

ward eagerly to seeing the published work in which, it is noted, that illustrations will be more numerous than in Volume 1 of the Flora. Grasses, excluded from Volume 2, will be described in a separate volume now being written, and will include all wild grasses of the country both native and introduced. This latter work is being carried out by Mr V.D. Zotoz, the second person to join the Division, as an assistant to Dr H.H. Allen in 1928. He has retired from the permanent staff, but still continues hard at work, and we wish him enjoyment and successful completion of the task.

To review what is after all a review, presents some difficulties, so much is of interest and worthy of mention. We recommend it strongly as good reading and extend our congratulations to the Director and Staff on their work and efforts over the period, as evidenced by the six page bibliography of publications and the list of committees and appointments on which they serve or hold.

"Each mindful Plant hastes to make good The hope and promise
of his Bud."

Richard Crashaw

BRACKEN ON BANKS PENINSULA

by M.J.A. Bulfin

In September 1969 bracken on Banks Peninsula, along the level of the summit road from Cashmere to Gebbies Pass, was a most attractive rust red colour.

At the same time in the narrow part of the valley of the Buller River known as "Devils Grip", the bracken on the lower slopes was a similar colour but on the upper slopes the leaves were still green. A persistent fog layer here could have protected the plants from frost.

Does anyone know whether the plants on Banks Peninsula change colour and die back each year?

"The lazy mist hangs from the brow of the hill"

Robert Burns

REGROWTH AFTER FIRE IN MIXED BEECH FOREST NEAR REEFTON

by Bryony Macmillan

After reading reports of forest fires in the Inangahua district, (The Press 16-19 Jan. 1961) I visited Reefton in February 1961. Mr. E. Ensor, the District Forest Officer, indicated a burnt site on an easily accessible slope near McConnachie Creek, 6 miles S.E. of Reefton, altitude 1,000 ft. (Grid ref. N.Z.M.S.1 S38: 40-21-). Here, regrowth was observed on a marked plot, over six year, by listing the plants and counting their numbers, on each of three visits.

The undamaged forest was broadly composed as follows:

Canopy at 40 feet: Nothofagus menziesii (silver beech) Sub-canopy 20-30 feet: N. menziesii, Phyllocladus alpinus Shrubs and young trees 10 feet: N. menziesii, N. solandri, P. alpinus Shrubs and young trees 3-6 feet: Cyathodes fasciculata, Elaeocarpus hookerianus, (juvenile), Nothofagus solandri,

N. fusca, Neomyrtus pedunculata, Coprosma foetidissima, Gahnia procera, Weinmannia racemosa, Coprosma parviflora, Dacrydium cupressinum and Pseudopanax simplex.

Ferns and mosses: Blechnum capense, Grammitis billardieri, filmy ferns on rotten logs, Dicranoloma robustum, Ptychomnion aciculare and Sphagnum hummocks.

Adjacent to this forest a plot of about 16 square yards was marked out. The ground in the plot was completely blackened by fire. Only charred stumps of Gahnia tussocks, hummocks of deeply smouldered moss and several bare stems of beech saplings were recognisable. The plot was open on its north side owing to the trunks and foliage of the surrounding trees having been severely burnt.

The site was visited again in February 1962. There was no regeneration from the Gahnia stumps or the beech saplings. The uneven ground was well sprinkled with dead beech leaves. In hollows there were several patches of the thallose liverwort Marchantia berteriana, with antheridiophores and archegoniophores, the latter shedding their yellow spores. Growing with the liverwort was the slender tufted moss Campylopus bicolor var. ericiticola. There were also several young plants of Hypolepis and Histiopteris incisa up to 8 inches tall, a single rosette of Hypochoeris radicata, one small plant of Nertera depressa, three Coprosma seedlings, one Phyllocladus seedling, with linear leaves, one seedling probably of the Rosaceae, all three quarters of an inch tall, and a single orchid, its leaf an inch tall. Altogether about six per cent of the ground was lightly covered, chiefly by the liverwort and the moss.

My next visit was in April 1965. By now there was a low shrub layer dominated by the divaricating Neomyrtus pedunculata, of which there were many plants of all sizes up to two feet tall. Several had arisen from the layering and rooting of other stems. Plants of the following species were also common, about four per square yard: Coprosma parviflora and C. foetidissima, up to 18 inches tall, Cyathodes fasciculata, up to 18 inches, Phyllocladus alpinus, up to 9 inches. There were a few divaricating juveniles of Elaeocarpus hookerianus, up to three feet, and Nothofagus solandri up to 10 inches.

Single plants of the following were found: Pseudopanax simplex four inches tall, Pseudopanax with deflexed leaves 14 inches, Nothofagus menziesii 3 inches, and Dianella five inches.

The uneven ground was now almost covered with the redstemmed moss Ptychomnion aciculare, with pockets of beech leaves, and twigs from fallen branches. There were small patches of several other mosses and liverworts. The ground and low shrub layers of the plot differed from those of the undamaged forest chiefly in the lack of diversity of mosses and liverworts, Ptychomnion aciculare almost excluding other species, and in the abundance of young plants of Neomyrtus pedunculata and Cyathodes fasciculata, with very few Nothofagus saplings.

My final visit was in November 1967. There were four shrubs taller than the remaining vegetation: Neomyrtus pedunculata, four feet six inches, Nothofagus solandri, four feet, Elaeocarpus hookerianus, three feet six inches and Coprosma parviflora, three feet four inches. Below these were five Neomyrtus, 15 inches to three feet, three Elaeocarpus, 16

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to 20 inches, four Coprosma foetidissima, 10-20 inches, six Cyathodes up to two feet, six Phyllocladus about one foot, three Nothofagus solandri, about one foot, scattered plants of Coprosma parviflora up to eight inches, one Pseudopanax simplex, 16 inches, and one Dianella 10 inches tall. The ground was still abundantly covered by Ptychomnion aciculare, with only small patches of other mosses and liverworts.

An animal track crossed one end of the plot and some plants were browsed, particularly Coprosma foetidissima and Pseudopanax. The tall sapling of Nothofagus solandri is considered to have grown from the base of a sapling which survived the fire of 1961, as the stump of an earlier stem is visible above its root crown.

These observations show that mosses and liverworts were the first plants to establish, especially Marchantia berterooana, and that the beech species (Nothofagus) were slow to appear by comparison with Neomyrtus, Cyathodes, Coprosma and Phyllocladus.

FURTHER READING

McQUEEN, D.R. 1951: Succession after forest fires in the southern Tararua Mountains. Wellington Botanical Society Bulletin No. 24. 10-19.

"I know each lane, and every alley green
Dingle or bushy dell
of this wild wood".

John Milton

The poetical excerpts in this Journal have been supplied by Phyllis Thompson.

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