

from the sand, and, without a moment's hesitation, making a bee-line for the water. If all the turtles that were hatched lived, the seas would be quickly overrun with them; but alas, once they reach the shallows, they are met by an army of fish, sharks and birds, waiting for their supper. Probably not more than one in a hundred escapes death in this manner.

The turtle egg is round, something like a ping-pong ball, and creamy-white in colour. The shell is soft like rubber, but very tough. The contents are like a hen's egg, only the yolk is rather lighter in colour. A remarkable thing is that when boiled the white of the egg does not harden.

So far, I have told you little of the wonders of the reef itself. Besides the diversity of colour and shape of the coral, there are many strange animals to be found in the pool among it. Fish of all shapes and sizes and colours, some covered with poisonous spines, others square like a box, others again with long waving fins, are to be seen hunting for food among the sea-weed. Sponges, too, are plentiful, although very few of the best soft sponges are found there. Sea-urchins, twelve inches in diameter and covered with long spikes which assist their slow movement over the bottom of the pool; sea-snails, coral-eels, and a hundred and one other peculiar beings make a day on the reef a series of unending surprises.

One of the most unattractive-looking inhabitants of those parts is the *bêche-demer* (sometimes called trepang, sea-cucumber or sea-slug). Indeed it is about the shape and size of a large cucumber, and is one of the most valued foods of the Chinese. At low tide the creatures are picked up by the fishermen, who dive for them in the shallow water. They are prepared for export by being boiled alive, after which they are cleaned and hung up to dry. When dried they resemble a crumpled lump of leather, but the sale of these to China brings anything from £14,000 to £40,000 to Australia annually.

The Great Barrier Reef is a wonderland that is not sufficiently appreciated by Australians. Nothing so huge or so abundant with life is to be found anywhere else in the world. Some day, no doubt, there will be regular tourist trips to enable us to inspect its many beauties and curiosities. In the meantime we have this book of Mr Elliott Napier's. "On The Barrier Reef" is in your Correspondence Classes Library, and to read it will be almost, if not quite, as good as a visit to the Reef itself.

## WESTERN AUSTRALIAN WILDFLOWERS.

### No. XXVII: A Whorled Trigger Plant.

(*Stylidium Brunonianum*, Benth.)

(By C. A. GARDNER, Government Botanist.)

The Trigger Plants are such a feature of the flora of Western Australia that some of the species must be familiar to all. By some they are known as Orchids, because of their irregular shape, but they can at once be distinguished from the true orchids by the small green calyx and the long elastic style. Nowhere else on the earth are they so numerous, and the high figure of 93 for Western Australia stands much above that of any other State of the Commonwealth. Outside Australia only a few species exist, these being native to Southern Asia. The species are most numerous in the South-West, where the multitude of forms enlivens the

spring woodland with their delicate flowers of various shapes and colours, varying from intense violet through red and pink to white, and occasionally yellow. In habit they range from dwarf annuals to herbaceous perennials of various habit, a few of them being climbing plants. They are also fairly plentiful in the tropical North, especially in the damp or swampy situations, but there they are not so attractive. From Kimberley the northern forms extend as far south as the Fortescue River, while the southern forms may be found as far north as the Gascoyne River and the Meekatharra district. The Ashburton is, therefore, the only region in which they are not known to occur.

