

The Wonderful and Intriguing World of Pleurothallids



Pleurothallids have a wide ranging and intriguing beauty – from Masdavellias which number among the most brightly coloured of orchids of all to the truly amazing and scary Draculas, the jewelled intricacies of Lepanthes, the zen-like beauty of Stellis and the endless imagination of Pleurothallis.

What are they?

Pleurothallids (members of the Pleurothallidinae) are a distinct group of orchids and probably the largest group of orchids in the world. About 10% of the world's orchid species are pleurothallids. Add a distinct growth habit which is mimicked by very few orchids (although some Brassavolas do look similar to some of the terre leaved Pleurothallis and Octomeria species) and you have a large and unique group of orchids to explore.

The distinctive growth habit consists of just a thin stem where in most orchids you would find a pseudobulb. This thin stem joins the rhizome and leaf and may be very short, as in many Masdavellia species, or several feet long as in many Pleurothallis species. This thin stem is called a ramicaul. "Pleurothallis", in fact, means rib-like branches.

As is typical in the Pleurothallidinae there is enormous variation about the basic plant structure and the distinctive structure of some Pleurothallidinae defines the genus to which they belong – for example the upside-down hoop petticoat bracts of Lepanthes, Brassavola impersonations of Myozanthis (coupled with brightly coloured purple or red prickly hairs over the new growths) and Octomeria and the ridged plicate leaves of Draculas.

Masdavellias and Draculas are large flowered plants that have distinctively fused sepals with very small, if not entirely unnoticeable, petals and lip – the complete opposite of many other orchids. This gives them often a distinct triangular or tubular shape. Restrepias and many pleurothallis have fused lateral sepals. Restrepias has very thin petals and a dorsal sepal with an unusual club-shaped end (thought to be an ozmophore – a scent producing organ). The petals, even if small are very distinct and often "three. dimensional". Instead of just being flat, as if cut out of a piece of paper, they often have spectacular horns and growths. These include the three horned petal tips of Draculas, the clubs of Restrepia and Myozanthis, the crazy modernistic sculptures of Lepanthes and the plastic-like ridge of Stellis.

One of the great charms of the pleurothallidinae is its endless floral variation.

Where do they come from?

Pleurothallis are wide ranging orchids. In the north they start in southern Florida and are found throughout the Caribbean and Central America and are widespread through northern and mid-southern America. They grow from sea level to well over 4,000 metres high. We think of them as cool cloud-forest plants and most of them are, but there aren't too many cloud-forests let alone in the

swamps of Florida. Although many of them do not enjoy bright light some do. *Pleurothallis teres* grows on the same bare granite ledges in full sun as the Brazilian rupicolous *Laelia crispata* and *ruprestis*.

Their geographical range means that pleurothallis are tropical plants. Tropical doesn't mean hot as roughly the average temperatures fall by about one degree Celsius per hundred metres of height. There is therefore a wide range of culture conditions in which these plants grow.

The common theme wherever these wonderful orchids grow is the humidity. Wherever they grow the humidity is high to extremely high. Eighty to ninety percent is often cited as an average range and many, such as *Lepanthes*, prefer an almost saturated atmosphere. Indeed the flowers of some, particularly the large *Draculas*, will wilt if taken out of their cool, humid environment only to plump up again when returned to the humidity. This is why, particularly overseas, *Draculas* and other pleurothallids are shown in a wardian case to keep the humidity up.

The other critical cultural factor seems to be leaf temperature. This varies for each species and some are truly shade dwelling. Some however grow in full sun but manage to keep their leaf temperatures down by having narrow pointed vertical leaves and grow in very cold surrounding air temperatures (such *Masdavellia veitchiana*). Therefore there is a trade off between sunlight and leaf temperature conditioned by the surrounding air temperature. Colder air permits brighter conditions. More correctly, leaf temperature in warmer climates need to be kept down by increasing the shade.

For many, many pleurothallids a maximum temperature of at or just under 20 degrees Celsius is desirable. This is the reason why in Australia, particularly outside Tasmania and Victoria, only the truly warmer growing species are seen flourishing for long.

Judging

Masdavellias are the most commonly seen genus put up for awards. The species *masdavellias* have simply amazing and brilliant colours. Anything less in a hybrid should not be tolerated or accepted. Therefore colour of a *masdavellia* should be outstanding and brilliant, no matter the hue. Dull, muddy colours should be very harshly marked.

Shape is a less important consideration in my opinion although still an important factor. Furling or rolling of the sepaline tube is a serious fault.

The most common fault made by novice judges, and even some senior judges, is to judge the shape of the flower on the position and uniformity of the sepaline tails known as the caudae. Whilst it is of course better if they are straight and uniform many *masdavellias* do not perform that way and they are but a very small part of the overall floral impact. It is easy to exaggerate the importance of them.

Nearly all pleurothallids, including *masdavellias* are very floriferous orchids. Plants should carry a body of flowers commensurate with their size and breeding.

Many species and some hybrids are very small flowered but very floriferous. As with many other small flowered but floriferous genera these orchids really need to be judged as plants and their overall floral display and impact taken into account. When well grown and flowered these plants are simply a delight. Finally freshness of flowers is very important - pleurothallidinae flowers will often deteriorate quickly particularly if taken out of their preferred environment. This means that care should be taken when judging them - they need to be kept as cool and as humid as possible and placed away from heaters and strong hot lights.

Culture

For most a wet, damp and shady environment needs to be provided – the cooler your temperatures the more light can be given.

In warmer areas (such as New South Wales) care should be taken to select those species that come from warmer areas.

Good quality sphagnum moss is an ideal potting mix – alone or with perlite (or polystyrene chips if you insist on polluting the environment). Bark based mixes, again with perlite work well also.

Water quality should be high (low salt content). Plants in sphagnum need very weak, balanced fertilizer - inorganics seem to preserve the quality of the moss. Bark based mixes will require more fertilizing and one with an emphasis on nitrogen. Remember, however, these orchids come from high rainfall areas and do not tolerate strong fertilizers or have any need for heavy feeding.

Good air movement prevents most fungal problems and is what the plants enjoy anyway. Snails and grasshoppers can easily be kept in control by regular night time vigilance. The worst pest of these orchids is aphids – which are not only capable of destroying new growths but are the vector of the virus that affects these orchids – bean yellow virus.

Fortunately they are easily controlled by pyrethrum or soap sprays. You don't need anything stronger, and will keep yourself and your family alive and healthy and able to enjoy these wonderful orchids.

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