



Declared rare flora

in the southern Wheatbelt
and eastern jarrah forest

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Department of
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Introduction

This book covers declared rare flora that occurs in the South West Catchment Council region. The area includes four Interim Biogeographical Region (IBRA) subregions known as the Avon Wheatbelt 2, Mallee 2, Northern Jarrah Forest 1 and Southern Jarrah Forest 2, as well as portions of the Department of Environment and Conservation's (DEC)'s Great Southern, Donnelly, Blackwood, Wellington and Perth Hills districts. It comprises the shires of Narrogin, Williams, Boddington, Boyup Brook, Wagin, Woodanilling, Katanning, West Arthur and parts of the shires of Kojonup, Broomehill, Gnowangerup, Kent, Dumbleyung, Kulin, Wickepin, Cuballing, Pingelly, Wandering, Collie, Bridgetown-Greenbushes and Manjimup.

In 2008, there were 34 species of plants listed as declared rare flora occurring within the area. These species are considered to have been adequately searched for and deemed to be rare, in danger of extinction, or otherwise in need of special protection in the wild. They are ranked according to the International Union for Conservation of Nature criteria, according to the degree by which they are threatened, with the status and rarity increasing from vulnerable to endangered to critically endangered. Declared rare fauna may not be taken, damaged or destroyed without the approval of the Western Australian Minister for Environment.

If you think you have seen any of these plants or would like further information, please call DEC in Katanning on (08) 9881 9250 or in Narrogin on (08) 9881 9200.

Echidna wattle

Acacia depressa

Family: Mimosaceae

Status: **Endangered**

Habit

A low ground-hugging plant with short spiny branches, up to 50cm in diameter and 5cm in height, forming a compact and slightly domed cushion.

Flower

The light golden flower heads are rounded and 4mm in diameter. Each flower head is held on a stalk 10 to 20mm long in the leaf axil. Flowering is from December to January.

Fruit

The dark red-brown pods are straight or slightly curved and are narrow and oblong in shape. They are 10 to 20mm long and 3mm wide with thickened margins. Each pod contains few seeds which are 10mm long by 3mm wide and dark brown.

Leaves

Leaves are divided (bipinnate) with two sets of leaves to a leaf stalk, and three to four leaflets per leaf. The leaflets are hairless, pale green to blue-green in colour and 2 to 3mm long by 1mm wide.

Distribution and habitat

Echidna wattle grows in the Kukerin to Lake Grace area on low gravelly hills and slopes in open heath and low scrubland with scattered low mallee.

IBRA region

Western Mallee 2, Avon Wheatbelt 2.

Associated species

Adenanthos flavidiflorus (woollybush), *Allocasuarina pinaster* (compass bush), *Banksia foliosissima* (a priority 2 species formerly called *Dryandra foliosissima*) *Banksia rufa* (formerly *Dryandra ferruginea*), *Banksia sphaerocarpa* (round-fruit banksia), *Chloanthes coccinea*, *Eucalyptus albida* (white-leaved mallee), *Eucalyptus incrassata* (lerp mallee), *Gastrolobium spinosum* (prickly poison), *Grevillea cagiana* (red toothbrushes), *Hakea pandanicarpa*, *Isopogon teretifolius* (nodding coneflower), *Leptospermum spinescens* and *Melaleuca pungens*.



Flowers and leaves



Habit



Habit



Prostrate branches

Yornaning wattle

Acacia insolita subsp. *recurva*

Family: Mimosaceae

Status: **Endangered**

Habit

This spindly shrub is 0.3 to 1.2m tall with many slender green to reddish branches which are usually erect but sometimes scramble through low vegetation.

Flower

The bright golden flower heads are rounded with one and sometimes several heads in each leaf axil. Each flower head is held on a leaf stalk 5 to 12mm long, mostly towards the ends of branches. Flowering is from July to early September.

Fruit

Pods are 8cm long by 5 to 6mm wide with thick margins and a network of veins. The oblong seeds are 3 to 4mm long and glossy dark brown to black.

Leaves

The divided (bipinnate) juvenile leaves are conspicuous and remain on mature plants. Each juvenile leaf has two sets of leaves to a leaf stalk, each with seven to 10 pairs of leaflets which curve downwards. Mature leaves (phyllodes) are flat and thick without a prominent midrib and are 10 to 30mm long by 1 to 1.5mm wide.

Distribution and habitat

Yornaning wattle is only known from two populations in the Wickepin Shire growing on dry gravelly laterite breakaways in open woodland and dense low forest.

IBRA region

Avon Wheatbelt 2.

Associated species

Acacia stenoptera (narrow winged wattle), *Adenanthos cygnorum* (common woollybush), *Allocasuarina huegeliana* (rock sheoak), *Banksia nobilis* (golden dryandra, formerly *Dryandra nobilis*), *Banksia sessilis* (parrot bush, formerly *Dryandra sessilis*), *Eucalyptus falcata* (silver mallet), *Eucalyptus wandoo* (wandoo), *Grevillea leptobotrys* (tangled grevillea), *Hovea trisperma* (common hovea) and *Leptospermum* sp.



Flower heads



Habit



Juvenile leaves



Habit

Photography: K. Brown, M. Edgley, S. Hopper

Sprawling spiky adenanthos

Adenanthos pungens subsp. *effusus*

Family: Proteaceae

Status: **Critically Endangered**

Habit

A compact low spreading and prickly shrub up to 0.5m in height, at times with a central erect branch reaching up to 1.5m. Plants often grow to 5m in diameter, though some have been seen up to 10m across.

Flower

The tubular flowers are pale pink to dark pink and are clustered at the end of branches on individual stalks. The long floral tube consists of four segments bearing the stamens, with a long curved style protruding from the tube. Flowering is from August to November.

Fruit

Fruits are small thin-walled and oblong in shape, about 10mm in length by 5mm wide, brown when mature and contain only one seed.

Leaves

The rigid and sharply pointed leaves up to 3cm long are usually divided into three prongs and are round in cross-section. They are green with a reddish-brown tip to each spiny prong.

Distribution and habitat

Sprawling spiky adenanthos is only known from two populations, one south of Tambellup and one north-east of Kojonup near the Carrolup River, growing in deep white sand in open low woodland and scrub.

IBRA region

Avon Wheatbelt 2, Southern Jarrah Forest 2.

Associated species

Allocasuarina acuarina, *Banksia attenuata* (candlestick banksia), *Chordifex* sp., *Eucalyptus rudis* (flooded gum), *Eucalyptus occidentalis* (flat-topped yate), *Hemiandra pungens* (snakebush), *Leptospermum erubescens* (roadside teatree) and *Regelia cymbifolia* (a Priority 4 species).



Flowers



Flowers



Habit



Seedling

Photography: E. Shedley, B. Loudon, S. Hopper

Annel's andersonia

Andersonia annelsii

Family: Epacridaceae

Status: **Critically Endangered**

Habit

A small woody shrub 10 to 25cm tall.

Flower

White tubular flowers with five curved lobes that are surrounded by five long, white, linear sepals. Flowers and sepals are each 7 to 12mm long and are usually in rounded clusters at the ends of branches. Flowering is in October.

Fruit

Each fruit is a small five-celled capsule.

Leaves

Leaves are 1 to 3mm long by 1 to 2mm wide and arranged spirally around the stem. The leaf has a broader base which clasps around the stem then comes to a long pointed tip.

Distribution and habitat

Annel's andersonia is only known from one population west of Tonebridge in the Tone-Perup Nature Reserve. It grows in low open heath with minimal canopy cover in pockets of white sandy loam surrounding an exposed granite outcrop or quartzite ridge.

IBRA region

Southern Jarrah Forest 2.

Associated species

Baeckea camphorosmae (camphor myrtle), *Bossiaea aquifolium* (water bush), *Corymbia calophylla* (marri), *Darwinia vestita* (pom-pom darwinia), *Eucalyptus marginata* (jarrah), *Hakea undulata* (wavy-leaved hakea), *Isopogon teretifolius* (nodding coneflower), *Kunzea micrantha*, *Pericalymma ellipticum* (swamp teatree), *Verticordia habrantha* (hidden featherflower) and *Xanthorrhoea preissii* (grasstree).



Habit



Habitat



Flower

Photography: R. Hearn, S. Clarke, J. Smith

Matchstick banksia, Quairading banksia

Banksia cuneata

Family: Proteaceae

Status: **Endangered**

Habit

A smooth-barked shrub or small tree growing to 4m tall with one or more woody erect branches forming a bushy crown.

Flower

The colourful flower heads turn from cream and pink to red and have green pollen presenters that look like matchsticks. Flower heads are 3 to 4cm wide and are produced at the ends of branches. Flowering is from September to December.

Fruit

Each small fruiting cone has one to five grey follicles which are 17 to 21mm long by 9 to 12mm wide and covered in short, soft, matted hairs. The follicles usually open after fire.

