



ORCHIDS

of the South-West

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Brown, Andrew

Orchids of the south-west

DEPARTMENT OF ENVIRONMENT AND COLLECTOR

What orchid is that?

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.

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ORCHIDS OF THE SOUTH-WEST

by Andrew Brown

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

INTRODUCTION

Orchids are well known for their exotic beauty, particularly the extensively hybridised tropical (tree dwelling) species that are used for cut flowers in florists. However, there are many smaller terrestrial species that, although less well known, are still exquisitely beautiful. These are mainly confined to the temperate regions of the world, with some 800 species found in Australia.

The south-west of Western Australia has more than 350 terrestrial orchid species. These are found in a diverse range of habitats, ranging from heaths, sandplains, seasonally wet swamplands and river courses to tall forests, arid and semi-arid deserts, rocky outcrops and mountain peaks. Each of these areas has its own suite of orchids.

This book covers a selection of some of the most common orchids you might encounter when travelling through the south-west, along with a few of the rarer species that you can find through careful searching. The area covered is between Kalbarri, Augusta and Esperance, but many of the orchids pictured in this book can be found during a day trip from Perth. In fact, a number of these species can still be found in areas of remnant bushland in Perth's surrounding suburbs.

Most of the orchids shown here flower in spring, with a few flowering in summer, autumn or winter. They range from the large colourful butterfly orchid, which has a tremulous lip that flutters in the slightest breeze, to the diminutive and dull coloured warty hammer orchid, which resembles an insect more than a flower. Some species, such as the cowslip orchid, produce massed displays in good seasons while others, such as the leafless orchid, are found as isolated plants or in small groups. All, however, have their own charm and always provide the enthusiast with a sense of excitement when encountered in the bush.



Above: *Pink enamel orchid.*

Below: *A hybrid between the cowslip orchid and pink fairies.*



Photos - Andrew Brown

FOREST MANTIS ORCHID

(*Caladenia attingens* subsp. *attingens*)

Forest mantis orchid is a member of a small group of related spider orchids which have prominently upturned lateral sepals. They include smooth-lipped spider orchid (*Caladenia integra*), fringed mantis orchid (*C. falcata*) and butterfly orchid (see p.14-15). The other subspecies, small mantis orchid (*C. attingens* subsp. *gracillima*), has a more easterly distribution, between Jerramungup and Israelite Bay. Forest mantis orchid occasionally hybridises with other spider orchids, such as white spider orchid (see p.16-17) and funnel-web spider orchid (*C. infundibularis*), to produce beautiful intermediate forms.

DESCRIPTION: Forest mantis orchid grows 20 to 40 centimetres high. One to three attractive green, yellow and red flowers, five to seven centimetres across, have characteristic upturned lateral sepals. There is a single hairy leaf up to 20 centimetres long and a centimetre wide.

DISTINCTIVE FEATURES: Forest mantis orchid has smaller, generally more brightly-coloured flowers and a smaller, narrower labellum than fringed mantis orchid. It has broader lateral sepals, a broader labellum, a more westerly range of distribution and a later flowering period than small mantis orchid.

HABITAT: The subspecies grows in a variety of habitats, from jarrah-marri woodland and dense karri forest to low coastal heath. Soils range from laterite to deep sand.

DISTRIBUTION: This common, widespread subspecies is found mainly between Bunbury and Jerramungup. However, in 1997, plants were located in the Perth area, more than 100 kilometres north of the previous known distribution.

FLOWERING: September to November.



Photo - Andrew Brown

KARRI SPIDER ORCHID

(*Caladenia brownii*)

This species is the only member of the king spider orchid complex that grows in the karri forest. In other habitats, however, it is often found growing with its close relatives, rusty spider orchid (*Caladenia ferruginea*), broad-lipped spider orchid (*C. applanata*) and funnel-web spider orchid (*C. infundibularis*), but generally begins flowering as they are finishing.

DESCRIPTION: Standing up to 60 centimetres high, each plant has up to three attractive green, red and yellow flowers, four to eight centimetres across. There is a single hairy leaf up to 25 centimetres long. Plants are often found in small groups of three or more.

DISTINCTIVE FEATURES: Karri spider orchid is distinguished from other spider orchids by its prominently clubbed petals and late flowering season.

HABITAT: Karri spider orchid occupies a range of habitats, including karri and jarrah forests, banksia and sheoak woodlands and coastal heathlands. In these areas, soils vary from sand to granitic and lateritic loam.

DISTRIBUTION: This common, widespread orchid is found throughout the higher rainfall areas of the lower south-west, from Busselton to near Albany.

FLOWERING: October to early December.



Photo - Andrew Brown

DANCING SPIDER ORCHID

(Caladenia discoidea)

This common, widespread species grows in a variety of habitats throughout the south-west, but does not appear to occur in the jarrah forest. Although much of its habitat in the Perth area has been cleared for housing, dancing spider orchid can still be found in the small areas of remnant bushland that have been left. In spring, you should soon find its unusual, upward-facing flowers during a short stroll through bushland in the Canning Vale area.

OTHER NAMES: Bee orchid.

DESCRIPTION: Dancing spider orchid grows up to 45 centimetres high. It has a single hairy leaf, up to 18 centimetres long, and up to four yellowish-green flowers, about four centimetres across, which are tinged with red.

DISTINCTIVE FEATURES: This species is readily identified by its unusual horizontally arranged flowers, its extremely short petals and sepals, and its broad, deeply-fringed labellum with thick, dark-coloured calli.

HABITAT: Dancing spider orchid is generally confined to deep sandy soils in banksia woodland and shrubland. North-east of Esperance, however, it is found on the margins of salt lakes in sandy clay soil in mallee woodland.

DISTRIBUTION: The species is widespread between Kalbarri and Israelite Bay.

FLOWERING: August to October.



Photos - Andrew Brown

COWSLIP ORCHID

(*Caladenia flava* subsp. *flava*)

This is WA's most common and best known small-flowered spider orchid. Hundreds, or even thousands, of flowering plants often grow together in dense colonies. Each discrete group of plants is a clone of a single original seedling: a close look will reveal that all the flowers in a group display similar colouration and markings. In one group the flowers may be deep yellow with prominent red markings, while in another group they may be paler yellow with almost no red. On warm spring days, the bright yellow flowers attract beetles and native bees as pollinators. Cowslip orchid, one of 120 species of spider orchid in the south-west, obtains its name from the yellow flowers. It is also known as the primrose or buttercup orchid.

DESCRIPTION: This low-growing orchid may reach 25 centimetres, but is generally 10 to 15 centimetres high. One to four bright yellow flowers, up to four centimetres across, are marked with variable red stripes and spots. Each plant has a long, broad leaf to 12 centimetres long and 1.5 centimetres wide, which is green on top and tinged with purple beneath.

DISTINCTIVE FEATURES: This is the only *Caladenia* in WA with bright yellow flowers. There are two other subspecies. Kalbarri cowslip (subsp. *maculata*) has pale lemon flowers covered in fawn brown blotches, and is found between Perenjori and Kalbarri. Karri cowslip (subsp. *sylvestris*) has paler yellow flowers, often with white tips on its petals and sepals, and is found in high rainfall areas between Bunbury and Albany.

HABITAT: Cowslip orchid grows in coastal heaths, woodlands, forests, winter-wet swamps, rocky hills, mountain ranges and shallow soils on granite outcrops.

DISTRIBUTION: Cowslip orchid is widespread between Dongara and Israelite Bay.



Photo – Babs & Bert Wells/CALM



Photo – Andrew Brown

FLOWERING: Flowering starts in July, in areas north of Perth, and continues into early December in the cooler forest areas.

PINK FAIRIES

(*Caladenia latifolia*)

Some of the best displays of this attractive orchid can be seen in coastal areas near Perth. It forms large colonies and, in the spring following hot summer wildfires, carpets of its pink flowers are a common sight in bushland between Medina and Bunbury. It was once also common in Perth's northern suburbs, but much of its habitat in that area has now been swallowed by urban expansion. Occasional hybrids may be found where pink fairies and cowslip orchid (see p.10-11) grow together. These are most attractive and often have bright orange to salmon pink flowers (see photo on p.3).

