

could be detected either by the microscope, or by treating the red clay with weak acid. At 2325 fathoms there was 32 per cent. of carbonate of lime, consisting of the dead shells of pelagic Foraminifera and a few Rhabdoliths. At 2450 fathoms there was 1 or 2 per cent. of carbonate of lime, consisting of a few broken fragments of Foraminifera. At 2440 fathoms there was a red clay on the surface with only a small percentage of carbonate of lime, but three inches beneath the surface a much lighter coloured deposit containing a very large number of Foraminifera. It very frequently happened during the cruise that the deeper layers contained less carbonate of lime than the surface ones, but only on two or three occasions were more calcareous shells noticed in the deeper layer of the deposit as in this case. The surface layer, it will be observed, was the same in nearly all respects as the deposit in 2450 fathoms 80 miles to the eastward, and the deeper layer resembled that at 2325 fathoms still farther to the eastward, or the deposits in a lesser depth towards Raine Island, which contained over 50 per cent. of carbonate of lime. It is clearly illustrated in this section, that all the other conditions remaining the same or nearly so, the quantity of carbonate of lime found in a deposit is less the greater the depth. It has been stated above that this basin below 1300 fathoms is probably cut off from the colder water farther south, and, indeed, from general oceanic circulation below that depth. In all such basins the surface shells appear to be removed from the deposits at lesser depths than in areas where there is no interruption to free communication arising from the existence of submarine barriers.

The mineral particles in these deposits consisted chiefly of angular fragments of volcanic rocks and minerals, all of small size except the pieces of pumice which were numerous in all the dredgings. There were many manganese particles, and, at the sounding in 1400 fathoms, some of the Foraminifera shells were filled with the peroxide of manganese, so that a complete internal cast of the shell was left after treatment with weak acid.

Amongst Cœlenterata two specimens of *Umbellula leptocaulis*, Köll., and one of *Bathyactis symmetrica*, Moseley, and of fishes a new genus of Ophidiidæ, *Typhlonus nasus*, Günth.,¹ and a new species of Stomiidæ, *Echiostoma microdon*, Günth.,² were obtained with the trawl from 2440 fathoms, together with a few other animals.

The Ophidiid above mentioned had a large, rounded, fleshy head; no trace of an eye could be seen other than a small dark spot a considerable distance underneath the skin. The fins were black, but the body of the fish was white; with the exception of one or two, all the scales had been rubbed off, and with them apparently a thin, black skin, so that probably the fish when first caught by the trawl was of a uniform black colour; the mouth and gill chambers were black. The total length was 10 inches, depth at vent 2 inches.

¹ *Ann. and Mag. Nat. Hist.*, ser. 5, vol. ii. p. 21, 1878.

² *Ibid.*, p. 180.