Leaves

The wedge-shaped leaves are 1 to 4cm long by 0.5 to 1.5cm wide, dull olive-green and generally flat with one to five prominent sharp teeth along each side.

Distribution and habitat

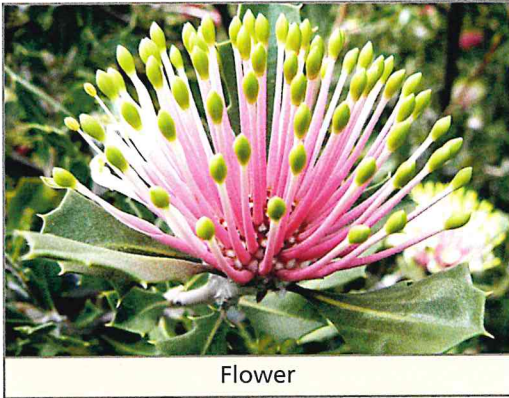
Matchstick banksia grows over a 90km range in the Pingelly-Quairading-Bruce Rock area in deep grey, yellow or yellow-brown sand in low woodland or shrubland at elevations of 235 to 300m.

IBRA region

Avon Wheatbelt 1 and 2.

Associated species

Allocasuarina huegeliana (rock sheoak), *Austrostipa elegantissima* (feather speargrass), *Banksia prionotes* (acorn banksia), *Ehrharta calycina* (perennial veldtgrass), *Eremaea pauciflora* (few flowered eremaea), *Grevillea excelsior* (flame grevillea), *Hakea prostrata* (harsh hakea), *Leptospermum erubescens* (roadside teatree) and *Xylomelum angustifolium* (woody pear).



Flower



Habit



Flowers and leaves



Habitat

Wagin banksia

Banksia oligantha

Family: Proteaceae

Status: **Endangered**

Habit

A slender erect shrub or small tree which grows up to 4m high with purplish-brown rough bark.

Flower

The flowers are creamy-yellow with dark pink at the base, turning orange-brown with age. They have smaller flower heads than the matchstick banksia (*Banksia cuneata*), being 2.5 to 3cm wide, with 20 to 35 flowers in each head on the ends of branches. Flowering is from October to November.

Fruit

Fruiting cones have one to six small woody follicles each 14 to 19mm long by 10 to 12mm wide narrowing to a blunt tip. The smooth blotchy surface is covered in short white and grey velvety hairs. The follicles readily open without fire.

Leaves

Leaves are roughly egg-shaped, 2 to 4cm long by 0.4 to 2cm wide, with two to four points along each margin which curl upwards. They are green and glossy on the upper surface and paler green on the underside.

Distribution and habitat

Wagin banksia grows north-west of Wagin and west of Katanning in deep white to yellow-brown sand in low woodland with tall shrubs, mainly near river systems. It also grows near Harrismith and Wedin.

IBRA region

Southern Jarrah Forest 2, Avon Wheatbelt 2.

Associated species

Banksia attenuata (candlestick banksia), *Banksia prionotes* (acorn banksia), *Conostylis drummondii* (a DRF species), *Eremaea pauciflora* (few flowered eremaea), *Kunzea ericifolia* (spearwood) and *Leptospermum erubescens* (roadside teatree).



Flowers



Fruit



Bark



Leaves



Habit



Seedling

Tutanning boronia

Boronia capitata subsp. *capitata*

Family: Rutaceae

Status: **Vulnerable**

Habit

This slender upright shrub grows up to 0.3 to 1.3m high by 0.8m wide and has long, soft, straight hairs on the branches. Seedlings have slightly stiffened distinct hairs on the stems.

Flower

The sweetly scented flowers are pinkish-mauve to purple, each with four hairy petals and sepals. Flowering is from August to February.

Fruit

A dry fruit which splits into separate segments at maturity.

Leaves

The small linear leaves are blue-green and hairy.

Distribution and habitat

Tutanning boronia is known from only two populations. In the Tutanning Nature Reserve east of Pingelly it grows below a breakaway on yellow or white sand over laterite, and in the Bending Nature Reserve east of Kondinin it grows on gritty red-brown loam over weathered granite in woodland.

IBRA region

Avon Wheatbelt 2, Western Mallee 2.

Associated species

Acacia acuminata (jam wattle), *Acacia celastrifolia* (glowing wattle), *Adenanthos cygnorum* (common woolybush), *Allocasuarina humilis* (dwarf sheoak), *Banksia attenuata* (slender banksia), *Banksia sessilis* (parrot bush, formerly *Dryandra sessilis*), *Beaufortia micrantha* (little bottlebrush), *Calytrix angulata* (yellow starflower), *Daviesia benthamii*, *Daviesia cordata* (bookleaf), *Eucalyptus drummondii* (Drummond's gum), *Eucalyptus loxophleba* (York gum), *Eucalyptus wandoo* (wandoo), *Hakea ruscifolia* (candle hakea), *Hibbertia teretifolia*, *Leptospermum erubescens* (roadside teatree), *Petrophile circinata*, *Petrophile divaricata* and *Xanthorrhoea preissii* (grasstree).



Flower



Flower



Habit



Habitat

Photography: B. Loudon, M. Edgley

Dwarf spider orchid

Caladenia bryceana subsp. *bryceana*

Family: Orchidaceae

Status: **Endangered**

Habit

A tuberous perennial herb only 5 to 10cm tall. One of the smallest spider orchids, it is difficult to see growing individually or in small scattered colonies. Another subspecies, the northern dwarf spider orchid (*Caladenia bryceana* subsp. *crascens*), is found much further north in the Kalbarri area.

Flower

Flowers are green to apricot in colour and 1 to 2cm across, with one or, rarely, two flowers per plant. The lip (labellum) has a distinctive band of glossy, dark burgundy glands (calli). Flower buds are distinctively hooked like a duck beak. Flowering is from late August to early October.

Fruit

The capsule splits when mature releasing hundreds to thousands of very fine pepper-like seeds.

Leaves

The plant has one soft hairy leaf with burgundy colouring

confined to the base. The leaf is long relative to the flower size, being 3 to 6cm long by 0.5cm wide.

Distribution and habitat

Dwarf spider orchid grows as a disjunct population east of Boyup Brook near the Blackwood River as well as in the Stirling Range and along the Pallinup River. Habitat ranges from open wandoo woodland to mallee shrubland with sparse low shrubs, sedges and herbs adjacent to watercourses and swamps or on winter-wet sites where it grows on sand, sandy clay or red loam over granite.

IBRA region

Southern Jarrah Forest 2, Western Mallee 2 and Fitzgerald 1.

Associated species

Acacia acuminata (jam wattle), *Allocasuarina huegeliana* (rock sheoak), *Ehrharta calycina* (perennial veldtgrass), *Eucalyptus loxophleba* (York gum), *Eucalyptus occidentalis* (flat-topped yate), *Eucalyptus rudis* (flooded gum), *Eucalyptus wandoo* (wandoo), *Jacksonia sternbergiana* (stinkwood), *Macrozamia riedlei* (zamia palm), *Melaleuca acuminata*, *Neurachne alopecuroidea* (foxtail mulga grass) and *Xanthorrhoea preissii* (grasstree).



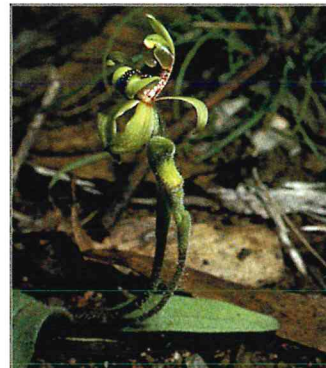
Flower



Flower group



Habitat



Flower and bud

Photography: A. Brown, E. Shedley

Christine's spider orchid

Caladenia christineae

Family: Orchidaceae

Status: **Endangered**

Habit

A tuberous perennial herb, growing 25 to 40cm high.

Flower

Relatively small spider flowers, 7 to 10cm long by 6 to 8cm wide, with creamy-white, stiffly held petals and sepals narrowing into long filaments one third along their length. The white lip (labellum) has a feathery, maroon-red fringe along its edges and four rows of maroon-red glands (calli). There are two to three and sometimes four flowers per plant, which have no perfume. Flowering is from September to October.

Fruit

The capsule splits when mature releasing hundreds to thousands of very fine pepper-like seeds.

Leaves

Each plant has a single erect, pale green leaf, 8 to 20cm long by 0.4 to 1.2cm wide, with red to purple blotches on the basal third.

Distribution and habitat

Christine's spider orchid is found between Mt Barker and Yornup growing in sandy, gravelly or clay loam on margins of winter-wet flats, swamps and freshwater lakes in jarrah forests or paperbark woodlands. A small population was located in 1983 south-west of Cranbrook near a yate swamp, but no plants have been seen at this site for many years.

IBRA region

Southern Jarrah Forest 2.