DESCRIPTION: This common species has pale pink to white flowers, two to four centimetres wide. It has a relatively broad leaf, 10 to 25 centimetres long and 1.5 to three centimetres wide, which is covered in short hairs.

DISTINCTIVE FEATURES: Pink fairies has larger, more numerous flowers, which are paler in colour, than those of little pink fairy orchid (see p.18-19). It also has a larger leaf which is green, rather than red-tinged, on the back.

HABITAT: Pink fairies are most common in coastal areas, where they form large colonies in woodlands and dense coastal heath. They are also found in the central and southern Wheatbelt on low rises above salt lakes.

DISTRIBUTION: This orchid is widespread between Kalbarri and Israelite Bay.

FLOWERING: August to November.



Photo - Andrew Brown

BUTTERFLY ORCHID

(*Caladenia lobata*)

In November 1991, this magnificent spider orchid was seen along the walktrail to Mt Toolbrunup in the Stirling Range National Park. It was a sunny, warm day and large black thynnid wasps were seen visiting the flowers. These wasps were undoubtedly the pollinators of butterfly orchid, as they were seen carrying bundles of pollen from one flower to the next. The wasps must occasionally visit other species of spider orchid, such as white spider orchid (see p.16-17) and king spider orchid (*Caladenia pectinata*), as rare hybrids are occasionally found. Butterfly orchid belongs to a group of closely related species, which all have upturned lateral sepals.

DESCRIPTION: With its large green, yellow and red flowers, its upcurved lateral sepals and its broad labellum, which vibrates in the slightest breeze and resembles the fluttering wings of a butterfly, this is easily one of WA's most beautiful and readily recognised spider orchids. Each plant reaches 50 centimetres high. There are one to three flowers, between seven and 10 centimetres across.

DISTINCTIVE FEATURES: Butterfly orchid is readily recognised by its broad, butterfly-like labellum, its distinctive upswept lateral sepals (a feature found in only a few other spider orchid species) and the prominently red-spotted base to its leaf.

HABITAT: This uncommon, rarely seen species is confined to areas of dense scrub on the slopes of seasonal creeks and rivers. The soil is usually gravelly loam or clay.

DISTRIBUTION: Isolated populations of this orchid are scattered between Bunbury and the Stirling Range National Park.

FLOWERING: Late September to early November.



Photo - Andrew Brown

WHITE SPIDER ORCHID

(*Caladenia longicauda*)

This orchid was collected by James Drummond in 1839 and named by John Lindley in the following year. Eleven subspecies are currently recognised. All have predominantly white flowers, with long filamentous petals and sepals, and a creamy white labellum that lacks the red apex found in many other spider orchids. White spider orchid is one of WA's most common and well known orchids. During spring it is often seen in bushland near Perth, and is particularly common in the jarrah forests of the Darling Range.

DESCRIPTION: A single green hairy leaf, 10 to 25 centimetres long and 0.5 to two centimetres wide, is marked with reddish-purple spots and suffusions near the base. The flower stem is 25 to 60 centimetres tall and bears one to four creamy white flowers, seven to 10 centimetres across, that are variously marked with red or pink. The filamentous petals and lateral sepals, which are up to 10 centimetres long, curve downwards and hang. The labellum has between four and six rows of calli.

DISTINCTIVE FEATURES: White spider orchid is distinguished from related spider orchids by its long, slender petals and sepals and its large, narrow labellum with a long slender fringe.

HABITAT: The orchid grows in deep sandy soils in banksia and jarrah woodlands on the Swan Coastal Plain, in well-drained gravelly loams and sands of the jarrah forest and in clay loams further inland.

DISTRIBUTION: White spider orchid is found throughout the south-west of WA, from Kalbarri to Israelite Bay.

FLOWERING: September to October.



Photo - Andrew Brown

LITTLE PINK FAIRY

(*Caladenia reptans* subsp. *reptans*)

This attractive orchid often forms small dense clumps, which are particularly noticeable in areas that have been burnt the previous summer. In late July 1997, following a wildfire in the Stirling Range National Park, hundreds of clumps of this orchid, with its bright pink flowers, contrasted sharply with their blackened surrounds. Throughout most of the orchid's range it flowers freely in unburnt bushland, but in higher rainfall areas it is at its best following a summer fire. Hybrids between little pink fairy and cowslip orchid (see p.10-11) are common, and vary from orange through pink to red.

DESCRIPTION: Little pink fairy rarely grows more than 15 centimetres high. It has one to three small bright pink flowers, about three centimetres across. A hairy leaf is three to five centimetres long and 0.8 to one centimetre wide. Plants in the Kalbarri area have larger, paler-coloured flowers than those found further south and have been formally recognised as a separate subspecies (*Caladenia reptans* subsp. *impensa*).

DISTINCTIVE FEATURES: Little pink fairy is related to pink fairies (see p.12-13), but has smaller flowers, which are a darker colour, and a smaller leaf, which is usually purplish rather than green underneath.

HABITAT: This orchid is common in areas of jarrah and wandoo woodland.

DISTRIBUTION: Little pink fairy orchid is distributed widely throughout the south-west of WA, from Northampton to just east of Esperance.

FLOWERING: July to September.



Photos - Andrew Brown

CHRISTMAS SPIDER ORCHID

(*Caladenia serotina*)

This recently described species often grows in the same areas as other members of the white spider orchid group, including white spider orchid (see p.16-17), Christine's spider orchid (*Caladenia christineae*) and pink spider orchid (*C. harringtoniae*), but flowers much later than any of them. This late flowering period gives rise to its common and scientific names, the latter meaning 'late-coming'. Flowering is generally more profuse in the season following summer fires.

DESCRIPTION: The flowering stem is generally 20 to 30 centimetres high but occasionally reaches up to 60 centimetres. There are one to three relatively large, spider-like flowers, which are eight to 10 centimetres across. The colour of the flowers is quite variable, and it is not unusual to find plants with flowers that have prominent red markings alongside others that are pale cream.

DISTINCTIVE FEATURES: Christmas spider orchid has long been confused with white spider orchid, but has a later flowering period and generally more colourful flowers with shorter and stiffly held, rather than hanging, petals and sepals.

HABITAT: At the northern end of its range, the species grows only in winter-wet swamps and along the margins of creeks, but it is widespread in most habitats at the southern end. These include coastal heathlands, banksia woodlands, paperbark swamps, granite outcrops, jarrah-marri forests and karri forests. The soil varies from sand to lateritic loam.

DISTRIBUTION: Christmas spider orchid is widespread in the higher rainfall areas of the south-west, between Perth and Mt Manypeaks.

FLOWERING: November to January.

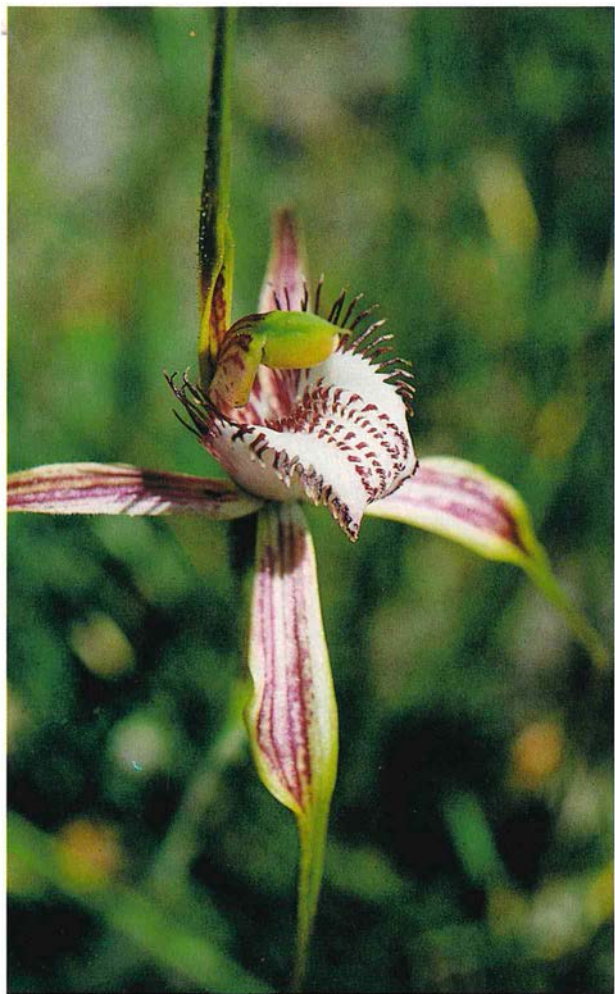


Photo - Andrew Brown

HELMET ORCHID

(*Corybas recurvus*)

