

Paphiopedilum Orchids



Paph Fumi's Delight

Paphiopedilum and also Phragmipedium hybrids will grow quite well as indoor plants. The single most important point to keep in mind is that they are shade loving plants which feel comfortable in an environment where African Violets or fine Maidenhair Ferns do well. They should be pulled back from direct sunlight, except in the morning and late afternoon or in the middle of winter. Draught or air movement should be kept to a minimum as it will only blow away any humidity from around the plants.

The kitchen is usually the best place, where some extra humidity is produced. A very light bathroom may be even better. They can be stood on the windowsill where it faces south. To create extra humidity immediately around a plant, it can be placed on top of a gravel bed in a large dish or saucer. The water must be kept at a level just below the tips of the gravel so that the bottom of the pot has no direct contact with the water. Phragmipediums grow very well if stood in another, smaller saucer, only slightly wider than the pot diameter and placed on top of the gravel. It can be left full of water most of the time with the plant sitting in it.

Paphiopedilums however, are likely to get root rot if left standing in water for more than a day. For seedlings or very delicate plants requiring higher humidity, a plastic dome cover or tent can be put over the whole lot. The cover is best removed or opened during the night, when the ambient humidity is usually adequate. While the room is being heated or during dry weather, the cover should be left in place or kept closed. Ventilation for one hour a day is enough.

Going one step further and with a bit more expense, a miniature tropical environment can be created in a fish bowl, fish tank or any size aquarium. Again the plants should be standing above about five cm of water, either on coarse gravel or a rack. If an aquarium heater is used to keep the temperature around 18 degrees Celsius, even the most delicate seedlings and species should succeed.

Going on to greenhouse culture, most slippers can be grown without artificial heating in a well built greenhouse during frost free nights. I really feel that a nine month active growing period is sufficient for all plants but the smallest seedlings, without worrying about growth during the three colder months, when besides the temperature the photo period (day lengths) is another limiting factor. Minimum night temperatures as low as 5 degrees Celsius are not damaging to plants provided the day temperatures are reasonably high. In a temperate climate it does not cost a lot to run a fan heater during those few really cold nights below 5 degrees Celsius. Day temperatures of 25 degrees Celsius in a greenhouse even in the middle of winter can be achieved on a sunny day if most of the shade has been removed. That is also the time to open the ventilators or the door for a fresh air exchange. I try to have an air exchange most days, even if it is only for five minutes during cooler weather.



Paph Miyahi Tamahazum

If you have a larger greenhouse and want to keep a higher minimum temperature, electric fan heaters are too expensive to use. I am amazed that it is still not better understood or known that compression heating on average produces about two and one half times more heat from the same amount of electricity as resistance heating. In practical terms, a fan or bar heater costs two and one half times more than a good reverse cycle air conditioner to produce the same amount of heat. I have used them for years. They are as reliable as and maintenance free as a fridge (which works on the same principle). However, a reverse cycle air conditioner is not suitable for cooling a greenhouse in summer (produces dry air, too expensive) or for heating in an area where it gets much below freezing for longer periods.

A hotbed which is an electric heating cable buried in a few centimetres of sand on a bench in a greenhouse is quite suitable and economical for a small collection. Again a plastic cover can be made to go over a frame, making a mini-greenhouse within a greenhouse. If only a few plants require extra warmth they can be stood on an electric heatboard (very low running cost, about as much as a light bulb for a small size) or a propagation tray.



CHOOSING THE PLANTS:

For beginners it is important to choose plants which are known to grow vigorously rather than produce the most desirable flowers. Above all they should have a healthy root system. But how can you see inside the pots? When buying plants picking up the plant at the base only and if the pot falls off, put it back. If buying by mail order, only accept bare root plants so that you can see the condition of the roots. Plants sent by whatever means usually get loosened or dislodged in pots anyway. It is much better not having to pay freight for the heavy mix and pot and put them into your own uniform mix, the way they should be potted. Buyers beware of

nurseries offering seedlings in certain pot size! I have seen small seedlings being planted into 50mm pots straight from flasks. On the other hand I have also flowered many seedlings in the same size small pots. A rational description of seedling size is the leaf span from the tip of one leaf to the tip of the opposite leaf which in a 50mm tube could be anything between 40mm (from flasks) to 200mm (near flowering size).

