

The "scrub islands" (Photo No. 28), especially on the Table Hill Range, give a character to the landscape, forming patches of a more or less sage-green colour in the apparently smooth meadow. Such an "island" may consist of *Olearia Colensoi*, *Veronica buxifolia* var. *odora* (this a plant of certain aspects of the meadow, and not of the continuous subalpine scrub), *Nothopanax Colensoi*, *Gahnia procera*, *Phormium Cookianum*, *Styphelia acerosa*, *Dracophyllum longifolium* (all these about 3 ft. tall, and of lower growth), *Suttonia divaricata*, *Astelia montana*, *Coprosma foetidissima*, and *Styphelia empetrifolia*. On the floor of the scrub are *Astelia linearis*, *Coprosma ramulosa*, and *Danthonia pungens*, while on the leeward side will be abundance of *Celmisia linearis*. The cushions of *Dracophyllum politum* are abundant in the shelter of these scrub islands (see Photo No. 28). Where the wind is too violent the island may be reduced to a solitary plant of the *Olearia*, or in other places only the *Astelia montana* remains, forming flattened masses, and reminding one of its similar appearance on the Tararua Mountains.

4. BOGGY MEADOW (Photo No. 29).*

There is little difference between actual bog and the ordinary open ground of a Stewart Island mountain, the boggy meadow having as its groundwork a number of species—e.g., *Donatia novae-zelandiae*, *Carpha alpina*, *Astelia linearis*, *Ehrharta Thomsoni*, *Oreobolus pectinatus*, and *Phyllachne Colensoi*, which are characteristic alpine or subalpine bog plants. The ground is a wet peat, which can be kneaded into the consistency of porridge. Many of the species are cushion plants, but the cushion habit is quite masked through their growing one into the other, and thus making a close turf. On Mount Anglem this cushion-turf is not such a feature as on Table Hill and Mount Rakiahua.

A typical boggy meadow, such as covers nearly all the open ground on the Table Hill Range, consists of a dense mass of plants, the dominant species growing into one another, thus making a kind of turf, springy to the tread, and into which the heel sinks, but which rises back into position. There is a groundwork made of the dominant plants, others entering in according to certain changes in conditions, and then possibly becoming the leading feature. This groundwork consists of pale-green grasslike tufts of *Carpha alpina*, the leaf-apices dead, straw-coloured, and twisted spirally; close low cushions of *Donatia novae-zelandiae*, the green leaves with bright orange tips, and in very small rosettes pressed together; *Dracophyllum politum*, much like *Donatia* outwardly, but the leaves more open and tipped with red; green cushions of *Oreobolus pectinatus*; and growing through, and mixed with the whole almost everywhere, *Astelia linearis*, and the short, glaucous leaves of *Ehrharta Thomsoni*. At distances of a few feet there project obliquely above the general mass tufts of the rigid, pale-green, and reddish-brown leaves of that most ungrass-like grass *Danthonia pungens*. Where the ground becomes slightly drier the general carpet is dotted everywhere with the silvery cushions of *Celmisia argentea* and *C. linearis* (see Photos Nos. 9 and 30), the former having a greenish tinge. In many places the meadow is marked for acres with the broad shining green leaves, arranged in starry rosettes, of *Senecio scorzonerioides*, which with its large white flower-heads is very showy in December. Frequently there are many plants here and there of the stiff-growing *Aciphylla Trailii*. At times *Celmisia linearis* (see Photo No. 30) makes great silvery patches on the hillside, the individual low cushions merging into one another. Near the subalpine scrub the prostrate form of manuka (*Leptospermum scoparium*) is an important member of the formation, making pale-green patches (Photo No. 16).

The following plants not mentioned above occur more or less frequently in the formation, some being rare, and none usually adding any special feature to the physiognomy: *Veronica buxifolia* var. *prostrata*, *Phyllachne Colensoi*, *Hierochloa Fraseri*, *Senecio bellidioides*, *Forstera sedifolia* var. *oculata*, *Prasophyllum Colensoi*, *Suttonia nummularia*, *Danthonia semiannularis*, *Raoulia Goyeni*, *Aciphylla aromatica*, *Caltha novae-zelandiae*, *Gentiana lineata*, *G. Griesbachii*, *Euphrasia Dyeri*, *Celmisia longifolia*, *Lycopodium fastigiatum*, and *Pentachondra pumila*.

On Mount Anglem the meadow is somewhat drier; *Celmisia linearis* is absent, and *C. argentea* not usually abundant; *Bulbinella Gibbsii* is plentiful; glaucous green mats of *Celmisia Sinclairii* are dotted about; *Veronica buxifolia* var. *prostrata* is common; there is no *Senecio scorzonerioides*, but plenty of *S. Lyallii*; *Danthonia pungens* is everywhere; *Schoenus pauciflorus* is not uncommon, and many "scrub islands" give a special aspect to the scene.

Especially interesting is the summit of the highest peak, where on the windward side is an astonishing assemblage of cushion plants, *Raoulia Goyeni* and *Dracophyllum politum* being everywhere, together with large patches of *Danthonia pungens*. Here, too, are plants absent or rare elsewhere on the mountain—e.g., *Veronica Laingii*, *Blechnum penna marina*, *Ourisia caespitosa*, *O. sessiliflora*, *Helichrysum Loganii*(?), *Hymenanthera dentata* var. *alpina*, *Polystichum cystotegia*, *Cardamine heterophylla*, and *Plantago Brownii*. But on the sheltered side of the peak the character of the vegetation altogether changes—the cushion plants are wanting, or, at any rate, no longer dominate, and *Ranunculus Lyallii* and *Senecio Lyallii* become abundant, while *Danthonia pungens* and *D. crassiuscula* give the physiognomic stamp. There are large breadths of *Astelia montana* and a great deal of *Viola filiformis*. *Veronica Laingii* is also of much greater size.

A sheltered gully on Table Hill shows a somewhat similar change. Here tussocks of *Danthonia Raoulii*, a grass absent usually on the Stewart Island mountains, are plentiful, together with *Veronica buxifolia* var. *odora*. The cushion plants no longer crowd together, but form true cushions, and, as usual, there is a turf of *Carpha alpina*. *Olearia divaricata* is fairly common.

The lower meadows of the same range, above the bush-line, where they occur as openings in the subalpine scrub, the ground being too wet for the latter formation, have much *Gleichenia alpina* and *Hypolaena lateriflora*. They are, in fact, a transition to the bog of the lowland.

* The term "moor" might be more applicable than "meadow," and is used by Warming for the formations of sour soils (55, pp. 193–217). Meadows such as those of the Northern Hemisphere are only known in New Zealand as artificial formations, the result of cultivation. The New Zealand meadows of my ecological writings are in part steppes, in part moors, and in part fell-fields, if Warming's classification be adopted.