Richard Salisbury named the genus *Corybas* in 1807. Commonly known as helmet orchids, there are numerous species distributed from the Himalayas to Australia and New Zealand. All species have a single rounded, ground-hugging leaf, which is similar to those of gnat and mosquito orchids (*Cyrtostylis*). Cross-pollination appears to be achieved by small flies, which may well mistake the unusual dull-coloured flowers for fungi. Following fertilisation, the single flower shrivels and, as an aid to seed dispersal, is raised on an elongated stalk up to 30 centimetres above the leaf.

DESCRIPTION: Helmet orchid generally forms large colonies of rounded heart-shaped leaves, about three centimetres across, very few of which produce a flower. Flowering plants rarely reach more than three centimetres high. They have a single reddish-purple flower that is dominated by a large rounded lip, up to 1.2 centimetres across, and a broad curved dorsal sepal. The remaining petals and sepals are poorly developed.

DISTINCTIVE FEATURES: The colouration is much darker than that of other WA helmet orchid species and the flowers are prominently curved back, hence the name *recurvus*.

HABITAT: This species grows in a variety of habitats, including the margins of paperbark swamps, tuart forests, coastal scrublands and dense karri forests. In all of these areas it is confined to moist shaded situations, often in dense moss swards. One of its favourite habitats is the rotting upper surface of fallen tree trunks, including those found in pine forests near Capel, where it forms very large colonies.

DISTRIBUTION: Helmet orchid is widely distributed throughout the lower south, from just north of Bunbury to east of Albany, with a disjunct occurrence near Gingin.

FLOWERING: June to August.



Photo - Andrew Brown

SLIPPER ORCHID

(*Cryptostylis ovata*)

The WA slipper orchid has an unusual appearance, with an enlarged slipper-like labellum and reduced sepals and petals. Its flower also provides a strong sexual attraction for the male ichneumon wasp (*Lissopimpla semipunctata*). When prominent orchidologists Oswald Sargent and Edith Coleman wrote about it in various papers in the 1920s and 30s, it was one of the first times that this unusual method of attraction had been observed in an Australian orchid. About 20 different species of slipper orchid are found throughout south-east Asia and the Pacific region. WA has just one species and it is endemic to the State.

OTHER NAMES: Dingy orchid.

DESCRIPTION: Unusual dark green to yellowish-green leaves grow in small clumps of two to five, and look a little like a handful of large gum leaves stuck in the ground. The leaves, 10 to 25 centimetres long and four to eight centimetres wide, emerge from a three to six centimetre long stem. A strong, sturdy plant may produce a flower stem up to 60 centimetres tall, supporting up to 15 slipper-like flowers. Each flower is dominated by a large, reddish-brown labellum, three centimetres long and 0.8 centimetres wide, which has prominent net veins. Individual plants can have quite long flowering periods, with each flower opening up as the previous one withers.

DISTINCTIVE FEATURES: Slipper orchid has reversed flowers (the column is below, rather than above, the labellum) and is the only native orchid in south-west WA with a green leaf all year round. All other species die back each year to dormant tubers.

HABITAT: The species is especially common in heathlands along the south coast. Elsewhere, it grows in woodlands and high rainfall forests and, at the northern end of its range, in swampy sites under paperbarks. Plants are often found in clumps or loose colonies, however, only a few flower each year.



Photo - Andrew Brown

DISTRIBUTION: Slipper orchid is found throughout the lower south-west, from Perth to east of Albany, but is most common near the south coast.

FLOWERING: Late November to April.

SILKY BLUE ORCHID

(*Cyanicula sericea*)

With the exception of yellow china orchid (*Cyanicula ixiooides*), all species of *Cyanicula* have blue flowers. This feature readily separates them from the related spider orchids (*Caladenia*) and enamel orchids (see p.36-37). Most also have heat-sensitive flowers which open widely during warm weather but remain cupped or closed on cool, overcast days. The colourful flowers attract small native beetles and bees as pollinators. Silky blue orchid, an attractive well-known species, was originally described as a *Caladenia* by John Lindley in 1871. Like many other species of *Cyanicula*, it is rarely seen in unburnt bushland, appearing to need a hot summer fire to stimulate flowering.

DESCRIPTION: Silky blue orchid can reach up to 45 centimetres high. It has up to four pale blue flowers, three to four centimetres across, and a broad silky leaf, five to 12 centimetres long and two to three centimetres wide.

DISTINCTIVE FEATURES: This orchid can be recognised by its broad, silky leaf and pale blue flowers. It is also the tallest species of *Cyanicula*, as other species rarely reach more than 15 centimetres high.

HABITAT: Silky blue orchid is most common in the lateritic soils of the jarrah forest, but may also be seen in coastal banksia woodlands and occasionally on granite outcrops.

DISTRIBUTION: Silky blue orchid is found throughout the lower south-west, from just north of Perth to the Fitzgerald River National Park, with a disjunct occurrence near Esperance.

FLOWERING: August to October.



Photo - Andrew Brown

WINTER DONKEY ORCHID

(Diuris brumalis)

Winter donkey orchid is one of the first donkey orchids to flower each season. In July and August, it is a common sight along the edge of the Darling Scarp, particularly in areas burnt by summer fire. Donkey orchids are pollinated by small native bees which mistake their flowers for those of native pea plants. In 1996, this phenomenon was observed on a warm sunny late winter morning in the Darling Range east of Perth. Small black bees flew from one pea flower to another, busily collecting food for the hive. Occasionally, they visited the flowers of a small population of winter donkey orchids growing nearby. During this mistaken encounter, pollen was removed from one orchid flower and deposited on another, thus achieving cross-pollination.

DESCRIPTION: Winter donkey orchid has up to three smooth grass-like leaves, 10 to 20 centimetres long and 0.8 to 1.2 centimetres wide. Up to eight attractive brown and yellow flowers, three to 3.5 centimetres across, are held on a flower stem, 20 to 50 centimetres tall. The lateral sepals, which are much narrower and less colourful than the petals, bend down and back, and are often crossed.

DISTINCTIVE FEATURES: This orchid is distinguished by its early flowering period, its large pale yellow and brown flowers, and its prominent lateral lobes and relatively small mid-lobe on the labellum.

HABITAT: The species is confined to lateritic and granitic soils in jarrah and marri forests of the Darling Range and in dense shrublands further north.

DISTRIBUTION: While it is particularly common in the Darling Range, winter donkey orchid is also found further north on rocky hills and breakaways near Cataby and Mt Lesueur.

FLOWERING: Late June to August.



Photo - Andrew Brown

BEE ORCHID

(*Diuris laxiflora*)

Bee orchid is one of the most common donkey orchids in the south-west. Favouring swampy areas, it is often found growing in clumps of up to 15 individuals within large colonies containing hundreds of plants. There are 22 named donkey orchid (*Diuris*) species in WA, but it is estimated that at least 20 more are currently undescribed. The characteristic ear-like petals give donkey orchids their common name. They also have narrow, hanging, sometimes crossed lateral sepals and most are predominantly yellowish-brown.

