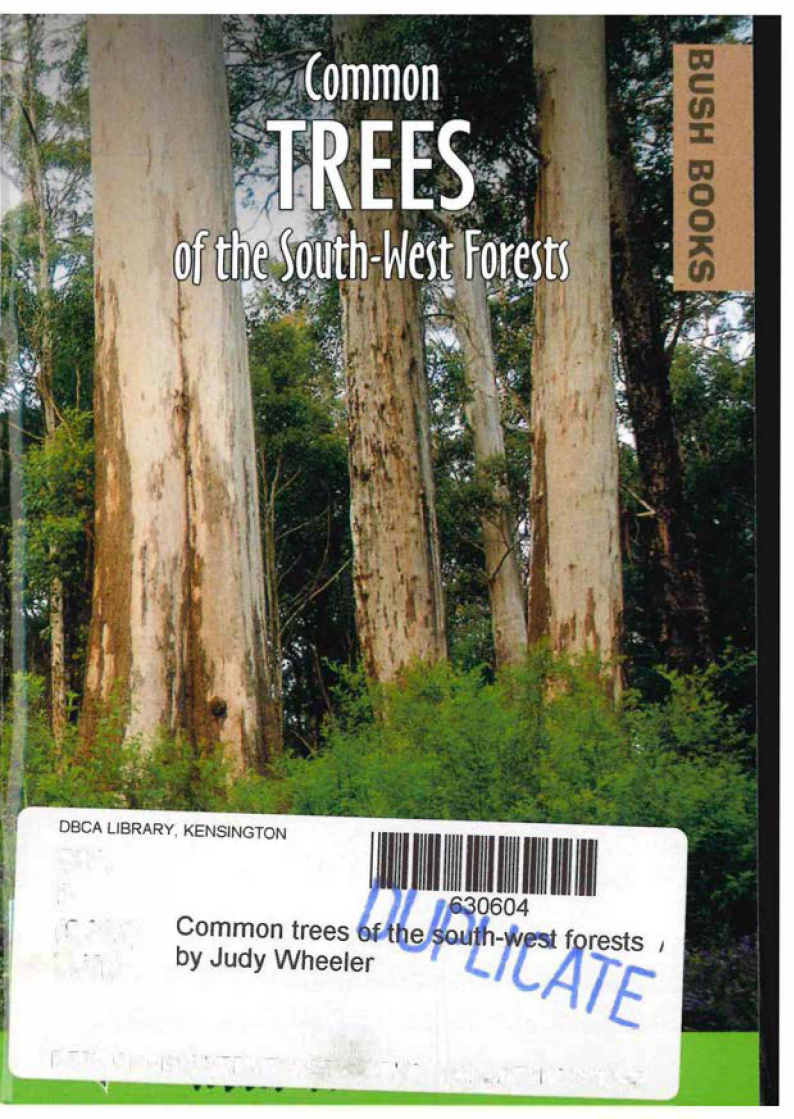

Bush Books are a series of practical field guides to help you learn about and discover WA's unique plants, animals and special features, region by region.

ABOUT THE AUTHOR

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Front cover: Karri forest with a flowering understorey.
Photo – Cliff Winfield.

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Common
TREES
of the South-West Forests

by Judy Wheeler

GOVERNMENT OF
WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**

INTRODUCTION

The flora of south-west Western Australia is famed for its diversity. People travel from all over the world to see the area's unique and unusual wildflowers. However, the trees of the south-west are perhaps the region's most visible and well-known plants. The vegetation of the region, although dominated by the beauty and grandeur of the tall karri forest, is actually very diverse. The tall hardwood forest of karri, tingle and marri, mixed with some jarrah, grow in the wettest areas. In slightly drier areas, particularly north of the Blackwood River, are southern jarrah forests, which intermix with marri and numerous other tree species. Sedgelands occur in the poorly drained areas, often forming a mosaic with other vegetation types and sometimes in association with large granitic outcrops. Shrublands and heaths, often intermingled with sedgelands and swamps, occur in a band around the coast.

Common Trees of the South-West Forests features the most common trees growing in the region and provides colour photographs to help you identify them. Some additional trees are mentioned as a note under closely related species. The book does not include plantation trees such as pines or blue gum, nor does it include cultivated trees which may be found near habituation or orchards. The grasstree, kingie and pineapple bush are not included here. These attractive and unusual plants have distinct trunks and are sometimes tree-like, but are not true trees. Some large shrubs that are occasionally tree-like have also been excluded.

This book covers the area from Bunbury to Denmark, extending inland to near the South Western Highway, Mount Frankland and Mount Lindesay.

Photo – Debra Mitchell

PLANT RELATIONSHIPS

Casuarinaceae, the sheoaks	*Allocasuarina* (p. 6)	trees with needle-like branches and minute scale leaves
Loranthaceae, the mistletoes	*Nuytsia* (p. 10)	semi-parasitic tree with brilliant orange sprays of flowers
Fabaceae, the legumes	*Acacia* (p. 12)	trees or large shrubs with many heads of minute flowers
	Callistachys (p. 46)	trees or large shrubs; leaves in threes and yellow to orange pea flowers
Myrtaceae, the myrtles	*Agonis* (p. 16) *Taxandria* (p. 18)	trees with cluster of flowers with small white petals
	Corymbia (p. 20) (p. 26)	trees with red sap, honkey nuts and black seeds
	Eucalyptus (p. 22)	trees with conical bud cap, numerous stamens and woody fruits
	Melaleuca (p. 42)	trees (often paperbarks) with clusters of white to cream flowers

Proteaceae	*Banksia* (p. 48)	trees with leathery leaves and candle-like spikes of yellow flowers (reduced to very few flowers in holly-leaved banksia)
	Hakea (p. 58)	trees of shrubs with small clusters of orange flowers and fleshy green fruits
	Persoonia (p. 62)	trees with sprays of orange flowers and fleshy green fruits
	Xylomelum (p. 64)	trees with prickly leathery leaves, spikes of white to cream flowers and large woody fruits
Rhamnaceae	*Trymalium* (p. 66)	trees with hairy leaves and small separate cream flowers
Rutaceae	*Chorilaena* (p. 68)	trees with lobed, oak-like leaves and clusters of cream to green flowers surrounded by bracts

KARRI SHEOAK

(Allocasuarina decussata)

Family Casuarinaceae, the sheoaks

Karri sheoak is a pine-like tree almost entirely confined to the karri forests. It is not as widespread as sheoak. Both are graceful trees and both have the same unusual foliage. A casual glance shows long, greenish needles. However, more detailed examination reveals that these needles are jointed and each joint is encircled by a whorl of minute, scale-like leaves.

OTHER NAMES Karri oak.

DESCRIPTION This small to medium-sized tree grows up to 15m high and has thick, corky bark with vertical fissures. Its 'needles' are actually slender, jointed branchlets. At each joint there are four tiny, scale-like leaves pressed close to the branchlets. These are no bigger than a millimetre long. There are separate male and female flowers on the same plant. As they are wind-pollinated, the flowers do not need to be large and colourful, and are very small. The tiny brown male flowers are arranged in whorls on slender spikes (each flower is reduced to a single stamen). The female flowers are clustered into a short spherical spike, which is fringed by the dark red styles of the individual flowers. After fertilisation, the female flower spikes enlarge into rough cylindrical cones 10 to 20mm long. When mature, the cones release dark, winged 'seeds' that are actually tiny individual fruits.

DISTINCTIVE FEATURES Karri sheoak is very similar to sheoak but has only four minute teeth at each joint, and four ribs. Its corky bark is extremely distinctive.

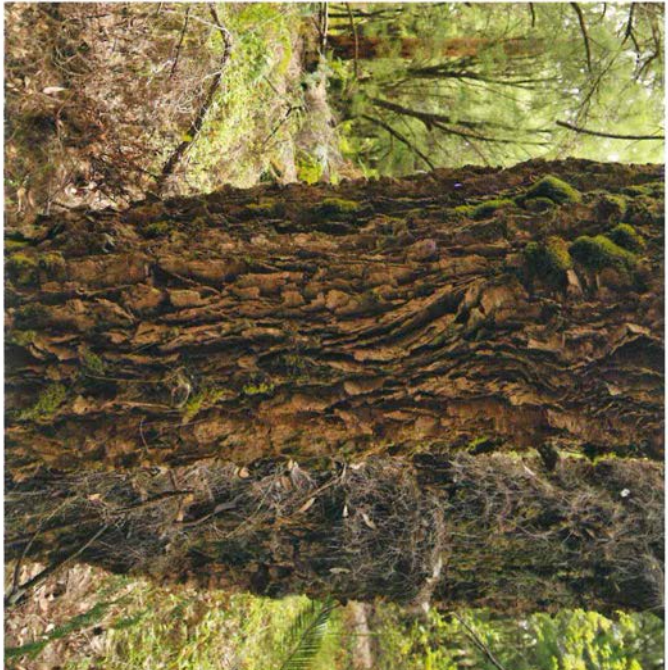
HABITAT Karri sheoak grows in karri forest but is occasionally found in jarrah forest or on coastal granitic hills.

STATEWIDE DISTRIBUTION The species is found from the Blackwood River and Manjimup to West Cape Howe and the Stirling Range.

FLOWERING TIME Spring.

USES Sheoak timber had a number of practical uses in the early days of settlement. Today it is mainly used to produce small decorative items.

