

exposition. While Cockayne was out of the room for a moment, Laing smiled and said, "The old man doesn't mean all he says, he'll be an ecotype enthusiast tomorrow."

So one remembers Laing, modest, whimsical, interested in humanity. He claimed no high place for himself, but what he knew and thought he passed on eagerly, helpfully to others.

H. R. Allan.

The Vegetation of the North Canterbury Foothills.

At the Study Circle on 2nd October Mr. A. J. Healy of the Botany Division of the Plant Research Bureau described the vegetation of the country between the Waipara and the Waiau Rivers and stretching some 15-20 miles inland.

The area treated includes hills running parallel to the coast and cut by gorges with three different series of limestone represented. A rainfall of 35-40" is combined with the sort of winter where 30" of frost is not unknown, South-east faces remain frosted for more than a month on end and the enthusiastic botanist has often to break the ice of the tussocks.

Though a few totaras were seen in gullies there is no real bush. Even after 70-80 years of occupation by farmers and their stock, together with countless thousands of rabbits in later years, one can still picture the general aspect of the original tussock vegetation, developed in the absence of both burning and grazing.

The country was first owned in large blocks on which the tussock was burned at 1-3 year intervals to stimulate new growth for sheep. Areas leased from the Government for 21 or 35 years at a time had been withdrawn from use periodically to recover. Low country sheep brought in to restock such places bring with them each time a fresh supply of seeds of weeds which have together come to occupy an important place not only in the vegetation as a whole but also in the diet of the grazing stock. These as well as the native plants were treated fully by Mr. Healy whose remarks drew from Mr. Cairns the comment that at least half a dozen of them were reputed to be poisonous!

Though tall Danthonia tussock comes in about 2000' the great part of the area discussed is essentially low tussock

grassland with the silver tussock (Poa caespitosa) dominant on the sheltered faces and at lower levels and the hard brown tussock (Pestuca novae-zealandiae) on dry North-west faces and higher up. By burrowing between the tussocks, hunting in the shelter of the Irishman (Discaria) and other scattered shrubs, scrambling round rock faces and wandering over river-beds, the speaker, even in midwinter, gleaned a rich harvest of species. These he ran over in systematic order but only a few can be selected for mention here.

Two finds were outstanding, each extending by at least 100 miles the known range of a well defined and rare species Gentiana Astoni, flowering plentifully in June on limestone of the Mt. Brown series on windswept slopes near Waipara had hitherto been recorded only from the limestone ridges near the source of the Ure river in the Kaikouras. Muehlenbeckia Astoni familiar to some of us in its type locality at Cape Turakirae where a few plants survive in the ever-growing shingle fans, and known also from several localities in Marlborough was found to be abundant if not dominant on certain terraces.

Three other species of Muehlenbeckia were present and also the hybrid between the mat-forming M. axillaris and M. ephedrioides, an almost leafless collection of dry looking sticks. Another interesting hybrid was that between the Australian piripiri Acaena ovina and our own A. sanguisorbae. The common Celmisia is C. gracilentia, in some places so abundant as to give a grey tinge to hundreds of acres.

The antics of the Kowhai (Edwardsia prostrata) were vividly described. It often grows as a low cushion one foot by two, from which, in the wetter river valleys, may arise a 6 ft. trunk supporting a canopy top, while on river beds it makes a solid column 12' high by 8-9' through. It seems to be one of the few plants not trimmed by stock (a contrast to the state of affairs in the Mukumuku valley). Its small bronze marked flowers must have been a welcome sight in the wintry days of July. Pimelea pseudolyalli, that forms ball-shaped shrubs a foot high, also flowers profusely in winter, brightening thousands of acres on the slopes of Mt. Grey.

Hebe hulkeana and Pachystegia insignis, typical Marlborough plants, abound in a tributary of the Waiiau and the Var. Maccaskillii of Hebe raoulii, described in 1939 from limestone at Weka Pass and White Rock was found on Mt. Noble

on other kinds of soil. Tetragonia trigyna usually a strictly coastal plant, unexpectedly appeared 15 miles inland. In the mixed scrub of the wetter South-east gullies Fuchsia perscandens might be specially mentioned, and also the abundance of mistletoes - Loranthus, Tupeia, and Korthalsella.

Introduced plants, many of them generally considered weeds, contribute useful food for stock, or like Sedum acre help to maintain the enormous rabbit population. Some, however are a great menace to the prosperity of the district and amongst these first place is held by Nassella trichotoma a South American tussock grass that, profiting from the burning programme of farmers since it was accidentally introduced many years ago has ousted the native tussocks from thousands of acres. Whereas native tussocks properly managed give good grazing this intruder is unpalatable to stock and renders useless the areas that it dominates. Interesting botanically because of its wonderful ability to spread, mostly by light wind-borne seeds, and to colonise new areas, it threatens to bring financial ruin in its train.

A species of Stipa or needle grass, equally valueless to stock but luckily less widespread here, has a further unpleasant habit of burrowing its pointed seed not only into the ground where it might have a chance to germinate but also into sheep skins, damaging them for leather making. Sweet briar, carried about in wool or by birds is a weed that usually does not find favour with farmers but in this district is rather highly valued because rabbits have a fancy for jam made from the hips and can easily be induced to take poison in this medium.

Those who braved one of the wettest nights of a phenomenally wet spring to hear Mr. Healy's tale will remember many interesting points omitted here and will regret that there were not more members present to see the fine set of pressed specimens.

NATIVE FLOWER SHOW IN AUCKLAND.

In spite of rather short notice nearly twenty members contributed specimens to be sent for exhibition under the Society's name at the tenth Spring Native Flower Show, a memorial to Mr. Cheeseman, organized by the Auckland Botanical Society and opened at the War Memorial Museum on 27th September. More than 85 species were represented in our box and most of them were labelled. Miss Cranwell, botanist at