



## Masdevallia

### Introduction

*Masdevallia* orchids are a very colourful genus of orchids native to South American countries such as Peru, Ecuador, Bolivia and Venezuela. Their natural habitat is a cool cloud forest habit where the air is humid and light is medium. They have beautiful delicate flowers ranging in colour from whites, yellows, oranges to highlighter pinks and purples. This group also encompasses the *Dracula* orchid which grows at even higher altitudes. Some species and even some cultivars of normally cold species are able to grow at high temperatures such as some of the *Dracula vampira*. It is not completely exact to say that they are cold growing plants; only that their roots need to be kept cold, in a way similar to the *Disa*. In fact it can be explained in part by the dissolved gases level in water where the maximal gas dissolution occurs at lower temperatures and no gas can be dissolved at higher temperatures.



### Pot type:

As a cool growing orchid these plants prefer a continuously damp medium. Roots are small and many and will fill pots very quickly when growing well. Deeper pots are generally used and plants are potted out from being divided into 5cm tubes, 7-10cm pots or 12-15cm pots depending on size. Certain species such as *Dracula* have pendant flowers (throw out flowers from below the crown) and therefore need to be potted in to baskets. Ensure good space is placed between plants when pots are put into the greenhouse to ensure good air movement.

### Grades to use:

*Masdevallia* were grown in good quality NZ sphagnum moss however when the media became sour, the plants would be gone quickly. Intensive cleaning was required as well before a new potting to ensure that no old moss was present. Alternatively Precision Orchiata (for small plants) or Classic Orchiata (for larger plants) will provide a good balance of moisture and air for these plants and are used by some of the best growers of these genera.

### Time at Re-Potting

Re-pot and/or divide plants during the autumn or spring every two years or when plants are sufficiently large enough. It is best, as with most plants, to repot when the plants are about to root to minimize disturbance. Huge clumps must be divided as a considerable number of species tend to completely rot from the oldest parts of the clump.

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## Humidity and Air:

High humidity (50-65%) should be maintained for these plants as their natural habitat occurs in the cloud line. During summer apply a regular misting generally in the morning to increase humidity. Keep air circulation at all times to prevent water staying on leaves as this will encourage leaf spot.

## Temperature:

As these plants are cool growing orchids the temperatures tolerated are generally on the lower side. For general *Masdevallia coccinea* its natural elevations of 7,000 – 10,000ft above sea level provide temperatures in the range of 10-14°C (day) in winter and 10°C (night) - 24°C (day) in summer. At higher temperatures than above leaves may go pale and scorch. Increase humidity and air to combat this and keep the roots cold. For that purpose Precision Orchiata in a terracotta pot can be used along with ample watering. The resulting evaporation will lower the root temperature by some degrees and allow the plant to survive and thrive. Zinc sulphate at a rate of 1ppm mixed with calcium nitrate at 200ppm, calcium chloride at 100ppm and boric acid at 0.3ppm must be supplemented in adverse condition, as these will be deficient at higher temperatures. Zinc deficiency will make chlorotic new growths in hot weather. Calcium and boron deficiency in these conditions will produce tiny brown pitting of the newer leaves followed by 'bacterial rot' of the new growth. This in fact is a natural, pathogen-free cell collapse, eventually followed by a simple decay of dead plant material.

## Light:

*Masdevallia* like good light, but not direct light. They can tolerate slight shade especially during the summer. Do not keep in full sun or leaves will scorch. During winter keep in a position with good light. 1700 – 2200 foot candles is a good amount of light for these plants.

## Fertiliser:

These plants are generally active throughout the year although growth may be slower in winter. Use a balanced fertiliser at ¼ strength throughout the year; feed at every third or fourth watering. If in doubt do not feed. These plants do not like salt so roots will easily turn brown if over fed. If plants need a boost then a dilute foliar feed can be applied. Higher feeding schedules can be used if the grower masters their culture perfectly well. Historically, *Masdevallia veitchiana* and several hybrids were grown in Holland along with *Miltoniopsis* and *Phalaenopsis*, in the same condition. Eventually they were found to be too susceptible to viruses and their commercial pot-plant production has subsequently been halted, they are however considered an easy to grow crop.

## Irrigation:

*Masdevallia* prefer a wet medium although this must be allowed to drain sufficiently before the next irrigation. Drench the media thoroughly at each irrigation and allow to drain. Do not let water collect in the bottom of the pots. During summer the plants may require water once or twice a week, or more if the days are warmer and air movement is constant. During winter cut the watering back to once every 10 days. Watering in the morning allows the droplets to dry from the leaves to help prevent disease.

## General:

*Masdevallia* flower in either the spring or summer after a rest period in winter. Depending on the size of the plant there may be one or several spikes. *Masdevallia* make good companions to *Cymbidiums*, *Miltoniopsis* and *Odontoglossums*, in the greenhouse.

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