

Orchids of the Banksia Woodland

- Bushland management for orchid conservation

Dr Penny Hollick

Shire of Serpentine Jarrahdale

Environmental & Biodiversity Officer

© 2020



Common orchids of Banksia Woodlands



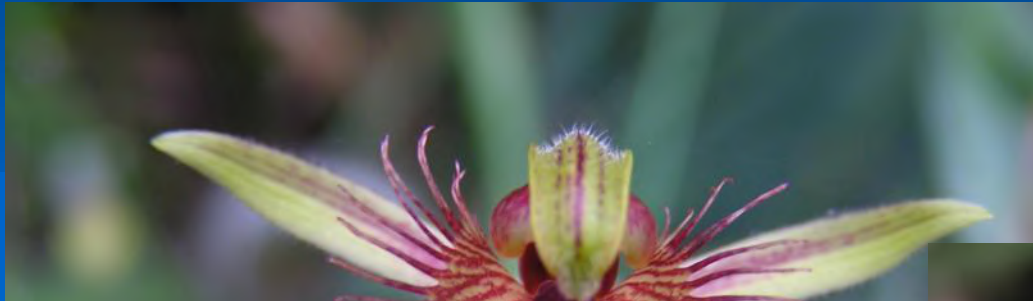
Carousel spider orchid
(*Caladenia arenicola*)



Grand spider orchid
(*Caladenia huegelii*)

Banded greenhood orchid
(*Pterostylis vittata*)

Common orchids of Banksia Woodlands



Pink fairy orchid
(*Caladenia latifolia*)



Dancing spider orchid
(*Caladenia discoidea*)



Rabbit orchid
(*Leptoceras menziesii*)

Common orchids of Banksia Woodlands



Cowslip
orchid
(*Caladenia
flava*)

Scented sun
orchid
(*Thelymitra
macrophylla*)



Common orchids of Banksia Woodlands

Leopard orchid (*Thelymitra benthamiana*)



Pink enamel orchid (*Elythranthera emarginata*)



Common orchids of Banksia Woodlands

Pansy orchid
(*Diuris magnifica*)

Blue china orchid (*Cyanicula gemmata*)



Common orchids of Banksia Woodlands

White spider orchid (*Caladenia longicauda*)



Queen orchid (*Thelymitra crinita*)



Purple enamel orchid (*Elythranthera brunonis*)



Common orchids of Banksia Woodlands

Flying duck orchid (*Paracaleana nigrita*)



Hare orchid (*Leporella fimbriata*)



Common orchids of Banksia Woodlands

Jug orchid (*Pterostylis recurva*)



Bird orchid (*Pterostylis barbata*)



Dwarf snail orchid (*Pterostylis nana*)



Common orchids of Banksia Woodlands

Silky blue orchid
(*Cyanicula sericea*)



Rattlebeaks
(*Lyperanthus serratus*)



Leaping spider orchid (*Caladenia macrostylis*)



Winter donkey orchid
(*Diuris brumalis*)



Orchids as ecological indicators

- Presence of orchids indicates good bushland health
- Orchids are one of the first groups to disappear from degraded bushland
- Orchids indicate good soil health as well as bushland health

Cowslip orchid (*Caladenia flava*)



Orchids and mycorrhizal fungi

Dwarf snail orchid (*Pterostylis nana*) on macrozamia



- Orchids require mycorrhizal fungi
- Each type of orchid has a different fungus
- Fungi act as root systems for adult orchids
- Seeds will only germinate with the help of the right fungus
- Fungi can persist in absence of orchids



White spider orchid
(*Caladenia longicauda*)

Orchids and vegetation

Autumn leek orchid
(*Prasophyllum parvifolium*)



- Orchids grow best in healthy vegetation
- Vegetation that is too thick can prevent orchids flowering
- Vegetation that is too thin can expose orchids to grazing
- Vegetation management must consider health of fungi as well as orchids

Orchids and fire

- Most orchids are stimulated to flower by fire

Red beaks (*Pyrorchis nigricans*)