Associated species

Banksia grandis (bull banksia), *Corymbia calophylla* (marri), *Eucalyptus marginata* (jarrah), *Eucalyptus occidentalis* (flat-topped yate), *Eucalyptus rudis* (flooded gum), *Hakea prostrata* (harsh hakea), *Melaleuca cuticularis* (saltwater paperbark), *Melaleuca viminea* (mohan) and sedges.



Flower



Flower

Photography: A. Brown

Cossack spider orchid

Caladenia dorrienii

Family: Orchidaceae

Status: **Endangered**

Habit

A tuberous perennial herb growing 10 to 20cm high as individual solitary plants or in loose colonies.

Flower

The white or creamy-yellow petals and sepals have maroon-red longitudinal veins down their centre and dark brown hairy tips. The lower petals and sepals curl down and cross over under the flower while the upper central sepal is erect. Small maroon blotches form broken lines along the broad, white lip (labellum), which also has two rows of white glands (calli). Plants have one to three flowers, each measuring around 2 to 3 cm wide by 4 to 5cm long and with no perfume. Flowering is from September to November.

Fruit

The capsule splits when mature releasing hundreds to thousands of very fine pepper-like seeds.

Leaves

Each plant has a narrow erect pale green leaf, 6 to 10cm long by 0.3 to 0.7cm wide, with red-purple blotches on the basal third.

Distribution and habitat

Cossack spider orchid grows between Boyup Brook, Frankland and Kojonup in moist sites on sandy clay along lower slopes and adjacent to seasonal creeklines in open wandoo woodland with low scattered shrubs, low herbs and annuals. It is also known from West Dale on the Brookton Highway.

IBRA region

Southern Jarrah Forest 2, Northern Jarrah Forest 1.

Associated species

Acacia salinga (orange wattle), *Caladenia polychroma* (Joseph's spider orchid), *Corymbia calophylla* (marri), *Eucalyptus marginata* (jarrah), *Eucalyptus rudis* (flooded gum), *Eucalyptus wandoo* (wandoo), *Hibbertia commutata*, *Hypocalymma angustifolium* (white myrtle), *Trymalium ledifolium* and *Xanthorrhoea preissii* (grasstree).



Flower



Habit



Habitat

Photography: A. Brown, J. Parry, E. Shedley

Pink spider orchid

Caladenia harringtoniae

Family: Orchidaceae

Status: **Vulnerable**

Habit

A tuberous perennial herb 20 to 40cm high growing singly or in small clumps.

Flower

The flowers are deep to pale pink with white markings. The petals and sepals are horizontal then curve downwards and taper to a long narrow apex covered in glandular hairs, while the upper sepal is erect. The lip (labellum) is white with pale pink stripes becoming darker pink on the outer end, which curls under. It has four rows of dark pink glands (calli) and short dark pink fringes. It is one of the smaller spider orchids, with one to three flowers per plant, each 5 to 7cm wide by 7 to 10cm long, which emit a sickly sweet odour. Flowering is from October to November.

Fruit

The capsule splits when mature releasing hundreds to thousands of very fine pepper-like seeds.

Leaves

Each plant has a narrow erect pale green leaf 15 to

25cm long by 0.6 to 1cm wide, with irregular red-purple blotches on the basal third.

Distribution and habitat

Pink spider orchid is known from a number of widely scattered populations from Albany to Nannup, around Lake Muir and on one granite outcrop near Albany. It grows in winter-wet flats, margins of freshwater lakes, along creeklines and drainage lines, in grey-brown sandy clay or clay loam over laterite or heavy clay under low forest and woodland.

IBRA region

Southern Jarrah Forest 2, Warren.

Associated species

Acacia saligna (orange wattle), *Banksia grandis* (bull banksia), *Banksia littoralis* (swamp banksia), *Boronia megastigma* (scented boronia), *Eucalyptus cornuta* (yate), *Eucalyptus diversicolor* (karri), *Eucalyptus patens* (blackbutt), *Hakea oleifolia* (dungyn), *Hakea varia* (variable-leaved hakea) *Hypocalymma angustifolium* (white myrtle), *Melaleuca cuticularis* (saltwater paperbark), *Melaleuca preissiana* (moonah), *Melaleuca raphiophylla* (swamp paperbark), sedges and *Xanthorrhoea preissii* (grasstree).



Flower



Flower



Flowers

Majestic spider orchid

Caladenia winfieldii

Family: Orchidaceae

Status: **Endangered**

Habit

A tall tuberous perennial herb 30 to 60cm high, growing as scattered individuals or in small clumps of two to three.

Flower

One to three flowers per plant with pale to deep pink petals and sepals which spread horizontally then curve downwards and taper to a long thin apex. The apices of the longer sepals at the front are fawn-coloured and slightly clubbed and covered with fine dense glandular hairs. The lip (labellum) is pink with darker pink stripes becoming uniform dark pink on the outer half which curls under. It has four rows of dark pink glands (calli) down the middle and long, dark pink fringes. Flowers are slightly larger than the pink spider orchid (*Caladenia harringtoniae*), being 5 to 10cm wide by 8 to 12cm long, with a faint sweet smell. Flowering is from late October to late November.

Fruit

The capsule splits when mature releasing hundreds to thousands of very fine pepper-like seeds.

Leaves

Each plant has a pale green, erect linear leaf, 10 to 15cm long by 0.6 to 0.8cm wide, which is hairy with irregular blotches of red-purple colour on the basal third.

Distribution and habitat

Majestic spider orchid is only known from one small area south-east of Manjimup in a broad winter-wet depression near the Tone River. There is a historical record from south of Manjimup but plants have not been located in this area since the original discovery. It grows in grey-black sandy loam which is rich in humus in low woodland with scrub. This species is often found under the skirts of grasstrees (*Xanthorrhoea preissii*), which may protect it from grazing.

IBRA region

Southern Jarrah Forest 2, Warren.

Associated species

Acacia saligna (orange wattle), *Banksia littoralis* (swamp banksia), *Eucalyptus rudis* (flooded gum), *Hakea varia* (variable-leaved hakea), *Melaleuca preissiana* (moonah) and *Xanthorrhoea preissii* (grasstree).



Flower



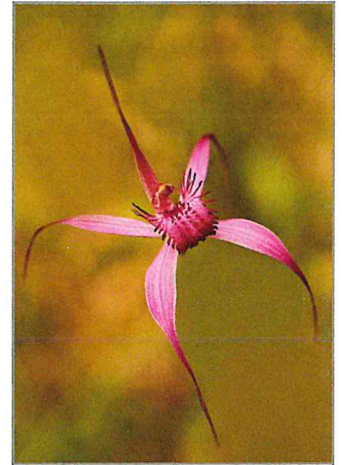
Habitat



Habitat



Flower group



Flower

Stilted tinsel lilly

Calectasia pignattiana

Family: Dasypogonaceae

Status: **Vulnerable**

Habit

A prickly open low shrub up to 50cm high, with stilt roots 1 to 6cm long extending from the lower stems and branches into the ground. Occasionally the stilt roots extend from upper branches and are up to 15cm long.

Flower

Each star-shaped flower has six dark blue to purple pointed petals that fade with age, and six erect central yellow anthers that fade to orange with age. Flowering is from August to October.

Fruit

The fruit is like a nut with one cell.

Leaves

Green leaves are 5 to 11.5mm long by 1 to 1.4mm wide. The lower portion of each leaf lies along the stem before spreading out almost at right angles and ending with a sharp pungent tip.

Distribution and habitat

Stilted tinsel lilly grows in scattered populations from Quairading to Harrismith, Wickepin and Arthur River, with two other populations north of Newdegate and west of Lake Grace that have not been relocated in recent times. The species grows in yellow sand, sandy clay, or gravel over granite or laterite in heath scrub.

IBRA region

Western Mallee 2, Northern Jarrah Forest 1.

Associated species

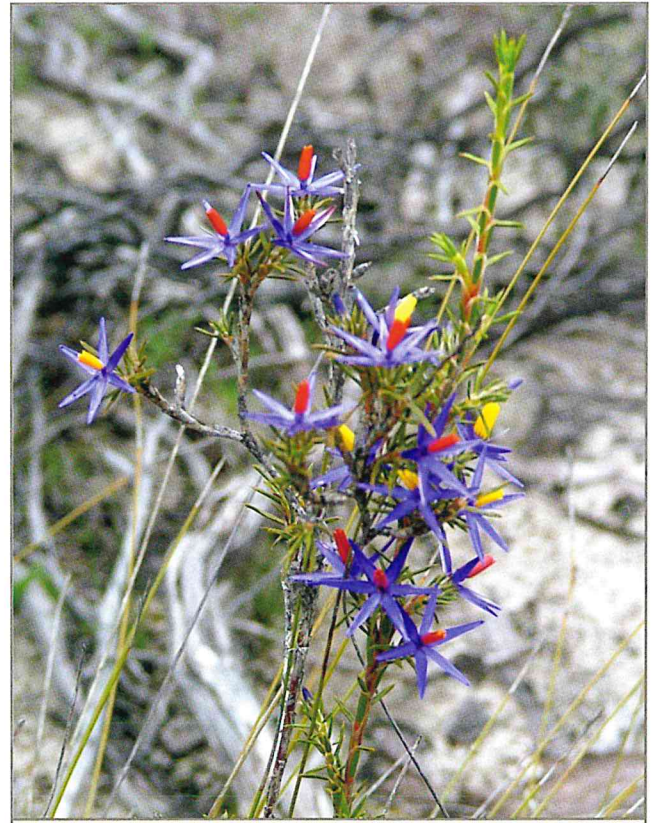
Banksia violacea (violet banksia), *Banksia* spp., *Eremaea pauciflora* (few-flowered eremaea), *Hakea pandanicaarpa*, *Leptospermum erubescens* (roadside teatree), *Melaleuca* sp., *Verticordia roei* (Roe's featherflower).



