

CHAPTER IX

PELAGIC ANIMAL LIFE

IN the "Challenger" Summary, Sir John Murray writes as follows: "The tow-net experiments carried out on board the "Challenger" during several years in all parts of the world led me to the conviction that these intermediate regions were inhabited, although with a much less abundant fauna than the waters near the bottom or those near the surface of the ocean. Thousands of hauls of the tow-nets were taken in the surface and sub-surface waters, and the contents were daily submitted to microscopic examination; the forms present in these waters became quite familiar to the naturalists. When, however, the tow-nets were sent down to deep water, and dragged in depths as nearly as possible of 500, 1000, and 2000 fathoms, organisms—such as the Tuscaroridæ among the Radiolaria—were nearly always observed in the gatherings in addition to the usual surface organisms. Organisms from these intermediate layers of water appear to have a much wider horizontal distribution than the surface fauna or flora. These oft-repeated experiments produced a strong belief that all the intermediate zones of depth were inhabited. I am not aware that the Tuscaroridæ have ever been taken in the surface or sub-surface waters. It is probable that the animals in the intermediate zones of depth obtain their food by the capture of the dead organisms continually falling from surface to bottom. It is well known that the deposits at the bottom are in most regions chiefly made up of the dead shells and skeletons of surface organisms."¹

During the cruise of the Italian ship "Vettor Pisani," Captain G. Palumbo constructed a closing-net with which Lieutenant Gaetano Chierchia collected animals from accurately determined depths. At the zoological station at Naples this work was continued by Eugen von Petersen and Professor Carl Chun.

¹ Summary of Results Chall. Exp., p. 1455, 1895.