

(c.) *Old Dune Bogs near Mason Bay.*

The sand-dune bogs* near Mason Bay are of a different character to the above. They themselves vary considerably as to their water-content. Where water lies always *Carex ternaria* is dominant. In many places *Leptocarpus simplex*, waist-high, makes a pure association. There is an abundance of large *Sphagnum* cushions, and growing on them much *Gunnera prorepens*, the dark-coloured, almost black leaves pressed close to the moss, the plant eventually extending by means of its creeping stems beyond the bog out on to the dry ground; *Hydrocotyle asiatica*; *Lagenophora petiolata*; stunted *Lepidospermum scoparium*; *Olearia virgata*; *Blechnum capense* var. *minor*; young *Dracophyllum longifolium*; *Thelymitra longifolia*; *Celmisia longifolia*; *Nertera setulosa*; and *Viola Cunninghamii*. Where water lies is *Hydrocotyle tripartita*, *Ranunculus rivularis*, *Potamogeton Cheesemannii*(?), *Elaeocharis Cunninghamii*, and in places *Phormium tenax*.

Bog such as the above merges into the drier ground already described under the heading "Heath," and it is difficult to draw a hard-and-fast line between these two formations. There may be a piece of comparatively dry ground, and at the next step the water oozes out, while farther on is a hole with water lying. And there are many acres of such land. On such *Gleichenia alpina* and *Hypolaena* are very plentiful; there are many small shrubs of *Veronica buxifolia* and *Cassinia Vauvilliersii*. Water can usually be wrung out of the ground. In some places *Danthonia Raoulii* tussocks are abundant, and another association has entered in. Besides all the bog plants already enumerated are the following: *Halorrhagis micrantha*, *Gaultheria perplexa*, *Geranium microphyllum*, *Carex stellulata*, *Pratia angulata*, *Hierochloa redolens*, *Juncus lampocarpus*, *Acaena Sanguisorbae*, and *Prasophyllum Colensoi*.

(d.) *Swamp.*

The bogs become more swamp-like in character in the narrow valley connecting Mason Bay and the Freshwater River Valley. A drain has been cut for a few years through the above, and much less water must lie on the floor of the swamp than formerly, though it is still extremely wet.

Where water lies the vegetation is in dark-green and reddish patches a chain or more in length, the latter marking the presence of pure *Leptocarpus simplex* 2 ft. or more tall. The green consists of *Cladium glomeratum*†(?), the stems rush-like, 1 ft. or more tall, and the ground bare beneath. Here and there on the muddy ground is *Elaeocharis Cunninghamii*, and where water lies *Carex stellulata*. In some places *Carex ternaria* is dominant, and on the open muddy floor is *Hydrocotyle asiatica*, *Hydrocotyle tripartita*, *H. americana*, *Blechnum capense* var. *minor*, and *Ranunculus rivularis*. Where wettest of all are niggerheads (*Carex secta*).

(e.) *Bogs near Port Pegasus.*

In the valley at the head of Crooked Reach, Port Pegasus, is much boggy ground, interspersed with "manuka heath" and occasional *Danthonia Raoulii* meadow. The bog is, in part, although at nearly sea-level, of a subalpine character. In some places *Schoenus pauciflorus* is dominant; in others *Hypolaena lateriflora* is everywhere. There is much wind-flattened manuka 1 ft. or 2 ft. high, and cushions of *Oreobolus pectinatus* are everywhere. *Phormium Cookianum* is abundant. *Senecio Lyallii* is extremely common, and in many places the leading plant; also *Senecio bellidioides* is excessively plentiful. Other common plants are certain mosses (*Dicranoloma setosum*, *Campylopus bicolor*, *C. introflexus*), *Dracophyllum politum*, *Donatia novae-zelandiae*, *Pentachondra pumila*, *Astelia linearis*, *Drapetes Dieffenbachii*, *Gaimardia ciliata*, *Carpha alpina*, *Gleichenia alpina*, *Ranunculus Kirkii*, *Coprosma acerosa*, and *Gaultheria perplexa* entangled together, *Veronica buxifolia*, *Dracophyllum Pearsoni*, *Lycopodium ramulosum*, and *Cassinia Vauvilliersii*. There is a fair amount of *Bulbinella Gibbsii* and a certain quantity of *Celmisia argentea*, *C. linearis*, and *Calitha novae-zelandiae*, while *Ehrharta Thomsoni*, *Liparophyllum Gunnii*, and *Actinotus novae-zelandiae* are plentiful.

(f.) *Boggy Meadow.*

Tussock meadow is quite rare in Stewart Island, but there are patches of considerable size in the Rakiwha and Freshwater River Valleys, where at a distance only the waving red tussock (*Danthonia Raoulii*) can be seen. The tussocks are 4 ft. or 5 ft. tall; they touch, or there are spaces between filled with *Hypolaena* and *Leptocarpus*; or there is a turf of various low-growing plants—e.g., *Carpha alpina*, *Lagenophora petiolata*, species of *Drosera*, *Celmisia longifolia*, *Geranium microphyllum*, *Hydrocotyle asiatica*, *Dichondra brevifolia*, *Helichrysum filicaule*, *Gaultheria perplexa*, *Halorrhagis micrantha*, *Lindsaya linearis*, *Lycopodium ramulosum*, *Oreostylidium subulatum*, *Thelymitra uniflora*, *Apium prostratum*, small *Dracophyllum longifolium*‡, *Drapetes Dieffenbachii*, *Gaimardia ciliata*, *Actinotus novae-zelandiae*, *Geum leiospermum*, *Liparophyllum Gunnii*, *Lycopodium ramulosum*, and *Ehrharta Thomsoni*. *Carex appressa* forms considerable patches in some places. *Ourisia modesta* was collected only in the Rakiwha Valley, growing in company with *Ranunculus Kirkii* and forming small mats.

The *Danthonia* meadow near Port Pegasus may have the tussocks close or distant, in which case the spaces may be filled by *Veronica buxifolia*, *Cassinia Vauvilliersii*, *Coprosma acerosa* var., *C. parviflora*, and *Phormium Cookianum*. The floor-plants are *Hypolaena*, *Ranunculus Kirkii*, *Blechnum capense* var. *minor*, *Cladium Vauthiera*, and probably a number of other plants not in my notes.

* The origin of wet ground in a dune-area is explained in my report on the sand dunes of New Zealand, recently issued by the Department of Lands.

† It was not in flower, and I have no specimen.

‡ Perhaps this is *D. Urvilleanum* var. *Lessonianum*.