



## Native Orchid Society of South Australia Inc.

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### CULTURE OF FUNGUS DEPENDENT (FD) TERRESTRIAL ORCHIDS

**FLAGBEARER SPECIES:** *Caladenia tentaculata* (synonym *Arachnorchis tentaculata*)

Some 3/4 of Southern Australian terrestrial orchids are fungus dependent throughout their life cycle. Orchids that are fungus dependent have very specific cultural requirements. The fungus **must** be grown in the pot with the orchid. Sometimes a third entity such as a shrub or tree is involved in the fungal relationship. **A minimum disturbance culture is used.**

Limited numbers are available each year. Other fungus dependent species are rarely available. Those in cultivation have mostly come from rescue digs in the past. NOSSA has started a seed kit project to help overcome this vacuum.

**GROWTH HABIT:** Australian ground orchids follow an annual growth cycle comprising 6 – 8 months as growing plants under cool (5 – 20°C max, 0 – 14°C min) moist conditions and 4 – 6 months as dormant tubers in hot dry (18 – 42°C max, 12 – 30°C min) conditions. The new tuber is produced in winter – spring. Each tuber sends up a shoot to the surface in Autumn and leaves grow rapidly in late Autumn/early Winter as temperatures fall and the rains set in. Sometime in October/November the leaves go yellow and then brown and dry as the days get longer, hotter and drier in late Spring.

**LIGHT/SHADE:** In Adelaide they thrive in a shadehouse of 50% shadecloth. Some species prefer heavy shade, others full sunlight, but most will adapt to a wide range of light intensity.

If the leaves and stems are weak and limp or if the leaf rosettes are drawn up to the light then the shading is too dense and the amount of light should be increased. FDs are mostly spring flowering and like higher light intensities at flowering time. flowers may have pale colours if placed in heavy shade, even temporarily, when buds are just starting to open.

In very cold areas an unheated glasshouse may be required for frost protection although light frosts do not worry the majority of species.

**AIR MOVEMENT/HUMIDITY:** All species like good air movement and will not thrive in a stuffy humid atmosphere especially if temperatures are high.

**POLLINATION/SEED COLLECTION:** FDs seldom multiply so must be propagated from seed.

Flowers on the strongest plants of the same species growing in pots are cross pollinated by hand to set seed pods. The flowers collapse in a day or so and pods ripen in 4-8 weeks. Pods are collected as they change colour from green to brown, which happens quickly on a hot day in October/November. Tea bags can be tied over the pods to catch the dust like seed if frequent visits to site are not possible.

Pods are stored dry in paper envelopes indoors over summer. Seed can be sprinkled on mother pots or scattered on bush sites.

**SEEDLING CARE:** Seedlings can be raised by sowing seed around potted mother plants.

At Easter time, just before the rainy season begins, the dust-like seed is mixed with fine sand in a pepper shaker (minimizes seed loss) and sprinkled on top of the pots and watered in. Germination occurs in Autumn/Winter as that is when the fungi are most active. Tiny leaves appear from July to October. The seedlings form miniscule tubers on droppers about 1 – 2cm below the surface. Seedlings take up to five years to reach flowering and are best **left undisturbed** until larger.

**WATERING:** The soil should be kept moist at all times during active growth by watering gently if there is no rain. Hand watering is especially necessary in spring as soil in pots dries out more rapidly than in the garden. Watering must be done slowly so that the mat of needles on the surface of the pot is not disturbed. Slugs and snails love these plants and must be kept under control. Raising the pots off the ground on galvanised steel benching is very effective in controlling these pests.

After the leaves have turned yellow, let the pot dry out completely to dry up the old roots and tubers otherwise they may turn into a soggy mouldy mess and rot may destroy the adjacent new tubers.

**REPOTTING:** The plants are **not** repotted but left in the same pot year after year.

**SUMMER CARE:** Keep the pots shaded and allow the pots to dry out between light waterings until mid-February when they should be set out in their growing positions and watered a little more often. The tubers of some species will rot if kept wet during the dormant period, others will produce plants prematurely which are then attacked by pests such as thrip and red spider and fungal diseases in the warm weather.

A thin layer of new leaf litter is placed on top of the existing leaf litter each summer to feed the fungus. Chopped gum leaves or sheoak needles are suitable.

**FERTILIZING: NO FERTILISER**

**OTHER CULTURE NOTES:**

- **Fast Multiplying Terrestrial Orchids**
- **Slow Multiplying Terrestrial Orchids**

**NB: IT IS ILLEGAL TO TAKE PLANTS FROM THE WILD**

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