

Archibenthal-
abyssal fauna
of the North
Atlantic.

tribution of the Atlantic deep-sea¹ fauna, that some of the forms occur likewise in the deeper parts of the boreal areas of the Norwegian Sea. This, however, refers only to a small proportion, since the majority consist of specifically Atlantic forms which do not cross the boundaries of the Norwegian Sea. As to the distribution of this specifically Atlantic fauna opinions differ. One very prevalent view is that, throughout the North Atlantic at any rate, temperatures, salinities, and other external physical conditions are extremely uniform, and that consequently the various forms have a correspondingly extensive distribution. Certain facts seem to me to contradict this, for instance, in such well-known groups as the echinoderms and decapod crustaceans, of which there are numbers of species. Mortensen's work on the North Atlantic echinids, and Koehler's description of the material collected by the Prince of Monaco, show that the West African coastal seas shelter 28 species of echinids, and that immediately to the south of the ridges 21 species of the same group have been trawled by the "Ingolf" and "Michael Sars." In all these two areas yielded 39² species, but not more than 10 of them are common to both.

We find much the same position of affairs when we compare the deep-sea fauna of the European or African Atlantic side with its counterpart on the West Atlantic (American) side.³ Merely taking the echinids, which may be regarded as specifically belonging to the archibenthal-abyssal fauna on both sides, there are altogether 74 species, but only 24 of them are common to both areas. The other groups of echinoderms have not yet been so carefully studied, but we know enough to show that in their case, too, a similar difference exists between these archibenthal-abyssal areas of the Northern Atlantic.

If we take decapod crustaceans the result is still the same. The northernmost portion of the European Atlantic area immediately south of the ridges has been examined by Danish and Norwegian expeditions at many stations, and 15 archibenthal-abyssal species of Brachyura and Anomura have been discovered at depths of 1000 to 2000 metres, while the researches of the Prince of Monaco, and the "Travailleur" and "Talisman" Expeditions, have resulted in 40 species being found at the same depths in West African Atlantic waters;

¹ I wish to make it clear that in what follows no distinction will be made between the archibenthal and abyssal faunas, unless expressly stated, but would merely remark that the bulk of the species belong to the archibenthal zone.

² I have omitted one or two species that have a very extensive bathymetrical distribution, inasmuch as they occur also in the littoral and sub-littoral zones of the coastal areas.

³ No account has here been taken of pelagic deep-water forms.