

The Orchids of New Zealand

1. Epiphytic Species

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IT is most unfortunate that at present the only complete index available of the flora of New Zealand is Cheeseman's 'Manual', which, though very accurate, is also very much out of date. Consequently, the position as regards the lesser known families of New Zealand plants is very confused and indefinite, and will continue so until much work is done upon them. Most people are completely ignorant of some sections of our flora, and though many have a tolerable knowledge of native shrubs and alpinists, they will express great surprise if asked if they have ever seen a native orchid. Eighty per cent will query if there are any. There are no books available which will greatly enlighten those who have an enquiring mind towards our native orchids, and, unless he has time to spend upon a great deal of research, he will have to remain ignorant.

If one goes solely by Cheeseman's 'Manual of New Zealand Flora', there are 64 species of orchids in this country, yet Colenso adds on another 35 to bring the total to approximately 99. All of these 35 are completely refuted by Cheeseman, but there is some doubt now as to whether at least six of these should have been so irrevocably condemned. Since the last edition of the 'Manual' new discoveries have brought the full total, including definite and indefinite species, to 114, but a careful, scientific elimination brings the number down to approximately 85.

We will assume, then, that there are 85 species of orchids in New Zealand. All these can be roughly divided into four natural groups:



Growth habits of some epiphytic orchids

Epiphytic, Terrestrial, Saprophytic, and Parasitic orchids. That is, tree-dwelling orchids, ground-dwelling orchids, orchids which feed upon dead and rotting organic matter, thus having no need for chlorophyll, and orchids which attach themselves to the roots of other plants and feed from them. However, it will be simpler to divide all the species into an artificial system of grouping. First divide them into Epiphytic and Terrestrial orchids, then class the terrestrial species into those which grow in wet bush, dry bush, tussock country, and in the sub-alpine herb-fields.

There are present in New Zealand four genera of epiphytic orchids, which give seven species. The genera are: *Dendrobium*, *Earina*, *Bulbo-*

phyllum, and *Sarcochilus*. The first three of these are well worthy of investigation and hybridisation in the field of horticulture, and at least one New Zealand nursery is selling plants of *Dendrobium* and *Earina*, for they can be grown easily in a cool glass-house or even inside.

In their natural state these four genera can commonly be found in moist bush throughout the North Island, and on the west and south coasts of the South Island. They grow most luxuriantly upon mossy branches and tree trunks, at a height of about 1,000ft. above sea-level, but also grow very well from sea-level to 2,000ft., for they can resist up to seven degrees of frost. Any heavier frost burns the tip of the leaf-shoots.

Dendrobium cunninghamii is a robust, finely-leaved orchid which grows steadily into quite a large, bushy shrub. Tree trunks, large branches, or shaded, mossy rocks, provide an ideal habitat for it. The very long, thin, and cane-like branches have enough resilience to stand almost any weather conditions, except extreme dryness.

The flowers, two or three together, are $\frac{3}{4}$ in. across, and coloured white (often with a delicate flush of pink) and have a deep pink or purple throat. The whole flower is very open and spreading, and has a large, broadly triangular lip.

The hammer-shaped buds are born in great profusion, and open in late January in most districts. The whole shrub, sometimes as much as a yard in diameter, is a pretty picture to discover in the bush. As a rule the branches droop strongly, but, if grown in an exposed situation, are sometimes erect and very short.

Earina autumnalis is perhaps the most attractive of the epiphytes, and grows in a great variety of forms. It also is a shrub—either erect or pendulous, and grows in much the

same area as *Dendrobium cunninghamii*, but with a single exception—it is often found on the eastern coasts of both islands, growing upon shaded cliffs (always near bush) in an erect form. The stems are cane-like, the leaves are much bigger and broader than *Dendrobium*, and, when growing upon trees, it covers a larger area but forms a sparser shrub.

Its usual form is a semi-pendulous state, with each branch about 1½ft. long and almost horizontal at the tip. There is a second form, which is almost completely pendulous—the branches being even more than three feet long—and has its terminal raceme suddenly curving and ascending directly upwards for two-thirds of its length, which is about three inches. This state forms long curtains from horizontal branches, and the larger foliage and flowers make it a highly desirable plant, yet, in spite of its apparent robustness, it is the most delicate of all the forms.

There is yet another completely pendulous variety which is similar to the last-mentioned, but only half its length. I have seen in the Buller Gorge all, bar the erect variety, growing upon the same tree, yet never hybridising into intermediate forms; however, the flowers of each form are similar. They are about one-third of an inch in diameter, and the minute petals and sepals formed into the shape of the popular conception of an orchid flower, the little lip even having frilled edges. The colour is cream or white, with two orange spots at the base of the lip, and each flower is very highly scented.

Ten to 40 flowers are born in a bottle-brush at the end of each branch, and the scent is sometimes overpowering. The branches never divide, as do those of *Dendrobium cunninghamii*, but always remain single.

Earina mucronata is finer leaved and finer stemmed than *E. autumnalis*, and is usually completely pendulous,

though rather rigid. One variety has almost filiform stems, and leaves that are not $\frac{3}{4}$ in. across, though the leaf of the normal state is $\frac{1}{2}$ in. broad and 6 in. long. Each branch is between 1 ft. and 3 ft. long, and the flower-heads are branched.

Usually the flowers are greenish-yellow, with a darker, three-lobed lip. However, there is a very rare red variety which flowers in great profusion, but unfortunately I have not yet been lucky enough to see this extremely beautiful type.

The flowers are scented, though not so very strongly, and the foliage is very beautiful and useful for flower arrangements.

Bulbophyllum tuberculatum is a beautiful little orchid which forms mats of greenery upon tree trunks. It grows chiefly in coastal bush north of Picton and Westport. Each leaf has a small pseudobulb at its base, the pseudobulbs growing from a twisted, creeping rhizome. The flowers are borne upon a stalk which grows from the base of a pseudobulb, and there are two to four flowers to a stalk.

Each flower is like a miniature of *D. cunninghamii*, and is only about $\frac{1}{4}$ in. long, and has a bright orange lip, while the rest of the blossom is waxy white. It is so small that it is frequently overlooked, but it does make a charming little plant when in full bloom and luxuriant growth.

Sarcocylus adversus is a low-growing, creeping epiphytic orchid, which bears numerous tiny green flowers in late spring. It is chiefly noticeable for its peculiar foliage, otherwise it is usually overlooked.

Each crisp leaf is 1 in. to 1 $\frac{1}{4}$ in. long, broad, and coloured dark green patched with purple. This creates an impression that it is a tropical orchid bound to have weird and beautiful

flowers. The observer, however, will be greatly disappointed if he has not met this orchid before.

It can be seen that New Zealand has a small number of epiphytic orchids of considerable beauty. However, it must be emphasised, so that the reader does not form an exaggerated opinion, that these cannot compare favourably with the flamboyance and luxuriance of many tropical and sub-tropical species.

However, we have another type of orchid which is well represented in our country. In these there lies a beauty which can easily be ignored, but reveals itself to those who seek it. These are the ground orchids, and many will be examined and discussed in a following article.

Fireblight may be checked if plants subject to it are sprayed with a horticultural formulation of the new antibiotic, Streptomycin. The time to apply it is during the early bloom and full bloom stages.



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