

We are sorry to say that owing to limited space we find it is impossible to publish the list of prize-winners, which is this year a very lengthy one. A typed list, however, has been prepared and may be inspected at the Correspondence Classes. Many pupils who did not win prizes were very highly commended, and received Certificates of Merit for their fine efforts.

## WESTERN AUSTRALIAN WILDFLOWERS.

### No. XVIII.—THE WAX PLANT.

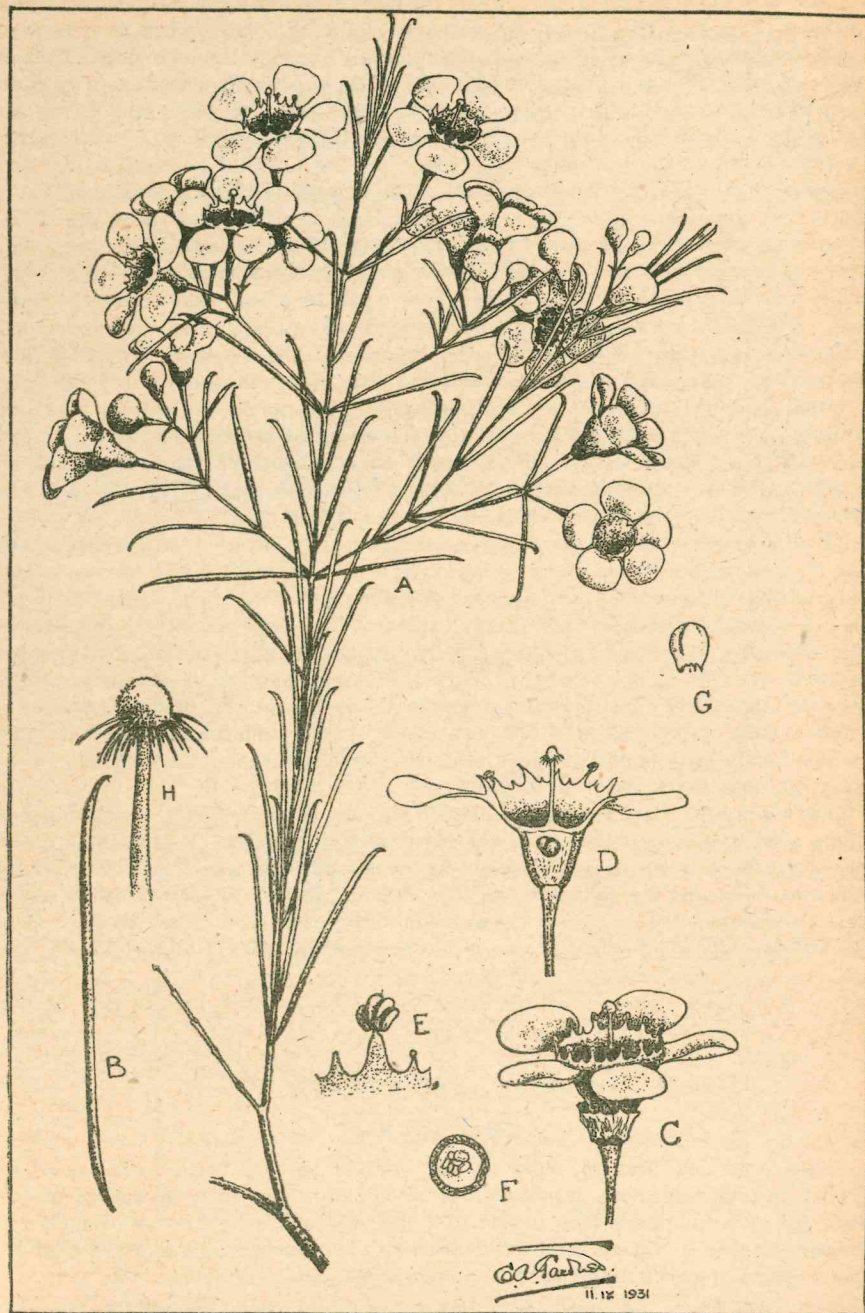
By C. A. GARDNER, Government Botanist.

One of the most familiar of our plants, and perhaps the species which is most cultivated, is the so-called Geraldton Wax Plant (*Chamaelaucium uncinatum*), a shrub which is such a feature of many gardens, both public and private, at about this time of the year. What it lacks in foliage and umbrage is more than compensated for by the wealth of heavy blooms, the colour of which ranges from pink-purple to almost pure white. Each blossom is thick in texture, and of a wax-like consistency and appearance; the name Wax Plant is therefore descriptive.

