

## Pleione orchid culture- in the Riverina region of NSW

### -the Peacock Orchid

Pleiones (plee-OH-nee) are semi-alpine bulbous orchids found in the mountains of the Himalayas, India, Tibet, Burma, Vietnam and China (2). They are typically found on moss covered rocks, on tree branches or in leaf litter on the ground at altitudes of 600-4200m (2, 6). They are closely related to the genus *Coelogyne*.



Pleiones originate in areas that have a high summer monsoonal rainfall and a cold dry winter (3).

The average temperature in summer in their natural environment typically does not exceed 25°C.

They have an annual life cycle. They overwinter as dormant bulbs, flower in spring, grow leaves and roots and new bulbs during summer and shed leaves in autumn (6).

Their pseudobulbs only live for one year, producing 2 or 3 new bulbs before they die.

Some species from warmer climates such as *Pleione praecox*, flower in autumn (2) after the leaves wither.

Pleione go dormant in winter when the leaves die off and the old pseudobulb withers. Each bulb can produce up to 3 flowers.

There are about 21 species, 5 natural hybrids (1) and many hybrids have been created with *Pln. formosana* as a parent. A listing of the species is presented below.

They are also known as Himalayan crocus, Indian crocus and windowsill orchid (2).

### Temperature requirements (1)

Their preferred temperature range is 25°C in summer and 1-5°C in winter (1). However they will tolerate higher summer temperatures of 35°C for short periods and have been successfully grown in shade houses in Melbourne (2) and Wagga in the Riverine without additional heating or cooling. They need cool to cold temperatures in winter (1) of between 1 and 5°C. Some references state they are frost tolerant (7) but it would be prudent to protect them from frost. Plants may die if temperatures fall below 0°C (5).

A few species and hybrids such as *Pleione maculata*, *Pleione praecox* and the hybrid *Pln. lagenaria* have a much shorter dormant period and flower in autumn and winter. These should be kept warmer with a minimum of 10°C (1) and are more susceptible to frost.

Some species such as *Pln. coronaria*, *Pln. scopulorum*, *Pln. forrestii* and *Pln. hookeriana* have a longer cold dormant period in winter and can be kept in the fridge if necessary (1).

### Light

They prefer about 50%-70% shade (1, 4) and should not be placed in full sun (1).

## Humidity and air movement

They like good air movement (4). Place them near the bottom of the shade house where it is coolest and humidity highest. Misting is beneficial in very hot weather.

## Water

They should be watered regularly through the warmer months but totally dry in winter (1). Water in the early morning and not during the heat of the day (4). Roots start to grow as the flowers die and only a little water should be given from this time on (1) as they have yet to develop roots. Keeping them drier at the start of the growing season also encourages the roots to penetrate. Over watering during the early root growth stage is a major cause of plant loss (6). Once leaves are well developed they can be watered freely.

Stop watering when the leaves go yellow and allow them to become completely dry (1). They are best grown under a rain excluding roof in the Riverine to prevent them becoming too wet in winter.

They will not tolerate being cold (0-10°C) and wet at the same time (5).

*Pleione saxicola* is an exception and this autumn flowering species must be kept moist all year round (1).

## Potting medium

They are shallow rooting and grow best in squat pots (1,6). They require a free draining open potting mix. Small sized bark mixed with perlite in a 3:1 ratio is a suitable mix (4). Some growers use sphagnum moss instead of perlite (1) but this can become soggy and perlite is considered a better option (5).

Michael Pender recommends using a general purpose garden potting mix that retains moisture better than orchid compost (3). Others use commercial cymbidium compost (6).

Pleiones should be repotted when they are dormant in winter, except for the winter flowering types that are best done after flowering (1).

Pleione roots die at the end of the season. When repotting remove all the roots leaving about 3 cm of roots to anchor the pseudobulb in the compost (1). Last years old pseudobulb shrivels to leave 1 to 3 new pseudobulbs.

The old pseudobulbs can be discarded (3). The bulbs can be stored for 1 or 2 months providing they are kept cool and dry (3) in a paper bag (5).



Pseudobulbs should be repotted annually (6). The new pseudobulbs should be buried with one third above the compost (1). The bulbs can be placed slightly deeper than shown in the photograph opposite. They are best placed sitting on the potting mix and then additional potting mix added to leave just one third of the bulb showing.

Bulbs should be planted about 2cm apart as they grow better when planted close (6). Keep pots in a cold place (1-10°C) and don't water until flower buds appear then very sparingly until leaves are well developed (6).

### Fertilizers

They like regular but weak liquid fertilizer during their growing period (October to April) but not when they are dormant (1, 4). Use a lower N fertiliser at the end of summer to encourage flower bud development (6).

### Species and varieties

The most commonly grown species in Australia is *Pleione formosana* from eastern China whose flowers vary from white to mauve to pink (3). Clones of this species include 'Oriental Grace' and 'Oriental Splendour'.

Commonly grown hybrids are *Pln. Tongariro*, *Pln. Versailles* (*formosana* x *limprichtii*) and *Pln. Shantung* (*formosana* x *confusa*) and *Pln. Eiger* (*formosana* x *humilis*) (3, 6). The latter hybrid multiplies quickly and produces very large bulbs (6).

**Species:** *Pln. albiflora*, *aurita*, *autumnalis*, *bulbocodioides*, *chunii*, *coronaria*, *formosana*, *forrestii*, *A grandiflora*, *hookeriana*, *humilis*, *kaatiae*, *limprichtii*, *maculata*, *microphylla*, *pleionoides*, *praecox*, *saxicola*, *scopulorum*, *vietnamensis*, *yunnanensis*.

**Natural Hybrids:** *Pln. x christianii*, *x confusa*, *x kohlsii*, *x lagenaria*, *x taliensis*

Plants are usually purchased as bulbs.

### Further reading and acknowledgments

This guide is based on information provided by local growers and the references listed below.

1. The Pleione web site. <http://www.pleione.info/cultivation---1.html>
2. Pleione (orchid). [https://en.wikipedia.org/wiki/Pleione\\_\(orchid\)](https://en.wikipedia.org/wiki/Pleione_(orchid))
3. Growing Pleiones by Michael Pender.  
<http://www.oscov.asn.au/articles3/pleiones.htm>
4. How to grow Pleiones. <http://www.oscov.asn.au/articles3/pleiones.htm>
5. Pleione cultivation. <http://www.koolplants.co.uk/Pleione-Orchid-Cultivation.html>
6. Growing Orchids in Cool Climate Australia. Second edition. Edited by MJ Fraser, J Wright and W Ferris.
7. Gardening Australia Flora's Orchids. ABC Books.

Updated 13/9/15

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 to plants that may occur.