Photos – Cliff Winfield



SHEOAK

(Allocasuarina fraseriana)

Family Casuarinaceae, the sheoaks

This species of sheoak is much more widespread than karri sheoak. Unlike karri sheoak, the male and female flowers are found on different trees. When in full flower male trees have a rusty brown hue, almost as though they are dying, which is due to the numerous tiny brown flowers. Female trees have flower cones with dark red, thread-like filaments (styles) on short, lateral branchlets. Later, these form rough cones with woody bracts that open to release tiny fruits.

OTHER NAMES Common sheoak, condil.

DESCRIPTION This small to medium-sized tree grows up to 15m high and has rough, fibrous bark. Its 'needles' are jointed branchlets encircled by whorls of small scale-like teeth that curve outwards. At each joint there are six to eight teeth, each 0.7 to 1.2mm long. Sheoaks have very small, wind-pollinated flowers. The fruiting cones are rough, cylindrical and 15 to 40mm long. The winged 'seeds' (individual fruits) are dark and nine to 10mm long.

DISTINCTIVE FEATURES Sheoak differs from karri sheoak in having needle-like branchlets with six to eight small teeth at each joint. These teeth curve outwards rather than being flattened to the needles like those of karri sheoak. The fruiting cones are also larger.

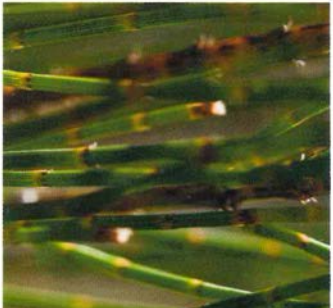
HABITAT Sheoak is widespread in jarrah forest or eucalypt and banksia woodland of the south-west.

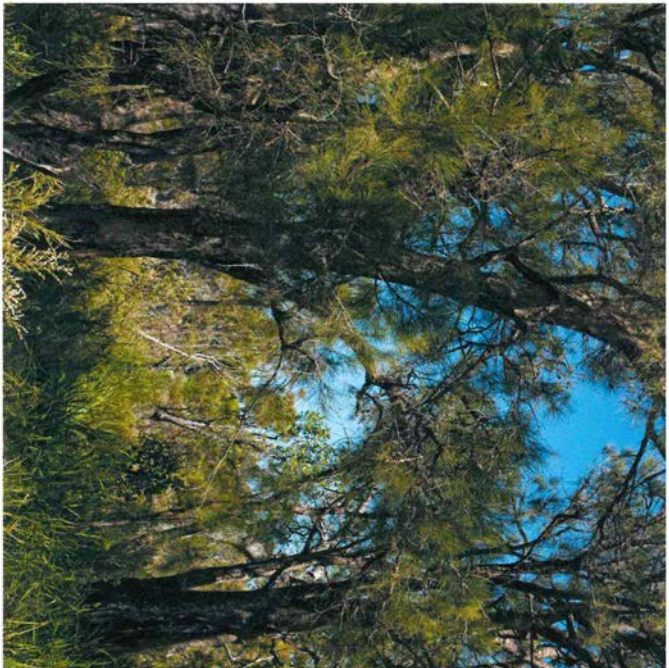
STATEWIDE DISTRIBUTION This tree grows from Jurien to the south coast and east to Mount Manypeaks.

FLOWERING TIME Autumn, winter and spring.

USES The timber of sheoaks had a number of practical uses in the early days of settlement, showing a similarity to the European oak. The wood splits into sheets and was used as rough shingles for roofing. Today it is used for furniture production and small decorative items.

Photos – Cliff Winfield





CHRISTMAS TREE

(Nuytsia floribunda)

Family Loranthaceae, the mistletoes

The brilliant orange blooms of this striking tree appear throughout the south-west near Christmas time. These trees or shrubs are semi-parasites and their roots have suckers which extract nutrients from the roots of neighbouring plants. The Christmas tree belongs to the mistletoe family and is the only member of this family which grows as a tree (most mistletoes are aerial parasites which grow in the canopy). Aboriginal people used to dig up and eat the suckers of Christmas tree, which are sweet and taste like candy, first peeling off the outer layer. Christmas tree fruits are light, dry and winged and float away from the parent tree. Seedlings develop into a low, bushy shrub with numerous stems from the base. After 15 years, one of these stems produces a trunk that carries the flowers.

OTHER NAMES Mudja, mooja.

DESCRIPTION This small tree or large shrub grows up to eight metres high and has a grey to brown bark. The leaves are dull green to bluish-green, somewhat thick and 40 to 100mm long. The deep yellow to orange flowers are strikingly arranged in dense sprays. Each flower has six to eight petals and six to eight unequal stamens. The dry brown fruit, up to 30mm wide, has three prominent wings and contains a single seed.

DISTINCTIVE FEATURES Christmas trees are easily recognised by their bluish-green foliage, brilliant gold to vivid orange flowers and winged fruits.

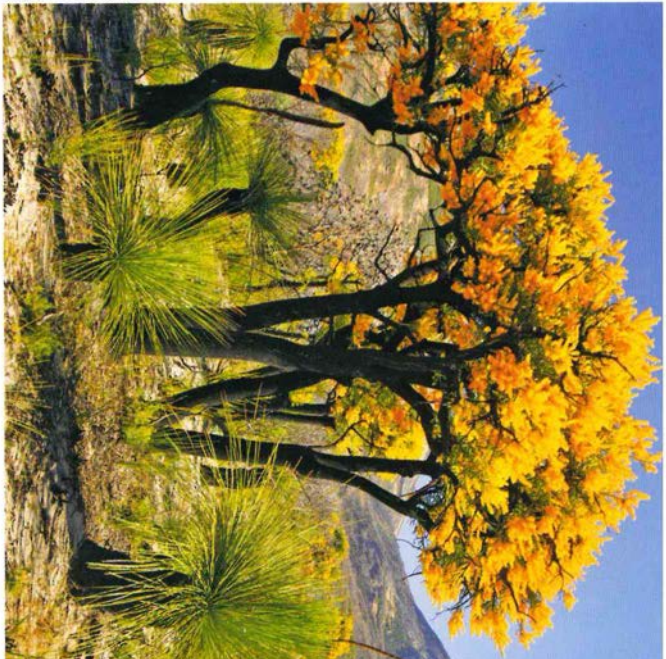
HABITAT This species is scattered through jarrah forest and woodland over much of the south-west forests and the adjacent coastal plain.

STATEWIDE DISTRIBUTION Christmas trees are very widespread, and can be seen from Kalbarri to Israelite Bay and inland to near Kellerberrin.

FLOWERING TIME Spring and summer.

Photo – Cliff Winfield

Photo – Tourism WA



KARRI WATTLE

(Acacia pentadenia)

Family Fabaceae, the legumes

This species forms part of the dense shrub layer of the karri forest. The distinctively scented leaves of karri wattle give the karri forest its characteristic smell. Karri wattle belongs to the group of wattles with true leaves (rather than the false leaves of orange wattle).

DESCRIPTION This small tree or tall shrub grows up to 10m high and has smooth, brown bark. The green leaves have a very complex structure. Each leaf is divided into two to five opposite pairs of axes, which in turn have 20 to 30 opposite pairs of small leaflets arranged along their length. Each leaf can be composed of up to 300 leaflets along up to 10 axes. The individual leaflets are three to six millimetres long. Karri wattle has cream to pale yellow flowers tightly packed into long-stalked, spherical flower heads. Each small individual flower has five petals and numerous free stamens. The fruit is a narrow brown pod up to 55mm long, and is flat with pale thickened margins. Within the pod are several brown seeds.

DISTINCTIVE FEATURES Karri wattle has greatly divided leaves and fluffy round flower heads. It also has a very distinctive odour reminiscent of tomcats. Albizia, which also has greatly divided leaves, has cylindrical, rather than spherical, flower heads, and larger fruits.

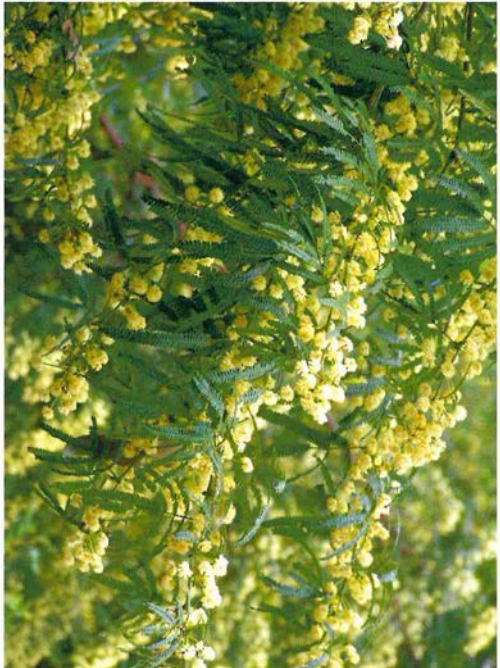
HABITAT This species grows on heavy soils, mostly in karri forest, although it is occasionally found in the southern jarrah forest and swampy areas near the south coast.

STATEWIDE DISTRIBUTION Karri wattle is found only between Nannup and Denmark, extending as far north as Mount Roe.

FLOWERING TIME Spring.

