

Odontoglossum orchid culture in the Riverina region

- part of the *Oncidium* alliance

There are about 60 species of this epiphytic orchid, which originate in the wet cloud forests of the Andes in South America at elevations of 1500 to 3500m (2, 5, 7).

Odontoglossums have recently been reclassified and are now included as a species in the genus *Oncidium* (1). *Odontoglossums* are unfortunately now rare in nature.

Odontoglossums are frequently interbred with other related *Oncidium* species to create intergeneric hybrids, amongst the more common including *Colmanara*, *Odontioda*, *Odontocidium*, *Vuylstekeara*, *Beallara* and *Wilsonara*. The intergenerics are considered the best option for hobby growers as they have a wider spectrum of colours and are more robust than the *Odontoglossum* species itself. *Odontonia*, *Odontioda* and *Vuylstekeara* require a similar culture to *Odontoglossum*.

Odontoglossums and their hybrids typically grow to a height of 40-90cm although some are taller (2).

Late autumn and spring are the main flowering times but hybrids can flower year round (9). Flowers last for several weeks on the plant or when cut and floated in a bowl of water (9).

Temperature requirements

Odontoglossums prefer cool to cold temperatures and can easily suffer from heat stress in summer and dislike temperatures in the high 30s. The optimum temperature range is between 8°C and 26°C (6) although some Melbourne growers suggest temperatures should not regularly exceed 16°C (5). Local experience in the Riverina region of NSW indicates some will tolerate daytime temperatures in summer as high as 38°C for short periods providing they are shaded, kept humid through misting and nighttime temperatures are lower (16°C). Growth will be slower however if optimum temperatures are exceeded. Humidity and airflow must be kept higher as temperature increases. In their natural environment night temperatures can fall to 5°C (5) and although tolerant of low temperatures down to 0°C, they will not tolerate frosts.

The intergeneric hybrids *Vuylstekeara* and *Wilsonara* are more suited to cooler climates whereas *Beallara* and *Aliceara* to warmer climates. Based on a Sydney grower's experience, *Wilsonara*, *Odontocidium*s, *Colmanaras* and some *Vuylstekeara* are the intergenerics most likely to tolerate high temperatures (10).

Light

Odontoglossums prefer lower light levels than *Oncidium*s and *Cymbidium*s (7) and have similar light requirements to *Masdevallias* and should be kept well shaded. Leaves turn reddish blue (6) if receiving too much light and leaf loss will occur if too sun damaged. Dark green leaves indicate insufficient light (7). A slight bronzing of the leaves and older bulbs indicates the light is good for flowering (5).



Local experience suggests 70% shade cloth over summer is adequate although they still should be located low in the shade-house. They can be given more light in winter. Your hand should not cast more than a faint shadow when passed over them. Plants with *Oncidium* in the parentage such as *Wilsonara* and *Odontocidiums* will tolerate higher light levels (6) where as *Vuylstekeara* and *Odontioda* require similar light to *Odontoglossums* (6).



Recommended light levels for mature *Odontoglossum* plants are 1000-5000fc (4), but less for young plants and when temperatures are high (7). Some growers recommend even lower light levels of 1000-1500fc (8, 9). More light strengthens flower colour but more shade improves white and paler colours (7).

Humidity and air movement

They prefer a humid environment, preferably between 40 and 80% humidity (4). Although it is said they require a minimum humidity of 40%, growers in the Riverina region have successfully grown *Odontoglossums* with humidity as low as 25% providing the humidity is raised periodically during the day to at least 35% with misting (5). It is important to damp down the greenhouse floor or use misters to increase humidity in hot weather (4).

Protect against hot dry wind. Pots can be placed on gravel filled trays containing water in summer to increase humidity but pots must not sit in water (4, 8). Accordion pleating of leaves can be a symptom of insufficient water or humidity or irregular watering (4). However the pleating can also be genetic in some cases and unavoidable.

They need good air movement, particularly as humidity increases, and fans are advisable to prevent fungal diseases (7). Leaf fungal diseases and black spotting can be a problem for *Odontoglossums* and other *Oncidiums*. In addition to good air movement, the application of Mancozeb monthly during the warmer months will help control bacterial and fungal diseases. Also try to water in the mornings and not in the heat of the day or late afternoon as leaves may stay wet during the evening.

Plants can be grown in a shade house, glasshouse or indoors near a southern or eastern facing window providing the requirements specified earlier for light, temperature and humidity are met. Houses cooled with evaporative cooling have suitable humidity but air-conditioning will result in too low humidity and the pots may need to be stood on gravel filled trays containing water. They like free air movement and fans are recommended (9).

Water

Odontoglossums come from a high rainfall environment and do not experience a dry period in their natural environment (5). They like abundant water and require frequent watering in



warmer months. They must never be allowed to dry out and unlike *Oncidiums* need to be kept moist through winter to prevent pseudobulbs shriveling. They are very sensitive to poor water quality which will inhibit root growth and cause leaf-tip burn (4). Pots should just begin to dry before watering. Misting daily in very hot weather is recommended (7).

