

Growing *Masdevallia coccinea* ~ by Theresa Hill

After growing *Masdevallia coccinea* for many years they still hold me captive during the early spring with their diversity of color and form. There are many interesting types like the diminutive *Masdevallia coccinea* 'Dwarf Pink' HCC/AOS with matte pink flowers. True pink forms are the rarity in *Masdevallia coccinea*. The pink colors lean to the violet or red tones of differing value. The season begins with the alba forms like *Masdevallia coccinea* alba 'Snowbird' AM/AOS, and *Masdevallia coccinea* alba 'Greentree' AM/AOS. The large flowers of the purples are not to be overlooked with their iridescent diamond dusted colors. *Masdevallia coccinea* 'Royalty', as yet unawarded is the parent of an outcross which when presented for A.O.S. judging, garnered four quality awards and an Award of Quality. They include *Masdevallia coccinea* 'Hillsview' FCC/AOS, *Masdevallia coccinea* 'Josephine' FCC/AOS, *Masdevallia coccinea* 'Portland' AM/AOS, and *Masdevallia coccinea* 'Pilar' HCC/AOS. *Masdevallia coccinea* 'Royalty' was purchased from Margaret Ilgenfrits Orchids in the early 1970s, and has been used in many crosses and continues to produce excellent progeny. *Masdevallia coccinea* with purple coloration, some with almost heliotrope colored flowers are found in abundance in their natural habitat.

Masdevallia coccinea 'Leywoods' HCC/AOS, is an excellent choice for red color. It is easy to grow into large plants and gives a fantastic display of red color on the show bench. Other reds to choose from are *Masdevallia coccinea* 'Greentree' AM/AOS, and *Masdevallia coccinea* 'Sanguinea' both with a velvety matte finish and bright yellow sepaline tubes, *Masdevallia coccinea* 'Lines' CBM/AOS an almost orange/red has very fine form and is a good breeder, *Masdevallia coccinea* 'Ruth' AM/AOS, a selected clone from the Beall Orchid Co., around for some time but still one of the best reds. It has the unusual habit of producing twisted leaves if grown too dry. *Masdevallia coccinea* 'San Bar Red Flare' HCC/AOS is a stunning red in the tradition of *Masdevallia coccinea* 'Red Moon' AM/AOS. *Masdevallia coccinea* 'San Bar Cerise' HCC/AOS is another fine red.

The yellow forms of *Masdevallia coccinea* are stunning. *Masdevallia coccinea* xanthina 'Crestwood' AM/AOS, *Masdevallia coccinea* xanthina 'Seattle Gold' AM/AOS, and *Masdevallia coccinea* 'M. Wayne Miller' AM/AOS, are possibly the same triploid clone and only breed reluctantly with a few species to make primary hybrids. Any one of these makes a fine addition to any collection. The clone *Masdevallia coccinea* xanthina 'Especial', from Coloborquideas is a known diploid that is a reluctant bloomer for us and has been used in breeding. We have an f2 outcross in the lab that should yield some percentage of yellow *Masdevallia coccinea* seedlings in the future.

After spending much time researching the right fertilizer, the best mix, the desired light requirements, and the best water quality, issues concerning the cultivation of *Masdevallia coccinea* and orchids in general are clear. Cultivating orchids requires constancy,

attention to detail and observation. There is no magic to growing orchids. Anyone who has spent time tending plants knows how special and rewarding it can be. It is the slow and constant gardener that always wins the prize.

Temperature and Light – *Masdevallia coccinea* is found at 7,000 to 10,000 feet elevation along the eastern cordillera of Colombia. The temperatures here are quite cool and with a great deal of rainfall during the year. The plants are often found growing as terrestrials. *Masdevallia coccinea* requires clear glass (no shading on the glasshouse), from October 15th till the first of April, depending on our weather here in the Pacific Northwest. It is important for good spike production that the plants get as much light as possible for as long as the weather permits. Growing the plants cool with bright light will guarantee success in producing large numbers of spikes. The temperature in the greenhouse in the late winter is set for a minimum of 50F – 55F (10C – 14C). The day temperatures are not a concern here in the Pacific Northwest were the cool rainy days of winter keep the day temperatures from going above 75F, even on a bright winter day. Summer has its own set of problems. Plants require less fertilizer during non active growth periods, the high heat of summer, and the cold of winter! In summer the plants will require cooling. Evaporative coolers are employed from late June to early September. Again the weather dictates our action. We grow our *Masdevallias* at much brighter light 1700 to 2200 foot-candles along with our *Miltoniopsis*. That I agree is very bright. You cannot produce good flowers in a cave. I have visited many greenhouses that were just too dark for good flower production. One note: *If you do not feed your plants, you can grow in more shade. If you feed your plants often you must have light for the plants to produce firm hard healthy growth, less prone to bacterial and fungal problems.*