Flower



Flower and leaves



Flowers

Photography: J. Collins, M. Edgley

Drummond's conostylis

Conostylis drummondii

Family: Haemodoraceae

Status: **Endangered**

Habit

A tufted perennial plant 10 to 30cm high by 3 to 30cm wide with long thin rounded leaves.

Flower

Furry, pale lemon-yellow tubular flowers 6 to 9mm long, with six petal lobes, each 4 to 5mm long, opening to form a star-shape, with erect stamens protruding from the centre at two levels. Several flowers are clumped together in a head on the one stalk. Flowering is from October to November.

Fruit

The capsule contains several small, rounded, black to brown seeds that are released when the inner valves dry and open.

Leaves

Long, erect rounded leaves, 30cm long and 0.5 to 1.5mm wide are blue-grey to dark green in colour with dense, fine white hairs pressed flat and covering the surface, giving them a furry or velvety appearance.

Distribution and habitat

Drummond's conostylis grows in a number of populations in the Boscabel, Kojonup and Arthur River area in deep white, grey or yellow sand or sandy pockets associated with laterite in open low woodlands with low shrubs.

IBRA Region

Avon Wheatbelt 2, Southern Jarrah Forest 2 and Northern Jarrah Forest 1.

Associated species

Allocasuarina humilis (dwarf sheoak), *Banksia attenuata* (candlestick banksia), *Banksia prionotes* (acorn banksia), *Banksia sessilis* (parrot bush, formerly *Dryandra sessilis*), *Desmocladius fasciculatus*, *Ehrharta calycina* (perennial veldtgrass), *Eucalyptus marginata* (jarrah), *Kunzea ericifolia* (spearwood), *Leptospermum erubescens* (roadside teatree), *Nuytsia floribunda* (christmas tree), *Regelia cymbifolia* (boat-leaf regalia), *Stirlingia latifolia* (blueboy).



Flowers and leaves



Habitat



Habitat

Hairy mat conostylis

Conostylis seorsiflora subsp. *trichophylla*

Family: Haemodoraceae

Status: **Endangered**

Habit

A low tufted plant, 2 to 6cm high by 3 to 4cm wide and connected by underground and aerial stems, 2 to 6cm long, to form a loose mat 30 to 40cm across.

Flower

Yellow tubular flowers, 1.2 to 1.5cm long on individual stalks, up to 5cm long. The six petals, each 0.8 to 1cm long, open to form a star-shape, with erect stamens protruding from the centre. Flowering is from October to November.

Fruit

The capsule contains several small, rounded, black to brown seeds that are released when the inner valves dry and open.

Leaves

Flat, grey-green erect leaves, 2 to 8cm long by 0.6 to 1.6mm wide. The surface is covered in dense short hairs which gives them a silvery-grey appearance.

Distribution and habitat

Hairy mat conostylis grows in one population in the Tincurrin to Harrismith area and possibly another two populations north-west and south-east of Kukerin. It grows on dark brown sandy loam in open woodland, on grey to white sand in mallee scrub and in seasonally wet sandy loam.

IBRA region

Western Mallee 2.

Associated species

Allocasuarina huegeliana (rock sheoak), *Austrostipa elegantissima*, *Calothamnus quadrifidus* (one-sided bottlebrush), *Eremaea pauciflora* (few flowered eremaea), *Eucalyptus loxophleba* (York gum), *Eucalyptus wandoo* (wandoo), *Leptospermum erubescens* (road-side teatree), *Melaleuca pentagona*, *Melaleuca urceolaris* and *Neurachne alopecuroidea* (foxtail mulga grass).



Leaves



Habit



Habitat



Flower

Boscabel conostylis

Conostylis setigera subsp. *dasys*

Family: Haemodoraceae

Status: **Critically Endangered**

Habit

A tufted perennial plant, growing 15 to 30cm high and up to 20cm wide.

Flower

The tubular flowers are yellow and fluffy, turning reddish with age. They are 1 to 1.5cm long with six petals, 0.5 to 0.9cm long, opening to form a star-shape. Flowering is from October to November.

Fruit

The capsule contains several small, rounded, black to brown seeds that are released when the inner valves dry and open.

Leaves

Leaves are flat, erect and dark green, 15 to 30cm long by 1 to 2mm wide. The surface and margins are covered with coarse erect hairs which are white on new growth turning black with age. The common subspecies, bristly

cottonhead (*Conostylis setigera* subsp. *setigera*) generally only has hairs along its margins which don't turn black with age.

Distribution and habitat

Boscabel conostylis is only known from two populations in close proximity to each other, north to north-west of Kojonup, where it grows in dry white to grey sand pockets among ironstone in open woodland and low heath.

IBRA region

Southern Jarrah Forest 2.

Associated species

Allocasuarina humilis (dwarf sheoak), *Banksia armata* (prickly dryandra, formerly *Dryandra armata*), *Banksia nivea* (couch honeypot, formerly *Dryandra nivea*), *Banksia sessilis* (parrot bush, formerly *Dryandra sessilis*), *Bossiaea ornata* (broad leaved brown pea), *Daviesia cardiophylla*, *Eucalyptus marginata* (jarrah), *Eucalyptus wandoo* (wandoo), *Hakea lissocarpha* (honey bush), *Hakea undulata* (wavy leaved hakea), *Hibbertia commutata*, *Petrophile serruriae*, sedges, *Xanthorrhoea* sp. (grasstree).



Flowers closed



Flowers with red flush



Habitat



Stiff hairs on leaves

Narrogin bell

Darwinia carnea

Family: Myrtaceae

Status: **Critically Endangered**

Habit

A low spreading shrub 20 to 30cm high.

Flower

Each nodding bell-shaped flower head is surrounded by broad yellow-green to dark pink bracts up to 3cm long. The bracts conceal about eight, small tubular flowers with five white petals that are 4mm long with short blunt lobes about 1.5mm long. Flowering is from October to December.

Fruit

The nut is crowned by the persistent sepals and petals, and contains soft white seeds.

Leaves

Narrow keeled leaves are 6 to 10mm long and are arranged in opposite pairs along the stem.

Distribution and habitat

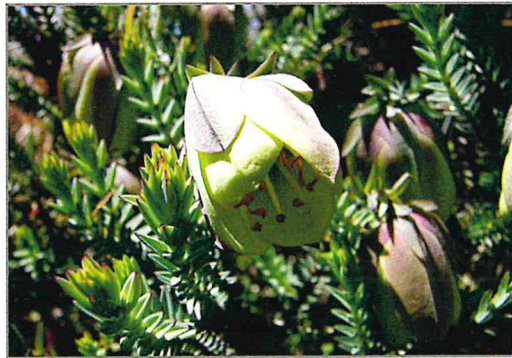
The Narrogin bell is the southern form (and possibly a subspecies) of the Mogumber bell. There is one original population of the Narrogin bell south of Narrogin on private property and two translocated populations near Narrogin and north-west of Cuballing. There is also a possible population west-south-west of Highbury.

IBRA region

Avon Wheatbelt 2.

Associated species

Acacia celastrifolia (glowing wattle), *Adenanthos cygnorum* (common woollybush), *Banksia nobilis* (golden dryandra, formerly *Dryandra nobilis*), *Banksia sphaerocarpa* var. *caesia*, *Beaufortia incana*, *Grevillea leptobotrys*, *Hibbertia hypericoides* (yellow buttercups), *Hibbertia rupicola* and *Petrophile heterophylla* (variable-leaved cone bush).



Flowers inside bracts



Closed bracts



Habit



Habitat

Tall donkey orchid

Diuris drummondii

Family: Orchidaceae

Status: **Vulnerable**

Habit

A tall tuberous perennial herb, 50 to 105cm high, often forming large colonies that are widely separated. This is the tallest donkey orchid in Western Australia.

Flower

Each plant has three to eight widely spaced, pale yellow flowers, 3 to 4.5cm long by 2.5 to 3.5cm wide. The flowers are almost completely yellow with only small brown markings in the throat. Flowering is from mid November to January.

