



Cultural Requirements of Dendrobium-Phalaenopsis

By Bob Davidson

Phalaenopsis-type dendrobium hybrids are derived from *Dendrobium phalaenopsis* (syn. *Dendrobium bigibbum*). Commonly referred to as den-phals, they are among the easiest of orchids to grow under most conditions. These evergreen orchids reward the beginner with sprays of vividly colored long-lasting flowers in exchange for minimal care.



Arching inflorescences are borne on upright, cylindrical, 2-to 4-foot tall pseudobulbs, which are slightly swollen at or above the middle. New growths develop from "eyes" near the base of the pseudobulbs and sometimes higher near the leaf joints. Somewhat-leathery, 3 to 6-inch long leaves clothe the upper half of the pseudobulbs, and usually remain for one to two years. The number of flowers borne on an inflorescence increases as the plant matures. First-bloom seedlings often bear one to five flowers per spray. Mature plants can produce 20 or more flowers per cane on each of many canes. Individual flowers last six to eight weeks and provide color for several months each autumn. Den-phal flowers, typically round and flat, with overlapping petals and sepals, range in color from pure white to deep plum and shades and hues in between. To prevent distorting the flowers' orientation, avoid moving or turning specimens once inflorescences begin to emerge.

Trends in breeding of *phalaenopsis*-type dendrobiums have focused on improving flower size and shape, especially among the darker varieties, and developing shorter varieties. Combining traditional den-phals with antelope-type species has led to new colors, larger flowers and an extended blooming season. Some popular intermediate *phalaenopsis*-type *Dendrobium* hybrids: Ekapol (Lim Hepa x Tomie Drake), Sonia (Caesar x Tomie Drake) and Jaquelyn Thomas (*gouldii* x *phalaenopsis*). Intermediate types, carrying flowers in shades of yellow, blue and brown, are especially popular.

Temperature and Humidity-Den-phals thrive under a broad spectrum of temperature and light combinations. The recommended temperature range is between 50-90°F, and temperatures a few degrees higher or lower is acceptable and produce no detrimental effects. A relative humidity of 50 to 60 percent is optimal. In climates with lower humidity, mist the plants on hot, dry days. Avoid excessive water on the leaves and in the crown of the plants during humid cool weather to prevent crown rot and fungal problems. Fans which keep the air moving without causing excessive chilling or drying keep the foliage dry, and also help remove heat from leaves during hot weather.

Light-Direct filtered sun is essential for flowering. Remember to also provide 30-70 percent shade during midday. Bright light will generally encourage flowering, provided excessive leaf temperatures are avoided. Although *phalaenopsis*-type dendrobiums can be grown under artificial lighting, this practice is not recommended due to the plants' height.

Watering-The moisture needs of these orchids are similar to those of Cattleyas. Thoroughly soak the potting medium and allow it to dry out before watering again. Watering twice a week is generally adequate with properly potted plants in most climates. In winter, watering frequency may be reduced if the plants take longer to dry.

Fertilizing-Apply a balanced fertilizer containing minor elements on a regular basis. When using inorganic media it is especially important to provide an adequate mix of nutrients, including minor nutritional elements. This is important since little nutrition is provided by the decomposition of the potting medium. Avoid high-nitrogen fertilizers (such as 30-10-10), since they encourage the growth of algae and pathogens, and promote excessive leaf growth rather than the development of roots and flowers. Feed with every watering at half the dilution prescribed on the label. This will guarantee adequate nutrition while avoiding any chance of damaging root tips from excessive nitrogen.

Potting-Leave many dendrobiums, and these hybrids in particular, undisturbed in relatively small pots. Provide air circulation around the roots. Choose a potting material which will not decompose quickly. Mixtures of fir bark and inorganic material (lava-rock) have yielded positive results. The inorganic materials impart porosity to the mix, which permits air circulation around the roots. This mixture allows three years to lapse between repotting efforts. It is important, though, to avoid over-potting, because this slows growth and reduces flowering significantly.

Phalaenopsis-type dendrobiums are particularly suited to hanging in the greenhouse and windows. Clay pots with slits or extra holes are preferred in humid environments, while plastic pots with extra holes are adequate for drier climates. When repotting, avoid planting the growths too deeply in the mix since the "eyes," from which new growths emerge, will rot easily if covered with mix.

When kept in a pot too long, or another misfortune is experienced, these dendrobiums tend to develop keikis (plantlets) from dormant eyes located near the top of the plant. Once the keikis have grown leaves and fully developed root systems, remove them and pot separately. They will grow into duplicates of the original plant. Development of keikis on a dendrobium is generally an indication that there is a problem with the parent plant which will, more often than not, die soon after the keikis have developed.

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