

Species found on both sides of the North Atlantic.

Abyssal forms have a considerable vertical distribution.

*Bathypterois longipes*, *Macrurus simulus*, and *Macrurus brevibarbis*, are now known from both sides of the Atlantic. The three last-mentioned species were also caught near the Azores, and we must therefore conclude that their habitat stretches right across the Atlantic. *Macrurus æqualis* was previously known only from the eastern side, *Macrurus globiceps* also from the Azores, and during the cruise of the "Michael Sars" it was taken a little north of the latter locality (Station 88). If the above table is compared with the list of "Michael Sars" stations, it will be noticed that these fishes from the abyssal region have a considerable vertical distribution, occurring also on the continental slopes.

"Challenger" hauls in the deep water of the North Atlantic.

Sir John Murray has, in his excellent "Summary," given lists recording all the different animals captured at each of the "Challenger" stations, and in a final chapter he endeavours to lay down some of the most important laws governing the distribution of animals in the ocean. At twenty-five stations where the depth exceeded 2500 fathoms the "Challenger" took with dredge and trawl 600 individual animals of all kinds; this gives 24 individuals per haul. Now, firstly, many of these were pelagic (most of the crustaceans and some of the fishes), and secondly, many of them were very small (hydroids, bryozoa). As examples I give a list of the bottom-forms (protozoa excluded) obtained at some of the "Challenger" stations between the Canaries and the West Indies.

- Station 5. Depth, 2740 fathoms. Three living mussels (*Leda*, *Limopsis*, *Arca*), and some dead shells.
- „ 13. Depth, 1900 fathoms. Some bryozoa and brachiopods (10 *Terebratula*).
- „ 14. Depth, 1950 fathoms. Some bryozoa.
- „ 16. Depth, 2435 fathoms. Sharks' teeth (*Oxyrhina*, *Lamna*), valves of *Scalpellum*, 2 mussels (*Arca*).
- „ 20. Depth, 2975 fathoms. Dredge came up half full of clay, containing half a dozen tubes of serpulids, some of these with the worms living.
- „ 61. Depth, 2850 fathoms. Trawl captured some ophiuridæ (*Ophioglypha*), 2 holothurians, 7 *Scalpellum*.
- „ 63. Depth, 2750 fathoms. Trawl captured some fragments of worms, 3 *Scalpellum*, 1 fish (*Halosaurus rostratus*).

This list is representative of most deep-sea hauls, and their uniform poverty is only broken by rare exceptions, as in a noteworthy haul taken by the "Challenger" in the Pacific, between Japan and Hawaii, at Station 244, in 2900 fathoms, which gave :—