

## Pterostylis (Ptst)



Pterostylis (Ptst) - or “Greenhood”, because the flowers are mostly greenish and the dorsal sepal and petals of the flower form a hood - is a genus of orchids native to Australasia, represented by over 150 species. The plants are terrestrial, die back a few months after flowering and remain dormant for a couple of months during the hot season (late autumn to late summer). During dormancy the plants are not visible above the ground; however, the small roundish tubers are alive, rest underground and ready to shoot as soon as the condition are right.

Unlike species of other orchid Genera, Pterostylis species are very complex.

Firstly, species are divided into two groups: Species with plants that grow alone or solitary, and species with plants that grow in groups or colonies. Logic suggests that terrestrial plants, grown from tubers, couldn't possibly live a “solitary” life unless each plant produces only one tuber. It throws Darwin's theory of the “Survival of the Species” out of the window.

Secondly, there are two types of tubers: “Juvenile” and “Mature”.

Juvenile tubers are small and do not flower. Juvenile tubers produce a rosette of 2-4 small roundish leaves. If the conditions are right, before dormancy, juvenile plants produce a “mature” tuber and hopefully a couple of “juvenile” tubers. Plants grown directly from seeds produce “juvenile” tubers only. Mature tubers do flower and under favorable conditions should produce some “mature” tubers and some “juvenile” ones.



Photo: Mature tubers: Ptst anatona (Qld)

Thirdly, Pterostylis species differ widely in the way they grow. There are three noticeable differences and theoretically at least, Pterostylis species can be assigned in one of the three groups:

a) The plants appear as a rosette of 3-7 leaves with all leaves placed almost flat on the “ground”. The basal flower stem is 5-20 cm long, usually with a single leaf roughly half way and ends with a single flower. It is possible that the tubers of the plants in this group were not “mature” enough and display a “juvenile” behavior.



OR

b) The plants grow as a rosette of 3-7 leaves but the leaves “grow” upwards. The basal flower stem is 10-30 cm long, rarely has a single leaf roughly half way and ends in a single flower.



OR

c) The plants have a straight up shoot/flower stem with 4 to 7 little leaves, each leaf a few centimeters above the older leaf, with a ca. 90° rotation. It all ends in a single flower.



Ptst obtusa

Flowering can take place anytime between early autumn and late spring, rarely in summer. The flowers are greenish with white but brown or reddish colored flowers do exist. Flowering is very demanding and stressful for the plant. Cutting the flower “early” will eliminate the stress and the plant will be free to divert energy to itself and to its tubers. The end result: Larger, healthier and perhaps a few extra tubers.

In nature most *Pterostylis* species grow in cool but moist open forests. At home, *Pterostylis* species are easy to grow and do flower regularly. The plants are frost hardy, need good light, regular watering during the growing period and no watering during the dormant season.

About a month after all plants in a pot died back check the soil for tubers. I use my hands and not a sieve because under the pressure of the soil the tuber’s skin may get damage. After, I wash the tubers and place them in a clean brown paper bag, add the nametag and close the bag. When I finish, I place all brown bags in a carton box and store it in a dark cool place for about 8 – 10 weeks. When the weather condition is right I start planting the tubers. If the tubers are kept in the pot, make sure the pot is kept in a cool place and the mix never completely dries out.

Potting mix: When it comes to potting mixes, there are two schools of thought. A) The “old way”. Person choosing the old way keeps half of the old potting mix and replaces the other half with a

new freshly prepared mix. The reason? It is assumed that the old potting mix contains useful mycorrhiza fungi. B) The new way. A fresh potting mix is prepared using 50-60% freshly collected sandy loam "topsoil". Topsoil normally contains organic matter and a variety of good fungi. Freshwater river sand is added, sieved, ca. <10%, and good quality, organic matter containing commercial potting mix, also sieved. PLUS ADD half a tsp of sugar to promote fungal growth. (Honey should not be used because honey is a potent fungicide).

The potting mix must be well mixed and uniform in size (grain size <5mm) before use. The Pterostylis roots have a bad habit: When the roots notice a change in density or composition turn upwards and come out of the pot in the open, turn green and become aerial roots. Aerial roots do not produce tubers and therefore, it is in the best interest of the grower to keep the roots inside the pot.

The number of the tubers determines the size of the pot. I place tubers 25 mm apart in a circle and the start another circle 25mm inside, etc. Be prepared, not all tubers will shoot.

Protect old leaves from touching the ground. If the leaves touch the ground, will start to rot, turn yellow and fall. Once rot sets you lost the plant and the tubers. Many growers place a layer of finely chopped "pine needles" or "she oak needles" on the top of the soil. Pine needles are better because pine needles prevent weed-seeds from germinating. Orchids do not need competition. As I do not worried about weeds, I use crashed eggshells sieved <3mm size. Eggshells release slowly Calcium, which is important for the cell strength of the plants. I also observed that snails and slugs don't like crossing eggshells.

I use a normal fertilizer during the growing season.

Remember: If the soil is too wet, the tubers will rot. If you add "blood and bone" in your potting mix you invite ants. If you spray your terrestrials with fungicide, you also kill mycorrhiza fungi.