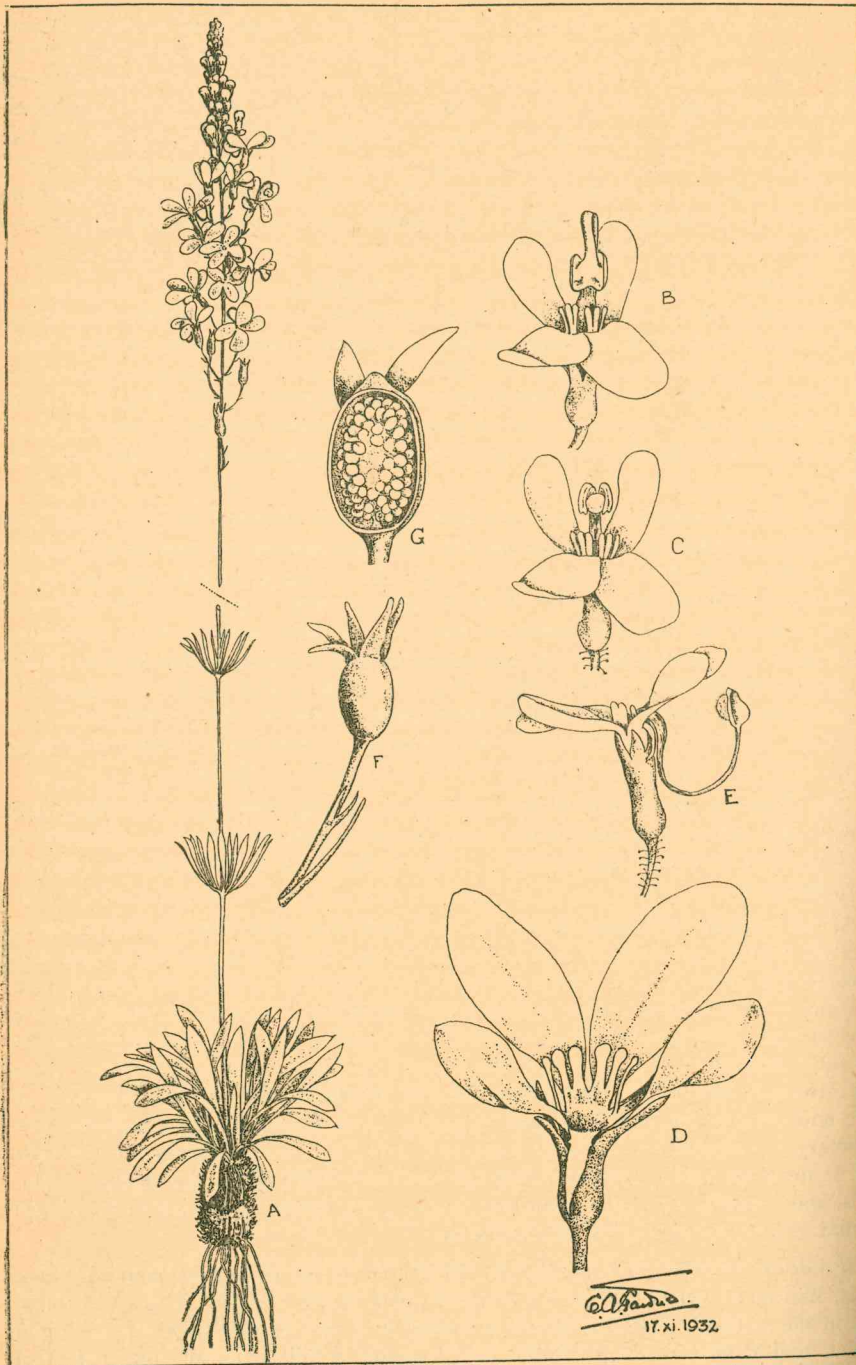
The name "Trigger Plant" is given to *Stylidium* because of the irritable *gynostemium* (united anthers and stigma with an elongated ribbon-like stalk), which springs backwards or forwards with a jerky movement under certain conditions. The *gynostemium* is enclosed within the corolla when the flower is in the bud stage, but, after the expansion of the flower, it becomes reflexed as in Fig. E. It will be seen to consist of a narrow and elastic ribbon-like style bearing at its summit a cushion-like stigma and two sessile anthers the cells of which open outwards.

The corolla consists of five petal-like lobes, one of which is very small and usually reflexed with the *gynostemium*, while on each side are the two broader upper corolla lobes. The two petal-like lobes opposite to the *gynostemium* are known as the lower lobes of the corolla. When a light stimulus is given to the two lower corolla lobes or the throat appendages (this may be done under certain conditions with a pin), the *gynostemium* springs upwards and arches over the flower. Thus the stigma and anthers are brought forcibly into contact with the back of an insect alighting on the flower, and besides depositing pollen on the visitor, the hairy cushion of the stigma collects pollen which may be there from another *Stylidium* flower. By this highly developed structure pollination is effected.

The Trigger plants are closely related to the Goodeniaceae (*Leschenaultia* family), but differ from the latter in the *gynostemium*, and in this economy of structure they resemble the Orchids, although here the movements are confined to the labellum.

