



## Cultural Requirements of Masdevallia

By Marguerite Webb

The Genus *Masdevallia* (maz de-VAL-lee-a) is enjoying renewed popularity. Avidly sought by the Victorians in the middle to late 1800's, masdevallias are once again in the spotlight. This was stimulated by the discovery of new species since the early 1980's and by the production of lovely new *Masdevallia* hybrids. Approximately 365 species and 250 registered hybrids entice hobbyists. Startling arrays of exotic and whimsical flowers are colored vibrant-to-subtle hues. The tufted plants range in height from 1 to 12 inches, but the majority are compact, affording the grower maximum use of limited space.

Two Spanish botanists, Ruiz and Pavon, described the genus about 200 years ago after they found *Masdevallia uniflora* in the mountains of Peru. They dedicated their discovery to a friend and fellow botanist, Dr. Jose Masdevall.

Masdevallias are distributed from southern Mexico to southern Brazil, with the greatest concentration in the Andean cloud forests of Colombia, Ecuador and Peru. They occupy a surprising range of elevations, with species occurring from sea level to about 13,200 feet. Masdevallias are epiphytes without pseudobulbs and usually grow on mossy branches or trunks on the shaded lower parts of trees. These cloud-forest inhabitants are frequently bathed in moisture and dried by soft breezes. Although some of the high-elevation species require a cool environment, the majority of the species occurs at a moderate elevation of about 6,000 to 6,500 feet and tolerates greater diversity in temperatures.



*Masdevallia* is the showiest and most popular genus in the subtribe Pleurothallidinae, which also includes the genera *Pleurothallis* and *Dracula*. The sepals are the most conspicuous and most diverse part of the flower. They are usually fused to some degree to form an open cup or occasionally a tube. The apices, or sepaline tails (caudae), are often elongated and are responsible for creating the characteristic appearance of a *Masdevallia* flower.

**Temperature and Humidity**-The need for cool temperatures is the primary reason masdevallias are sometimes considered difficult. But many of the species and the majority of the hybrids respond positively to intermediate conditions. Temperature guidelines:

Warm growers: winter night – 55 to 65 F; summer day – 75 to 85 F.

Intermediate growers: winter night – 51 to 60 F; summer day – 70 to 80 F.

Cool growers: winter night – 50 to 55F; summer day – 65 to 78 F.

Masdevallias need a minimum 10 to 15-degree differential between day and night. This drop at night is important in the summer. Provide a substantially lower night temperature to minimize heat stress from temperatures in excess of maximum recommendations. High humidity (nearly 100 percent) also helps offset the ill effects of hot summer days. Relative humidity should rise with the temperature. Because masdevallias are cloud-forest inhabitants, a relative humidity ranging from a minimum of 70 percent to nearly 100 percent is recommended.

**Air Movement** -Air movement is important in the culture of all orchids but, because of temperature and humidity requirements, it is particularly vital in effective masdevallia culture. Adequate air movement reduces leaf temperature, aids in evaporation (thus increasing humidity), and helps reduce the likelihood of fungal and bacterial problems. The air movement should be strong enough to provide a fresh atmosphere, allow for drying of potting media and leaves, and help maintain an even temperature.

**Light**-Masdevallias usually grow in relatively shaded areas in the forest. In cultivation, about 1,000 to 1,400 foot-candles of light is adequate. The leaf color should be medium to light green. Too much light quickly produces yellow leaves; too little light will result in dark green elongated foliage and poor flowering. Many masdevallias will fit on the

windowsill or under lights.

**Watering**-Because masdevallias are relatively small plants potted in small pots, it is necessary to water often. Frequency depends on time of year and type of container and medium, usually ranging from two to three times a week in the summer to about once a week in the winter. Keep the medium moist but not sopping wet. Flush water through pots to ensure thorough wetting. Overwatering does not make up for lack of humidity and will cause root rot.

**Fertilizing**-Masdevallias are not heavy feeders. Apply one-half strength of a balanced fertilizer once or twice a month. Overfeeding may cause leaf-tip burn.

**Potting**-Choice of potting media is a matter of grower preference and dependent on cultural conditions. Masdevallias need a mix that is free-draining yet moisture retentive. Mixtures containing fine fir bark, medium-grade tree fern, osmunda and/or New Zealand sphagnum moss are widely used. Plastic pots retain the moisture in the potting medium longer than clay pots and for that reason, plastic is often preferred.

Repot masdevallias when the potting mix begins to deteriorate, on or about every two years. Early spring is the ideal time for repotting because plants re-establish quickly before the onslaught of summer heat. It is best not to disturb masdevallias during the summer. Pot masdevallias so the plants will not wobble when watered. It is important that the crown of the plant is positioned level or slightly above the surface of the media, never below.

Some masdevallias have a pendent inflorescence or climbing growth habits. Mount these on a slab. Tree fern is probably the best support; it will retain some moisture. Place a cushion of osmunda or New Zealand sphagnum moss around the roots and tie the plants in position with monofilament or a similar thread. Mounted plants require more frequent watering, perhaps once a day.

Reprinted from *Growing Orchids*, a culture handbook published by the American Orchid Society.

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