

WESTERN AUSTRALIAN WILDFLOWERS.

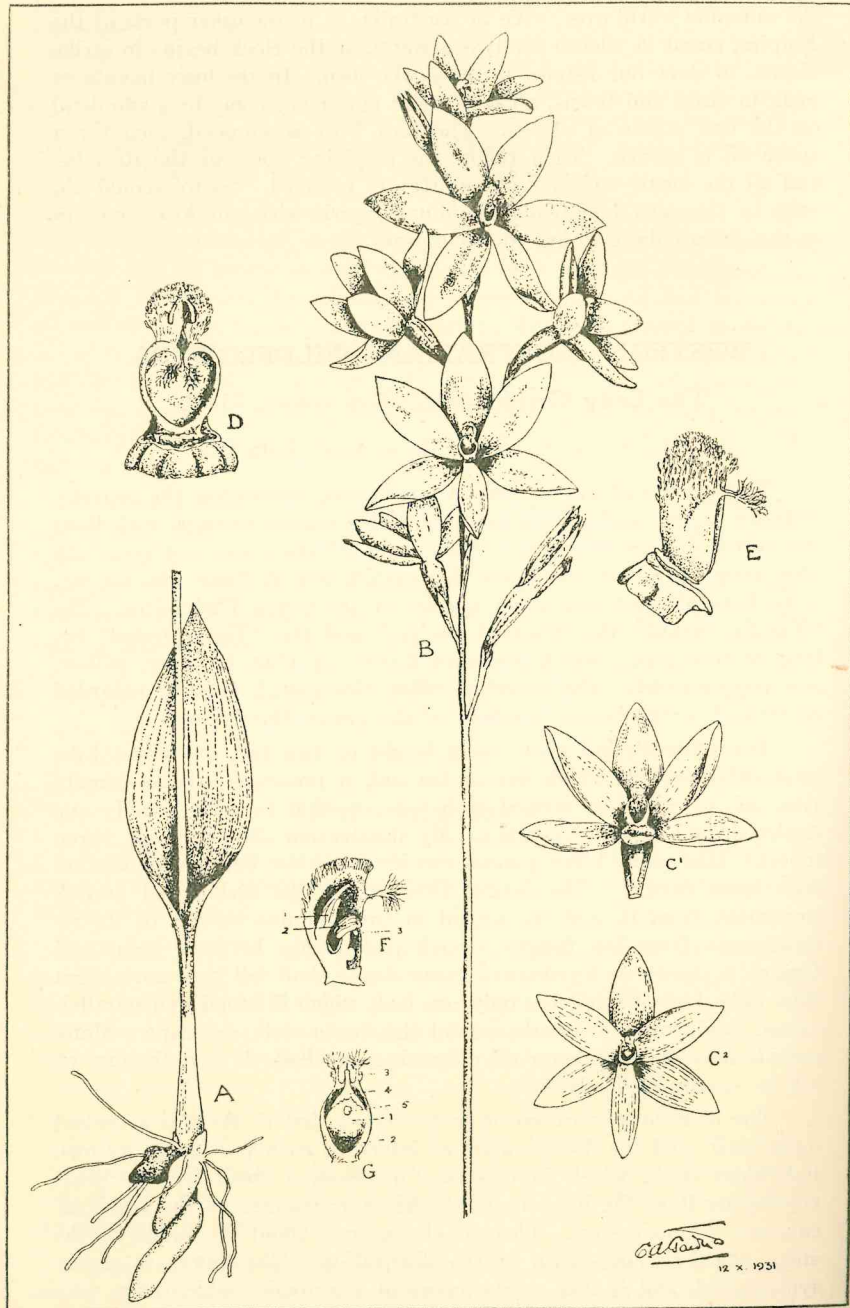
The Lady Orchid (*Thelymitra crinita*, Lindl.).

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

There are still a few Lady Orchids left, decorating the gravelly hillsides or the sandy peaty margins of the coastal swamps with their wonderful flowers of cerulean blue, some of which will last even into December. Most of you know this orchid, but of those who do not, some have at least seen other species of the genus *Thelymitra*. The "Vanilla Orchid," the "Custard Orchid," and the "Tiger Orchid" belong to this genus, which possesses flowers of blue, lavender, yellow, and purple-violet. The specimen taken this month may be regarded as typical of the larger members of the genus *Thelymitra*.