DESCRIPTION: Bee orchid is a clump-forming species up to 30 centimetres high. There are two to four grass-like leaves, five to 15 centimetres long and 0.3 centimetres wide, and up to five yellow and brown blotched flowers up to two centimetres across. The bee-like colours of the flowers give the species its common name. There are currently half a dozen forms of bee orchid, which differ in flower size and colour and grow in different geographic areas. It is likely that these will all be named as different species in a future revision of the genus.

DISTINCTIVE FEATURES: This species can be recognised by its clump-forming habit, its winter-wet habitat and its small yellow flowers with prominent brown blotches.

HABITAT: Bee orchid is common in winter-wet areas and is particularly abundant in the season following summer fire.

DISTRIBUTION: Bee orchid is found throughout the south-west, from near Kalbarri to the Esperance area. The typical form occurs along the western edge of the Wheatbelt.

FLOWERING: August to October.



Photo - Andrew Brown

PURPLE PANSY ORCHID

(*Diuris longifolia*)

In the past, the name *Diuris longifolia* was mainly applied to common donkey orchid, now known to be John Lindley's *Diuris corymbosa*. The name was also incorrectly used for a number of other donkey orchids, which we now know to be undescribed. In fact, at one time almost every donkey orchid that had purple marked or brown and yellow flowers was called *D. longifolia*. The real purple pansy orchid has predominantly purple or mauve flowers and is confined to the higher rainfall areas of the lower south-west.

OTHER NAMES: Damsel orchid, dingo orchid, donkey orchid.

DESCRIPTION: Purple pansy orchid has up to three relatively long grass-like leaves, 10 to 20 centimetres long and 0.8 to one centimetre wide. In late spring, it produces up to seven attractive purple or mauve flowers, 1.5 to two centimetres across, on a flower stem, 10 to 30 centimetres long. Flower colour is variable and, because of the plant's clonal nature, colonies with mauve flowers can be found alongside colonies which have predominantly purple flowers. Hybrids with other species of donkey orchid are also common.

DISTINCTIVE FEATURES: Purple pansy orchid has a later flowering period than common donkey orchid, as well as squat, uniformly mauve or purple, rather than brown and yellow, flowers and a relatively short, broad mid-lobe on the labellum.

HABITAT: Habitat varies from dense karri forests to moist situations in jarrah forests, coastal heathlands and granite outcrops.

DISTRIBUTION: Purple pansy orchid grows in small, scattered colonies from Perth to just east of Albany, but is most common in the higher rainfall lower south-west, between Bunbury and Denmark.

FLOWERING: September to early December.

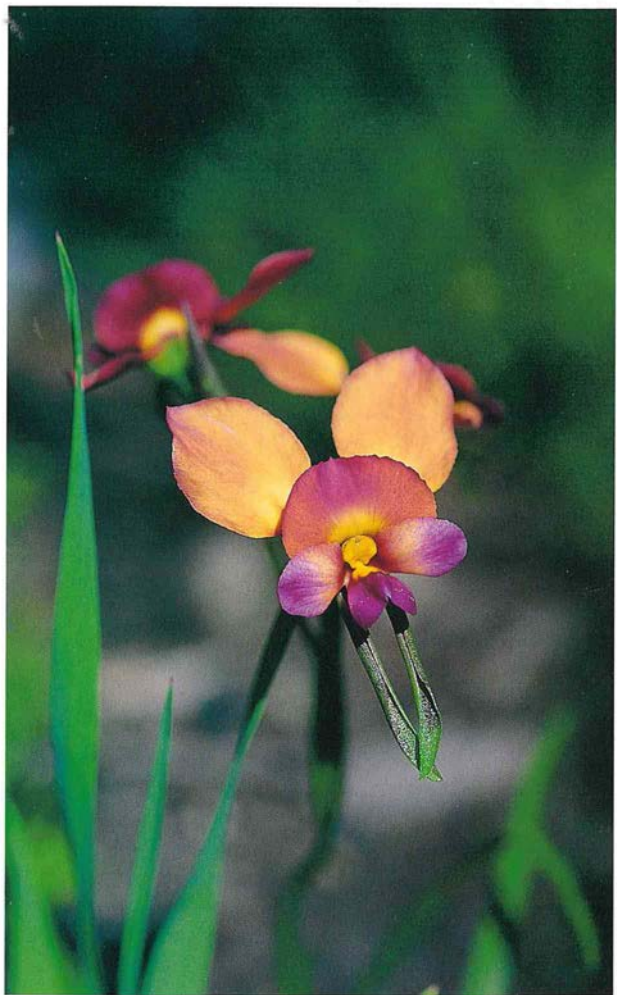


Photo - Andrew Brown

WARTY HAMMER ORCHID

(*Drakaea livida*)

Warty hammer orchid is one of nine species of hammer orchid confined to the south-west of WA. Like other hammer orchids, its strange flower emits a scent similar to that of a female thynnid wasp, and its labellum looks rather like a wingless female wasp at the top of a grass stem. On warm spring days, in the mistaken belief that it is seeing a female of its species, the male wasp grasps the labellum and attempts to fly away with it. However, the labellum can move freely in only one direction, thus bringing the wasp into contact with the column. This interaction results in the transfer of pollen from one plant to another when the male wasp attempts to mate with the next false female wasp.

OTHER NAMES: Praying virgin.

DESCRIPTION: Warty hammer orchid has a small, fleshy, ground-hugging, heart-shaped leaf, one to three centimetres wide. The thin wiry flower stem extends up to 40 centimetres long. The single flower, three to four centimetres long and 0.3 to 0.5 centimetres wide, has an unusual hinged insect-like labellum covered with purple glands. The species is closely related to slender hammer orchid (*Drakaea gracilis*), which lacks the prominent purple glands, and occasionally hybridises with it. However, this is rare as the two species usually occupy quite different habitats.

DISTINCTIVE FEATURES: Warty hammer orchid is distinguished from other species by its unusual hooked labellum covered in prominent purple, wart-like glands.

HABITAT: The species grows in open sandy clearings between otherwise dense shrubs. Unlike most other hammer orchid species, it may be found on high ground well away from winter-wet swamps and is most common in well-drained sandy soil pockets in jarrah forests.



Photo - Babs & Bert Wells/CALM

DISTRIBUTION: Warty hammer orchid is widespread throughout the lower south-west, between Watheroo and the Fitzgerald River National Park.

FLOWERING: August to October.

PINK ENAMEL ORCHID

(*Elythranthera emarginata*)

Pink enamel orchid is one of WA's most attractive and unique orchids. Its striking, glossy pink flowers, which look as if they have been enamelled or highly polished, are found throughout the south-west in a variety of habitats. Flowering is most prolific in open tall woodlands, whereas in dense shrublands the orchid is more scattered. There are two species of enamel orchid which grow only in the south-west of WA. The other is the purple enamel orchid (*Elythranthera brunonis*).

DESCRIPTION: This small orchid grows up to 25 centimetres high. Its single hairy leaf, four to eight centimetres long and 0.7 to one centimetre wide, is green above and tinged with purple underneath. There are up to three spectacular glossy pink flowers, three to five centimetres across.

DISTINCTIVE FEATURES: Pink enamel orchid usually flowers a little later than purple enamel orchid. It has larger pink, rather than purple, flowers with a distinctive labellum that folds down, back, then forward like a reversed 'S'. Pink enamel orchid also tends to form colonies, rather than growing as scattered individuals.

HABITAT: Pink enamel orchid is often found in dense clumps or colonies, particularly in moist sites in open wandoo woodlands. It can also be seen in coastal swamps, along creeklines, in shallow soils on granite outcrops and, in the higher rainfall south coast region, in dense coastal heathlands.

DISTRIBUTION: This species is found throughout the south-west, between Kalbarri and Israelite Bay.

FLOWERING: Late September to early December.



Photo - Andrew Brown

COMMON BUNNY ORCHID

(*Eriochilus dilatatus* subsp. *multiflorus*)

Known as bunny orchids because of their prominent ear-like lateral sepals, the majority of *Eriochilus* species flower in autumn, well before most other WA orchids have emerged from their summer dormancy. Six of the eight species are found only in the south-west of WA, where they occupy a variety of habitats ranging from seasonally-wet swamps and moist, moss-covered granite outcrops to relatively dry inland woodlands. The most widespread and best known is common bunny orchid. It is one of the first orchids to appear each year and under ideal conditions it will bloom in large numbers, particularly following a summer bushfire. In some areas, it occurs with the leafless orchid (see p.48-49) and the hare orchid, (see p.40-41), which are also early flowering. Flowering is mainly after hot summer fires.

