

large trees grew, the trunks of which are now fossil in Kerguelen Island, and that the ancestors of *Lyallia* and *Pringlea* flourished.

“A stretch of land on the north-west side of the plain was covered pretty thickly with green, which was on closer view seen to be composed of patches of *Azorella*, growing on the summits of mud or sand hummocks, which were separated from one another by ditches or cavities of usually bare brown-mud. Some of these patches of *Azorella* were of considerable extent, and the plant was evidently flourishing and in full fruit. On some hummocks grew tufts of *Poa cookii* in full flower, and with the anthers fully developed; and on the sheltered banks of the hummocks *Pringlea antiscorbutica* grew in considerable quantity, but dwarfed in comparison with Kerguelen specimens, both in foliage and in the length of the fruiting stems. Most of it was in fruit, but some still in flower, as at Kerguelen Island.

“Around pools of water in the hollows grew a variety of *Callitriche verna* in quantity, and it occurred also in abundance submerged in company with a *Conferva*. In the same sheltered spots grew *Colobanthus kerguelensis*, in greater abundance even than at Kerguelen Island. These five flowering plants, all occurring also in Kerguelen Island, were the only ones found in the island, and it is improbable that any others grow there. Heard Island has thus a miserably poor flora, even for the higher latitudes of the southern hemisphere. The Falkland Islands, in lat. 51° to 52° S., have one hundred and nineteen phanerogamic plants, and Hermit Island, far to the south of Heard Island, in lat. 56° S., has eighty-four phanerogams, and amongst them trees which find their southern limit in this island.

“An Antarctic flora can in reality hardly be said to exist, since there are absolutely no phanerogamic plants within the Antarctic Circle, and on Possession Island, lying off the coast of Victoria Land, in about lat. 72° S., within the Circle, Sir Joseph Hooker found only eighteen cryptogams, and no trace of phanerogams. Yet in Saltdalen, in Norway, north of the Arctic Circle, there are fine timber forests and thriving farms, yielding abundant crops of hay and barley. Melville Island, in lat. 74° 75' N., 500 miles north of the Arctic Circle, has a vegetation of sixty-seven flowering plants.

“Sir J. D. Hooker, in his latest memoir on the botany of Kerguelen Island, says: ‘The three small archipelagos of Kerguelen Island (including the Heard Islands), Marion and Prince Edward Islands, and the Crozets, are individually and collectively the most barren tracts on the globe, whether in their own latitude or in a higher one, except such as lie within the Antarctic Circle itself; for no land, even within the North Polar area, presents so impoverished a vegetation.’¹

“About the sides of the hummocks already described grew scantily four species of mosses, one of which proved to be new and peculiar to the island.

“The greater part of the land surface of Heard Island, free from ice, besides the green tract described, is entirely devoid of vegetation. Only on the talus slopes of the hills, on their sheltered sides, are seen scattered in a very few places scanty patches of green. These, composed lower down mainly of *Azorella*, stretch up the slopes, and terminate at an elevation of a few hundred feet in bright yellow patches, consisting entirely of mosses, just as at Marion Island, on the higher slopes. I searched in vain for lichens of any kind.

“There seems to be a very great difference with regard to the vertical range of plants in these southern islands, and in the Arctic regions. In Marion Island, I estimated the absolute limit of vegetation at an altitude of about 2000 feet; in Kerguelen Island, the limit seems to lie at about 1500 feet or lower; plants of any kind are there already scarce at 1000 feet above sea-level. In Heard Island vegetation appears to cease at 300 or 400 feet altitude. Yet in East Greenland, the

¹ Flora Antarctica, p. 216.