Fruit

The capsule splits when mature releasing hundreds to thousands of very fine pepper-like seeds.

Leaves

Several flat light green and glossy grass-like leaves, 20 to 25cm long by 0.8cm wide.

Distribution and habitat

Tall donkey orchid grows in the Cranbrook, Frankland and Unicup areas and also near Albany, Walpole, Denmark, Rocky Gully, Bunbury, Pinjarra and Pickering Brook, with a disjunct population north-west of Northampton. It grows in low-lying depressions, along natural drainage lines or on the fringe of swamps and lakes in areas that remain damp or wet into early summer. The soil is usually peaty and sandy clay, black-brown clay loam or gravelly clay loam. Plants have been found in several centimetres of water during the flowering period when other swamps have dried out.

IBRA region

Southern Jarrah Forest 2.

Associated species

Eucalyptus marginata (jarrah), *Eucalyptus rudis* (flooded gum), *Corymbia calophylla* (marri), *Kunzea ericifolia* (spearwood), *Melaleuca lateritia* (robin redbreast bush), *Melaleuca rhapsiophylla* (swamp paperbark), *Melaleuca viminea* (mohan) and sedges.



Flower



Flower



Flowers



Habitat

Dwarf bee orchid

Diuris micrantha

Family: Orchidaceae

Status: **Vulnerable**

Habit

A tuberous perennial herb 30 to 60cm high found in scattered populations.

Flower

There are one to seven flowers per plant which are quite small and pale yellow, 1.4cm long by 1.2cm wide, with red-brown markings around the edge of the broad short lip (labellum), on the throat and on the tips of the sepal and wings. Flowering is from mid September to late October.

Fruit

The capsule splits when mature releasing hundreds to thousands of very fine pepper-like seeds.

Leaves

This orchid has a basal tuft of narrow linear leaves 8 to 14cm long by 1 to 2mm wide.

Distribution and habitat

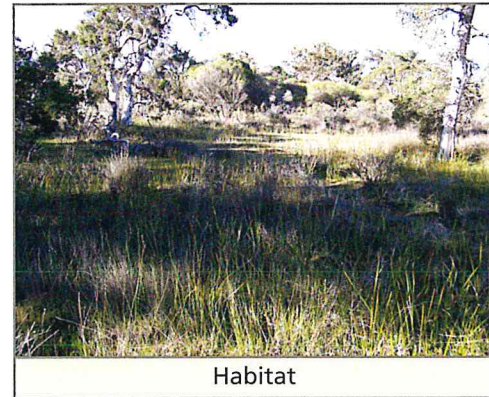
The dwarf bee orchid is known from one population located south of Bowelling, another possibly in the Unicup area and a new population recently found near Frankland. It also occurs along the Swan Coastal Plain from Kwinana to south-east of Bunbury. It is confined to swampy flats where it grows in open low woodland with sedges.

IBRA region

Southern Jarrah Forest 2.

Associated species

Conostylis pusilla, *Diuris laxiflora* (bee orchid), *Drosera* spp., *Eucalyptus rudis* (flooded gum), *Eucalyptus wandoo* (wandoo), *Hakea trifurcata* (two-leaf hakea), *Hakea varia* (variable-leaved hakea), *Melaleuca cuticularis* (saltwater paperbark), *Melaleuca viminea* (mohan), *Thelymitra flexuosa* (twisted sun orchid), *Verticordia plumosa* (plumed featherflower).



Photography: A. Brown, E. Shedley

Late hammer orchid

Drakaea confluens

Family: Orchidaceae

Status: **Critically Endangered**

Habit

A tuberous perennial herb 15 to 30cm high, growing in loose colonies.

Flower

Each plant has a single flower with a hinged insect-like hammer on a long arm. The flowers are 2 to 4cm long and up to 0.5cm wide. The hammer (labellum) is green with irregular burgundy spots and hairs on the upper half joining the arm, and smooth burgundy on the apex. The apex is not turned up as much as the related warty hammer orchid (*Drakaea livida*). It flowers from October to late November near Boyup Brook and September to early November in the Stirling Range to Porongorup Range area.

Fruit

The capsule splits when mature releasing hundreds to thousands of very fine pepper-like seeds.

Leaves

Each plant has one small fleshy heart-shaped leaf, 1 to 2cm in diameter which lies flat on the ground. It is blue-grey with darker green radiating lines and is often covered in short dense hairs.

Distribution and habitat

The late hammer orchid is known from a number of populations in three separate areas – one north-east of Boyup Brook and the others in the Stirling Range and near the Porongorup Range. It grows in deep white or grey sand in low jarrah woodland and favours open clearings and bush tracks.

IBRA region

Southern Jarrah Forest 2, Fitzgerald 1.

Associated species

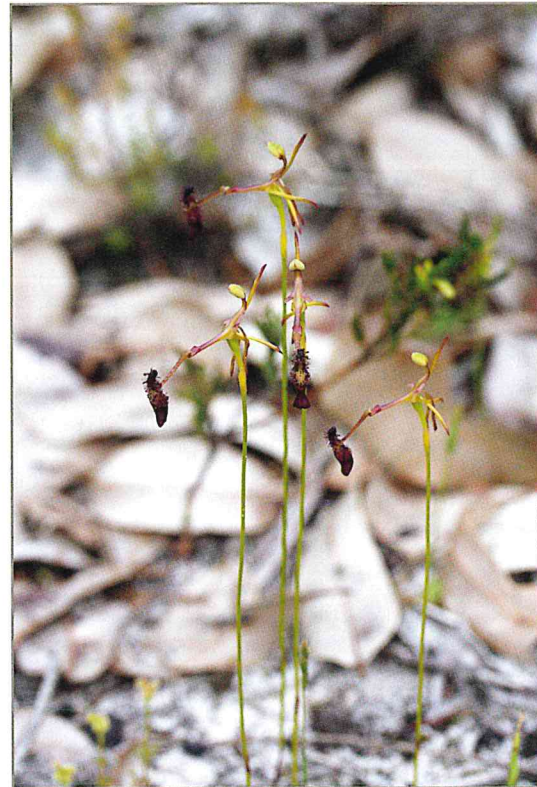
Adenanthos cuneatus (coastal jugflower), *Agonis theiformis*, *Banksia attenuata* (slender banksia), *Eucalyptus marginata* (jarrah), *Kunzea glabrescens* and *Melaleuca preissiana* (moonah).



Flower



Flower



Group of plants

Photography: A. Brown

Keighery's eleocharis

Eleocharis keigheryi

Family: Cyperaceae

Status: **Vulnerable**

Habit

A slender erect and tufted perennial sedge, 20 to 40cm high with smooth light green stems, 1 to 2mm in diameter, growing in clumps up to 40cm wide. Plants die back to their rhizomes below ground over summer.

Flower

The cylindrical flower spike on the end of the stem is colourless or very pale green, 4 to 6mm long by 1 to 2mm wide, with spirally arranged green bracts. Each individual flower has three stamens and a feathery stigma that divides into three. Flowering is from August to November.

Fruit

Tiny round nuts up to 0.2mm in length.

Leaves

The leaf consists of a dull straw-coloured or red-tinged sheath around the base of the stem. There are also numerous hair-like stems at the base of the main stems when it grows in water.

Distribution and habitat

Keighery's eleocharis grows near Popanyinning, along the Beaufort River south of Arthur River, and north-east and west of Kojonup. About 21 other populations occur between Mt Lesueur and Capel on the Swan Coastal Plain and inland to Toodyay and Beverley. It grows in grey sandy clay in winter-wet claypans or swampy areas with shallow fresh water to 20cm deep.

IBRA region

Southern Jarrah Forest 2, Avon Wheatbelt 2.

Associated species

Amphibromus nervosus (a native grass), *Calothamnus quadrifidus* (one-sided bottlebrush), *Casuarina obesa* (swamp sheoak), *Eleocharis acuta* (brown eleocharis), *Eucalyptus rudis* (flooded gum), *Eucalyptus wandoo* (wandoo), *Hakea preissii* (needle tree), *Melaleuca lateritia* (robin redbreast bush), *Melaleuca uncinata* (broom bush) and *Melaleuca viminea* (mohan).



Habit

Photography: G. Keighery

Cranbrook pea

Gastrolobium lehmannii

Family: Papilionaceae

Status: **Vulnerable**

Habit

An erect shrub to 1.5m high and up to 2m wide, with woolly young stems. Not toxic to livestock.

Flower

The typical pea flower is 9mm high by 8mm wide in clusters of six to 10 flowers arising from the leaf axils. The flowers are mostly yellow with reddish-purple at the base of the petals with a deep red keel petal. Flowering is from September to October.

Fruit

Small, beige, oblong pods with a point at one end and covered in silky hairs. Each pod contains one or two small, black, slightly flattened kidney-shaped seeds.