Photo – Bron Anderson/DBCA

Photo – Ariana Svenson



ORANGE WATTLE

(Acacia saligna)

Family Fabaceae, the legumes

The deep yellow blossom of the orange wattle is a welcome sight in late winter to early spring. In this species, as in most wattles, the true leaves are only present when the plant is a seedling. These true leaves are rapidly replaced by flattened leaf stalks, known as phyllodes, which carry out the normal function of leaves. Orange wattle is a popular garden tree throughout WA and the eastern states.

OTHER NAMES Black wattle, kudjong, coojong.

DESCRIPTION This small tree or large shrub usually grows up to six metres high (and on rare occasions up to 10m high). It has smooth, dark grey bark and often pendulous branches. The leaf-like phyllodes are green to bluish-green, narrow and sometimes somewhat curved. They are usually 80 to 250mm long. The yellow to orange flowers are packed into spherical heads which are arranged in short sprays. Like karri wattle, each small flower has five petals and numerous free stamens. The fruit is a narrow brown pod, 80 to 120mm long. It is flattened and has pale, thickened margins. The pod is slightly constricted between each of the brown to black seeds.

DISTINCTIVE FEATURES The undivided false leaves (phyllodes) distinguish orange wattle from both karri wattle and albizia. The latter both have feathery, doubly divided leaves.

HABITAT Orange wattle grows in woodland and is scattered through the south-west forests and the adjoining coastal plain, on a wide range of soils.

STATEWIDE DISTRIBUTION This species is found from the Murchison River to Israelite Bay.

FLOWERING TIME Late winter to early spring.

USES Orange wattle is planted throughout southern Australia. It is frequently used as a fodder shrub or to stabilise dunes or rehabilitate mine sites and has become naturalised in many areas of Australia, as well as Africa, where it is regarded as a pest, and Asia.

Photos – Cliff Winfield

PEPPERMINT

(Agonis flexuosa)

Family Myrtaceae, the myrtles

This sturdy, shady tree often has wiry, weeping branches and is common in coastal and forest areas. Tufts of white flowers adorn the pendulous branchlets in spring and summer. The leaves have a strong scent of peppermint when crushed. Peppermint belongs to the myrtles, whose members all have aromatic oils in minute glands of the leaves. The peppermints growing naturally near Busselton provide important habitat for the endangered ringtail possum. Ringtail possums feed on the leaves and build nests or platforms known as dreys in the branches.

OTHER NAMES Peppermint tree, willow myrtle, wonnil.

DESCRIPTION This small to medium-sized tree grows to 10m high, with attractive weeping branches. In coastal areas, it may be found as a wind-pruned mallee or shrub. The bark is thick, grey and fissured. The young stems have a slightly zigzag-like appearance and the narrow leaves are 45 to 120mm long. The flowers are arranged in tight spherical clusters. Each flower has five almost round white petals, each three to six millimetres long, and 20 to 25 very small stamens. The fruits are closely packed into a spherical fruiting head. Each individual fruit is woody and divided into three compartments that hold numerous minute seeds.

DISTINCTIVE FEATURES The peppermint has much larger, more slender and flatter leaves than Warren River cedar and more numerous stamens.

HABITAT This tree is common in woodlands of the coastal plain and in the south-west forests.

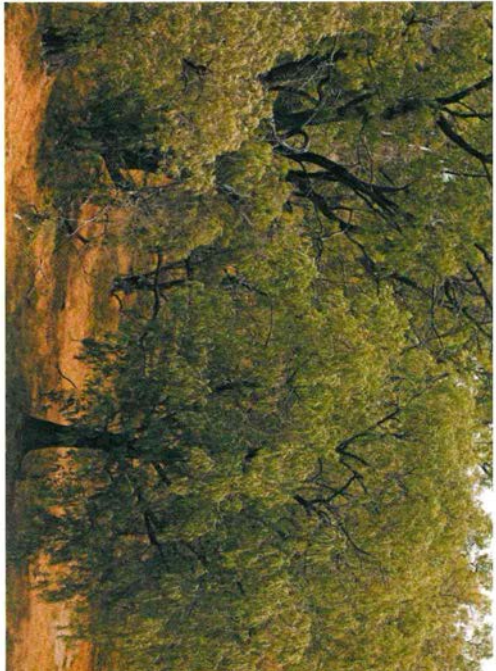
STATEWIDE DISTRIBUTION Peppermint grows from Perth to the south coast and east to Bremer Bay.

FLOWERING TIME Spring and summer.

USES Peppermint is extensively planted as a street tree. The wood is sometimes used for crafting small items of furniture.

Photo – Jiri Lochman

Photo – Cliff Winfield



WARREN RIVER CEDAR

(Taxandria juniperina)

Family Myrtaceae, the myrtles

Warren River cedar is similar to the peppermint but, instead of forming well-spaced trees with thick trunks, it has narrow trunks and grows in dense thickets with little or no understorey. Its flowers are similar to the peppermint, but mainly bloom in winter. This tree always grows in or near water.

OTHER NAMES Wattie, native cedar, wodi.

DESCRIPTION This medium-sized tree grows to 27m high. Mature trees, however, remain very spindly, with foliage only on the uppermost branches. The bark is dark grey to black. The leaves are crowded, often clustered into small tufts and are four to 10mm long. Small white flowers are arranged in spherical clusters. Each flower has five almost round white petals, each about two millimetres long, and 10 very small stamens. The fruits are packed into a spherical head. Like the peppermint, individual fruits are woody and divided into three compartments, containing numerous minute seeds.

DISTINCTIVE FEATURES Warren River cedar can be distinguished from peppermint by its habit and habitat, its much smaller leaves and smaller flowers with fewer stamens.

HABITAT The species is restricted to the margins of winter-wet swamps, lakes and watercourses.

STATEWIDE DISTRIBUTION Warren River cedar grows in high rainfall areas of the south-west, from Scott River to east of Albany, extending north to Manjimup.

FLOWERING TIME Autumn to early spring.

Note Another species, swamp peppermint (*Taxandria linearifolia*), while usually a shrub, sometimes attains the height of a small, spindly tree. Like Warren River cedar, it fringes watercourses and winter-wet swamps, but its leaves are more widely spaced and distinctly flattened.

Photo – Jiri Lochman

Photo – Marie Lochman/Lochman Transparencies

MARRI

(Corymbia calophylla)

Family Myrtaceae, the myrtles

This majestic tree is one of the most common trees of the south-west forests. Because the tree was not highly prized for its timber, many marris were left in south-west paddocks to provide shelter for stock. Marri belongs to a group of eucalypts known as bloodwoods, because their trunks exude a dark red gum. The gum, or kino, was ingested by Aboriginal people for medicinal purposes. The large woody fruits of marri are known as 'honkey nuts', and inspired May Gibbs' stories about the gumnut babies Snugglepot and Cuddlepie. Marri has the largest seeds of any eucalypt and is a very important food source for a range of parrots and cockatoos.

DESCRIPTION This tall tree may grow 60m high, but is sometimes much smaller and grows as a mallee. The rough bark is greyish-brown to dark brown and flakes off in small pieces. The leaves are 85 to 150mm long, dull to shiny dark green above and paler below, with very closely packed veins. The buds are on long stalks and in loose clusters of three to seven. Each bud is eight to 14mm long, including a two to four millimetre-long hemispherical bud cap. Marri flowers are usually white, but there is a rare pink flowering form. The single large woody fruits are 26 to 50mm long, 22 to 40mm wide and divided into four internal compartments.

DISTINCTIVE FEATURES Marri differs from red-flowering gum by its usual flower colour and the shape of its fruits.

HABITAT The species is widespread in jarrah forest and woodland.

STATEWIDE DISTRIBUTION Marri is distributed from the Greenough River to the south coast and east to Cape Riche.

FLOWERING TIME Summer to early autumn.

USES The strong, light-coloured timber is used in building, for fence posts and for woodchips and is rapidly gaining popularity for manufacturing fine furniture. Marri is important in honey production.

Photo – Babs and Bert Wells/DBCA

Photo – Tim Foley/DBCA

Photo – Bron Anderson/DBCA

Photo – Cliff Winfield

YATE

(Eucalyptus cornuta)

Family Myrtaceae, the myrtles

This attractive tree has dense clusters of pale yellow flowers. Yate also has an interesting bark which is dark and shaggy towards the base of the trunk. Higher up, the bark is shed in long strips, revealing a pale and smooth surface. The clustered buds and fruits are very distinctive. The buds have long, horned caps and the fruits have conspicuous slender points. The large clustered flowers form a large yellowish-green inflorescence that looks like a single flower and attracts honeyeaters, which pollinate the flowers.

OTHER NAMES Yeid, yandil.

DESCRIPTION This small to medium-sized tree or mallee grows up to 25m high. The bark is rough, dark grey and vertically furrowed on the lower part of the trunk and a smooth, pale grey to greyish-brown above. The leaves are 60 to 140mm long and shiny dark green to greyish-green on both surfaces. The buds are stalkless and arranged in tight clusters of 11 to 15. Each bud is 20 to 42mm long, including a prominent 17 to 30mm-long horn-shaped bud cap. The woody fruits are in tight clusters, and each fruit is cup-shaped and has a domed disc, with three or four prominent projections fused together. The fruits are nine to 23mm long, including the projections, and are divided internally into three or four compartments.

DISTINCTIVE FEATURES Yate can be distinguished from other eucalypts by the horned buds and conspicuous projections on the fruits.

HABITAT This tree grows in woodland or forest areas and is often associated with granitic outcrops.

STATEWIDE DISTRIBUTION Yate is found from Busselton around the coast to the Duke of Orleans Bay and the Recherche Archipelago, and in inland valleys near Manjimup, Mount Barker and the Stirling Range.

