

and Radiolarian remains, and 25 per cent. of minerals and argillaceous matter. There were a few rounded quartz particles in each of the deposits, but the great majority of the mineral particles were of volcanic origin. The carbonate of lime in these deposits consisted chiefly of Globigerinas and Coccoliths. Neither Orbulinas nor Rhabdoliths were observed in the deposits, nor at the surface, so that these Stations are probably beyond the southern limit of these organisms.

Dr. P. H. Carpenter and Professor L. v. Graff, of Graz, refer to some of the Crinoidea and Myzostomida, found at these Stations, in the following summaries of their Reports on these groups¹ :—

The Crinoidea.—“ Twelve genera of recent Crinoids are now known to science, six of which are usually classed as ‘Stalked Crinoids,’ while the other six belong to the group of Feather-stars, or Comatulæ. Species of every genus, with the exception of *Holopus* (see p. 153), were obtained by the Challenger, while the number of existing genera was increased by one half, four being added to the eight previously known. The most familiar of these is the beautiful *Pentacrinus*, a type closely allied to the well-known Liassic fossils *Extracrinus briareus* and *Extracrinus subangularis*, specimens of which have been found with stems from 50 to 70 feet in length. There are several Jurassic and Cretaceous species of *Pentacrinus*, but only eight living ones are known. Four of these have not been met with out of the Caribbean Sea, while two inhabit the Atlantic and two the Pacific. The surveys of the U.S.C.S. steamer ‘Blake’ have discovered *Pentacrinus* in depths as shallow as 42 fathoms, while it was found to be remarkably abundant in 175 fathoms off Havana, one haul of the dredge and its appendages bringing up no less than 120 individuals. There would seem, therefore, to be regular forests of them upon the sea bottom in this and other localities, just as must have been the case in the Liassic seas. Although *Pentacrinus* was only once met with in the Caribbean Sea at a greater depth than 500 fathoms, both the Pacific species were obtained by the Challenger between 500 and 630 fathoms, one of them possibly coming from 1350 fathoms. Failing this last, *Pentacrinus wyville thomsoni*, which was dredged by the ‘Porcupine’ (1870) off the coast of Portugal in 1095 fathoms, is the deepest *Pentacrinus* known.

“ The stem of this genus bears whorls of cirri which may be some distance (forty joints) apart, as in *Pentacrinus wyville thomsoni* (fig. 117), or very close together, as in the *Pentacrinus maclearanus* (fig. 116) from Station 122 (350 fathoms). The union of the nodal or cirrus-bearing stem-joints with those beneath them is slightly different from that found in the other parts of the stem, and is more easily severed; and although individuals have sometimes been found with their stems attached to telegraph cables by a slightly spreading base, yet in other cases the stem appears to be free, having broken across below one of the nodal joints, which becomes rounded off and closed up by a subsequent

¹ Report on the Crinoidea, by P. H. Carpenter, D.Sc., Zool. Chall. Exp., part xxxii., 1884; Report on the Myzostomida, by Dr. L. von Graff, Zool. Chall. Exp., part xxvii., 1884.