Leaves

Leaves are green to dark green and oblong with a rounded apex and a short blunt point at the tip. They are 1.5 to 5cm long and up to 2cm wide. Leaves are arranged opposite each other in whorls of three along the branches. Leaf margins are slightly rolled under and the undersides of the leaves are covered in dense, short, white woolly hairs.

Distribution and habitat

Cranbrook pea grows north-west of Cranbrook, west of Tunney, south-west of Kojonup and west to south-west of Tambellup in red-brown loamy gravel with ironstone on gentle slopes, or lateritic ridges among open low woodland and mallee woodlands with low scattered shrubs.

IBRA region

Southern Jarrah Forest 2, Avon Wheatbelt 2.

Associated species

Allocasuarina humilis (dwarf sheoak), *Banksia grandis* (bull banksia), *Banksia sessilis* (parrot bush, formerly *Dryandra sessilis*), *Bossiaea ornata* (broad leaved brown pea), *Dianella revoluta* (blueberry lilly), *Eucalyptus marginata* (jarrah), *Eucalyptus falcata* (silver mallet), *Eucalyptus wandoo* (wandoo) and *Grevillea pulchella* (beautiful grevillea).



Flowers and leaves



Flowers



Habit



Habitat



Suckering plant



Leaves

Photography: B. Loudon, E. Shedley

Branched hemigenia

Hemigenia ramosissima

Family: Lamiaceae

Status: **Critically Endangered**

Habit

An open loosely spreading shrub to 60cm high by 70cm wide, with many delicate branches.

Flower

The small, slightly flattened tubular flowers, sized 1cm long by 0.6cm wide, are mauve to purple with a white throat speckled with small mauve dots. Each flower has two small upper lobes and three large lower lobes. Flowers have individual stalks 1cm long, arising from the leaf axils. There may be up to three flowers per whorl of leaves, one for each leaf axis. Flowering is from late October to December.

Fruit

Small reddish-brown cup-like fruits about 4mm wide by 3mm high, containing several tiny, round, brown seeds.

Leaves

The slender leaves are slightly glossy, flat and oblong with a soft delicate appearance. They grow up to 1cm long by 1mm wide, tapering to a blunt tip and are almost stalkless. The leaves occur in whorls of three, regularly spaced along branches.

Distribution and habitat

Only known to occur at one location south of Arthur River on white-grey sandy clay in open mallee and tall shrubs, adjacent to low open heath in winter-wet areas. It has also been grown in several translocated populations.

IBRA region

Southern Jarrah Forest 2 and Northern Jarrah Forest 1.

Associated species

Borya sp. (pincushions), *Eucalyptus spathulata* (swamp mallee), *Gahnia* sp. (a sedge), *Hakea lissocarpha* (honey bush), *Meeboldina cana* (a rush), *Melaleuca lateriflora* (gorada), *Melaleuca spathulata*, *Melaleuca atroviridis/scalena* (broombush), *Microcorys* sp.



Flowers



Habit



Seed capsules



Habitat

Photography: B. Loudon

Velvet jacksonia

Jacksonia velveta

Family: Papilionaceae

Status: **Endangered**

Habit

An open upright and sometimes sprawling shrub to 2m high by 1m wide.

Flower

Single bright yellow pea flowers with an orange marking in the throat, sized 1.5cm high by 1cm wide, arise from the points of the leaves. Five coarse, velvety, bright yellow sepals form a pod-like structure enclosing the flower bud. The 'pod' opens to reveal the flower and closes up again when flowering has finished. The sepals are densely covered in short, thick white hairs, giving them the velvety appearance. Flowering is in December.

Fruit

A small, plump beige pod, up to 1cm long and covered in short hairs. Each pod is enclosed by the sepals and contains one to two black, slightly flattened, kidney-shaped seeds.

Leaves

Pale green to dull grey-green flattened stems (phylloclares) with prickly toothed margins, a thick rigid surface, flat stalks and veins like a leaf. They are covered in fine, short, white hairs giving a silvery appearance.

Distribution and habitat

Velvet jacksonia grows west of Woodanilling and east of Dardadine in red-brown loamy gravel, gravelly grey sand on gentle slopes or ridges in open woodlands and tall scrub. It also grows near Collie in the Muja area although the sepals of these plants are peachy-pink rather than yellow.

IBRA region

Avon Wheatbelt 2, Northern Jarrah Forest 1.

Associated species

Adenanthos sp., *Allocasuarina huegeliana* (rock sheoak), *Banksia ilicifolia* (holly-leaved banksia), *Banksia nobilis* (golden dryandra, formerly *Dryandra nobilis*), *Banksia squarrosa* (pinge, formerly *Dryandra squarros*), *Eucalyptus marginata* (jarrah) and *Gastrolobium spinosum* (prickly poison).



Dried bracts



Habitat



Habit



Flowers



Flowers - pink form

Round-leaved lasiopetalum

Lasiopetalum rotundifolium

Family: Sterculiaceae

Status: **Endangered**

Habit

An erect multi-stemmed shrub from 0.4m to 0.8m high with hairs on the young branches.

Flower

About eight flowers are arranged in a compact cluster on a straight stem 2 to 4cm long. The five sepals of the calyx are pale mauve to pink, 6mm long and covered with felty hairs on the outside. There are no petals. The five anthers are maroon and the style has large, white star-shaped hairs.

Fruit

The capsule is surrounded by the enlarged calyx.

Leaves

The heart-shaped dark green leaves are deeply wrinkled and hairless on the upper surface, but have dense grey hairs on the lower surface. The leaf blade is 7 to 35mm long by 9 to 30mm wide, with lobes around the stalk giving it a heart shape.

Distribution and habitat

Round-leaved lasiopetalum grows west of Brookton and Pingelly in open woodland with shrubland or heath on the slopes of hills in brown, gravelly, clayey sand and south of Narrogin on a laterite ridge in red-brown gravelly sandy loam. It is also known from the New Norcia area.

IBRA region

Avon Wheatbelt 2.

Associated species

Acacia pulchella, (prickly moses), *Astroloma epacridis*, *Beaufortia incana*, *Banksia armata* (prickly dryandra, formerly *Dryandra armata*), *Banksia nivea* (couch honeypot, formerly *Dryandra nivea*), *Banksia sessilis* (parrot bush, formerly *Dryandra sessilis*), *Bossiaea eriocarpa* (common brown pea), *Callitris roei* (Roe's cypress pine), *Conostylis setigera* (bristly cottonhead), *Eucalyptus accendens* (powderbark wandoo), *Eucalyptus marginata* (jarrah), *Eucalyptus wandoo* (wandoo), *Hakea lissocarpha* (honey bush), *Lepidosperma tenue*, *Leptospermum erubescens* (roadside teatree) and *Petrophile divaricata*.



Flower



Flowers



Habitat



Habit

South Stirling morning iris

Orthrosanthus muelleri

Family: Iridaceae

Status: **Vulnerable**

Habit

A small tufted plant, 20 to 30cm high and forming small clumps.

Flower

Pale blue to mauve delicate flowers with six, large, narrow oval petals and several yellow stamens in the centre. Each flower stalk has two to four flower heads at different levels from which four to six flowers emerge, opening one at a time and only lasting for a short period before shrivelling up. Flowering is from September to October.

Fruit

A capsule, 0.8 to 1cm long with a pointed end, consisting of three cells that split open when ripe to release small rounded seeds.

Leaves

Long flat and narrow leaves with numerous parallel veins along their length and dense, short, white hairs along the margins. The leaves are erect and sometimes curving, 10 to 20cm long by 1.2 to 2.5mm wide, and slightly shorter than the flower stems.

Distribution and habitat

South Stirling morning iris grows south of Borden, north-west of Gnowangerup and north-east of Cranbrook in yellow-brown gravelly sandy clay or brown to grey gravelly loam, in open woodlands or mallee heath. It also grows near Tenterden, Kendenup and south-east of Ongerup.

IBRA region

Western Mallee 2, Avon Wheatbelt 2.

Associated species

Acacia lasiocarpa (panjang), *Astroloma epacridis*, *Eucalyptus annulata* (open-fruited mallee), *Eucalyptus occidentalis* (flat-topped yate), *Eucalyptus wandoo* (wandoo), *Gastrolobium spinosum* (prickly poison), *Melaleuca hamata* (broombush) and *Neurachne alopecuroidea* (foxtail mulga grass).



Flowers



Habit



Leaves



Flowering plant

Narrogin pea

Pultenaea pauciflora

Family: Papilionaceae

Status: **Vulnerable**

Habit

A dense rounded shrub to 1m high by 1.5m wide with abundant branches which are grey at first, becoming brown with age. The younger branches have fine whitish-grey hairs.

Flower

Large yellow pea flowers with a greenish keel petal and faint reddish flush outside the standard petal. Flowers are held singly or in pairs in leaf axils at the ends of young branches. Each flower has a densely hairy calyx with five lobes as long as the calyx tube, with two red-brown bracts at the base of the calyx. The standard petal is about 1cm in diameter, the wing petals are 1cm long by 3.5mm wide and the keel petal is 1cm long by 4.5mm wide. Flowering is from October to November.

