

The fast movers of the plant world (Triggerplants) January 2006

Of all the interactions between plants and insects there are few more interesting than the Triggerplants. Like many other flowers Triggerplants depend on insects to transfer pollen from one flower to another but their way of achieving this is truly unique.

Instead of the usual ring of anthers (the “boy” bits) arranged in a circle around a central stalk carrying the stigma (the “girl” bits), Triggerplants have a flexible column which carries both set of sex organs. This column is cunningly concealed below the petals. When an insect comes to the flower to drink the sweet smelling and tasty nectar, its proboscis, or tongue, touches a sensitive spot at the base of the column causing it to quickly snap over and thus, trap the insect. If the flower has newly opened the anthers will have produced some yellow pollen which will be powdered on to the back of the insect. On the other hand, if the flower is more mature, the anthers will have dropped off and the stigma will be ready to receive the pollen on the back of the insect. The further development of the seed will then take place.

Perhaps the most amazing thing about this process is the speed at which the trigger moves. It only takes a few hundredths of a second to swing over and touch the insect. It is one of the fastest movements in the plant world. The trigger is then slowly reset to its position below the petals.

We have several kinds of Triggerplants in our district, most of them only a few centimetres tall. The largest is the Grass-triggerplant which grows to a height of about 60 cms. The 1.5-cm flowers cling closely to the stem and form a single slim spike. As in most Triggerplants the colour varies from pale pink to a more deeper hue. Again, as with most Triggerplants, the four petals that can be seen are arranged in pairs; the fifth petal is a small residual thing.

The Grampians is the home of the Grampians Triggerplant. It is only found in these mountains. A short cushion of leaves form a tuft of about 3 centimetres, looking like a small bright green cushion. The branched stem is about 10 cm tall surmounted by a few small pink flowers. It will be found along tracks and below rock shelves in places where water runs and should be in flower during December and January.

People often wonder if Triggerplants are carnivorous. The answer is unclear. Although the trigger mechanism is certainly not involved in capturing insects for consumption, there are other reasons to suppose that insects could be a food source. Triggerplants have sticky hairs on the stems and on the outside surfaces of the flowers. These hairs are very similar to the hairs on the leaves of the Sundews, well known as insect eaters. The sticky substance is thought to contain chemicals that can digest proteins. If that is the case then it is very likely that Triggerplants are also carnivorous. The fact that they are often found in moist, nutrient-poor soils alongside Sundews and Bladderworts also adds to this possibility.

There is so much still to be found out about this fascinating group of plants.

Photo:

Grass Triggerplant (*Stylidium graminifolium*) showing triggers in different positions.