Watering and Feeding – *Masdevallias* and *coccinea* in particular will require special treatment during *non peak growth periods*, which again are the very cold of winter and high heat of summer. In the summer the plants will require watering more often. Watering the plants does not consist of misting the plants. If you are going to water your plants put enough water on the plant so the water flushes through the pot and out the bottom. The more water you run through the pot the more air is delivered to the roots. *Masdevallia coccinea* should not dry out. It should be kept evenly moist. We always water our plants thoroughly the day before applying fertilizer. The plants are foliar feed for 2 minuets per station (per bench). Here we differ from many growers in that we apply our fertilizer as a foliar feed. The fertilizer used is a formula that requires dual injectors delivering 1 to 140. The fertilizer is applied at 1250 parts per million TDS, total dissolved solids. Our feed is as follows for two 30 gal trash cans.

Tank #1

25 lbs. Poinsettia Feed

14 lbs. Magnesium sulfate (solution grade)

Tank #2

18 lbs. Calcium Nitrate (solution grade)

10 lbs. Potassium Nitrate (solution grade)

Humidity and Air – Humidity is an important factor often overlooked. Masdevallias are native to the Andes of South America in cloud forest and need 55% to 65% humidity. Fresh air movement is always a benefit and again often overlooked. The cool moist air is a constant in their native habitat. Remember we are growing in air tunnels or convection greenhouses so try to give the plants as native an environment as possible. In January the days will gradually get longer and the plants will respond with new and active growth. This is the time to give the plants as much fresh air as possible.

Potting – There are many different potting mixes and blends that work under each grower's ideal conditions. Orchids have been grown in many different mixes with many more to come! It is the dynamics involved for a particular mix or blend that change. I have seen stunning *Odontoglossums* grown in foam pillow stuffing! All mixes will break down at some point. The *Masdevallia coccinea* are currently growing in long fibered New Zealand sphagnum moss, for two seasons. The plants are potted the second year in the fall or spring. Never in the summer! The sphagnum moss will last two seasons with foliar feeding because the pots are not flooded with fertilizer salts. It is these salts that aid in the break down our potting mixes.

Growing Under Lights – *Masdevallia coccinea* is a challenge in ideal conditions and an extraordinary challenge under lights. Many problems can be overcome by moving the plants outdoors during the spring and again in fall. If the temperature is above 40F at night the plants will benefit from being outdoors in fresh air with bright light during the day. Once the summer temperatures get above 80F, the plants should be moved indoors under lights. Growing in a basement is ideal with cool concrete walls in the summer and warm even temperature in winter. Early in my Orchid life, I began growing orchids under lights in a basement and had very good success. Growing orchids is always a challenge, rise to the occasion. You can succeed with *Masdevallia coccinea* if you just work at it.

Orchid Ailments – Slugs and snails are always the most common problem with any orchid. They are devastating to all parts of the plant and must be controlled. Baits which contain meal should be used on the floor of the greenhouse and not around the plants as these tend to mold and can cause damage. Granular baits such as Durham metaldehyde granules 7.5% are fine to use around plants. It is more effective if you water the entire greenhouse early in the morning allowing the foliage to dry and broadcasting the bait in the evening. Another weapon for slugs and snails is Slug Fest 25% metaldehyde which we use as a drench. Other common problems include aphids, mealybugs, scale and fungus gnats. We often use Tame/Orthene total release foggers in two applications 7 days apart followed by an alternate chemical. These total release ultra low volume insecticide foggers are a great advantage to the grower. All chemical application should involve visiting the manufactures web site, reading the labels before use and contacting the proper local government agencies for information about specific use. We do recommend the A.O.S. handbook, "Orchid Pests and Diseases", available from The American Orchid Society. We also recommend "Your First Orchids and How to Grow Them", published by The Oregon Orchid Society, also available from the American Orchid Society.