A few years ago I felt an increasing demand for slippers from cymbidium growers who were looking for a bit of variation in their collections. They only had a shade house and in some cases a flowering house to accommodate them. I thought to myself "what's the point in producing all these magnificent Paphiopedilum if only a select few people can grow them". As there were very few breeds to choose from I set out to make several crosses using the following species as parents with novelty and standard hybrids;

- the vigorously growing Paphiopedilum insigne including the alba forms;
- the beautifully mottled leaved Paphiopedilum venustum;
- the glossy Paphiopedilum villosum md. the var boxallii;
- the wine red Paphiopedilum charlesworthii;
- the elegant Paphiopedilum fairrieanum;
- the purple Paphiopedilum hirsutissimum;
- the pretty Paphiopedilum spicerianum.

These all come from the cool foothills of India and Burma. These days many so called experts would probably snuff with disrespect at seeing Paphiopedilum insigne listed in a crossing but I believe it is beautiful as well as unique in more than one way. It is by far the fastest growing Slipper, normally producing two new leads from the old flowering growth and it does very well at temperatures down to just short of freezing. The same low temperature tolerance goes for the others mentioned too, especially Paphiopedilum venustum. Most of the resulting seedlings which were bought by growers (mostly) in cooler climates, have flowered. On a recent trip to Tasmania I was shown some hobbyists growing and flowering them very well, even in shade houses, where only the night frost was kept out but temperatures remained low all day.



Paph Fanaticum

Yet for other people they grew very poorly. You may find it hard to believe that the reason for it was the same as I found in Queensland earlier. TOO MUCH LIGHT! In Tasmania, growers with only a few plants put them with their cymbidiums and in Queensland the people who said they could not grow Slippers had them sitting among Dendrobiums and Cattleyas. Growing them under the leaves of large cymbidiums can be successful. An easy test for the correct light intensity is moving a hand over the panels about 50cm above the foliage. If, during the warmer seasons, more than the slightest shadow is cast, there is too much light.

With a lower light level also comes a lower temperature and higher humidity. A win-win situation in the hot weather provided any drying winds are kept out.

Paphiopedilums grown under adequate shade will display that lush growth, so pleasing to the eyes. They will also grow much faster and produce longer flower stems, even in winter, after most of the shading has been removed. Less shading and more light can be provided between the end of May and beginning of September.

WATERING AND FEEDING:

Slippers do not have pseudobulbs like many other orchids for water storage. They should, therefore, be kept moist at all times but less so during winter, when it is better to keep them on the dry side. I always use a hose with a rose and apply rainwater (with fertiliser) over the top of the plants, losing very few buds due to "damping off". Rotting of buds is, I believe, caused by high evening and night humidity. A long spouted watering can is easier to use in a small collection.

I think too much importance is given to feeding as compared to other more important conditions such as light and humidity. Of course, if they are growing in a bark mix, a regular nitrogen supply is important. Often and little, quarter strength is the golden (green) rule. The brand is not really important but the newer seaweed or other organic (animal or plant derived) fertilisers, alternating once a month with a high nitrogen mineral (salt) fertilizer should bring good results. No feeding is needed during June and July. Do not apply any sort of fertiliser in a dry form!

PESTS:

The few pests living off Slippers are mealy bug, sometimes aphids in spring and if there are no screens over the openings, caterpillars. Three sprays one week apart, with Rogor is very effective against mealy bugs and aphids.

Dipel will give caterpillars the runs. Of course always be on the lookout for snails and slugs. Always choose a cool day for spraying to avoid leaf burn damage.

The hard leaved species or primary hybrids (a crossing of two different species) such as the multi-flowering Paphiopedilums parishii philippinense haynaldianum, rothschildianum, St. Swithin, Glaucophyllum, Julius, etc. require a slightly stronger light intensity. They can be put into a less shaded corner or end of greenhouse or hung up near the roof. They are also reasonably cold tolerant, therefore cold coming in from the roof or the sides will not hurt them. In fact it may help to induce flower buds.

When starting to grow Paphiopedilums, it is most important to begin with hybrids but never species (Paphiopedilum insigne may be the exception). Many hobbyists say they want to grow the species in order to preserve them. In reality they are doing exactly the opposite. They are helping to destroy them. Species are much more difficult to grow and countless numbers have died in the hands of inexperienced fanciers. Each species is genetically programmed to grow under the very specific conditions in which it evolved. While some species have a considerable amount of tolerance to survive under modified conditions, many will require more closely simulated treatment in cultivation.



