

Southern Ocean has also yielded *Promachocrinus*, the unique *Thaumatocrinus*, and at 2600 fathoms a minute *Antedon*, which was also found at 2900 fathoms in the North Pacific. . . . The Magellan and Heard Island species [of *Antedon*] from the furthest south are the Antarctic representatives of *Antedon eschrichti* and *Antedon quadrata*, which are widely distributed in the Arctic Ocean."¹

ALLMAN states: "It is a fact not destitute of interest that no less than three . . . British species, *Obelia geniculata*, *Laföea fruticosa*, and *Sertularia polyzonias*, have been brought by the Challenger from the Fuegian region, and thus indicate a similarity of conditions between the northern and southern regions which shows itself in the appearance of the same species in both. . . . *Perisiphonia filicula* [obtained in the Australian region at a depth of 150 fathoms] was also found in the Azoric region at a depth of 450 fathoms, and thus affords an instance of the same species occurring in two regions so widely separated as the Azores and Australia, without any intermediate station offering an example of it. *Grammaria*, HYDROIDA OF THE NORTHERN AND SOUTHERN HEMISPHERES. already known as a northern form, is represented in the Challenger collection by three new species, all from a comparatively narrow zone of southern latitude, *Grammaria insignis* from Marion Island, *Grammaria stentor* from Kerguelen, and *Grammaria magellanica* from the Fuegian region. All the three species thus occur at moderate depths, and their distribution is interesting as affording an example of stations, for the most part widely separated in longitude, and yet lying within a few degrees of the same parallel of latitude. . . . *Sertularia operculata*, an abundant and characteristic species of the British Laminarian zone, is shown to have a singularly wide area of distribution, having been brought up by the dredge of the Challenger from a depth of 45 fathoms off the western coast of Patagonia. . . . *Obelia geniculata* is one of the few British Hydroids obtained by the Challenger. In the British and European seas it is one of the commonest and most widely distributed species, while it has also been obtained on the eastern and western shores of the United States, and on the coast of Labrador, as well as in the seas round the North Cape. The Challenger dredged it from two localities, one in the region of Kerguelen Island, and the other in that of the Falkland Islands. Both therefore in nearly the same southern latitudes, though separated by about 130° of longitude. The distance between these extreme southern localities and the Arctic Ocean, in which it has been found by Sars, affords one of the most striking examples known of the wide geographical distribution of a single species."²

WRIGHT and STUDER write: "The species of this genus [*Alcyonium*], as now restricted, are inhabitants of the temperate portions of all the three oceans. The species of this genus [*Lobularia*], which is closely related to the last, seem to occupy the tropical portions of the three oceans, therein taking the place of the others."³

SOLLAS writes: "The Theneid [from the South Australian province]—*Thenea grayi*—is not a very distinct form, since it much resembles *Thenea muricata* of the Arctic province. . . . The Indo-Antarctic fauna is possibly the remnant of one once associated with that of an Antarctic continent, now preserved in isolation by its remoteness from all other areas."⁴

The resemblances between the littoral faunas and floras of the Arctic and Antarctic regions have been incidentally pointed out by other authors of the Challenger Memoirs, and by many other naturalists. From the statements in the above extracts it will be seen that there have been many speculations as to the causes by which these resemblances have been brought about. The relations of the Arctic and Antarctic littoral faunas has also been recently discussed with reference to the zoological collec- COMPARISON OF SPECIES FROM HIGH NORTHERN AND HIGH SOUTHERN LATITUDES. tions brought home by the German Expedition from South Georgia.⁵ In this place it is proposed to examine the distribution of the animals captured by the Challenger in three great zones of latitude, viz., those taken within the tropics, those taken

¹ Zool. Chall. Exp., pt. lx. pp. 30, 33.

² Zool. Chall. Exp., pt. lxx. pp. lvi., lviii., 23.

³ Zool. Chall. Exp., pt. lxiv. p. 295.

⁴ Zool. Chall. Exp., pt. lxiii. pp. 389, 391.

⁵ Die niedere Thierwelt des Antarktischen Ufergebietes, von Dr. Georg Pfeffer, Die International Polarforschung, 1882-1883, Die Deutschen Expeditionen und ihre Ergebnisse, Bd. ii., p. 455; Pfeffer, Versuch über die erdgeschichtliche Entwicklung, Hamburg, 1891.