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Growing Paphiopedilums and Phragmipediums in Your Home



Phragmipedium longifolium is just one of the many phragmipediums that adapt well to home culture. This clone, 'Merlin's Magic', grown and photographed by Kimberly Kehew, won a blue ribbon at the Susquehanna Orchid Society Annual Show.

I wish I had a dime for every time a non-orchid-growing person has said to me, "Can you really grow orchids indoors? Aren't they tropical plants?" Well, anyone who knows orchids knows that many are from the tropics but occur at high elevations. Some paphiopedilums and phragmipediums live and grow in downright chilly conditions (as low as 45°F at night). Some grow on cliffs of mountains in the crevices of rocks. Some grow with the roots dangling in streams; others grow epiphytically in trees. So one thing we can say of paphiopedilums and phragmipediums is that they are a diverse group, and there's surely one or two to fit into the growing conditions in your home.

I would say paphiopedilums and phragmipediums are rather easy to

grow, provided you choose plants that are suited to your growing conditions. However, growing any orchid indoors can be a challenge, and therefore is not for everyone. You have to be willing to alter many elements of your life style.

I got into growing paphiopedilums and phragmipediums after a lot of trial and error. I bought cattleyas, miltonias, oncidiums and many more — never with any real satisfaction. None of these other plants really sparked my interest. Then, one day I bought a plant of *Paphiopedilum venustum* in bud, and when it flowered I thought I had fallen in love for the second time in my life (the first time, of course, was with my husband). Ever since then I've been buying paphiopedilums.

I also love phragmipediums and

have found them easy to grow and flower. They offer a wide variety of interesting shapes and colors. However, they can be very difficult to obtain. Lately, I've been seeing a lot of the most common ones offered for sale, so perhaps people are realizing that phragmipediums really are worth a second glance.

My paphiopedilums and phragmipediums grow in my living room on a decorative brass and glass cart. I topped the shelves with clear plastic planter-box liners and filled them with $1/4$ " of washed river stones. Then I put about a $1/2$ " or so of water in them (pots should not sit directly in the water). You should place a single layer of Styrofoam peanuts in the bottom of the pots; otherwise, capillary action will draw water up into the pots, thus keeping the potting mix very wet.

Growing paphiopedilums is relatively easy, with the exception of the *Brachypetalum* paphiopedilums. With good care, you could easily have a specimen plant in a few years. Flowering these plants is another matter. Trying to flower a *Paph. rothschildianum* indoors can be very frustrating. It needs cool night temperatures to initiate flowers, and it really needs to be a very old plant before it will even consider flowering (at least five years old). If you even think of dividing a plant of *Paph. rothschildianum* or a related species before it has reached flowering size, the plant will sulk for years and may never flower.

Phragmipediums are easy to grow and flower once they are established and their needs are met. They do not do well if they are divided too often (anything smaller than three growths is not recommended). Buy only plants that have several growths and do not wobble when

moved (which could indicate root loss).

Humidity and Air Circulation:

Plants placed close together in the home create their own humid environment. They won't do as well if they are scattered around the house, sitting alone or in small groups. Contrary to popular belief, plants in bathrooms and in kitchens do not receive much more humidity than a plant in the living room. Humidity from showers and sinks lasts for only a short time, and often the oppressive steam does more harm than good. I have an ultrasonic humidifier to create a humid microclimate around the plants and a large room humidifier to maintain a humidity level of approximately 50% (anything higher is not recommended inside your home).



Phragmipedium caudatum 'Fox Valley', AM/AOS (81pts.) exhibited by Fox Valley Orchids and photographed by Jim Pyrzynski.

Near the plants is a fan running on low speed whenever the ultrasonic

humidifier is misting. Air movement in the home is usually not a big problem because of the opening and closing of doors and windows. But during cold weather, make sure you seal any cold drafts that may come in contact with the plants. A cold draft could easily damage new flower buds on the paphiopedilums and phragmipediums.

Light: Light is not as important in the culture of these plants as with some other sun-loving orchids; however, its importance should not be overlooked. The paphiopedilums and phragmipediums do need fairly bright light, and without correct light levels they simply will not bloom. Plants requiring more light are placed closer to the windows. During cold weather, make certain you keep all plants at least 6" away from the window in order to prevent cold damage.

The windows in our living room are numerous and provide my plants with a good steady supply of light. On the northeast side of our house we have 30 feet of continuous floor-to-ceiling windows and on the southeast side we have one 6' x 7' floor-to-ceiling window. We have sun in the morning and continuous medium bright light the remainder of the day.

I have found that paphiopedilums grown indoors can tolerate considerably high light levels when they become accustomed to them gradually. However, the flowers of paphiopedilums grown in high light do not have the deep rich colors and waxy texture as those grown in moderate light. Furthermore, they lose the beautifully mottled foliage for which paphiopedilums are so prized. Paphiopedilums grown in bright light grow faster, flower more

often and stay in flower longer than those grown in dim light. I think reaching some sort of compromise between high-and low-light levels will give you the most pleasing results.



Phragmipedium Grande 'The Wizard', AM/AOS (80pts.) exhibited by The Orchid Zone.