If we examine a flower closely we will find that there are five calyx lobes, either all similar, or more or less arranged in two lips. The corolla is variously shaped in the genus, but is always irregular, and consists of four petal-like corolla lobes and a fifth smaller (often minute) lobe called the *labellum*, situated near the *gynostemium*. The labellum is often lobed or divided. In the throat of the corolla—at the insertion of the lobes and the summit of the short tube—there are often erect processes known as "throat appendages" which assume extreme diversity of form, and vary in number from two to eight. They also differ among themselves. The ovary is attached to the calyx-tube, and is two-celled (sometimes incompletely so). It develops into a capsule which opens in two valves from the summit downwards, and usually contains numerous seeds. In shape it varies from almost globular to narrow-cylindrical or elongated.

*Stylidium Brunonianum*, the species illustrated, is one of our commoner species. It has, like many other species, a perennial stock which loses all its above-ground parts in the summer. The leaves are arranged in a radical rosette which lies upon the soil, and from the centre of the rosette arises a tall scape or flowering stem with three or four whorls of narrow leaves arranged at intervals. In older plants there may be several rosettes and scapes. The flowers are borne in an elongated terminal raceme which flowers from the base upwards, and it is usual to find faded flowers and fruits at the base of the raceme, expanded flowers midway, and unde-



THE TRIGGER PLANT.

*Stylidium Brunonianum*, Benth.

A, Plant, showing habit. B, C, and E, Views of a flower, showing the elastic style in various positions. D, Much enlarged flower showing the labellum (front) and the six throat appendages (the column has been removed). F, Fruit. G, Fruit in section.

veloped buds at the summit. The axis of the raceme elongates as flowering progresses. The individual flowers are borne on rather long pedicels with a bract at the base of each, and a bracteole half-way up each pedicel. The corolla is rose-pink in colour and extremely delicate. The fruit is almost globular when ripe.

This species is only one of the several which have whorls of leaves on the flowering stems, but it is one of the most attractive species of the genus. Its range extends from the Murchison River to King George Sound, but it is not found far inland. It is an inhabitant principally of sandy or gravelly soils in woodlands, and flowers during the months of September, October and November. The flowers are of decorative value, but do not last well in water after being cut. The average height of the plant is about eighteen inches, but smaller or taller forms may be found.

For details of the structure see the accompanying plate.

### THE CLIMBING CUTWORM.

(By H. G. ANDREWARTHA, M. Agr. Sc.)

Have you heard of that little word *alias*? An *alias* is an assumed name. If Tom Jones does not want people to know that he is Tom Jones he will call himself Dick Smith—and the latter name would be an *alias*. Amongst the insects, *aliases* are not uncommon. In a competition for the best variety of names, I think that the Climbing Cutworm must easily win the prize. In Western Australia it is known either as the Climbing Cutworm or the Tomato Moth. In U.S.A. it is variously described as the Cotton Boll Worm, the Tobacco Bud Worm, or Corn Ear Worm. Our South African friends call it either the Boll Worm or the "Risper." What a confused medley of names this is! And they are all *aliases*, for this insect's true name is *Chlorodoea obsoleta*. No matter what part of the world is concerned, that name holds good. Were I to meet an American entomologist and ask him about the "Climbing Cutworm" he would, doubtless, not know of what I was talking, but if I were to mention "*Chlorodoea obsoleta*" he would immediately recognize the name of one of America's most serious insect pests. So here, you see, is a justification for the long (and often difficult) names which entomologists bestow upon the insects. They serve to overcome the difficulty of the diversity of common names which some insects manage to acquire.

The Climbing Cutworm is found in almost every part of the world. Throughout Europe, Africa, America, and Australia it is a common pest. Indeed, with the exception of the housefly and one or two other domestic pests, it is probably the most widespread insect in the world. This fact alone would account for many of its names. In addition to this, however, we have the fact that it has a very wide range of host plants. Insects are very often named after the plants upon which they feed. This particular insect feeds on almost any green plant, and is very partial to tomatoes, peas, maize, cotton, tobacco and lupins. Is it any wonder that it should have attracted to itself such a variety of common names?

Let us look a little more closely at this interesting insect. It is a moth. Despite its fame it is a very retiring creature. In the day time it is not to be seen except as the reward of careful searching. It spends the hours of daylight in seclusion, hiding beneath such shelter as logs, dead plants and stubble. Its obscure grey or fawn-coloured wings, which are folded neatly over its whitish body, har-