To reduce leaf spotting, avoid watering in the heat of the day or late afternoon in warmer months. Also avoid wetting the leaves and water the pot, not the leaves.

Potting medium

Odontoglossums grow as epiphytes or terrestrials in the natural environment. Having finer roots they should be grown in small bark (5-10mm) perlite potting mix (5:1) (2) or in sphagnum moss and perlite (70:30). Some growers place a layer of sphagnum moss on the top of the pot to reduce evaporation and keep the roots cool (5). They can also be grown in perlite with a layer of gravel on the top (9).

They should be grown in small squat pots that allow more frequent watering (4).

The base of the new growth should be planted about 1.5cm into the bark but no deeper (8). Keep bark barely moist until new roots appear then resume normal watering (8).

Plants should be repotted every year to every 2 years in spring or autumn when new growths are about half mature (4, 7).

Fertilizers

Plants require frequent application of half to quarter strength fertilizer all year round but less in winter. Apply fertilizer every 2 weeks when growing actively but monthly when less active (7). They are not gross feeders and too much fertilizer will harm their roots and turn leaf tips brown (6, 9). Use of high phosphorus or potassium fertilizers as plants approach flowering can increase flower count and substance (4).

Intergeneric hybrids

Odontoglossums have been crossed with many other genera to form hybrids. These include;

Bakerara (Brassia x Miltonia x Oncidium x *Odontoglossum*)

Beallara (Brassia x Cochlioda x Miltonia x *Odontoglossum*)

Burrageara (Cochlioda x Miltonia x Oncidium x *Odontoglossum*)

Colmanara (*Odontoglossum* x Miltonia x Oncidium)

Degarmoara (Brassia x Miltonia x *Odontoglossum*)

Goodaleara (Brassia x Cochlioda x Miltonia x Oncidium x *Odontoglossum*)

Maclellanara (Brassia x Oncidium x *Odontoglossum*)

Odontioda (*Odontoglossum* x Cochlioda),

Odontobrassia (Brassia x *Odontoglossum*)

Odontocidium (*Odontoglossum* x Oncidium)

Vulystekeara (Cochlioda x Miltonia x *Odontoglossum*)

Wilsonara (Cochlioda x *Odontoglossum* x Oncidium)

Withnerara (Aspasia x Miltonia x Oncidium x *Odontoglossum*).



The growing conditions of hybrid genera vary depending on the parents but are often tolerant of a wider range of conditions than *Odontoglossum* itself.

Ondontocidium Tiger Crow “Golden Girl” is an example of a complex *Odontoglossum* x *Oncidium* hybrid that grows well in an unheated but well protected shadehouse in the Riverina. Due to its *Odontoglossum* parentage it tolerates cooler conditions. It needs low to medium light (1000-2000fc) with less light in summer and more in winter. It has long lasting spectacular flowers with up to 20 per spike and can flower up to twice a year if grown under optimum conditions.



Synonyms

As the genus *Odontoglossum* is now included in the *Oncidium* group, many are now named as *Oncidiums* i.e.: *Odontoglossum crispum* is synonym for *Oncidium alexandrae* (1).

Ondontocidium Tiger Crow “Golden Girl”

Further reading

The information in this guide is based on local grower experience and the references listed below.

1. Growing Orchids in cool climate Australia (2nd edn) by MJ Fraser, J Wright, W Ferris (2013).
2. Gardening Australia Flora's Orchids. ABC Books (2005).
3. Orchids, A practical handbook. By B and W Rittershausen (2001).
4. *Odontoglossum* culture. Atlanta Orchid Society.
http://www.aos.org/images/img_content/Education/odontoglossum.pdf
5. Growing *Odontoglossums* by Rex Johnson. Orchid Societies Council of Victoria.
<http://www.oscov.asn.au/articles5/odontoglossums.html>
6. Royal Orchids Culture Notes. <http://www.royaleorchids.com/culture.html>
7. Elanbee orchids. *Odontoglossums* and their hybrids.
<http://members.optusnet.com.au/bdobson/Odontoglossums%20and%20their%20Hybrids.html>
8. Carter and Holmes Orchids. *Oncidiums* and related hybrids culture.
<http://carterandholmes.com/oncindodocare.html>
9. Akatsuka Orchid Gardens. Care for *Odontoglossums*.
<http://www.akatsukaorchid.com/store/pg/30-Odontoglossum-Care.aspx>
10. *Odontoglossum* intergenerics by Gary Hart.
http://www.ssos.org.au/Odont_Intergenerics.htm

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These notes are intended as a guide only and are composed from available information and local experience. The Wagga Wagga Orchid Society and its members are not responsible for any loss or damage that may occur.