The paphiopedilums I recommend for indoor growing are *Paph. micranthum*, *Paph. armeniacum*, *Paph. emersonii*, *Paph. rothschildianum*, *Paph. venustum*, *Paph. villosum*, *Paph. callosum*, *Paph. Maudiae*, *Paph. sukhakulii* and *Paph. delenatii*. One paphiopedilum that does best in high light is *Paph. philippinense* var. *roebelenii*. In order to flower, it needs approximately 10 hours of bright, indirect light each day.

Phragmipediums need a higher

overall light level than paphiopedilums. They may not produce flowers unless their needs are met. A good indication that they



Phragmipedium Sedenii 'Agoodin', HCC/AOS (78pts.) exhibited by Paul Gooding; photographed by James E. McCulloch.

are receiving the correct amount of light is the color of their leaves. The leaves should be lime green to olive green (not yellow-green or deep green). Another indication of the correct light is the speed at which the plant is growing. A slow-growing phragmipedium that rarely puts out new growth probably needs more light. *Phragmipedium caudatum* is a naturally slow-growing phragmipedium and cannot be induced to speed up its growth. The phragmipediums that adapt well to indoor culture are: *Phrag. longifolium*, *Phrag. schlimii*, *Phrag. Grande*, *Phrag. hartwegii*, *Phrag. caudatum* and *Phrag. Sedenii*.

Water: When grown indoors, phragmipediums need special attention because of their water requirements. They really like moisture and the potting medium you use has to be carefully considered. Putting a phragmipedium in a water-retentive, moss-based mix may result in a stale and even moldy potting mix. You

are much better off using fir bark or tree fern with a small amount of New Zealand sphagnum moss added (no more than 1/6 of the total mix).

Phragmipediums should be kept moist at all times. Drying them out is not beneficial and is not recommended. Using rainwater (with a pH between 6.0-7.1) whenever possible will greatly improve their health indoors.

Temperature: Make sure the minimum night temperature corresponds to the plant's requirements. For example, *Paphiopedilum armeniacum* can tolerate a minimum night temperature of 45°F; however, warm-loving *Paph. rothschildianum* seedlings would perish in such frigid temperatures. Most phragmipediums do not need colder night temperatures to flower properly.



Phragmipedium Memoria Dick Clements 'Flashpoint', FCC/AOS (90pts.) exhibited by H. P. Norton and photographed by James Harris. This is just one of the many spectacular hybrids created by the red-flowered *Phrag. besseae*. Not only are they repeat-bloomers they produced branched inflorescences as well!

One thing I think is very important is summering plants outdoors. A paphiopedilum or phragmipedium grown indoors shows increased vigor, more flowers and a healthier appearance when grown outdoors also for three to six months. All my

plants go outside between April and May and come back indoors around September and October. I live in south-central Pennsylvania. Imagine how much longer they could be outdoors in the southern and western states.



As if *Phrag. besseae* hybrids weren't a big enough stir, the recent discovery of the enormous, purple-flowered *Phrag. kovachii* in Peru has launched another wave of hybrids. Pictured here is *Phrag. Fritz Schomberg 'Hilltop's Coral Magic'*, AM/AOS (86pts.) exhibited by Hilltop Orchids; photograph by Paul Buiak.

When summering an orchid outdoors, consider all aspects of the plants' new environment, such as increased light and air movement (including high winds). The plants will dry out faster, so more frequent watering will become necessary.

These plants also need more fertilizer when they are outdoors because of increased photosynthesis. Insects also may become a problem. Do not place plants directly on the ground or you may find some nasty critters next time you repot (even earthworms and earwigs).

When you are ready to bring your plants in for the winter, consider those that need cooler nights to flower (50-55°F); leave them outdoors when the fall temperatures begin to lower. To do this you must monitor local weather in your area in order to know the expected overnight lows for each night the

plants are left out. If you forget to do this, you may find a dead or dying plant the next morning after a sudden cold spell or frost.

At any time during the summer or fall, if there is even a hint of a hail storm, bring in *all* your plants because hail can literally chop up orchids and plants.

Before bringing your plants indoors, don't forget to spray all of them with a good pesticide at the recommended strength and intervals. Do not spray near open water or crops because of the toxicity of most poisons. Do not use commercial pesticides indoors regardless of how bad your pest problem may be.

One problem occasionally encountered when growing indoors is ethylene gas. Those of you who have gas-heated homes may have some difficulty keeping your orchid flowers fresh. When a gas flame unit is turned on, a small amount of ethylene is released, causing some orchid flowers to wilt. Also, keeping apples near a flowering orchid will have the same effect because a rotting apple releases ethylene. Paphiopedilum and phragmipediums are more resistant to ethylene than, say, phalaenopsis, but why risk it? If you have a gas-heated home and are seeing flowers wilt prematurely, I would suggest growing more smog-resistant orchids.

If you follow these guidelines and your own common sense, growing paphiopedilums and phragmipediums in your home can be even more rewarding than growing in a greenhouse. I can attest to this because I do not have a greenhouse and I grow almost 100 orchids in my home with great success.