

ORCHIDS OF BALUK WILLAM NATURE CONSERVATION RESERVE

by
Andrew Dilley

The small 67.5Ha (167 Acres) Baluk Willam Nature Conservation Reserve is renowned for its native orchids. It is the most orchid rich site close to Melbourne and is one of the most orchid dense sites in the country, with over 70 species being recorded. Most of the orchids are reasonably common and a few are vulnerable or endangered.

Orchid flowers can be found in this reserve on any day of the year, something that is unusual among orchid sites.

Orchids are a good indicator of the health of an area. When the balance is upset the orchids are the first to suffer. Orchids are very specialised plants and have evolved over a vast period of time adapting slowly to their surroundings. If their surroundings change quickly they cannot adapt to their new environment and will die out.

ORCHID CHARACTERISTICS

All orchid flowers have 3 sepals (outer petals) and 3 petals. In the vast majority of orchids one of the petals is highly modified and is called the labellum. The exception is with our sun orchids where the labellum looks very similar to the other petals. In the centre is a column that holds the pollen.

There are several types of orchids

- Epiphytes – grow on trees
- Lithophytes – grow on rocks
- Saprophytes – grow in association with the roots of other plants
- Terrestrials – grow in the ground

In this reserve they are mostly terrestrials with a couple of saprophytes.

Most orchids are deceivers. They trick insects into pollinating them visually by making their labellum look like a female insect and/or by producing pheromones that will attract the male insects. Very few Australian orchids provide the insects with a reward, so you tend to get a lot of sexually frustrated insects around orchids. Native wasps pollinate many orchids and most have adapted to attract one particular species of pollinator.

As the orchids have adapted to entice very specialised pollinators, if the associated vegetation dies that the pollinator relies upon, the pollinator may also die or move out of the area and the orchids will eventually die out. So the loss of orchids from an area indicates a decline in health of the local environment.

Most orchid leaves are very distinctive but vary a great deal from genus to genus. Most genus of terrestrial orchids are represented in the reserve.

Most terrestrial orchids are deciduous with many of them going dormant over summer, completely disappearing from the surface. There is one example of an evergreen terrestrial orchid genus here and that is the Tongue orchids.

All terrestrial orchids have tubers under the ground, mostly in the shape of a small potato but sometimes like strings of spaghetti.

The tubers only survive for one season, storing energy for the dormant months and providing the energy for the orchid during the growing months. During the growing period they will produce one or more new tubers to replace to one that will rot away when spent. Orchids that produce more than one tuber are said to tuber multiply and form colonies.

All terrestrial orchids live in association with mycorrhizal fungi. The fungi inhabits the orchid tuber and the collar at ground level and produces sugars that feed the orchid. Orchids have adapted to live with one or up to three different mycorrhizal fungi, many orchids will only grow in association with one specific fungi to that orchid. That is one of the reasons why this reserve is so unique is that it has such a wide variety of different mycorrhizal fungi present in the soil. We are not sure what benefit the fungi gets out of this parasitic association but no doubt it is mutually beneficial.

Saprophytes grow in association with particular tree roots. They get all their energy from the tree roots and mycorrhizal fungi. They do not produce leaves but only put up a flower stem to produce seed pods.

Many terrestrial orchids are very difficult to cultivate because of the fact that they must have the correct mycorrhizal fungi present in the soil. Saprophytes are virtually impossible to cultivate as they require the tree association as well. Many orchids, especially those that do not tuber multiply, will die if they are dug up and transferred to a pot. All orchids are protected in the wild and must not be removed or picked.

WHERE TO FIND ORCHIDS

- The vegetation must be in a natural state. If it has been heavily grazed or fertilized, orchids will virtually never grow again. They have adapted to the poor soil nutrition of Australia and cannot cope with enriched soils.
- Many orchids are stimulated by fire and some will only flower after a bushfire. This area was magnificent after the Ash Wednesday bushfires with orchids being seen that have not been seen since and are now lying in wait underground for the next bushfire.
- Orchids seem to be stimulated by disturbance so you will tend to see them where digging has occurred at various times. Echidnas are great orchid disturbers.
- Many orchids also like a mixture of light and shade so they quite often grow along the edges of tracks.
- My key indicators are sundews, fungi and ants. Find all of these together and there will be a good chance of finding orchids as well.

WARNINGS

There are a lot of orchids and native plants in this reserve so please be careful where you walk, especially until you get your orchid eye in and know what you are looking for.

Many orchids grow on the banks and the banks can be very fragile. Please do not climb up or down the banks unless there is a track. Please do not put your feet on the banks to steady yourself for photos.

Please feel free to take photos, but quite often you have to get down on the ground to do this, so please look very carefully at where you are lying so you don't damage other vegetation.

Keep to the tracks wherever possible although we will be leaving the track at one section of the walk.

Do not touch the orchids. Many orchids have a trigger mechanism that traps the pollinator for a while. If you touch the orchid there is a high possibility that it will trigger the labellum and you won't be very popular with those behind you waiting to see or photograph the orchid. Once triggered they usually take about 20 minutes to reset themselves.

SAFETY

Cars. The road is narrow and some orchids are on the road embankments.

Lookout for uneven ground and tree branches.

Snakes. They are rarely seen but they are here.

RESOURCES

Wild Orchids of Victoria, Australia – Jeffrey Jeanes and Gary Backhouse (Aquatic Photographics, PO Box 124, Seaford, Vic. 3198)

The Orchids of Victoria – Gary Backhouse and Jeffrey Jeanes (Melbourne University Press) [Out of print]

A Complete Guide to Native Orchids of Australia Including the Island Territories – David L. Jones (New Holland Publishers (Australia) Pty Ltd)

Friends of Baluk Willam web site: <http://home.vicnet.net.au/~fobw/>

Australasian Native Orchid Society of Victoria <http://www.anosvic.org.au/>

BALUK WILLAM

BACKGROUND

67.5Ha (167 Acres)

1899 - 12.5Ha was gazetted as a watering site for stock.

Revoked in 1981 known as Ash Reserve.

1959 to 1983 campsite for the Girl Guides. Buildings destroyed in the 1983 bushfires.

55Ha owned by Bullens circus family.

Adobe house built at the turn of the century dismantled in the 1960's.

1977 - Land purchased as a reserve.

Named Baluk Willam Flora Reserve by the Wurundjeri people. 'Meeting of the clans'.

Reclassified as Baluk Willam Nature Conservation Reserve.

Managed by Parks Victoria with the assistance of the Friends of Baluk Willam.

1983 on Ash Wednesday the reserve was completely burnt out.

Controlled burns are carried out periodically.

In excellent condition being a good example of natural remnant vegetation of the area.

PROBLEMS

- Weeds – mostly confined to the road reserve and some of the areas that abut private property.
- Feral animals – Deer, Foxes, Rabbits and domestic cats allowed to roam free
- Phytophthora (Cinnamon Fungus).
- Dumping of rubbish.
- Damage caused by over use