FLOWERING TIME Winter and spring.

Photo – Greg Keighery/DBCA

Photo – Robert Powell

KARRI

(Eucalyptus diversicolor)

Family Myrtaceae, the myrtles

Karri is WA's tallest tree and one of the tallest in the world. This handsome tree has multi-coloured bark in varying shades of pink, orange, yellow, grey and white. The famed Gloucester Tree, near Pemberton, is a karri. This 60m-high giant towers above the surrounding karri forest. Purple-crowned lorikeets use their brush tongues to harvest pollen and nectar. They are major pollinators of this and other tall forest trees which have flowers exposed in masses in the upper canopy.

DESCRIPTION Karri grows up to 90m high and reaches its optimum height within 100 years. Its long, straight trunk has smooth bark that is shed each year. The outer bark changes colour as it matures and the new bark, disclosed after the old skin is shed, has a fresh hue, giving rise to the multi-coloured trunk. The leaves are 90 to 120mm long. They are a dull dark green above and paler below, hence the botanical name *diversicolor*. The buds are on short stalks in clusters of seven. Each bud is 10 to 14mm long including the rounded conical bud cap, which is five to seven millimetres long. Karri has white flowers. Its barrel-shaped fruits are eight to 12mm long.

DISTINCTIVE FEATURES Karri can be recognised by its tall trunk, smooth colourful bark and relatively few leafy upper branches arranged in distinctive 'broccoli'-shaped clusters. It is often overtopped by bare branches, the reminder of fires in years past. The species is sometimes confused with bullich (see page 36).

HABITAT The tree grows predominantly on loamy soils in the wetter parts of the south-west.

STATEWIDE DISTRIBUTION Karri forest grows mainly from Nannup and Manjimup to Denmark, with outlying populations near Margaret River, Albany, Mount Manypeaks and the Porongurup Range.

FLOWERING TIME Spring and summer.

USES The tree is used as a structural hardwood, providing long lengths of timber. It is very important in honey production.

Photo – Bron Anderson/DBCA

Photo – DBCA

Photo – DBCA

Photo – Cliff Winfield

RED-FLOWERING GUM

(Corymbia ficifolia)

Family Myrtaceae, the myrtles

When flowering, this irregular, straggly and somewhat nondescript tree is transformed into a blaze of rich colour. The prolific blooms vary from brilliant scarlet and crimson through oranges and pinks to a delicate shade of the palest pink. Understandably, this tree is highly prized as an ornamental eucalypt and is cultivated all over the world. In the wild, however, the red-flowering gum is restricted to a small area of the south-west.

DESCRIPTION This small tree grows up to 10m high, is somewhat straggly, and has rough, greyish-brown bark similar to that of marri. The leaves are 70 to 140mm long, shiny dark green above and paler below and have veins packed together like those of marri. The buds are on long stalks in clusters of three to seven. Each bud is 12 to 16mm long, including a hemispherical bud cap two to three millimetres long. The large, woody fruits are barrel-shaped to very slightly urn-shaped and contract at the opening (not just below as in marri). The fruits are 20 to 42mm long and 20 to 30mm wide.

DISTINCTIVE FEATURES Red-flowering gum is distinguished from marri by its smaller, more straggly stature and orange or pink to red flowers. The fruits are more truncated and lack a flared rim.

HABITAT This tree grows in eucalypt and banksia woodland.

DISTRIBUTION Red-flowering gum is found only from near Mount Frankland to Walpole and east to Denmark. There is an isolated population east of Albany.

FLOWERING TIME Summer to early autumn.

USES Red-flowering gum is one of the most commonly grown ornamental eucalypts outside WA. When grown in WA, however, this species is very prone to stem canker (Quimballaria), a fungal disease, which killed most of the early plantings. Marri is more resistant, so most 'red-flowering gums' in Perth are hybrids with marri.

Photo – Cliff Winfield

Photo – Bron Anderson/DBCA

Photo – Bron Anderson/DBCA

TUART

(Eucalyptus gomphocephala)

Family Myrtaceae, the myrtles

Stately tuart trees have dense foliage, dull grey bark and showy white to cream flowers. The largest stands of tuart forest can be seen around Wonnerup and Ludlow, where the trees intermingle with peppermints. Tuart buds are very distinctive; they have swollen bud caps and are shaped like small ice cream cones. Early accounts by explorers and settlers near Busselton describe the forest as a "beautiful open forest in which visibility was clear for a half mile in any direction" beneath which "the natural grass was as high as a horse's wither". One of the most remarkable things about the tuart forest is that it has survived at all. The land on which it grows was eagerly sought for grazing, the limestone found in its soil was quarried to manufacture quicklime for building and agriculture, and the light yellow wood was prized for its high density and resistance to wear.

OTHER NAMES White gum, duart.

DESCRIPTION This medium-sized to tall tree grows up to 40m high. Its rough, fibrous grey bark flakes into small pieces. The leaves are often curved, 90 to 160mm long, and are a shiny light green above and paler below. The almost stalkless buds cluster in groups of seven. Each bud is 14 to 23mm long, including the prominent broad bud cap which is eight to 10mm long. The fruits are narrow, cup-shaped and 13 to 25mm long, with a fairly broad rim.

DISTINCTIVE FEATURES Tuart buds are very distinctive; they have swollen bud caps and are shaped like small ice cream cones.

HABITAT This tree favours sandy soils in coastal limestone areas.

STATEWIDE DISTRIBUTION Tuart grows from Jurien Bay to near Busselton.

FLOWERING TIME Summer and early autumn.

USES In the past, tuart timber was used to craft whim and wagon wheels, journals for propeller shafts, decking for wagons, telegraph pegs and tool handles.

Photos – Cliff Winfield

YELLOW TINGLE

(Eucalyptus guilfoylei)

Family Myrtaceae, the myrtles

Yellow tingle is one of three types of tingle trees, all confined to the wetter south-west. Yellow tingle grows with karri, but usually occupies the more low-lying areas. It is a robust tree with a relatively short trunk and widely spreading branches. Tingle trees are relicts from a period 65 million years ago, when Australia was part of the supercontinent Gondwana and the climate was warm and continuously wet. Tingles are now found only in the Walpole-Nornalup area, which has the wettest and least seasonal climate in the south-west.

OTHER NAMES Dingul dingul, tingle.

DESCRIPTION Yellow tingle is a medium-sized to tall tree that grows up to 35m. It has greyish-brown, rough and crumbly bark. The leaves are 90 to 160mm long, dull green above and paler below. The almost stalkless buds are in clusters of approximately seven. Each bud is eight to nine millimetres long, has four faint ridges and a rounded hemispherical bud cap two to three millimetres long. The flowers are white. The fruits are cup-shaped, seven to 10mm long and divided internally into three or four compartments.

DISTINCTIVE FEATURES Yellow tingle is distinguished from red tingle by the absence of a buttressed, or thickened, trunk. It also has more cup-shaped fruits than Rate's tingle, which are spherical.

HABITAT This species is found within or fringing karri forest, often in low-lying areas along creeks.

DISTRIBUTION Yellow tingle is confined to an area between the Deep and the Bow rivers.

FLOWERING TIME Summer.

USES Small quantities of timber, which is extremely durable, are sometimes used in building.

Photo – Cliff Winfield

RED TINGLE

(Eucalyptus jacksonii)

Family Myrtaceae, the myrtles

This south-west forest giant is not as tall as karri, but its trunk is by far the broadest of any tree in WA, with a circumference of up to 20m. Red tingle trunks are often split and internally burnt by past wildfires, leaving a huge hollow which often occupies most of the enlarged base of the trunk. These trees can be seen at their best in the Valley of the Giants, in Walpole-Nornalup National Park. Many are believed to be more than 400 years old.

OTHER NAMES Dingul dingul, tingle.

DESCRIPTION This tall tree grows up to 70m high and is known for its huge buttressed trunk. Its bark is rough, stringy and grey to brown in colour. The leaves are often curved, 75 to 110mm long, shiny dark green above and paler below. The buds cluster in groups of seven. Each bud is six to seven millimetres long including the four to five millimetre long, rounded, conical bud cap. Red tingle has white blossoms. The fruits are more or less spherical, six to eight millimetres long and divided internally into three or four compartments.

DISTINCTIVE FEATURES Red tingle differs from yellow tingle by its greatly enlarged trunk base, its longer bud caps and its spherical, rather than cup-shaped, fruits.

HABITAT The tree intermingles with karri, jarrah and other tingles.

STATEWIDE DISTRIBUTION Red tingle is restricted to the lower catchment areas of the Deep, Frankland and Bow rivers.

FLOWERING TIME Summer.

USES The timber is sometimes used in building.

Note The closely-related Rate's tingle (*Eucalyptus brevistylis*) also grows in the karri forest between Walpole and Mount Lindesay, extending to north-east of Mount Frankland. Rate's tingle has more numerous, smaller buds only three to four millimetres long, including the rounded bud caps which are only one or two millimetres long.

Photo – Cliff Winfield

JARRAH

(Eucalyptus marginata)

Family Myrtaceae, the myrtles

One of the most common and well-known trees of the south-west, jarrah is a stately tree with a straight trunk. For many years it has been the principal hardwood tree harvested for timber. Its richly coloured and beautifully grained timber is sought after for cabinet making, flooring and panelling and is noted for its resistance to termites. Before the era of bitumen roads, famous roads in cities such as London and Berlin were paved with blocks of jarrah.

