

spheres, which probably represent the spheres of a lighter color which we find in all the surface rhizopods, seem to be specially characteristic of rhizopods from deep water, being found also in the Radiolarians from the deep tow-nets. The Challengerida were never met with on the surface; they were taken rarely in tow-nets sunk to depths of 300 and 400 fathoms; and they were most abundant when the tow-nets were sent down on the dredge or trawl rope to much greater depths. Their distribution seems to have a wide extension; they are occasionally found in the bottom deposits, but rarely, probably on account of their small size and the extreme tenuity of their tests, which renders them liable to solution in sea-water. The Challengerida are essentially rhizopods with monothalamous siliceous shells; and their zoological position may be not very far from such forms as *Gromia*.

The distribution of the pelagic Foraminifera has already been discussed. They are universally distributed throughout the temperate and warmer seas, diminishing in number and decreasing in size toward the frigid zones. Certain species are occasionally found in large numbers on the surface, but at a depth of a few fathoms their occurrence is much more certain. We have good reason to believe that the vertical range of the oceanic group does not extend beyond the first few hundred fathoms, and that all the pelagic forms occur occasionally on the surface. Living Foraminifera are very generally distributed on the bottom, but the forms differ from those found on the surface and near it, and are for the most part to be referred to arenaceous or imperforate types.

Sponges extend to all depths, but perhaps the class attains its maximum development between 500 and 1000 fathoms. All the orders occur in the abyssal zone, except the Calcarea, which seem to be confined to shallow water. At great depths the Hexactinellidæ certainly preponderate; and next to these perhaps the Esperiadæ, the Geodidæ, and the Lithistidæ. The