DESCRIPTION: Common bunny orchid has distinctive, erect flowering stems with three to 20 dainty and often closely-packed flowers. Each flower, up to 1.8 centimetres wide, has a densely hairy labellum from which the name *Eriochilus*, meaning 'woolly-lip', is derived. A small oval-shaped leaf, one to four centimetres long by 0.5 to 1.5 centimetres wide, is often immature at the time of flowering. On non-flowering plants the leaf is much larger and can reach up to six centimetres in length.

DISTINCTIVE FEATURES: This subspecies is recognised by its small, smooth, oval-shaped leaf, which is held well above the ground on a hairy stem up to five centimetres long, and its numerous creamy white flowers.

HABITAT: Common bunny orchid is found in jarrah and karri forests and coastal banksia woodlands, in soils ranging from heavy laterite to deep sand.

DISTRIBUTION: It is widespread between Perth and Albany.

FLOWERING: Late March to June.



Photo - Andrew Brown

HARE ORCHID

(*Leporella fimbriata*)

The single species of hare orchid was described by John Lindley in 1840. *Leporella* is Latin for hare and refers to the unusual hare-like flowers. These attract male flying ants, which deposit and remove pollen during their attempt to mate with the labellum. This is one of few documented cases where ants have been shown to act as pollen vectors. Unlike most other orchids in WA, the potato-like tubers of the hare orchid are not produced near the old ones. They are formed well away from the parent plant on long, rhizome-like roots. Flowering is enhanced by disturbance or fire and occurs early in the year.

DESCRIPTION: Hare orchid is a shy-flowering species. It is perhaps better known for its distinctive red-veined, bluish-green leaves, one to four centimetres long, which are often found in large colonies and are present for some eight months of the year. Flowering stems may reach 25 centimetres high and have up to three green, maroon and yellow flowers, each up to a centimetre across.

DISTINCTIVE FEATURES: Although it is related to the spider orchids (*Caladenia*), hare orchid has smooth, rather than hairy leaves and a labellum which lacks calli. Individual flowers persist long after fertilisation and are still recognisable as late as August or September. They are distinguished by their ear-like petals and broad, greenish-maroon labellum.

HABITAT: Although it favours sandy banksia-jarrah woodlands and shrublands, hare orchid may be found in a variety of habitats. These include the lateritic soils of the jarrah forests, wind-pruned coastal heathlands, the margins of winter-wet swamps and even shallow soils on otherwise exposed granite outcrops.

DISTRIBUTION: Hare orchid is widespread throughout the south-west, from north of Kalbarri to Israelite Bay. It also extends through South Australia to Victoria.



Photo - Babs & Bert Wells/CALM

FLOWERING: March to June.

RABBIT ORCHID

(*Leptoceras menziesii*)

This orchid is named in honour of Archibald Menzies, who collected for the renowned botanist Robert Brown during Vancouver's voyage of 1790-95. It is the only species in the genus, and is distantly related to the spider orchids (*Caladenia* species) and hare orchid (see p.40-41). For many years it was considered to be a species of *Caladenia*, but recently was placed back into Robert Brown's *Leptoceras*, which he described in 1810. Small native bees are attracted to the purplish-red, anther-like petals that protrude upwards from the flowers. The bees then move down the flower to feed on small droplets of nectar at the base of the column and labellum, and in doing so they remove or deposit pollen, thereby fertilising the orchid.

OTHER NAMES: Hare's ears.

DESCRIPTION: Rabbit orchid has one, or occasionally two, smooth, shiny, light green leaves, six to 10 centimetres long and two to three centimetres wide. Its unusual flowers, about a centimetre across, have erect 'ear-like', dark red glandular petals, up to two centimetres long. In spring, plants produce a smooth flower stem, 10 to 30 centimetres tall, bearing one to three pink and white flowers.

DISTINCTIVE FEATURES: This distinctive species, unlike any other, is readily identified.

HABITAT: Found mainly in winter-wet areas, rabbit orchid will often form large colonies that can be several metres across and contain thousands of plants. However, few of these flower unless a hot summer fire has burnt their habitat. When this happens, massed displays of flowers are produced. The orchid is common in run-off areas around inland granite outcrops, while nearer to the coast it grows along the edges of seasonal creeks or on the margins of winter-wet swamps. In high rainfall areas of the lower south-



Photo - Babs & Bert Wells/CALM

west the plants are generally more widespread in woodlands and forests.

DISTRIBUTION: The orchid is found throughout the south-west, from north of Geraldton to Israelite Bay. It also occurs in South Australia, Victoria, New South Wales and Tasmania.

FLOWERING: September to November.

WHITE MIGNONETTE ORCHID

(*Microtis alba*)

Mignonette orchids generally have small, relatively unattractive flowers. The flowers are similar to those of leek orchids (*Prasophyllum*), but are not reversed (the labellum is below, rather than above, the column). The leaf is also entirely green, while that of a leek orchid has prominent red markings near the base. All mignonette orchids are highly scented and offer nectar to insects such as small flies, ants, weevils and wasps. If cross-pollination does not take place, most species can self-pollinate. White mignonette orchid and the closely related beautiful mignonette orchid (*Microtis pulchella*) are the most attractive members of the genus. Their tall spikes of white flowers are most noticeable during the late spring and summer months, when most other orchids have gone to seed.

DESCRIPTION: White mignonette orchid has a single smooth, tubular leaf, 12 to 50 centimetres long and 0.8 to one centimetre wide. The flower stem, 15 to 60 centimetres high, bears up to 50 highly fragrant white flowers, about 0.4 centimetres across. The labellum, up to 0.8 centimetres long, has a prominently split apex.

DISTINCTIVE FEATURES: The species is easily distinguished from beautiful mignonette orchid by its extremely long labellum with a prominently split apex and its highly fragrant flowers. Although the two species flower at the same time, beautiful mignonette orchid prefers much wetter habitat, growing in peaty swamps.

HABITAT: White mignonette orchid inhabits forests and woodlands, coastal heathlands and the margins of winter-wet swamps. Plants grow in colonies and are often locally common, particularly following summer fire.

DISTRIBUTION: This widespread species extends from just south of Dongara to Israelite Bay, but is most common in the higher rainfall areas of the lower south-west.

FLOWERING: Late October to January.



Photo - Andrew Brown

FLYING DUCK ORCHID

(*Paracaleana nigrita*)

Duck orchids have unusual reversed flowers. All have broad, spreading column wings that form a pouch which almost encloses the stigma, and an insect-like labellum that flicks back into the pouch when it is touched. All eight WA species favour open sandy areas adjacent to winter-wet swamps, where they often grow with hammer orchids (*Drakaea*), hare orchid (see p.40-41) and red beaks (see p.58-59). The diminutive flying duck orchid is the most common and widespread duck orchid in WA. However, its small flowers and dull red and green colouring make it difficult to find.

DESCRIPTION: Flying duck orchid grows about 15 centimetres high. It has one or two flowers, 1.6 to 2.7 centimetres long and 0.9 to 1.6 centimetres across, which are dull green with reddish-brown markings. The smooth hairless leaf, up to two centimetres long, is dull green above and purplish beneath.

DISTINCTIVE FEATURES: Dark purple glands extend for at least half the length of the labellum, which is prominently humped.

HABITAT: Flying duck orchid is most abundant in open sandy areas in banksia and jarrah woodlands, however, it is occasionally found in shallow soil over laterite or, more rarely, in mossy soil pockets on granite outcrops.

DISTRIBUTION: The species is widespread from Watheroo to the south coast and eastwards to the Esperance area.

FLOWERING: August to early October.