Fruit

The pods are egg-shaped, about 9mm long by 4.5mm wide, and covered with long hairs.

Leaves

The narrow green leaves are flat or slightly thickened, 1.5 to 1.7cm long by 1.7mm wide, and end in a sharp point. Younger leaves are greyish-green with spreading white hairs.

Distribution and habitat

Narrogin pea grows near Narrogin and north-west of Wandering in white or yellow-brown sand over laterite in open woodland.

IBRA region

Avon Wheatbelt 2, Northern Jarrah Forest 1.

Associated species

Allocasuarina humilis (dwarf sheoak), *Banksia armata* (prickly dryandra, formerly *Dryandra armata*), *Banksia grandis* (bull banksia), *Banksia sessilis* (parrot bush, formerly *Dryandra sessilis*), *Bossiaea ornata* (broad leaved brown pea), *Corymbia calophylla* (marri), *Eucalyptus accedens* (powderbark wandoo), *Eucalyptus astringens* (brown mallet), *Eucalyptus marginata* (jarrah), *Eucalyptus wandoo* (wandoo), *Hakea prostrata* (harsh hakea), *Hibbertia commutata*, *Hovea chorizemifolia* (holly-leaved hovea), *Isopogon formosus* (rose coneflower) and *Melaleuca tuberculata*.



Flowers



Habit



Habitat



Habit

Trigwell's rulingia

Rulingia sp. Trigwell Bridge (R.Smith s.n. 20.6.89)

Family: Sterculiaceae

Status: **Critically Endangered**

Habit

A small spreading shrub that can grow up to 1.5m high by 1.5m wide, with dense star-like hairs on leaves and fruit.

Flower

Small heads of six to eight creamy-white flowers. The white petals have a narrow tongue-like upper lobe with a broader base around the stamen. The outer sepals have white petal-like lobes and a green base. Flowering is from August to October.

Fruit

The developing ovary is green and covered in bright pinkish-red star-like hairs, while the mature fruit is covered with brown spiky bristles over softer pink to white star-like hairs. The mature fruit is a capsule expanding to more than 1cm in diameter with five cells, each with one or two black glossy seeds.

Leaves

Leaves are soft, narrowly oval-shaped and up to 3cm long by 1cm wide with irregular margins. The upper surface is mid-green and smooth while the lower surface is paler grey-green with dense white star-like hairs.

Distribution and habitat

Only one plant of Trigwell's rulingia remains from the original population north-east of Boyup Brook and this plant is growing in deep litter in rock fissures on laterite caprock in open low woodland. It is readily propagated and is growing in four translocated populations nearby, and is in cultivation in Kings Park in deep grey sand over limestone where it grows to 2m high with limited summer irrigation.

IBRA region

Southern Jarrah Forest 2.

Associated species

Acacia pulchella (prickly moses), *Banksia grandis* (bull banksia), *Billardiera heterophylla* (Australian bluebells), *Bossiaea ornata* (broad-leaved brown pea), *Corymbia calophylla* (marri), *Eucalyptus marginata* (jarrah), *Kennedia coccinea* (coal vine), *Phyllanthus calycinus* (false boronia), *Pimelea rosea* (rose banjine) and *Xanthorrhoea preissii* (grasstree).



Flower



Flowers and immature fruit



Fruit



Habitat

Star sun orchid

Thelymitra stellata

Family: Orchidaceae

Status: **Endangered**

Habit

A tuberous perennial herb, 15 to 25cm high, growing as scattered individuals or in small clumps.

Flower

Two to 12 or more flowers per plant, clustered on a single flower stalk up to 25cm high. Each flower measures 2 to 5cm across and has six even-sized golden-yellow sepals and petals covered with tan-brown blotches and a central bright orange column with a yellow fringed hood. It has the scent of oranges. Flowering is from October to November.

Fruit

The capsule splits when mature releasing hundreds to thousands of very fine pepper-like seeds

Leaves

A smooth, light green, lily-like leaf, sized 6 to 15cm long and 2 to 4cm wide, wraps around the base of the stem. The leaf sometimes dries out before the flowers appear.

Distribution and habitat

Star sun orchid is found south-west of Arthur River in gravelly loam among low scrub in open woodland, with a disjunct population west of Corrigin. Scattered populations also occur between Eneabba, in low heath on small rocky hilltops, and Pinjarra among shrubs on gravelly loams. A collection made in 1931 "between Kukerin and Lake Grace" from the "side of an ironstone-gravel hill" has not been relocated to date but may be the same as a recently found undescribed species located near Ongerup.

IBRA region

Southern Jarrah Forest 2, Northern Jarrah Forest 1, Avon Wheatbelt 2, Western Mallee 2.

Associated species

Allocasuarina humilis (dwarf sheoak), *Banksia fraseri* (formerly *Dryandra fraseri*), *Eucalyptus marginata* (jarrah), *Eucalyptus wandoo* (wandoo), *Hakea lissocarpha* (honey bush) and *Hakea trifurcata* (two-leaf hakea).



Flower



Flower



Habit

Hill thomasia

Thomasia montana

Family: Sterculiaceae

Status: **Vulnerable**

Habit

A small, open, spreading shrub 0.5 to 1m high by 1m wide with densely hairy stems.

Flower

Pink, mauve or purple hairy flowers at the ends of small branches, facing downwards with three to five flowers per flower head. The petals are very small, 1 to 2mm long, dark red and hairy, while the outer calyx is about 1 to 1.3cm across with five triangular petal-like lobes with thin wavy margins. The dark maroon to purple stamens are fused at the base into a cup surrounding the ovary. Flowering is from September to November.

Fruit

A capsule with four cells that releases numerous small brown seeds when dry.

Leaves

Green leaves that are narrow oval or oblong, usually less than 2.5cm long by 0.8 to 1.0cm wide, with a finely toothed margin and dense star-shaped hairs.

Distribution and habitat

Hill thomasia grows south-west to south-east of Brookton and also north of Beverley in grey, brown or red-brown gravelly sandy loam on slopes with rocky granite outcrops or on lateritic hills in open low woodland.

IBRA region

Avon Wheatbelt 2, Northern Jarrah Forest 1.

Associated species

Acacia lasiocalyx (silver wattle), *Acacia pulchella* (prickly moses), *Allocasuarina huegeliana* (rock sheoak), *Astroloma epacridis*, *Banksia nobilis* (golden dryandra, formerly *Dryandra nobilis*), *Bossiaea eriocarpa* (common brown pea), *Conostylis setigera* (bristly cottonhead), *Eucalyptus accedens* (powderbark wandoo), *Eucalyptus wandoo* (wandoo), *Gastrolobium parviflorum* (box poison), *Hakea lissocarpha* (honey bush), *Hakea petiolaris* (sea urchin hakea), *Petrophile divaricata* and *Leptospermum erubescens* (roadside teatree).



Flower



Habitat

Granite pink

Tribonanthes purpurea

Family: Haemodoraceae

Status: **Vulnerable**

Habit

A dwarf tuberous and almost hairless perennial herb, 3 to 4cm high, occurring singly or clumped together.

Flower

Each plant has a single tubular rose-pink flower, 1.5cm long by 7 to 8mm wide, with six small erect lobes fringed with minute hairs. The flowers are enclosed at the base by two broad, overlapping, leaf-like pinkish bracts. Flowering is in August.

Fruit

A capsule with several cells containing many angular brown seeds.

Leaves

Two erect linear leaves per plant which are dark green and glossy, up to 4cm long by 3mm wide, arising out of the ground.

Distribution and habitat

Granite pink grows north-east and south-east of Darkan and south of Arthur River in seasonally damp or wet loam in open eucalypt woodland with low shrubland, or in coarse grey sandy clay in open melaleuca shrubland. It also grows in the Lake Grace-Newdegate-Lake King area in damp, mossy herbfields in shallow soil on granite rocks or in wet seepage areas at the base of granite outcrops. It has also been found on the Kalgan River near Albany and near Mundaring.

IBRA region

Western Mallee 2, Southern Jarrah Forest 2, Northern Jarrah Forest 1.

Associated species

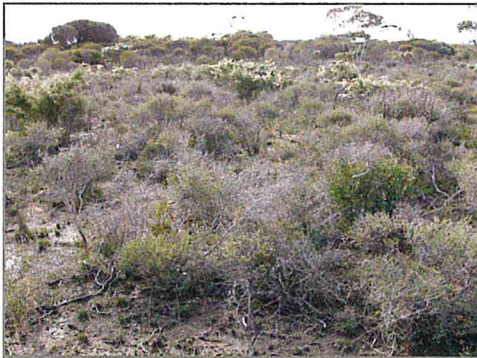
Acacia lasiocalyx (silver wattle), *Allocasuarina huegeliana* (rock sheoak), *Borya* spp. (pincushions), *Gastrolobium calycinum* (York road poison), *Hakea lissocarpha* (honey bush), *Melaleuca elliptica* (granite bottlebrush), *Drosera macrantha* (bridal rainbow), *Eucalyptus wandoo* (wandoo), *Melaleuca atroviridis/scalena* (broombush), *Melaleuca uncinata* (broombush), *Melaleuca viminea* (mohan), *Thryptomene australis* (hook-leaf thryptomene), *Tribonanthes longipetala*, *Verticordia multiflora* and *Wurmbea* sp.



