

will be durable. The paper is of good quality, very white and opaque, but the idea may have been carried a little too far. The current Flora of the British Isles by Clapham, Tutin and Warburg also uses thin paper, but not so thin as this. It is a rather thick volume, but it contains more than 400 additional pages; reduced to the same number as in Allan's Flora it becomes quite a handy little book and the pages are firm enough to be turned quite easily. It may represent the best compromise. The ideal solution is to have a library edition, and a field edition reduced in size by omission of reference material, but that would be economically impracticable with a population as small as ours, so we must be grateful that such a detailed flora has been made so portable.

Commendable features include the end-paper maps, the inch-and-metric scale at the front, and the drawings by Nancy Adams—not portraying general appearance of plants, but critical details like leaves and fruits which are used in the keys. The same artist has provided an attractive dust cover. Desirable additions would include page references in the general keys to families and genera, though one can see several difficulties, and a generic name at the beginning of each left-hand page in the index. (It is worth while adding these names when entering the supplementary notes.)

The book is expensive, but not in relation to the time and labour that have gone into its production. Such an undertaking requires experience and knowledge which very few people possess, so New Zealand botanists are fortunate that Dr. Allan was able to take it as far as he did and that such an able colleague as Miss Moore was available to see it to completion. The result is a credit to both, and to the others whose essential help is acknowledged, no matter what criticisms or disputes on specific questions may later arise. A full appraisal of the book's accuracy and usefulness cannot, of course, be made except after extensive use; the proof of the flora will be in working with it, but what a joy to be brought up to date with a flora which provides such a stimulus to further work!

H. D. GORDON.

Roadside Scrub Near Cape Runaway

L. B. Moore, Lincoln

ON the coastal route from Opotiki to Gisborne the road runs mostly within sight of the sea. Along the Bay of Plenty there are many pohutukawa trees and the shingly or sandy bays are separated by rocky points with broad intertidal platforms of hard, almost black greywacke. The soft pale-coloured papa rocks of the east coast from Te Araroa southwards weather to quite different shapes and to a less intended, rather bare coastline. Between these contrasting sections, from Whangaparaoa to Hicks Bay, the road runs inland inside the Matakaoa range that ends in a 900-foot peak above Cape

Runaway. It is along this stretch of road, west of the Lottin Point turnoff, that there is some scrubby vegetation of special interest.

The generally very drab appearance is altered in spring when *Gaultheria oppositifolia* flowers freely, and it was this that caught my eye during a service-car journey some 15 years ago. It has been tantalizing to have to pass it by on several subsequent occasions with no more than an impression of very slow change, but in August, 1960, I at last had an opportunity to stop for a quick scramble through a typical section.

The scrub was mostly five to seven feet tall, but shorter and more depauperated in places; here and there were almost bare patches of bright reddish soil that appeared to be granular on steep slopes and smooth and slippery on flatter platforms. The following species were noted:

Tall plants projecting above the general level: *Leptospermum ericoides*; *Persoonia toru*, with flower buds almost breaking; *Knightia excelsa*; *Neopanax arboreum*; *Weinmannia racemosa*; *Phyllocladus trichomanoides*; and, taller still, an occasional slender *Pinus radiata*.

Additional species contributing to the top layer of the scrub: *Leptospermum scoparium*, black with blight in some places; *Cyathodes juniperina*; *Gaultheria oppositifolia*, full of tight buds, and rather uniform intermediates between this and *G. antipoda*; *Dracophyllum strictum*, locally abundant and an early colonizer on banks and bare soil; *Phormium colensoi* and *Cordyline banksii* as numerous plants scattered throughout; *Pteridium aquilinum* var. *esculentum* in patches; *Blechnum capense* locally abundant; *Cladium gunnii* in a few places, bearing flowers and fruit; and occasional plants only of *Cyathodes fasciculata* and *Hebe stricta*.

Shorter plants: *Gahnia affinis* (*gahniaeformis*), abundant, with flowers and old fruit; *Gleichenia circinata*, local; *Dianella intermedia*, occasional; and in more open places, *Gaultheria antipoda* with *Lycopodium deuterodensum*; and young, richly-bronze-coloured *Phyllocladus trichomanoides*.

Ground floor plants: *Cyathodes fraseri*; *Haloragis procumbens*; *Nertera depressa*; and two common lichens, presumably species of *Cladonia*, one white of the "reindeer moss" kind, the other greenish and erect. Seed heads of *Microtis* and leaves of *Thelymitra* probably represented only a part of the total orchid flora. Common on banks and road cuttings but hardly represented in the scrub itself were *Vincentia* (*Cladium*) *sinclairii*, many seedlings as well as adults; *Lycopodium cernuum*; and *Coriaria arborea*.

A Wellingtonian would immediately see similarities to the Hutt scrub on poor eastern slopes once occupied by hard beech and this is a common tree in forest remnants near the Cape Runaway road also. But an Aucklander would be reminded strongly of old kauri country and would greet as familiar northern plants *toru*, *tanekaha*, *Vincentia* and the two kinds of *Lycopodium*. A special

link with the Volcanic Plateau is the big-leaved *Gaultheria oppositifolia*, which is one of the species that are confined to the middle latitudes of the North Island, and *Dracophyllum strictum* which does not extend to North Auckland.

Colenso gave new names to two specimens, apparently both of this same *Dracophyllum*, from the Cape Runaway area. Of "*D. imbricatum*" he had only one piece, "sadly crushed in long carriage in a saddle bag" (*Trans. N.Z. Inst.* 25), but Mrs. Featon sent a good description of her plant, "*D. featonianum*" (*Trans N.Z. Inst.* 22): "The flowers are white and the buds pink, the leaves a pale-green on top and glaucous below, having a purplish tinge as it approaches the buff-coloured sheath". Colenso also draws attention to the floral bracts, half an inch long, orbicular and largely concave, and notes that they can be seen only in the incipient state of the inflorescence, before expansion, as they fall off very early. In August all these points could be checked, as there were plenty of fat, finger-sized spikes just bursting into flower, and very pretty the plants were.



Sorrel, Dock and Scotch Thistle

Richard Davis, Superintendent of the Mission Farm at Waimate North, to Secretary of the Church Missionary Society, 24 April, 1841. (Davis Papers, No 78, Hocken Library).

DAVIS describes ploughing 25 acres, but sorrel sprang up and took possession—"My mind has been much distressed by the introduction of this weed, as it is but too plain it will prove a curse to this country. The Society's Farm which has cost me so much anxiety and personal labour is nearly ruined thereby." He describes the spread of dock which was introduced before he came to New Zealand. And of Scotch thistle he has this to say: "Some time ago my friend Coleman sent me out some seed of the Scotch Thistle which I cultivated with care but I soon found I had introduced an enemy which I found some difficulty to eradicate."

L. B. MOORE.