OTHER NAMES Swan River mahogany.

DESCRIPTION This medium-sized to tall tree grows up to 40m high and has rough, greyish-brown fibrous bark which it sheds in long flat strips. The leaves are often curved, 80 to 130mm long, shiny dark green above and paler below. The stalked buds are arranged in clusters of seven to 11. Each bud is eight to 17mm long, including the narrow, five to nine-millimetre-long conical bud caps. The flowers are white. The fruits are more or less spherical to barrel-shaped, nine to 16mm long.

DISTINCTIVE FEATURES This tree is best recognised by the bark, which has deep, vertical grooves. Jarrah has larger buds with longer and narrower bud caps than the tingles.

HABITAT Jarrah usually forms forest or woodland on gravelly soils, but sometimes also on sand or loam.

STATEWIDE DISTRIBUTION The species is widespread, growing from Perth to Albany, with outlying populations as far north as Mount Lesueur and as far inland as Jilakin Rock.

FLOWERING TIME Spring and early summer.

USES The timber is used extensively for building, fenceposts, bridges, and power poles but mostly is used to make furniture. The trees are also used for producing honey.

Note Albany blackbutt (*Eucalyptus staeri*) has similar bark to jarrah but is more stunted, has more buds in each cluster and larger fruits.

Photo – Cliff Winfield

Photo – Bron Anderson/DBCA

Photo – Cliff Winfield

BULLICH

(Eucalyptus megacarpa)

Family Myrtaceae, the myrtles

Bullich, like karri, is a smooth-barked eucalypt which sheds its old grey bark to reveal mottled tonings of yellow, pink, orange, pale grey and white. The fruits are not really as large as the botanical name would suggest (*mega* means large and *carpa* fruit), but they are larger than those of karri, which it superficially resembles. Bullich is usually a tree in southern forests but near the extremities of its range, such as in the Stirling Range, it may be a mallee with several slender trunks.

OTHER NAMES Swamp karri, pulidj.

DESCRIPTION This medium-sized tree grows up to 30m high. The bark is grey to white, often with pale yellow to orange patches. The leaves are curved, 80 to 140mm long and both surfaces are green to bluish-green. The almost stalkless buds are arranged in clusters of three. Each bud is 14 to 23mm long, including the shallowly hemispherical bud cap seven to 10mm long. The flowers are white. Bullich has broad fruits that are shaped like shallow cups, 13 to 25mm long. They have a broad rim and sometimes four or five short projections.

DISTINCTIVE FEATURES The bark is similar to that of karri, however bullich is a smaller tree, with larger and broader fruits.

HABITAT Bullich often grows near swamps or watercourses, or even on granitic outcrops, and is scattered through forests and coastal heaths.

STATEWIDE DISTRIBUTION The tree is found from near Perth to the Stirling Range.

FLOWERING TIME Autumn to spring.

USES The trees were used by early settlers for shed poles and rafters, but are rarely used today as the timber is too brittle for sawing.

Photo – Jiri Lochman

Photo – Cliff Winfield

Photo – Cliff Winfield

BLACKBUTT

(Eucalyptus patens)

Family Myrtaceae, the myrtles

Blackbutt is a tall, straight tree. The common name is derived from the bark, which is often blackened by fire. Blackbutt looks similar to jarrah but can be distinguished by the shape and size of its buds and fruits.

OTHER NAMES Swan River blackbutt, yarri, dwuda.

DESCRIPTION This fairly tall tree grows up to 45m high and has rough grey to greyish-brown furrowed bark. The leaves are often curved, 60 to 80mm long and bluish-green on both surfaces. The stalked buds are arranged in clusters of seven to 13. Each bud is eight to 10mm long, including a conical or hemispherical bud cap four to six millimetres long. It has white blossoms. The fruits are cup-shaped or barrel-shaped, six to 14mm long, with four internal compartments.

DISTINCTIVE FEATURES Blackbutt is similar to jarrah, but has shorter and broader bud caps, more uniformly coloured leaves and slightly smaller fruits.

HABITAT This tree is widespread and best developed on loamy soils of major valleys of forest areas, but also grows in stunted form near creeks or in sandy depressions.

STATEWIDE DISTRIBUTION Blackbutt extends from east of Perth to Albany.

FLOWERING Late spring and summer.

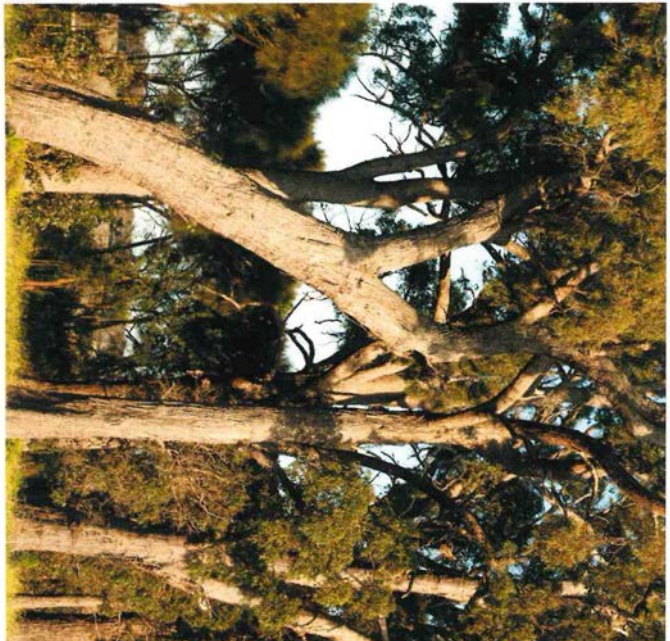
USES The yellow to honey-coloured timber has similar characteristics to that of jarrah and has been used for building, particularly for flooring and panelling.

Photo – Bron Anderson/DBCA

Photo – Tim Foley/DBCA

Photo – Cliff Winfield

Photo – Cliff Winfield



FLOODED GUM

(Eucalyptus rudis)

Family Myrtaceae, the myrtles

This bluish-tinged tree flanks rivers, lakes and wetlands. It has many branches and its fruits, like those of bullich, are broader than they are wide. The woody fruits, like those of other eucalypts, are divided into several compartments, each opening by a small valve, which in flooded gum and bullich, persist as small projections.

OTHER NAMES Swamp gum, river gum, kularda.

DESCRIPTION Flooded gum is a medium-sized tree up to 20m high. It has rough grey bark on the trunk but smooth grey bark on the branches. The leaves are 80 to 140mm long. Their upper surfaces are dull to shiny green and the lower surfaces are similar or slightly paler. The stalked buds are arranged in clusters of seven to 11. Each bud is eight to 12mm long, including a conical bud cap five to eight millimetres long. Flooded gum has white flowers. The fruits are hemispherical to broadly bell-shaped, four to six millimetres long and six to 15mm wide. They have a thick rim and with four to six short projections. The fruits have four to six compartments.

DISTINCTIVE FEATURES Flooded gum can be distinguished by its small, broad and thick-rimmed fruits and its smooth-barked branches.

HABITAT This tree fringes watercourses or swamps.

STATEWIDE DISTRIBUTION Flooded gum grows from Eneabba to Margaret River and east to Pallinup River.

FLOWERING TIME Winter and spring.

USES Aboriginal people once ate the insects found on the leaves of this tree and the sugary, waxy scales they produce.

Note There are two subspecies, *Eucalyptus ratyantha*; a large buded and fruited form extending from Margaret River to Harvey and *E. rudis* through the rest of the range. This species intergardes with red river gum (*E. camaldulensis*) north of Perth.

Photo – Cliff Whinfield

Photo – Tim Foley/DBCA

SALTWATER PAPERBARK

(Melaleuca cuticularis)

Family Myrtaceae, the myrtles

Saltwater paperbark is common in saline areas. It is a ghostly tree, remarkably gnarled in appearance with twisted trunk and branches. A striking feature is its white, many-layered peeling bark. It has unusual cup-shaped fruits which appear star-shaped from above, due to the thickened remnants of the five sepals.

DESCRIPTION This small tree or large shrub grows up to seven metres high and has papery bark. The small leaves are in two opposite pairs, forming four regular lines of leaves down the stem. Each leaf is five to 12mm long. The cream to white flowers are single or in small clusters. The individual flowers have five cream to white petals about four millimetres long and numerous stamens arranged into five bundles. Each bundle is formed from 15 to 20 stamens. The small, woody fruits are six to 11mm wide, solitary or in small clusters.

DISTINCTIVE FEATURES Saltwater paperbark differs from the other paperbarks by its opposite leaves, its larger solitary or clustered flowers, which have brown bracts at their base, and its larger star-shaped fruits.

HABITAT This tree fringes inlets, rivers and swamps, and, as its name suggests, can tolerate reasonably saline conditions.

STATEWIDE DISTRIBUTION Saltwater paperbarks grow from Perth to the south coast and east to Israelite Bay.

