

TUBEROUS DROSERA – CARE & CULTIVATION

Written by Johnny Maiocchi

INTRODUCTION

The tuberous members of the genus *Drosera* are a group of highly specialized carnivorous plants comprising of approximately 70 species and sub species. All members of this group are endemic to seasonally arid areas of Australia, Tasmania, New Zealand, South East Asia and Japan. This unique group of plants represent somewhat challenging yet rewarding additions to any botanical menagerie.

Tuberous *Drosera* are highly adapted to live in habitats prone to extreme seasonal drought and natural bush fires. Summers in these regions are very hot and dry with little to no rainfall. In winter, temperatures fall and the rains return giving new life to these arid lands. In order to endure these adverse conditions, this group has evolved a survival strategy common to many herbaceous plants around the world, the formation of underground tubers. The main function of these tubers is to provide storage for the energy needed to sustain the plants during their long dormancy and to enable the plant to resume active growth. The formation of these tubers also allows for rapid growth once the growing season begins. Some species can grow up to 24" in several weeks after breaking dormancy and can live for 50 years.

Plants in this group can be extremely varied in appearance and growth habit. This variation is due partly to often very isolated areas of suitable micro habitats separated by vast expanses of terrain which is non-conducive to their needs. There are 4 distinct groups of tuberous *Drosera* which exhibit unique growth habits. These groups are as follows:

Rosetted - The leaves of this group of plants grow on or close to the ground in a rosette pattern.

Ex.- *erythrorhiza*, *aberrans* and *zonaria*

Erect – This group of plants sends up a self-supporting central stalk, sometimes branching which the leaves grow off of. This group is the most diverse and includes some of the largest and smallest species. Ex. – *gigantea*, *menziesii* and *microphylla*

Scrambling – Plants in this group also grow a central stalk which the leaves grow off of, however, the stalks are not as robust and depend on adjacent vegetation for support. Plants in this group can attain lengths of over 10'. Ex. – *erythrogynae*, *macrantha*

Fan Leaved – These plants produce a relatively short central stalk often with a basal rosette. The leaves have a distinct growth pattern on short petioles. Ex. – *stolonifera*, *ramellosa* and *purpurescens*

CULTIVATION TECHNIQUES

Tuberous *Drosera* can present some challenges in cultivation mostly due to their seasonal dormancy requirements. They require hot, dry summers and cool, wet winters. With a thoughtful approach, these conditions are easily replicated.

Pots used for the tuberous species of *Drosera* should be at least 4" across and 6" deep. Tubers should be planted, growth point or "eye" up in the top 2"-3" of soil. The tubers will often continue to work themselves deeper into the substrate and occasionally right out the drain holes in the bottom of pots so, pot depth is therefore an important aspect to consider. Some species will readily form new tubers so, make sure there is enough horizontal room in the pots to accommodate this. For example, your single *D.modesta* or *D.menziesii* could send up a miniature glistening forest the following year.

The potting media for these plants should consist of about 3 parts sand to 1 part peat. I prefer to mix a coarse grade silica sand with finer "Play Sand" but, any inert sand seems to work just fine.

These plants must be fed often while in active growth to ensure that they will have enough energy stored to sustain them through dormancy and back into an active growth cycle. The plants can be fed live or dead insects or many of the commercially available fish food pellets placed directly onto the leaves. Another method, which works well, is to spray the leaves with a plant fertilizer such as Max Sea or Better Grow. Care should be taken however not to get too much of the fertilizer on or into the substrate.

The light cycle and temperature are both important factors to consider when taking on the challenge of growing tuberous *Drosera*. The light cycle for active growth should not exceed 10 hours of direct light. When inducing dormancy, this should be slowly increased. Temperatures should remain in the 45-70 degree range for active growth. Do not let the temperature get over 80 degrees for any length of time, this may trigger an early dormancy in some species. It is important to try and replicate the naturally shorter days of winter for these plants to thrive.