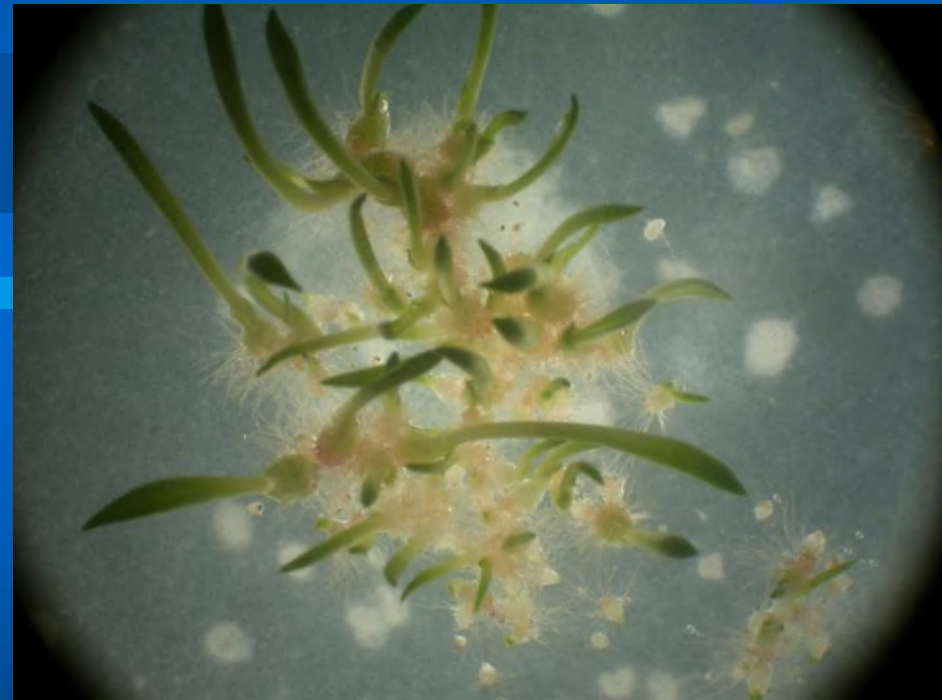
- Some orchids ONLY flower after fire
- Fires that are too frequent or at the wrong time of year can kill orchids

Tall leek orchid (*Prasophyllum elatum*)



Orchid seed germination

- Orchid seeds are very small and contain no endosperm
- Orchid seeds only germinate with the help of the right mycorrhizal fungus
- Orchid seeds must be infected during their first winter
- Orchid seedlings must form a large enough tuber before their first summer to survive the drought



Orchid pollination

Warty hammer orchid
(*Drakaea livida*)



Dragon orchid
(*Caladenia
barbarossa*)

- Orchids are nearly all insect pollinated
- Many different mechanisms – e.g. some provide food while others mimic food-bearing plants
- Most fascinating are those pollinated by sexual deception
- Orchids can be hand pollinated to ensure seed set

Orchids and flowering

- Most orchids do not flower every year
- Flowering is very energy intensive, and producing seed even more so
- To flower, an orchid requires a large tuber with a lot of food reserves
- When flowering, an orchid produces a much smaller replacement tuber
- It usually takes an orchid one to several years to build up its tuber to be big enough to flower again

Slipper orchid (*Cryptostylis ovata*)



Orchids and weed control

- Orchids are monocots, so herbicides that kill grasses will mostly kill orchids too
- If there are a lot of orchids around, it is best to carry out weed control when the orchids are not above ground
- Some orchids are very sensitive to herbicide, and even a little bit of drift can kill them
- Herbicide is transferred to the tuber and kills it as well as the above-ground parts

Pink fairy orchid (*Caladenia latifolia*)



Orchids and grazing

- Orchids are very susceptible to grazing
- Kangaroos love orchids, particularly the seed pods
- Can also have problems with rabbits, snails, caterpillars, etc.
- Hand-pollinated orchids should be protected by fencing or cages to ensure the seed pods are not eaten



Winter donkey orchid (*Diuris brumalis*)

Key messages

- Orchids are the canary in the coal mine
- Orchids need mycorrhizal fungi
- Tiny orchid seeds only germinate with the help of the right fungus
- Fire and weed management are important to orchid health
- Orchids can't flower every year
- Orchids have some unusual pollination mechanisms
- Orchids are very susceptible to grazing

Pansy orchid (*Diuris magnifica*)