Flower



Habitat



Habitat



Flowers

Stirling Range featherflower

Verticordia carinata

Family: Myrtaceae

Status: **Vulnerable**

Habit

An open slender erect shrub with one basal stem, growing to about 1m high and sometimes up to 2m, with arching branches.

Flower

The magenta-pink flowers are held horizontally on longish stalks 5 to 7.5mm in loose groups at the ends of branches with one flower per leaf axil. The five petals, 10 stamens and the style have an irregular shape, like a pea flower. The upper three petals are widely spreading while the lower two petals are erect and form a keel. The style is curved downwards between the lower petals, and is then upturned. The rounded petals are 3 to 4mm long by 1.8 to 2.6mm wide, while the sepals are 3.5 to 4mm long and fringed. The floral tube below the sepals is 2mm long, ribbed with rounded appendages. Flowering is from mid January to May.

Fruit

The fruit is a nut with six ovules enclosed within the dry faded flower.

Leaves

The narrow concave leaves are 3 to 4.5mm long and fringed with fine hairs, are well spaced and held on the upper branches.

Distribution and habitat

Stirling Range featherflower was thought to be endemic to the Stirling Range in two populations in open woodland on grey sand over sandstone. More recently another disjunct population was found north-east of Boyup Brook on private property in open low woodland and open shrubland in grey sandy depressions below gravelly ridges.

IBRA region

Southern Jarrah Forest 2.

Associated species

Acacia stenoptera (narrow winged wattle), *Banksia attenuata* (slender banksia), *Banksia grandis* (bull banksia), *Banksia sessilis* (parrot bush, formerly *Dryandra sessilis*), *Calytrix flavescens* (summer starflower), *Corymbia calophylla* (marri), *Eucalyptus marginata* (jarrah), *Hibbertia glomerata*, *Kunzea ericifolia* (spearwood) and *Xanthorrhoea preissii* (grasstree).



Habit



Flowers



Habitat

Long-stalked featherflower

Verticordia densiflora var. *pedunculata*

Family: Myrtaceae

Status: **Endangered**

Habit

An erect to spreading open shrub 0.3 to 0.6m high by 0.6m wide with many branches.

Flower

Flowers are pale to dark pink fading to white with age, creating a slightly variegated appearance. They are clumped together in compact rounded heads at the ends of branches. Each flower has fringed petals up to 2mm long and fringed sepals up to 4mm long, each divided into three to five lobes, on a flower stalk 5 to 9mm long. The size of the flower and the length of the flower stalk are greater than other varieties of compacted featherflower (*Verticordia densiflora*). The floral tube is 1.5 to 2mm long, not ribbed and with a basal tuft of long hairs. The flower has a honey scent. Flowering is from December to February.

Fruit

A nut with six ovules remaining enclosed within the dry faded flower.

Leaves

The crowded greyish-green leaves are thickened and

concave, 3 to 10mm long by 1 to 2.5mm wide, with rounded tips. Leaves are narrow and needle-like on lower branches and shorter and broader on floral branches.

Distribution and habitat

Long-stalked featherflower is found south and east of Busselton in open low shrubland or heathland in or near open woodland, growing in grey to white sand, grey to black sandy loam or brown sandy clay loam, often in low-lying winter-wet areas. Another population which has shorter flower stalks (up to 5mm long), found east of Manjimup, may be intermediate between this variety and Vasse featherflower (*Verticordia plumosa* var. *vassensis*).

IBRA region

Southern Jarrah Forest 2, Swan Coastal Plain.

Associated species

Acacia extensa (wiry wattle), *Banksia attenuata* (slender banksia), *Corymbia calophylla* (marri), *Eremaea pauciflora*, *Eucalyptus decipiens* (redheart), *Eucalyptus marginata* (jarrah), *Eucalyptus rudis* (flooded gum), *Hibbertia hypericoides* (yellow buttercups), *Hypocalymma angustifolium* (white myrtle), *Melaleuca preissiana* (moonah), *Melaleuca viminea* (mohan), *Nuytsia floribunda* (Christmas tree), *Stirlingia latifolia* (blueboy) and *Xanthorrhoea preissii* (grasstree).



Flowers

Shy featherflower

Verticordia fimbrialepis subsp. *fimbrialepis*

Family: Myrtaceae

Status: **Critically Endangered**

Habit

An open erect shrub 30 to 70cm high by 20 to 70cm wide, with one basal stem and slender orange-brown branches.

Flower

Pale mauve-pink delicate feathery flowers clustered at the ends of branches, on flower stalks 2 to 4mm long. Each flower consists of five upright, fringed petals 2.5 to 3mm long by 1.3 to 1.5mm wide, enclosing the stamens and feathery staminodes, surrounded by five soft, feathery sepals 3 to 4mm long, each with five to seven narrow fringed lobes. The staminodes have a distinctive long hair at the apex. The floral tube is 1.4 to 1.6mm long with 10 ribs without hairs or appendages. Flowering is from November to December.

Fruit

A nut remains enclosed within the dry faded flower.

Leaves

Linear leaves are 2 to 5mm long by 1mm wide, tapering to a slight point. They are dark green and glossy and are clustered along the branches.

Distribution and habitat

Shy featherflower grows near Brookton and Narrogin and between Woodanilling, Kojonup and Arthur River in grey sandy loam over gravel in heath or open woodland with low scrub. It also grows near Westdale.

IBRA region

Northern and Southern Jarrah Forest 2, Avon Wheatbelt 2.

Associated species

Allocasuarina huegeliana (rock sheoak), *Allocasuarina humilis* (dwarf sheoak), *Banksia sphaerocarpa* var. *caesia*, *Calothamnus quadrifidus* (one-sided bottlebrush), *Ehrharta calycina* (perennial veldtgrass), *Eucalyptus wandoo* (wandoo), *Gastrolobium spinosum* (prickly poison), *Hakea trifurcata* (two-leaf hakea), *Kunzea* spp., *Leptospermum erubescens* (roadside teatree), *Melaleuca pentagona*, sedges, *Verticordia densiflora* (compacted featherflower), *Verticordia multiflora* and *Verticordia pennigera*.



Flowers



Habit



Habitat

Glossary

Anther

The portion of the male flower part which bears pollen.

Axil

The area formed by the junction of structures i.e. of a leaf stalk and a branch.

Bipinnate

A compound leaf divided into sets of smaller leaves (leaflets) that make up the whole leaf.

Bract

The leaf-like structure at the base of a flower.

Calli

Glandular appendages.

Calyx

The outer floral whorl or collective term for all of the sepals of a flower.

Capsule

A dry fruit that is usually rounded at one end and pointed at the other, releasing its many seeds through the pointy end.

Follicle

A dry fruit splitting along one side to release its seed/s once mature.

Herb

A non-woody plant that dies back to ground level at the end of its growing season.

Keel

Two petals fused to form a narrow, vertically flattened flower part that protrudes out in front of the broad, vertical petals of a pea flower.

Labellum

A modified petal forming the lip or tongue of an orchid.

Longitudinal

Running the length of something.

Nerves

The main or prominent veins of a plant structure.

Nut

A hard, dry fruit that does not open immediately when mature to release its seed.

**Perennial**

A plant that lives from year to year and survives for three years or more without dying off or, as for perennial herbs, may die back to underground parts that remain alive through to the following year.

Phylloclade

A modified stem with the shape and function of leaves.

Phyllode

An expanded modified leaf stalk, lacking a true leaf blade, with the shape and function of leaves (e.g. for wattles).

Prostrate

Lying flat on the ground.

Sepal

A modified leaf segment of the outer floral whorl; or modified petal (e.g. for orchids).

Sheath

A structure that partly surrounds and encloses another part, particularly at that part's base.

Spike

An arrangement of many stalkless flowers along the end of a stem, maturing from the bottom up.

Stamen

The male part of a flower, consisting of anthers and a filament.

Staminode

A modified stamen which is sterile and produces no pollen.

Stigma

The very top structure of the female reproductive part of a flower, which collects the pollen.

Style

The long, narrow section of the female reproductive part of a flower that connects the stigma to the ovary.

Tuberous

Having a swollen underground, fleshy root structure for food storage that resembles a tuber.

Veins

Vascular bundles that are visible on the surface, which carry nutrients around the plant.

Whorl

A circular arrangement of three or more leaves that arise from a common point.

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