This shrub, known to botanists as *Chamaelaucium uncinatum*, belongs to the large family Myrtaceae, of which there are some hundreds of representatives in Western Australia, extending from the Eucalyptus through the Tea-trees to the Feather-flowers (*Verticordia*). Indeed it is not far removed from the genus of Feather-flowers, for although not feathery in its petals and calyx-lobes, it has many characteristics in common with the latter. One of these is the peculiar habit of not liberating seeds; another is the presence of degenerate stamens, which are called "staminodes" (filaments with infertile or reduced anthers).

Our plant is common in the limestone areas of the Chapman River near Geraldton, and occurs also on the sandy tracts near the sea close to the town. It is, however, much more widespread, extending northward to the Murchison River on the sand heaths, especially among rocks, and southward to the estuary of the Blackwood River. The southern plants, however, are inferior in stature and blooms to the plants farther north. The largest flowers are seen on those shrubs which grow on the banks of the Chapman and Hutt Rivers, these having individual flowers quite as large as any produced under cultivation. At the same time the larger flowered shrubs seldom bear the floral wealth exhibited by those which have masses of smaller flowers and which grow in sand. Again, the larger flowered plants frequently have an untidy drooping habit, the branches spreading almost to the ground. Pink-flowered forms are rare in the north, but common along the west coast, especially to the west of Watheroo, near the Hill River.

Let us now examine the plant in greater detail. Its roots are few, but they are widely spread. It is, therefore, almost impossible to transplant shrubs more than two years old, because in the process of digging up the plant the main roots will be severed, and there are no rootlets to enable new growth to be made. The habit of the plant varies from a shrub with erect branches to one with wide and drooping branches. The bark is yellowish-grey or grey, and fibrous—often twisted. The leaves are needle-like and green, provided with numerous oil-cavities, and hooked at the tip. It is from this hooking of the leaf-apex that the plant derives its specific name of *uncinatum* (i.e., the leaf is uncinat, or "hooked"). The leaves and branchlets are opposite. The flowers are arranged in small corymbs towards the ends of the branchlets, and here again will be noticed the opposite arrangement of the pedicels. Notice also at the base of the pedicels the presence of small leaf-like opposite bracts (modified leaves). The flower-stalk or pedicel is jointed at its junction with the tube of the calyx. If you examine a very young bud you



Geraldton Wax Plant (*Chamaelaucium uncinatum*).

A Habit. B Leaf. C Individual flower, showing ruptured bracteoles around calyx-tube. D Section of same. E Stamen and two staminodes. F Section of ovary. G Bracteoles. H Style and stigma. (Icon. origin.)

will see that it is enclosed in a semi-transparent skin-like covering which completely encloses it. This covering is formed from what is believed to be two joined bracteoles (smaller modified leaves), which break away at the base as the bud expands. Usually the bud pushes off this protecting cap which comes away from the base; but quite frequently the covering is so tough that the developing flower bud pushes itself through the bracteole covering, which then remains as a collar around the tube of the calyx, but quite free from it at the top and bottom, so that it is seen as a ring or collar of dead material. The flower itself has a prominent calyx-tube which expands in the upper portion. Here are five very short and broad calyx-lobes which are difficult to find. They may be seen, however, as very short processes alternating with the petals. Notice also that the bracteoles cover the young bud, so that there is no use for a calyx whose sepals or lobes serve a protective purpose. The petals are five in number and spread horizontally when fully expanded; in the bud stage they are imbricate (over-lapping). The ten stamens form a short cup or ring on the edge of the disc of the flower. This ring has twenty teeth, ten of which (larger than the others and opposite to the petals and calyx-lobes) bear small anthers which open inwards towards the centre of the flower, and these alternate with ten smaller teeth which resemble the filaments of the anthers but are devoid of anthers (the staminodes). Notice particularly that the twenty tooth-like filaments are all in the same row in the cup.

In the concave disc of the flower, which is usually suffused with a deeper tint than the rest of the flower, is the pin-like style with its globular stigma and small beard of short hairs. Down in the centre of the calyx-tube is the ovary which has one cell containing six, seven, or eight ovules. After pollination and fertilization the ovules grow into seeds and the petals lose their waxy appearance. Finally when the seeds are developed (they are then still soft and of a waxy consistency), the withered flower falls to the ground where it lies on the deposit of leaves and other flowers. Here it remains until the warm wet weather induces germination, when the one fertile seed (rarely two) sprouts and breaks through the withered flower which has imprisoned it for so long.

Only a comparatively small number of flowers produce fertile seeds, and germination is impossible if these seed-bearing flowers are buried. It is for this reason that horticulturists produce the plants by means of cuttings. The colour of the branchlets indicates the colour of the flower; it is, therefore, easy to select red or white forms from the colour of the younger parts of a very young plant.

The accompanying plate gives the more important details of the flower.