Photo - Andrew Brown

LEAFLESS ORCHID

(*Praecoxanthus aphyllus*)

Leafless orchid is confined to the south-west, where it is quite widespread and often grows in litter beneath common sheoak (*Allocasuarina fraseriana*). The species was originally placed with the spider orchids (*Caladenia*) but differs in being leafless when flowering and in its smooth, shiny leaves and stems. *Praecoxanthus* is Latin for 'early flower', as this species is one of the first orchids to flower each year, appearing in late March. It is often found with other early flowering species, such as hare orchid (see p.40-41) and species of bunny orchid (see p.38-39).

DESCRIPTION: There is a single, highly fragrant, creamy white, fan-shaped flower with a beautiful purple, green and yellow labellum. In flowering plants, the leaf is reduced to a minute bract, while non-flowering plants produce a small, flat, oval-shaped leaf, which is purple underneath and striped with green and white above.

DISTINCTIVE FEATURES: This species is distinguished by its leafless flowering stems and early flowering period.

HABITAT: Leafless orchid usually inhabits sandy soils, but is occasionally found in gravelly loam and clay loam. It associates with sheoak and banksia woodlands, in near-coastal areas and within the jarrah forest. It is also found in jarrah and mallee shrublands in the Stirling Range National Park, and in low heathlands on winter-wet flats near Esperance.

DISTRIBUTION: Leafless orchid ranges from Pinjarra to Augusta and along the south coast to east of Esperance, extending inland to localities such as Narrogin, Broomehill and Ongerup.

FLOWERING: March to May.



Photo - Andrew Brown

FRINGED LEEK ORCHID

(*Prasophyllum fimbria*)

Leek orchids include some of the smallest and tallest of our orchids. Dwarf laughing leek orchid (*Prasophyllum gracile*) rarely grows more than 15 centimetres high, while giant leek orchid (*P. regium*) attains a height of well over two metres and may produce more than 100 flowers. The genus was named by Robert Brown in 1810 and contains about 50 species, most of which are found only in Australia. Of these, 24 are found in the south-west. Most are strongly fragrant. Their scent is particularly noticeable on warm still days, when the flowers attract a variety of insects, including flies, bees, wasps and beetles. Fringed leek orchid is the most spectacular of all WA leek orchids. Under ideal conditions it will grow more than a metre high and produce up to 60 or more flowers. Like many other species with a wide distribution, its flowering period is later the further south it occurs.

DESCRIPTION: Like other leek orchids, fringed leek orchid has reversed flowers, with the labellum above, rather than below, the column. The white flowers, up to a centimetre across, are shaded with purple, and are held on a spike up to 40 centimetres long. The tubular leaf is up to 80 centimetres long.

DISTINCTIVE FEATURES: The heavily fringed labellum, up to 1.2 centimetres long, is glistening white, with purple markings.

HABITAT: Habitat varies from well-drained forests and woodlands to wet, peaty swamps. Fringed leek orchid rarely flowers in unburnt bushland, but following summer fire will often appear in large numbers.

DISTRIBUTION: Fringed leek orchid is widespread and common throughout the south-west, between Kalbarri and Israelite Bay. It is particularly abundant in the Darling Range near Perth, where it has a very early flowering season, sometimes appearing by the end of June.

FLOWERING: Late June to November.



Photo - Andrew Brown

YAWNING LEEK ORCHID

(*Prasophyllum hians*)

Yawning leek orchid may not be seen in some areas for many years. Although it is widely distributed and common, it flowers only in the spring following a summer bushfire. Like many other leek orchids, it has both black and green-stemmed forms which are often seen growing together. It has been suggested that the black-stemmed forms have evolved as a form of camouflage to protect the plant from grazing by kangaroos. This may have some truth in it, as the orchid flowers in areas that have been burnt black following summer fire, making the black form hard to see until it is in full bloom. Like other leek orchids, yawning leek orchid has reversed flowers with the labellum as the uppermost segment, rather than the lowermost. Most orchids have flowers in which the labellum is the lowermost segment.

DESCRIPTION: Yawning leek orchid has a long slender leaf, 15 to 35 centimetres long and 0.2 to 0.4 centimetres wide. Twenty to 50 small white flowers, each about 0.8 centimetres across, grow in a dense spike up to 60 centimetres high. With its sweetly scented, purple or mauve tinged flowers and wavy margined labellum, it is one of the State's most attractive leek orchids.

DISTINCTIVE FEATURES: The broad, white, wavy-edged petals resemble the labellum in shape and colour.

HABITAT: This orchid grows in a variety of soil types, and is one of few leek orchids found in both low-lying winter-wet areas and well-drained hill slopes. It is particularly common in burnt swamps on the Swan Coastal Plain south of Perth.

DISTRIBUTION: Yawning leek orchid is widespread between Dongara and Israelite Bay, but is most common in the high rainfall lower south-west.

FLOWERING: August to October.



Photo - Andrew Brown

JUG ORCHID

(*Pterostylis recurva*)

All *Pterostylis* species have an unusual arrangement of petals, sepals, column and labellum that is designed to ensure cross-pollination. Insects such as small gnats and mosquitoes are trapped by the labellum, which flicks against the column when it is touched. The column wings then provide an escape tunnel, first past the stigma that receives any pollen carried by the insect, then past the anthers, which deposit a new load of pollen on the insect. Unlike most WA orchids, which have a solitary leaf, *Pterostylis* species produce multiple leaves. These consist of a flat rosette of up to 20 or more leaves, or leaves scattered up the stem of flowering plants.

OTHER NAMES: Recurved shell orchid, antelope orchid, bull orchid.

DESCRIPTION: Jug orchid grows some 60 centimetres high and is the tallest species of *Pterostylis* in WA. Up to four dark green and white flowers, to 1.2 centimetres across, are occasionally tinged with red, a feature that is more apparent as they begin to wither. A rosette of basal leaves is present only in non-flowering plants, while flowering plants have leaves scattered up the stem.

DISTINCTIVE FEATURES: This orchid is instantly recognised by its jug-like flowers, which have conspicuously recurved (downward bent) lateral sepals.

HABITAT: Found in a range of habitats, including woodlands, jarrah forests, granite outcrops and the margins of salt lakes, the flowers of jug orchid frequently protrude through the low shrubs with which it competes.

DISTRIBUTION: Jug orchid is widespread throughout the south-west, from near Geraldton to Israelite Bay.

FLOWERING: August to October.

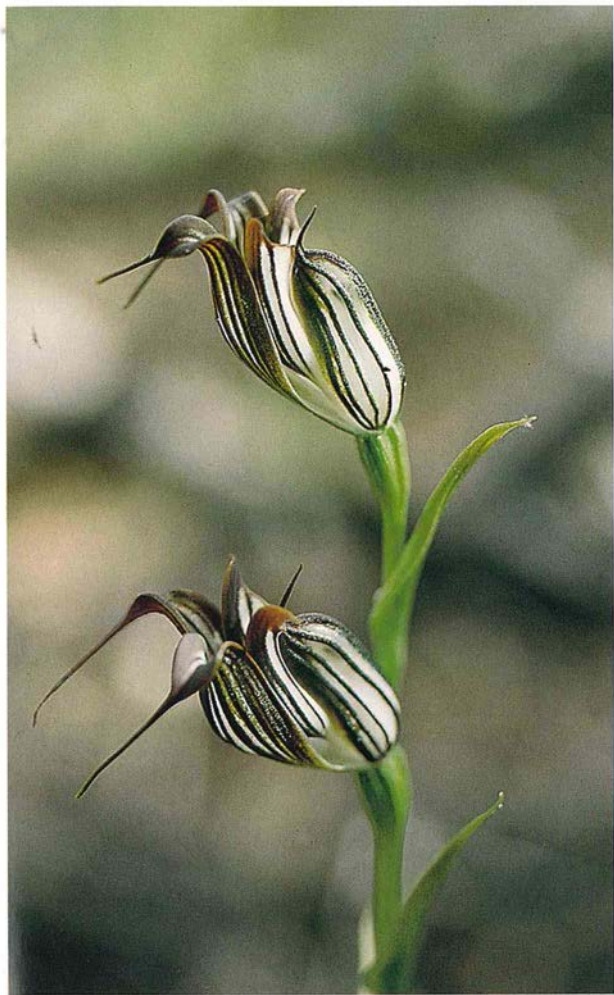


Photo - Andrew Brown

CURLED-TONGUE SHELL ORCHID

(*Pterostylis rogersii*)

Pterostylis contains some of the most common, widespread and familiar orchids in WA, with 24 named and a further 50 or so unnamed species. Known as greenhoods or shell orchids, they are found throughout the south-west between Shark Bay and Eyre. Species have adapted to a variety of habitats in the higher rainfall areas, but in the drier areas they are mainly confined to granite outcrops and breakaways, where they receive moisture from runoff. Many species of *Pterostylis* multiply vegetatively by producing two or more new tubers each year, on the end of long, fleshy roots called stolons. Given the right conditions, large colonies are formed, with each plant being genetically identical to the original parent. Curled-tongue shell orchid is a common coastal species that uses this method of reproduction. Colonies may contain thousands of individual plants, which are a mixture of non-flowering plants, with leaves that lie flat on the ground, and flowering plants, with stem leaves only.