The Lady Orchid grows to a height of two feet or more. Like most other orchids which live in the soil, it possesses tubers—usually two, one of which is formed each year, so that there is usually one depleted, and one fleshy tuber. My illustration shows, in all, three tubers. Like many other plants, orchids can grow only in association with some fungus. The fungus lives within the orchid and derives nutriment from it, and the orchid in turn obtains certain of its requirements from the fungus. Such partnership between plant and fungus is known as *Symbiosis*. Some day I shall tell you more about this. The Lady Orchid has only one leaf, which is broad and parallel-veined, and forms a sheath around the flower-stalk or scape. Many orchids have this character of possessing one leaf; it is a feature of all the species of *Thelymitra*.

The blue flowers are borne in a raceme, that is, there is a central main stalk, and the flowers arise at intervals, each possessing its own individual stalk, which in this case possesses a small leaf or bract enveloping it at the base, in much the same manner as the true leaf envelops the main stem. There is also a bract about the middle of the stem, which is not shown in the illustration. The flower is almost symmetrical, and is thus unlike many of the orchids which have very irregular flowers; but if you look into the flower closely you will see that the lowest petal is smaller or narrower. If you observe a flower-bud you will see that there are three sepals which are like the petals in colour, but are placed outside. Figure C2 shows this arrangement. These sepals completely enclose the petals in the bud, and when not fully developed have a greenish colour outside. There are, therefore,



THE LADY ORCHID

(Thelymitra cinnita, Lindl.)

Baywater. 11 Oct 1931

A.—Habit, showing leaf, base of scape and tubers with roots. The two white tubers are of this year's growth. B.—Upper part of scape showing raceme of flowers. C.—Flower (1, seen from the front; 2, flower in plan). D.—Anterior view of column. E.—Lateral view of column. F.—Section through column: (1, anther; 2, stigma with adherent pollen masses; 3, gland of stigma). G.—Anterior view of column from flower-bud. Icon origin.

three sepals and three petals. The lowest petal in orchids is usually very different from the others, and is known as the lip or *labellum*, but in the Lady Orchid it is so similar to the others that it does not deserve any distinctive name.

In the centre of the flower there is a curious structure which is shown in Figs D and E. This is the *column*, and is the structure by which you may recognize orchids from other plants of this type. It consists of the pistil and three stamens, but only one, the middle one, is fertile. Fig. D shows a front view of the column. You will see that it represents a concave "hood" which is expanded below and contracted upwards. The folded top is crowned by densely crowded papillae (fleshy hair-like processes), and the fold may be seen in the curious inverted V-shaped fringe at the top. Below this terminal tuft may be seen two curious brushes which protrude from the sides of the hood and are known as the lateral lobes of the hood, while the elegant comb-like structure which crowns it is known as the middle lobe. Inside the concave portion of the hood are the stigma and the anther. If you probe into this with a needle you will see the anther behind the stigma. It is two-celled, and in each cell there are two masses of pollen. The orchid structure is best observed in the bud, where the petals and sepals may be easily distinguished, and more especially the structure of the column. Fig. F shows a section through the column, in which the four pollen masses are seen lying close together on the stigma. In Fig. G, however, the pollen lies within the anther, and the lower surface of the appressed stigma is clearly visible. In this figure 1 represents the stigma, with its prominent gland (5); 2 shows the hood which terminates in the crested appendage (behind), and the two fringed lateral lobes (3); 4 shows the pointed apex of the anther-connective, the two cells being behind the stigma. The ovary is one-celled with six placentae and numerous ovules.

EXHIBITION OF WORK BY CORRESPONDENCE PUPILS.

In the Centenary Pavilion at the Claremont Show Ground a large sign bearing in blue and gold the words "Rural Correspondence Classes" informed visitors to the Royal Agricultural Show that, for the second year in succession, our correspondence pupils were exhibiting their work. What a wonderful exhibition it was, and in many respects how remarkable! Side by side were shown samples of work from pupils living as far apart as the storm-beaten lighthouse at North-West Cape, the wheat farm at Gnowangerup, the remote sheep station in the far north, and the prospector's lonely camp on the eastern goldfields. Many and varied were the samples of work exhibited—script work, drawing and colour work, pen and ink sketches, mapping, nature study records, illustrated essays, original poems, complete sets of lessons—all were there to show what correspondence pupils are capable of doing. In addition, too, was to be seen a magnificent display of needlework, knitting, toys, fretwork, stencilling, and various