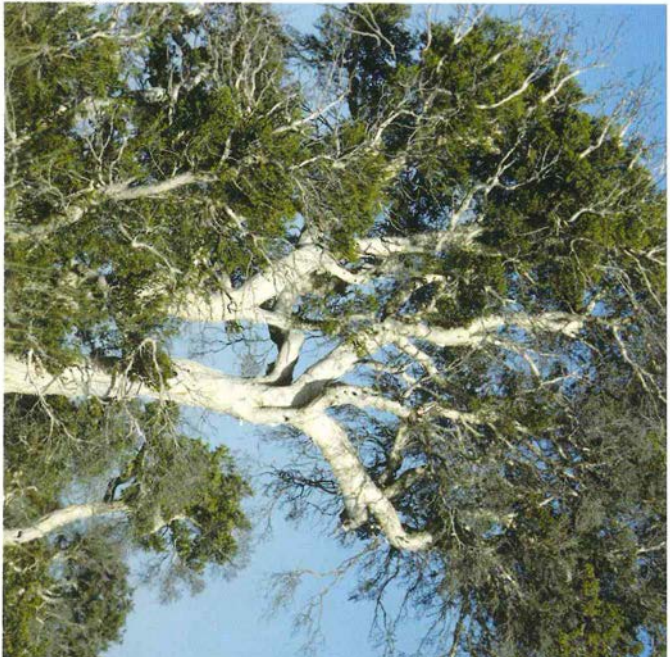
FLOWERING TIME Spring.

Note Another common paperbark, modong (*Melaleuca preissiana*), grows from Eneabba to the south coast, but is a larger tree up to 15m high with a bushier crown. It has similar but alternate leaves and similar but slightly larger flowers. Its fruits are more or less spherical rather than star-shaped. Like saltwater paperbark, modong is a wetland species fringing rivers, inlets and swamps but prefers sites near fresh to brackish water and does not tolerate saline conditions.

Photo – Jiri Lochman

Photo – Cliff Winfield

Photo – Jiri Lochman



SWAMP PAPERBARK

(Melaleuca rhaphiophylla)

Family Myrtaceae, the myrtles

Swamp paperbark is a reasonably large paperbark with a bushy crown. It is widespread and grows near fresh and saline water, often in association with other paperbarks. It is distinguished by its long greyish-green, needle-like leaves.

OTHER NAMES Freshwater paperbark.

DESCRIPTION This small tree or large shrub grows up to 10 metres high and has a greyish-white, papery bark. The alternate leaves are needle-like and 10 to 40mm long. The white to pale yellow flowers are arranged in dense, short flower-spikes. Each flower has five cream to white petals, two to three and a half millimetres long, and numerous stamens arranged into five bundles. Each bundle is formed from 10 to 20 stamens. The small woody fruits are arranged into cylindrical spikes. Each fruit is almost spherical and five to six millimetres wide.

DISTINCTIVE FEATURES Swamp paperbark is easily recognised by its long, needle-like leaves.

HABITAT This swamp-loving tree fringes inlets, lakes, rivers and swamps, usually growing in wetter places than modong.

STATEWIDE DISTRIBUTION Swamp paperbark ranges from Kalbarri to the south coast and east to near Ravensthorpe.

FLOWERING PERIOD Spring and early summer.

Photos – Cliff Winfield

NATIVE WILLOW

(Callistachys lanceolata)

Family Fabaceae, the legumes

Many members of the legume family have irregularly shaped flowers. The standard petal is usually large and erect. It is flanked by two smaller wing petals and two inner petals, which are joined to form the keel. Native willow has 10 free stamens, whereas the stamens of some other peas are fused into a tube. This arrangement of petals forms the commonly recognised pea flower shape. It is a striking plant in flower, and its yellow to orange blooms are a common sight in spring and summer along river banks of the south-west.

OTHER NAMES Greenbush, wonnich, wonidj.

DESCRIPTION This small tree or tall shrub grows up to eight metres high. The pale green leaves are mostly in whorls of three, fairly leathery and 40 to 170mm long. The deep yellow to orange pea-shaped flowers are arranged in slender terminal sprays. Each flower has a very dark hairy outer whorl (calyx) with five unequal lobes. This is seven to 10mm long. The fruit is a somewhat swollen hairy pod 10 to 15mm long, holding up to 12 small seeds.

DISTINCTIVE FEATURES Native willow is characterised by its large, leathery leaves, a large densely hairy calyx, intense yellow to orange flowers and its large pods.

HABITAT This tree fringes inlets, rivers and creeks and grows in wet depressions in karri or jarrah forests.

STATEWIDE DISTRIBUTION Native willow extends from Perth to the south coast and east to Cape Arid.

FLOWERING TIME Spring and early summer.

Note This species was previously known as *Oxylobium lanceolatum* but research showed it was distinct from other *Oxylobium* species.

Photos – Cliff Winfield

CANDLE BANKSIA

(Banksia attenuata)

Family Proteaceae

Candle banksia produces numerous, slender cones of bright sulphur-yellow flowers in spring and summer. These candle-like flower spikes are a magnet for honey-eating birds, honey possums, insects and other nectar-eating animals. Candle banksia is very widespread and common throughout the south-west of the state.

OTHER NAMES Slender banksia, coast banksia, piara.

DESCRIPTION This small tree, growing up to 10m high, has a rough crumbly bark. The leathery, strap-like leaves are 40 to 270mm long and have finely serrated edges. The yellow, cylindrical flower spikes are up to 250mm long and 50mm wide. Despite the perception that they are single flowers, the cones are actually made up of numerous individual flowers, each splitting into four narrow segments. The cylindrical fruiting cones remain on the trees for several years and are clothed with the remains of dead flowers. Several small, densely hairy fruits are embedded in the woody axis. Each fruit opens by two valves to release two winged seeds.

DISTINCTIVE FEATURES Candle banksia has narrower flower spikes than swamp banksia and river banksia, and flowers from spring to summer. Unlike swamp and river banksias, its fruiting cones retain the persistent remains of flowers. These look like old netting between the exposed fruits.

HABITAT Candle banksia usually grows on sandy soils in woodlands, shrublands and heath, less often in forest communities.

STATEWIDE DISTRIBUTION This tree is found between Kalbarri and Bremer Bay.

FLOWERING TIME Spring and summer.

USES Aboriginal people used to soak the flower spikes of this species in a water-filled hole lined with paperbark to make a sweet drink.

Photo – Cliff Winfield

Photo – Marie Lochman/Lochman Transparencies

BULL BANKSIA

(Banksia grandis)

Family Proteaceae

Bull banksia is a common tree characteristic of the jarrah forest understorey. It has handsome dark green, shiny foliage radiating around its huge, golden-yellow flower cones. The enormous leathery leaves are quite distinctive. They are deeply divided into numerous large triangular lobes.

OTHER NAMES Giant banksia, mangite, pulgarla.

DESCRIPTION This small tree grows up to 10m high and has thick, rough and crumbly bark. In coastal areas it may only be a shrub up to three metres high. The saw-toothed leaves are 100 to 450mm long. It has cylindrical flower cones up to 400mm long. The very large fruiting cones remain on the trees for several years, but, unlike slender banksia, the remains of dead flowers are shed early. There are many small fruits, mostly restricted to the lower half of the cone.

DISTINCTIVE FEATURES Bull banksia is easily recognised by its deeply divided leaves, large flower spikes and fruiting cones.

HABITAT Bull banksia is found mostly in jarrah forest, mixed woodlands or coastal heath, but also in karri forest. It grows on a wide variety of soils and is common through much of the south-west.

STATEWIDE DISTRIBUTION This species extends from Jurien Bay to the south coast, east to Bremer Bay and inland to Katanning.

FLOWERING TIME Spring and summer.

USES Aboriginal people used to suck the nectar from the flower spikes.

Photos – Cliff Winfield

HOLLY-LEAVED BANKSIA

(Banksia ilicifolia)

Family Proteaceae

Holly-leaved banksia would not be immediately recognised by most people as a banksia. Its flowers look more like those of a dryandra. In fact, it is a primitive banksia with close links to the dryandras and it greatly resembles parrot bush. Its flowers are arranged in a small hemispherical head rather than on a large, cylindrical cone. The flowers change colour when pollinated from yellow to pinkish-red, signalling to visiting birds and insects that nectar and pollen is only found in the yellow flowers.

OTHER NAMES Holly banksia.

DESCRIPTION This small, gnarled tree or shrub grows up to 10m high and has thick, fibrous bark. Its leathery leaves are only 30 to 90mm long, with irregular prickly teeth. The flower cluster is a small dome 40 to 70mm wide, which is much smaller than the spikes of most other banksias. The flowers change colour as they age. They are at first cream to pale yellow, then become pink and finally a dull red to brown. Few fruits are produced and the fruiting cone is reduced to a very small woody base with only one to three individual woody fruits.

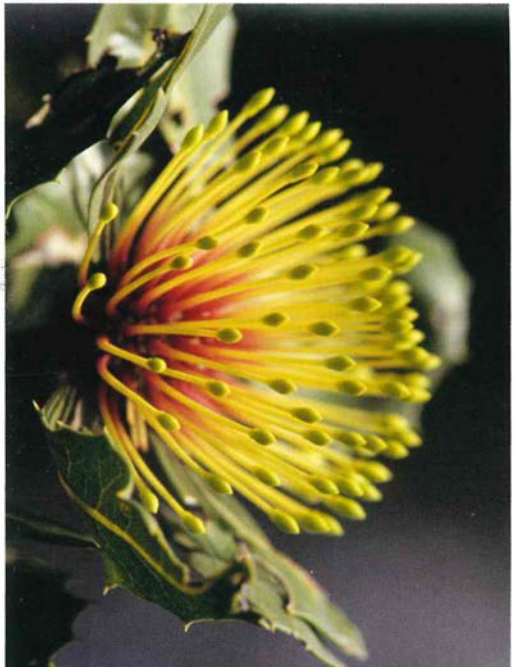
DISTINCTIVE FEATURES Holly-leaved banksia has short holly-like leaves, small domed flower clusters and very few fruits.