DESCRIPTION: Curled-tongue shell orchid grows up to 20 centimetres high. It produces one, or rarely two, semi-translucent flowers, up to four centimetres long, each with prominent red to delicate pink stripes. The labellum, which protrudes through the 'V' formed by the lateral sepals, is prominently curled.

DISTINCTIVE FEATURES: This species is distinguished from brown-veined shell orchid (*Pterostylis aspera*) and red-veined shell orchid (*P. hamiltonii*) by its larger, fleshier flowers and the deep 'V' formed by its lateral sepals.

HABITAT: Curled-tongue shell orchid is generally found in low coastal heathlands and dense peppermint woodlands, often in stabilised dunes, but has also established itself in pine plantations.

DISTRIBUTION: Distribution is from just north of Bunbury around the coast to the Esperance area.

FLOWERING: June to July.



Photo - Andrew Brown

RED BEAKS

(*Pyrorchis nigricans*)

Until recently, species of *Pyrorchis* were placed in the genus *Burnettia*, which is now known to comprise a single species, the lizard orchid (*B. cuneata*) of eastern Australia. The two species of *Pyrorchis* are known as beak orchids, due to the shape of the overhanging dorsal sepal. Both are found in WA, and red beaks extends to eastern Australia. The flowers emit a strong, sweet fragrance that is almost overpowering on a warm still day. They also contain small amounts of nectar near the base of the labellum and column. The scent and nectar lure small native bees, which pick up or deposit pollen during their visits. Red beaks, the most widespread of the two species, is particularly common in woodlands near Perth. In most years it is seen only as large, fleshy, heart-shaped leaves commonly called 'elephants' ears', but following a summer bushfire most plants burst into flower.

DESCRIPTION: Red beaks has a ground-hugging, fleshy oval leaf, three to 15 centimetres long and three to eight centimetres wide. Two to eight red and white flowers, three to four centimetres across, have a labellum with prominent fleshy, longitudinal ridges. The flower stem, 10 to 30 centimetres tall, has two or three loose, sheathing bracts, up to four centimetres long. The name *nigricans*, meaning black, refers to the blackened appearance of the pressed flowers.

DISTINCTIVE FEATURES: Red beaks is readily distinguished by its leaves and flowers, with their distinctive beaked dorsal sepal and prominently fringed labellum.

HABITAT: In inland areas, red beaks prefers run-off areas around granite outcrops, but elsewhere it occupies a range of habitats and soil types.

DISTRIBUTION: Red beaks is one of the State's most widespread orchids. In WA, it grows north to Shark Bay, east to Israelite Bay and inland to Hyden.



Photo – Andrew Brown

It also occurs in South Australia, Victoria, the Australian Capital Territory, New South Wales and Tasmania.

FLOWERING: Mid-August to October.

ELBOW ORCHID

(*Spiculaea ciliata*)

This unusual species is known as the elbow orchid, due to the loosely hinged arm of its labellum. During the height of summer, when it is in full flower, the soil around its base completely dries out and temperatures often exceed 45°C near the rock surface. Its highly-evolved flowers have a peculiar curved column with two large hooked 'mantis-like' lobes. Below the column is a small, loosely-hinged labellum with an enlarged insect-like lip. The lip resembles a female flower wasp and, on warm summer days, gives off a chemical lure (pheromone) designed to attract male wasps. When the wasp attempts to fly off with the 'female' it is brought into contact with the column and is momentarily held to it by the hooked lobes. As the wasp struggles to free itself, pollen from the flower is either attached to its back, to be taken to another plant, or deposited on the stigma of the flower.

DESCRIPTION: Elbow orchid rarely grows more than 15 centimetres high and has up to 10 tiny flowers, about a centimetre across. There is a smooth oval-shaped leaf, up to two centimetres long, which is dark green above and tinged with purple below.

DISTINCTIVE FEATURES: The species often grows in small clumps. It is distinguished from other orchids by its small, straw-coloured flowers, fleshy stem and summer flowering season.

HABITAT: Elbow orchid grows almost exclusively on granite outcrops, in shallow soil pockets amongst moss and pincushion plants (*Borya sphaerocephala*). It is also rarely seen on the edges of winter-wet clay swamps and a single population occurs in sand over sandstone in the Kalbarri National Park.

DISTRIBUTION: Elbow orchid extends through the Wheatbelt and Goldfields, between Perth, Paynes Find and north-east of Esperance. A single occurrence has been noted at Kalbarri.

FLOWERING: Late October to February.



Photo – Babs & Bert Wells/CALM

LEMON-SCENTED SUN ORCHID

(*Thelymitra antennifera*)

This common species is one of the most widespread orchids in Australia, being found in south-western Australia, southern South Australia, Victoria, New South Wales and northern Tasmania. Its lemon-scented flowers open freely even on relatively cool cloudy days, when most other *Thelymitra* species remain closed. On occasions, it hybridises with some of the blue-flowered sun orchids, and the resultant offspring have attractive red, pink or salmon coloured flowers. These have often been incorrectly referred to as *T. macmillanii*, a hybrid that occurs only in eastern Australia.

OTHER NAMES: Canary orchid, lemon orchid, rabbit ears, vanilla orchid.

DESCRIPTION: This small plant is 12 to 35 centimetres high. One to three lemon yellow flowers, two to four centimetres across, are suffused with red on the outside. The flowers are quite fragrant and on warm days can be detected some distance from the plants. A grass-like leaf is eight to 12 centimetres long by 0.3 centimetres wide. The orchid often grows in large colonies, and massed flowering is common in some areas.

DISTINCTIVE FEATURES: This attractive species has large yellow flowers and prominent brown ear-like column lobes. Its flower stem is also distinctively zigzagged, but not to the extent of twisted sun orchid (*Thelymitra flexuosa*).

HABITAT: In areas of high rainfall, lemon-scented sun orchid grows in swamps or along creeklines. In drier areas, it prefers wet soil pockets on and around granite outcrops.

DISTRIBUTION: Lemon-scented sun orchid is common and widely distributed throughout the south-west of WA, between Shark Bay and Israelite Bay.

FLOWERING: July to October.



Photo - Andrew Brown

BLUE LADY ORCHID

(Thelymitra crinita)

The striking flowers of this orchid are a common sight in the bushland during spring, particularly in the Darling Range near Perth. Blue lady orchid often grows with morning iris (*Orthrosanthus laxus*), which has flowers of a similar colour, and attracts the same native bees as pollinators. Several other orchids, including winter donkey orchid (see p.28-29), use this form of mimicry. Sun orchids (*Thelymitra* species) rarely open on cool, cloudy days. They wait until the weather is warm and sunny to display their colourful blooms. Sun orchids have no labellum (a highly modified petal found in most orchids). Instead, like their distant relatives the lilies, they have a perfectly formed third petal.