Dormancy is by far the most challenging aspect to consider when growing tuberous *Drosera*. It must first be understood that these plants have evolved over eons to time their growth and dormancy to the natural rhythm of the seasons in their native habitat. Hot, dry summers and cool, wet winters.

This cycle must be replicated in order to succeed with these plants.

Active growth will naturally begin in early to late autumn depending on species. You should start top watering the plants once per week or so starting in early to mid September. Active growth will be apparent when the plants first break the

surface of the substrate a few weeks later. At this point, it is safe to place the pots in trays of shallow water for the growing season.

The plants may grow extremely rapidly in their first month of growth and some species can reach a height of 24" in only 4 weeks. They will start producing flowers shortly after reaching maximum height. Active growth will continue into the spring (or even early summer in some species). After the flowers wilt and seed is produced, the plants will start to set their clocks for summer dormancy. The light cycle should be raised gradually during this time over the course of a month or so up to at least 14 hours of day light. Temperature should also be slowly raised at this time. Pots should be removed from water trays and gradually allowed to dry out. Keep in mind that all signs of living plants will die back to the tubers and this is just their normal process.

Dormant tubers may be kept in their pots throughout the summer. Find a warm, dry spot where they can be stored for the next several months. It must be understood that the dormant tubers (with very few exceptions) must be kept bone dry for dormancy. Do not water your plants at all during this time. If tubers are left moist during dormancy, they will usually rot. During dormancy, is also the best time to repot your plants if you need to. The dormant tubers will be yellow to bright red depending on species and can vary in size from the size of a pinhead to the size of a ping pong ball so, be sure to sift through the soil carefully while looking for them. Also, as previously mentioned many species will produce additional tubers under the soil during the growing season so, be on the look out for new additions. The tubers can be carefully dug out of the substrate and safely moved, examined or shipped while dormant.

After 3-5 months of a warm, dry dormancy your plants will be ready to start the cycle anew and their seasonal processes can be repeated.

With a little bit of attentive care and some manipulation these coveted and mysterious plants can be very interesting, rewarding and often bizarre additions to your collection.

Acclimation:

These plants, while becoming increasingly common in collections in the United States are still quite rare and can be difficult to obtain domestically. Often the best place to purchase these plants is from growers in their native Australia. This however presents a new hurdle in their care. Being in the Southern Hemisphere, Australia's seasons are in reverse from our own. Their winter is our summer. So, what does this mean for your newly imported tubers from Australia? It means the dormant tubers will need to be tricked into resetting their internal clocks to be able to grow in the Northern Hemisphere. This can sometimes be a delicate process resulting in losses due to rot.

Australian grown tubers are usually available from December to February, their summer. When your tubers arrive in our winter, they will be fully dormant. Place your newly arrived tubers in sandwich sized zip lock baggies with a piece of dry paper towel or a sprig of long frond sphagnum moss. The paper towel or moss will help absorb any ambient humidity or moisture that may foul the tubers and cause them to rot while in the plastic bags. Place the baggies containing the tubers in a cool, dark area such as a drawer in a cooler area of the house or a dry corner of the basement. Check on the tubers regularly, once every week or so.

After several weeks of being exposed to cooler temperatures, you will start to see the first signs that the ruse has begun to work. Signs of life will start to become apparent from the eye or growth point of the tuber. This is the plants stolon starting its upward migration through the soil to the surface.

The tubers should be planted in their pots after there is at least a half and inch of stolon emerging from the tuber. Plant the tubers 2" to 3" into the soil. They should also be top watered regularly at this time and allowed to drain. Once you observe the plants breaking through the soil surface at the top of the pot you can place the pots in trays of shallow water.

From this point, the plants will need a shortened growing season. They will need to be fed heavily during this time. The extra energy will be needed for them to survive being rushed through a year of growth in just a few short months. Remove the plants from their water trays in late June to mid-July, by this time our summer heat will already be forcing them into an early dormancy. Keep the pots containing the tubers warm and completely dry until fall. By mid to late October the plants should be starting to grow again, now becoming in tune with our seasons.

More information visit www.NECPS.org