

Under the circumstances, we think Mr. Green very wise to grow these plants for himself.

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We have much pleasure in publishing the following record of observations made by one of our members, Mr. V.F. Fisher, of the War Memorial Museum, while on Service in New Caledonia. Mr. Fisher is not able to attend our meetings, but in the ensuing article he makes a most helpful contribution to our activities.

NOTES ON NEW CALEDONIAN PLANTS.

V.F. Fisher.

The purpose of this article is to make brief reference to certain characteristic features of the vegetation and then to dwell more especially on those genera common to both New Caledonia and New Zealand, which the writer observed during a stay of many months.

On the lowlands, which we may define as up to 1,000 feet, the arborescent growth is usually restricted largely to the niaouli (Melaleuca viridiflora), an occasional patch of gaiac (Acacia spirorbis) and several species of Casuarina. Other odd trees do occur but the niaouli commonly predominates over many hundreds of acres. It is an attractive tree with light green leaves, a white or sometimes creamish "bottle brush" flower, and a white papery bark which is commonly used by the natives for covering the roofs and walls of their dwelling huts. The undergrowth consists of the imported Lantana, which frequently covers many acres to the exclusion of almost everything else, but sometimes the wild guava competes for space.

The most attractive portions of the lowlands are the river banks, which, although meandering through niaouli country, nevertheless contain a variety of plants. From surrounding hills this feature stands out like a ribbon of green winding through less attractive forest. The composition of this riverside flora varies considerably, but usually has Pandanus predominating, with Casuarina (the "bois de fer" of the French) Cerbera manghas, Eugenia, and other members of the Myrtaceae, the Acachou, a plant possessing poisonous leaves, an occasional Banyan (Ficus) with its hundreds of spreading roots, and not infrequently

Elaeocarpus persicaefolius. The latter possesses a rounded top made attractive by the old leaves which turn a bright scarlet. The fruit is blue and gives rise to the local French name "cerise bleu" or blue cherry. Several ferns are common in this association, especially a Lindsaya which grows to a height of three or four feet, and a Lygodium, possibly reticulatum, sometimes occurring as a climber, but more often occupying a squat position. Nephrolepis cordifolia is also present, and at times an odd specimen of a tree-fern, Alsophila, growing to a height of 15 or 20 feet.

The rain forest occupies the higher country from say 1,000 to 5,000 feet, and is a striking contrast to the dry, arid forest at lower levels. At a bound one steps into luxuriant vegetation, containing a variety of forest trees, a wealth of shrubs, lianes, climbing and perching ferns, epiphytic and terrestrial orchids, mosses, truly a botanical paradise. To quote from our field notebook "a varied assortment of plants presented themselves for our examination and edification. Every moment some fresh and to us new plant claimed attention."

Within the rain forest are Ereycinetia, the fleshy bracts of which we sampled and found good eating, though perhaps not as sweet as the N.Z. tawhara, Rhipogonum, and other climbers. Here too ferns grow in profusion. We recall Marattia with fronds ten feet long growing near a small stream, a Leptopteris with a slender trunk 3 to 4 feet in height, Gleichenia flabellata, Trichomanes, Schizaea, Hymenophyllum, Davallia, Blechnum - frequently seen on rocks - Adiantum, and everywhere Asplenium nidus, or "bird's nest" fern. The latter is found on the ground but is more attractive perched in the fork of a tree, or on an overhanging branch or a tree stump. Orchids recognised included Pterostylis with a green hood, Acianthus, Bulbophyllum, Thelymitra, and Microtis. Pterostylis was also observed on dry hillsides at low levels. On one memorable occasion we followed a native track that left the forest and emerged on to more open country at an elevation of about 3,000 feet and here were thousands of Caladenias dotted about everywhere, whose white flowers gave the impression of scattered snowflakes.

On the mountain sides and tops, the rain forest gave way to thick scrub, reminiscent somewhat of sub-alpine scrub in New Zealand. Every visit paid to such areas disclosed something fresh in flower. Dracophyllum was common, and its reddish spike of flowers was very striking. Plants of the myrtle family usually

contributed a fine show of flowers, often of a deep red colour. Leucopogon, Baeckia (almost identical with Leptospermum) Dodonaea viscosa, were common. Gleichenia linearis and dicarpa, Lycopodium cernuum and densum were usually seen on the borderline between rain forest and scrub. Of especial interest was the "Pitcher plant" (Nepenthes), fairly common in this situation. The pitcher is attached to a tendril, which is really a prolongation of the midrib. These tendrils coil round any twig or branch contacted and so enable the "pitcher plant" to climb perhaps fifteen feet. The flowers are of a reddish colour. The New Caledonian dundew (Drosera neocaledonica) with small spatulate leaves and white flowers, was occasionally found in moist places.

Several large stands of New Caledonia kauri (Agathis) were observed, resembling in habit of growth, trunks, leaves, and spreading crown, our New Zealand kauri. Five species are known in New Caledonia, and it is not unusual to find them planted within the precincts of native villages. In former times the trunks were used by the natives for the construction of the hull of the canoe. Associated with the kauri forest, though not restricted to it, were Dracophyllum, Leucopogon, Lygodium and Schizaea.

An important and attractive genus, Araucaria with its five species, must not be overlooked. These conifers attract attention owing to their slender, columnar habit of growth, and great height frequently reaching 120 feet or more. A. cooki, named after Captain Cook, the discoverer of New Caledonia, is a coastal species, but the other species are found at high altitudes. Solitary specimens are seen, but more frequently they occur in small clusters. Like the kauri the trunks furnished suitable timber for canoes, while the resin was employed to caulk the seams of the canoes.

Finally, Xeronema moorei must not be omitted, for, like its New Zealand relative, there is only one species found in New Caledonia. Unfortunately the writer did not encounter Xeronema, but has had to rely on reports received from others who were more fortunate. This lily with its red flowers is apparently confined to mountain ridges, and has been reported from Mt. Humboldt, the second highest peak (5,340 ft.) in the island.

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