DESCRIPTION: Blue lady orchid grows up to 70 centimetres high. It has a single, broadly oval-shaped leaf, five to 18 centimetres long and two to four centimetres wide. Between four and 15 bright blue flowers, three to four centimetres across, are arranged in a tall spike. Each flower has petals and sepals which are similar in shape and an unusual yellow-tipped column crest. Forms with mauve or pale blue flowers are occasionally found. Like most other WA orchids, blue lady orchid dies back to a dormant underground tuber to survive the hot dry summer months. The potato-like tuber resprouts again following autumn rains.

DISTINCTIVE FEATURES: Blue lady orchid is readily recognised by its beautiful sky blue flowers and its broad, dark green basal leaf up to four centimetres wide.

HABITAT: The species grows in a variety of habitats, but is particularly common in the lateritic soils of the jarrah forests.

DISTRIBUTION: Blue lady orchid is found between Jurien Bay and Albany, extending eastwards in coastal areas to Israelite Bay.

FLOWERING: September to early November near Perth, continuing into early December in the cooler, wetter karri forest.



Photo - Andrew Brown

USES: Like other terrestrial orchids found in WA, sun orchids have a fleshy underground, potato-like tuber. In some species, these were eaten by Aboriginal people, but they are usually small and therefore of little current use.

SCENTED SUN ORCHID

(*Thelymitra macrophylla*)

Scented sun orchid was first collected by James Drummond in 1839, probably from the hills near Perth while on his way to or from his farm at Toodyay. It was named in the following year by John Lindley and is part of a complex of closely related species, many of which are currently undescribed. These have been grouped under the name '*macrophylla*' until further research can be carried out to determine their taxonomic status. In some locations scented sun orchid forms distinct clumps, while in others it grows as scattered individuals. Flower colour varies from purple through mauve, blue and pink to pure white. Even the shape of the leaf varies.

DESCRIPTION: The typical form of scented sun orchid has a thick leathery leaf, 10 to 30 centimetres long and two to four centimetres wide. The flower stem is 30 centimetres to a metre high. Two to 20 or more, highly fragrant flowers are each three to four centimetres across. Like other sun orchids, the flowers open widely on warm still days, remaining closed at night or when the weather is cool and cloudy.

DISTINCTIVE FEATURES: The broad leathery leaf is prominently channelled inside, and the large colourful flowers have erect column lobes.

HABITAT: Habitat varies from open dense jarrah forests and wandoo woodlands to granite outcrops, shrublands and low swampy heathlands.

DISTRIBUTION: Scented sun orchid is found throughout the south-west from the Zuytdorp Cliffs, north of Kalbarri, to Israelite Bay, with a disjunct occurrence at Eyre on the Great Australian Bight. The typical form is known only from the hills above Perth. During a drive through Greenmount, in late September 1997, its attractive tall, lupin-like flower spikes were seen scattered through the bush beside the road.

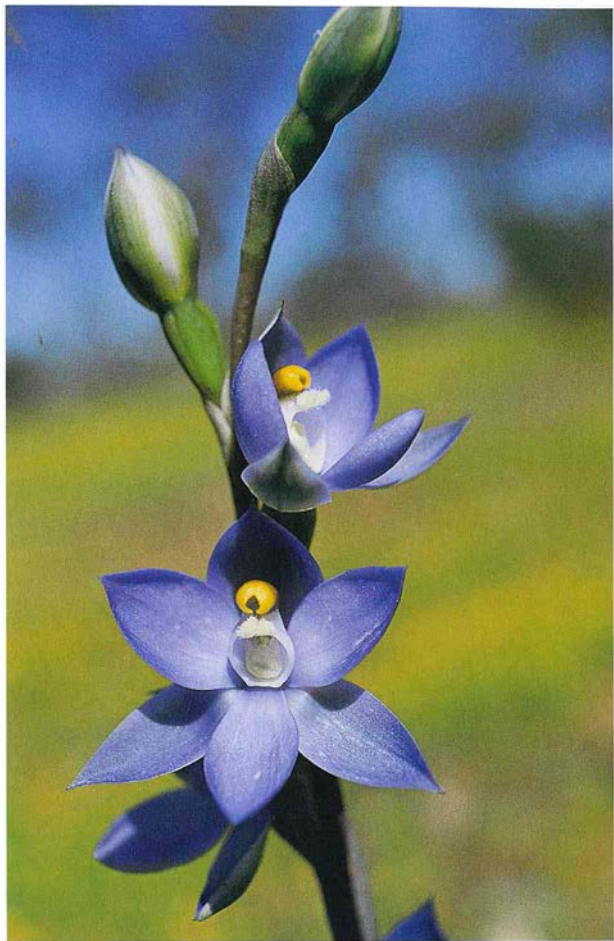


Photo - Andrew Brown

FLOWERING: September to November.

QUEEN OF SHEBA

(*Thelymitra variegata*)

With up to five pinkish-purple flowers, prominently marked with gold, orange and red, Queen of Sheba is one of the most beautiful and readily recognised orchids in WA. At least three forms are known. One is found from Lancelin to Dongara, a second grows between Perth and Albany, and a third occurs between the Stirling Range National Park and Esperance. Herbarium records show that the orchid was once common in Perth at Canning Bridge, South Perth and Gosnells but, as these areas have little natural bushland left, the orchid is now extremely rare in the metropolitan area. The flowers closely match the colour of star of Bethlehem (*Calectasia cyanea*) and it is believed that this mimicry tricks the insects that visit star of Bethlehem into also visiting the orchid.

DESCRIPTION: The stem, 20 to 40 centimetres tall, bears up to five attractive flowers, three to five centimetres across. Like other sun orchids, Queen of Sheba remains closed on cool cloudy days, appearing at its best when the weather is warm and still. The brightly coloured flowers have a distinctive spotted column, up to 0.7 centimetres long, with prominent elongated, orange and yellow, ear-like lobes up to 0.6 centimetres long. There is an unusual spirally twisted leaf, five to 10 centimetres long and 0.8 to one centimetre wide, which is broadest near the base.

DISTINCTIVE FEATURES: The flowers are more colourful than those of Cleopatra's needles (*Thelymitra apiculata*) and curly locks (*T. spiralis*), both of which also have spirally twisted leaves. The ear-like column lobes are somewhat longer than those of curly locks, and lack the apical point found in Cleopatra's needles.

HABITAT: Near the coast, Queen of Sheba is generally found in open sandy clearings, amongst scattered shrubs and taller banksia-jarrah woodland, while inland populations favour heavier clay soils in low shrublands.



Photo - Andrew Brown

DISTRIBUTION: Queen of Sheba is a rare species found in small, scattered populations from Dongara to east of Esperance.

FLOWERING: Late June to September. Northern populations are the earliest to flower.

SIGHTING RECORD

SPECIES	REMARKS
forest mantis orchid	
karri spider orchid	
dancing spider orchid	
cowslip orchid	
pink fairies	
butterfly orchid	
white spider orchid	
little pink fairy	
Christmas spider orchid	
helmet orchid	
slipper orchid	
silky blue orchid	
winter donkey orchid	
bee orchid	
purple pansy orchid	
warty hammer orchid	
pink enamel orchid	

SIGHTING RECORD

SPECIES	REMARKS
common bunny orchid	
hare orchid	
rabbit orchid	
white mignonette orchid	
flying duck orchid	
leafless orchid	
fringed leek orchid	
yawning leek orchid	
jug orchid	
curled-tongue shell orchid	
red beaks	
elbow orchid	
lemon-scented sun orchid	
blue lady orchid	
scented sun orchid	
Queen of Sheba	

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Below: *A spider waiting for prey on a white spider orchid*



ABOUT THE AUTHOR

Andrew Brown is a botanist in CALM's Threatened Species and Communities Unit. He is principally involved in helping co-ordinate CALM's conservation and management of WA's threatened flora. He is co-author of *Orchids of South-West Australia* and *Western Australia's Threatened Flora*. He is currently in the process, with Stephen Hopper, Director of Kings Park and Botanic Garden, of naming more than 120 new orchid taxa for WA.

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