Paph Rosies Gold

Both Paphiopedilum armeniacum and Paphiopedilum primulinum are considered to be difficult or at least slow growers. Yet, the crossing between the two which is named Gold Dollar, grows very well and flowers very freely and is just as beautiful with its brilliant pure yellow colour. Paphiopedilum javanicum and Paphiopedilum glaucophyllum used to be very common. Where are they now? Have the species collectors saved them? I believe we must be very successful in growing hybrids first before allowing yourself to indulge in attempting nature's most precious jewels, the species. When buying orchids think of yourself as the person you are buying the orchids for. Don't be told by judges (who often can't see the beauty anymore) or anybody else as to what is a nice flower or what you should like. Preserve your own personal taste and integrity. There is no poor taste when it comes to Paphiopedilums. A collection of all awarded plants would not necessarily be the most interesting but quite likely the most expensive.

DISEASES:

Root rot caused by either Pythium or Phytophthora but also Rhizoctonia and rarely by other fungi can be a problem. Most diseases attack during the mild and often humid "in between" seasons, lying dormant during winter and summer. Any plant which looks sick or is loose in the pot with a poor root system should be repotted immediately, no matter what time of the year. All dirt and dead root parts should be removed, carefully rinsed under the tap and bathed in a Fongarid solution for two hours.

Paph Deligoldi



Newly acquired plants should be given the same treatment unless they are growing very well in pots. The same solution can also be used to thoroughly spray the plants when conditions for disease attacks are favourable. Placing a plastic bag over a sick plant will reduce further dehydration as this greatly speeds up the recovery. Frequent checks are necessary in case the disease should recur under those very favourable conditions. Bacterial rot (Envinia) can be a real problem at times. It

attacks the leaves or more often the base of young or mature growths, going straight for the centre. These fast developing, watery blotches can kill a plant in a few days. After cutting away all the affected parts, a paste of neat fungicide can be painted over the cuts and surrounding areas, keeping a close watch for any recurrence. During cold and wet weather the common furry grey mould (Botrytis) often starts growing on dead flower stems and wet flowers. A small fan or ceiling sweep fan near the roof, blowing air gently over the plants is usually enough to keep this fungus away. Opening the growing house for fresh air also helps. I only run air circulating fans during the night and cool humid weather when the greenhouses are closed. During warm weather fans will only dehydrate the plants. Well-grown plants resist most pests and diseases except for mealy bug and the occasional bacterial rot on some susceptible species.

Hygiene should always be in a grower's mind whenever plants or anything else associated with plants are handled. Do not use the garden shovel to turn over your potting mix. Never let the mix or pots get into contact with soil. Avoid water splashing from the floor onto plants. Only handle plants, pots, tools and mixes with clean hands.

MIX AND POTTING

Very few growers are preparing their own bark these days, I certainly don't. Graded, and it must be composted bark, is readily available in most places. For small seedlings I use a 4-6mm size and for larger plants 10mm. This can be used straight from the bag, making sure it is moist but never wet. Some successful growers add one or more of the following: a small amount of dolomite lime, up to 1/3 of fine polystyrene granules, a bit of sphagnum moss, charcoal, fine gravel. No fertiliser is added to the mix. Being mostly terrestrial orchids, Slippers prefer a closer mix than Cattleyas or Phalaenopsis, which is able to hold moisture for a reasonable period. This may not apply in tropical and subtropical areas where plants are grown in a shadehouse and get a lot of summer rain. A more open quick draining mix may be preferable there.

Adult plants should be repotted at least every two years and seedlings yearly. Always remove all the old mix and dead old roots. If there are signs of root rot and no yellow growing tips, they should be rinsed and dipped in Fongarid. Use the smallest possible pot which can comfortably accommodate the roots. This is most important. When in doubt use the smaller size. More plants are killed by over potting than any other cause. The mix should be "vibrated" in between the roots by tapping the pot all around the outside and finally pressed down when full. The first root should be about 1 cm below the surface.

IN SUMMARY:

Choose hybrids and once mastered then try species; Grow under heavy shade; Use small pots. Try growing slippers -they are a gentle and very rewarding challenge. By N Zurcher, S A

These notes have been used at our Cultural and New Grower's Meetings. They are from various sources and we thank the authors. All articles are supplied in good faith and the Bribie Island Orchid Society and its members will not be held responsible for any loss or damage.