HABITAT Holly-leaved banksia usually grows on sandy soils and is scattered through jarrah forests or mixed woodlands, particularly in coastal areas. Unlike parrot bush, holly-leaved banksia occupies areas where the watertable is high such as in swales or along the edges of swamps.

STATEWIDE DISTRIBUTION Jurien Bay to Albany.

FLOWERING TIME Much of the year.

Photos – Jiri Lochman



SWAMP BANKSIA

(Banksia littoralis)

Family Proteaceae

Swamp banksia has a thick trunk and a dense canopy and, as its name suggests, can be found in low-lying, swampy areas. The narrow leaves are bi-coloured, and the pale lower surface is covered with minute hairs.

OTHER NAMES Swamp oak, river banksia, pungura.

DESCRIPTION This small to medium-sized tree grows up to 12m high. Its somewhat irregular and gnarled trunk is covered with rough, grey, crumbly bark. The leathery, strap-like leaves of this tree have a green upper surface and white to cream lower surface. The leaves are 100 to 200mm long. Their soft, irregular teeth are usually more numerous towards the tip of the leaf than at the base. Swamp banksia's yellow, cylindrical flower spikes are up to 200mm long and 70mm wide. Fruiting cones remain on the trees for several years but the remains of dead flowers are shed early. The narrow cones have several small fruits that protrude prominently from the woody axis.

DISTINCTIVE FEATURES This species is distinguished from slender banksia by its late summer to winter flowering, its restriction to winter-wet swampy areas and by the rapid shedding of the dead flowers on the fruiting cones. It has a more irregular trunk with rough bark, and longer narrower leaves than river banksia.

HABITAT Swamp banksia grows on peaty sand in winter-wet depressions and swamps. It is particularly common in coastal heath or low coastal woodland.

STATEWIDE DISTRIBUTION The tree is found from Mount Lesueur to the Stirling Range and east of Albany.

FLOWERING TIME Late summer to mid-winter.

Photo – Jiri Lochman

RIVER BANKSIA

(Banksia seminuda)

Family Proteaceae

This attractive, erect tree is one of the taller banksia species. At one time it was considered to be a subspecies of the closely-related swamp banksia. Although its leaves are similar to those of swamp banksia, they are slightly shorter and broader. River banksia is killed by fire and regenerates only from seed, unlike many other banksias, which are fire-resistant and capable of producing new shoots after fire.

DESCRIPTION This medium-sized tree grows up to 20m high, and usually has a straight trunk and hard, fissured grey bark. The leathery, strap-like leaves are 70 to 120mm long and have fine teeth. The yellow, cylindrical flower spikes are up to 200mm long and 70mm wide. Its fruits protrude from slender cones, which are similar to those of swamp banksia, but the dead flowers are shed early.

DISTINCTIVE FEATURES River banksia has a taller, straighter trunk than swamp banksia and hard, fissured bark. It grows twice as high as slender banksia and flowers later, and its fruiting cones lack the persistent remains of dead flowers.

HABITAT This tree fringes rivers, estuaries and creeks, usually in jarrah, marri or karri forest.

STATEWIDE DISTRIBUTION River banksia grows from Dwellingup and Broke Inlet east to Denmark.

FLOWERING TIME Late summer to late winter.

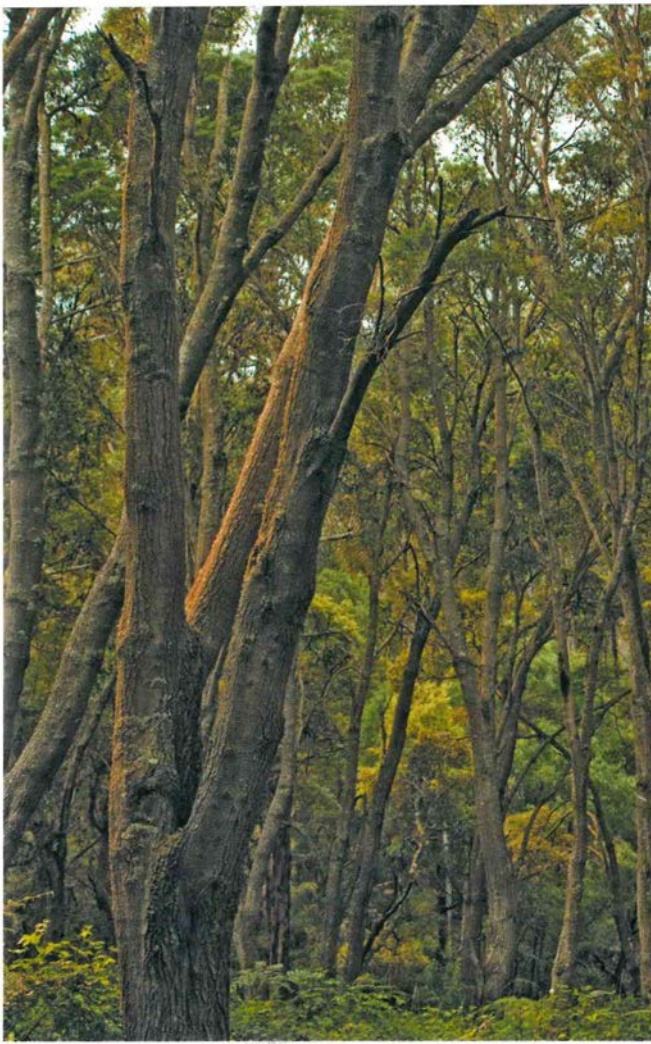


Photo – Cliff Winfield

SOFT HAKEA

(Hakea lasianthoides)

Family Proteaceae

This soft, graceful shrub or small tree is mostly confined to the forest areas of the south-west. Like other hakeas, soft hakea forms large woody fruits, but they are slender and less conspicuously sculptured than many of the others. The flowers of this species, and indeed all other hakeas, split into four segments. Each segment is slightly enlarged at the tip and protects a stamen.

DESCRIPTION This small, open-branched tree or slender shrub grows up to six metres high. The leaves are often slightly curved and 40 to 120mm long. Although the leaves have a small point at the tip, it is not rigid or sharp. White to cream flowers are clustered along the stems. They are six to 10mm long and densely hairy. The fruits are woody, 25 to 33mm long and only seven to nine millimetres wide. The surface is slightly warty and the tip lacks horns. The two halves of the fruit eventually open to release two winged seeds.

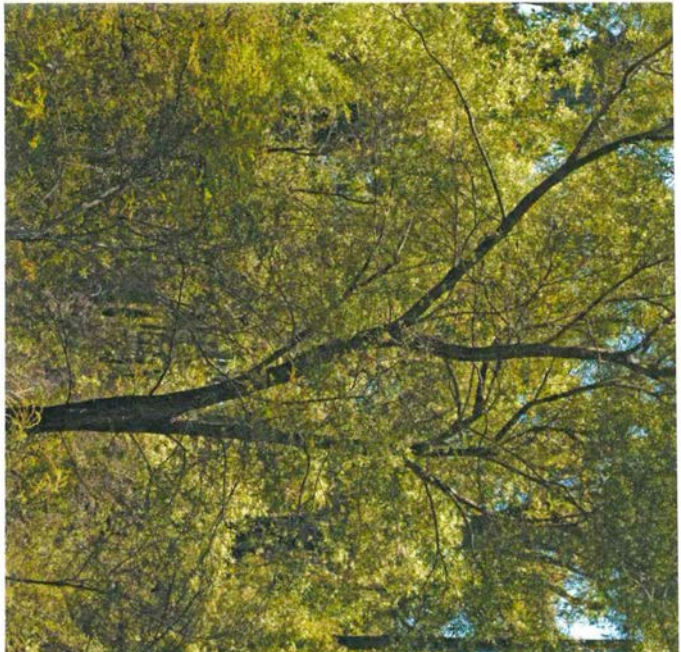
DISTINCTIVE FEATURES Soft hakea differs from dungyn by having more slender and softer leaves, larger hairy flowers and much narrower, smoother fruits.

HABITAT This species is found in eucalypt woodland and forest, often in damp depressions or along watercourses.

STATEWIDE DISTRIBUTION Soft hakea grows mainly between Margaret River and Augusta east to Bow River, but has also been recorded from Dwellingup and near Perth.

FLOWERING TIME Spring and summer.

Photos – Cliff Winfield



DUNGYN

(Hakea oleifolia)

Family Proteaceae

Dungyn is a rigid, olive-green shrub or small, spreading tree with harsh, bluish-green foliage. It is restricted to the south coast of WA. The leaves have rigid points that can cause pain to the unwary. The species has fruits that remain on the plants for some time, only releasing their seeds after fire or extremely hot weather.

DESCRIPTION This small tree or dense shrub grows up to six metres high. The leaves are 35 to 70mm long, with a very sharp, rigid point at the tip. White flowers are arranged in clusters down the stem. Individual flowers are four to five millimetres long. The fruits are broad and woody, 20 to 27mm long and 12 to 18mm wide. They have prominent warts and two small diverging horns.

DISTINCTIVE FEATURES Dungyn is distinguished from soft hakea by its sharply pointed leaves, smaller hairless flowers and broader, more sculptured fruits.

