

Pringlea could have been transported from one island to another by birds; they seem to be remarkably perishable; besides, the distinctness of the genus points to a former wide extent of land on which its progenitors became developed. The existence of fossil tree-trunks in Kerguelen's Land points to similar conditions. Sir J. D. Hooker, in the "Flora Antarctica," p. 220, expressed the above conclusion after his voyage with Captain Koss, 35 years ago, and with singular foresight suggested that there has taken place "the destruction of a large body of land, of which St. Paul's and Amsterdam Island may be the only remains; or the subsidence of a chain of mountains running east and west, of which Prince Edward Island, Marion and the Crozets are the exposed peaks." This view is directly confirmed by the discovery by the "Challenger's" soundings of the Kerguelen Plateau, which "rises in many parts to within 1,500 fathoms of the sea surface, and forms the common foundation of all the islands situated in this part of the world, viz., Prince Edward's Islands, the Crozet Islands, the Kerguelen Group, the Heard Islands, and the islands of St. Paul and Amsterdam," "as proved by the soundings of both the 'Challenger' and the 'Gazelle.'"* The occurrence with the cabbage on Heard Island of the helpless wingless fly, seems a further proof that the plant was not conveyed to the various islands by birds. It is hardly possible that both could have been transported. The fly could probably not exist without the cabbage. The existence of the same species of fresh water fish in New Zealand, Tasmania, the Falkland Islands and South America, points also to the former existence of more intervening land between these points.†

* "Thalassa," an Essay on the Depth, Temperature and Currents of the Ocean, by J. J. Wild, of the Civilian Scientific Staff of H.M.S. "Challenger," pp. 19 and 23. London, Marcus Ward, 1877.

† A. R. Wallace, "The Geographical Distribution of Animals," Vol. I., pp. 401, 403. London, Macmillan, 1876.

The species of Phanerogamia and vascular cryptogams found in Kerguelen's, Marion, and Heard Islands, are enumerated in Prof. Oliver's report upon my collection, "Journ. Linn. Soc.," XIV., p. 389, from which report the specific names above cited are taken. For the Cryptogamia of Marion Island, *vide* list of papers at the end of this book.

The following are the temperature-observations taken on board the "Challenger" by Staff Commander Tizard, R.N.:—

On December 26th, when the ship was off Marion Island, the thermometer, read at six in the evening, showed for the preceding twelve hours, maximum 45°·5 F, minimum 36°·2.

December 27th. The ship was occupied dredging off both islands; 6 A.M. maximum 43° F., minimum 40°·5; sea-surface 40° to 41°.

On December 26th the temperature at 10 A.M. was 37°·8 F.; midday, 43°; midnight, 42°.