HABITAT This species grows in woodland or shrubland, often near the coast.

STATEWIDE DISTRIBUTION Dungyn may be found from Dunsborough east to Bremer Bay.

FLOWERING TIME Spring.

Photo – Bert and Babs Wells/DBCA

SNOTTYGOBBLE

(Persoonia longifolia)

Family Proteaceae

This graceful, and often somewhat weeping, forest or woodland tree has distinctive flaky bark. Its striking flowers are a beautiful sight in summer. The fruits are green and fleshy, hold one or two seeds, and fall to the ground to be dispersed by animals such as wallabies, kangaroos and emus. The flowers are pollinated by European bees. This species is able to regrow from root suckers, which is why colonies can often be seen along roads.

OTHER NAMES Upright snottygobble, long-leaf persoonia.

DESCRIPTION This small tree or large shrub grows up to five metres high. The bark is dark reddish to bronze and consists of many papery layers which flake easily. The narrow leaves are 70 to 220mm long and are usually slightly curved. Deep yellow to orange flowers are arranged in short sprays. Individual flowers are 12 to 14mm long and have tiny orange to brown hairs pressed flat to the surface. The flowers split into four narrow segments which curl back to reveal the narrow stamens.

DISTINCTIVE FEATURES This species of snottygobble is characterised by its distinctive bark, longer and narrow dark green leaves and deep yellow to orange flowers.

HABITAT Snottygobbles grow in jarrah forest, mixed jarrah and karri forest or woodland. They often grow along roadsides.

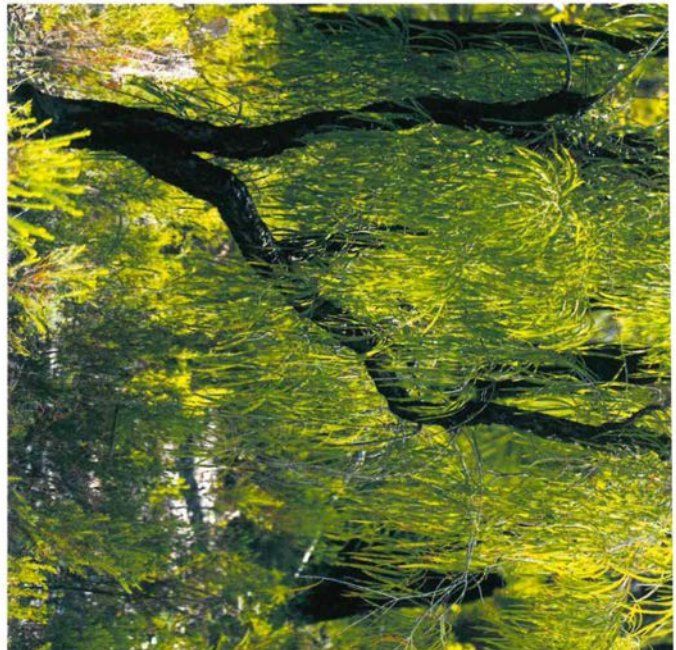
STATEWIDE DISTRIBUTION These trees are found from Perth to Albany.

FLOWERING TIME Summer.

Note Another species, spreading snottygobble (*Persoonia elliptica*), is also found in the southern jarrah-marri forest. It has a corky, crumbly bark and broader, thicker leaves.

Photo – Bron Anderson/DBCA

Photo – Cliff Winfield



WOODY PEAR

(Xylomelum occidentale)

Family Proteaceae

The woody pear is a slow-growing and often straggly tree with bright green foliage. Its distinctive feature is its enormous pear-shaped fruits. These are woody and have a velvety texture. They take several years to mature and may remain on the tree for many years until stimulated to open and release their seeds by fire or drying. The seeds spin like propellers as they fall to the ground.

OTHER NAMES Forest pear, djandjin, danja.

DESCRIPTION This small tree or large shrub grows up to eight metres high and has brown, flaky and fibrous bark. The new shoots are densely brown and hairy. The leaves are in opposite pairs. They are 60 to 130mm long and often have a few prominent, prickly teeth. Sweetly-scented white to cream flowers, 10 to 12mm long, are arranged in slender spikes. The woody fruits are pale brown to grey, up to 80mm long and 40mm wide and hold two large winged seeds.

DISTINCTIVE FEATURES Woody pear is easily recognised by its very large woody fruits.

HABITAT This species is scattered through banksia or jarrah-marri woodlands, on sandy or sandy-gravelly soils.

STATEWIDE DISTRIBUTION Woody pear grows from Perth to Augusta and Manjimup.

FLOWERING TIME Summer.

Photos – Cliff Winfield

KARRI HAZEL

(*Trymalium odoratissimum*)

Family Rhamnaceae

Karri hazel usually grows in dense thickets as a large shrub, but is sometimes a small tree. Its small flowers are massed into large, delicate creamy-coloured sprays. The flowers are unusual, as the structures which appear to be petals belong to the outer floral whorl (the sepals). The real petals are much smaller and have a spoon-like shape, hiding the tiny stamens.

OTHER NAMES White hazel.

DESCRIPTION This shrub or small tree grows up to nine metres high, with leaves 30 to 130mm long. They are green above but pale grey to white below, with minute hairs. The leaf margin sometimes has coarse teeth. Small white to pale yellow flowers are arranged in large, loose sprays. Each flower has five small, petal-like sepals and five very small petals. Each petal hides a very small stamen. The fruits are only two to three millimetres long.

DISTINCTIVE FEATURES Karri hazel has small flowers, each with five very small hooded petals.

HABITAT Karri hazel grows in karri forests, jarrah forests, mixed woodlands or shrublands.

STATEWIDE DISTRIBUTION This large shrub or small tree is found from Mount Peron and York to the south coast, and east to Mount Manypeaks.

FLOWERING TIMES Winter and spring.

Note Karri hazel comprises two subspecies, a northern form (*Trymalium odoratissimum*) with small leaves, and a large-leaved southern form, *T. trifidum*. A close-related species, *T. venustum*, is found between Walpole and Mount Lindesay. It is usually a large shrub but occasionally grows as a small tree. This species has softer and more densely hairy sprays of flowers than karri hazel and flowers predominantly during winter.

Photos – Bron Anderson/DBCA

CHORILAENA

(Chorilaena quercifolia)

Family Rutaceae

Chorilaena grows in a great variety of forms. It is a low, wind-swept shrub near the coast and a large shrub or tree in the karri forest. A close look at the oak-like leaves will show small hairs that resemble tiny stars. Each hair has a stalk and many arms radiating out like the spokes of a wheel. The 'flowers' are actually closely packed groups of six individual flowers with prominent stamens.

OTHER NAMES Hazel.

DESCRIPTION This shrub or small tree grows up to three metres high. The leaves are 30 to 55mm long and, like the leaves of the European oak, have blunt lobes. Cream or greenish flowers are surrounded by a few narrow bracts and arranged in tight clusters of six. Each individual flower has a greenish outer whorl (calyx) with five deep lobes, and five petals, each seven to eight millimetres long. Ten conspicuous stamens, 20 to 30mm long, project from the flower. The fruits are inconspicuous, have five lobes and separate into five small dry segments, each with one or two seeds.

DISTINCTIVE FEATURES Chorilaena has oak-shaped leaves with minute hairs and tight clusters of six flowers with long, conspicuous stamens.

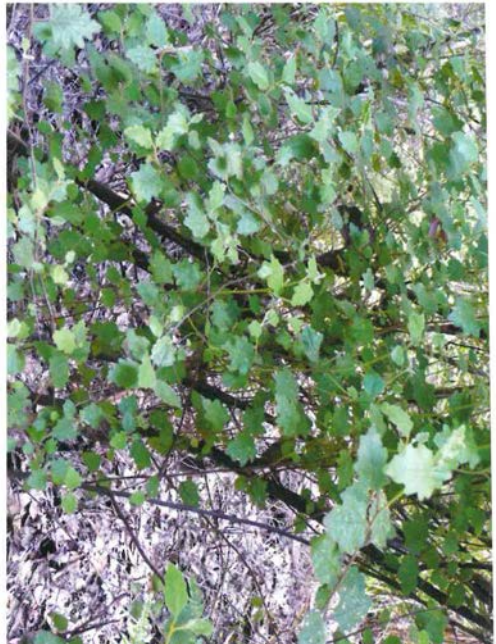
HABITAT This plant is found in a variety of habitats, from coastal heath to karri forests.

STATEWIDE DISTRIBUTION Chorilaena grows from Cape Naturaliste and Augusta to Cheyne Beach.

FLOWERING TIME Winter to summer.

Photo -- Tim Foley/DBCA

Photo – Bron Anderson/DBCA



SIGHTING RECORD

SPECIES	REMARKS
blackbutt	
bull banksia	
bullich	
candle banksia	
chorilaena	
Christmas tree	
dungyn	
flooded gum	
holly-leaved banksia	
jarrah	
karri	
karri hazel	
karri sheoak	
karri wattle	
marri	
native willow	
orange wattle	
peppermint	
red-flowering gum	
red tingle	
river banksia	
saltwater paperbark	
sheoak	

SIGHTING RECORD

SPECIES	REMARKS
snottygobble	
soft hakea	
swamp banksia	
swamp paperbark	
tuart	
Warren River cedar	
woody pear	
yate	
yellow tingle	

Photo – Cliff Winfield

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