

On the 14th October, from 2375 fathoms, there were again over two bushels of manganese nodules, the great majority of which were in form like marbles, from one-fourth of an inch to one inch in diameter. The nuclei of the nodules were either fragments of sharks' teeth or fragments of bones, of palagonite, pumice, or other volcanic fragments. Fifteen hundred specimens of Sharks' teeth were counted from this haul, and in addition to these there were great numbers of small teeth and their fragments in the washings of the trawl and in the substance of the nodules themselves. In all these teeth the hard enamel-like dentine alone remained, the vaso-dentine and osteo-dentine having been removed and their place occupied by depositions of the oxides of manganese and iron mixed with clay. There were also forty-two petrous and tympanic bones, determined by Professor Turner as belonging to *Balaenoptera*, *Balæna*, *Megaptera*, *Mesoplodon*, *Delphinus*, and *Globiocephalus*, together with ten or twelve fragments of bones without any definite shape, but apparently belonging to Cetaceans.¹

On the 16th October, in 2335 fathoms, there was over a bushel of manganese nodules, Sharks' teeth, and bones of Cetaceans. Three hundred and forty Sharks' teeth, over half an inch in length, were counted, some of the largest *Carcharodon* teeth from



FIG. 292.—Petrous and tympanic bone of *Ziphius cavirostris*. 16th October 1875; 2335 fathoms.

this haul being over three inches in length. There were about ninety tympanic bullæ, and in addition to these many fragments, coated by, and imbedded in, peroxide of manganese; forty-two detached petrous bones were also obtained. Forty-two specimens also occurred which consisted not only of the petrous, but of a portion of the elongated mastoid element continuous with it. There were also two portions of beaks of a Ziphioid Whale, one being over eight inches in length. A number of fragments of flat bones, most of which were portions of the brain-case, though one or two might have been bits of the shaft of a rib, occurred. An irregular mass of spongy bone,

4 by 8 by 3 inches, consisted apparently of a portion of the expanded wing of a superior maxilla. There were also present many undeterminable fragments of bone, all apparently belonging to Cetaceans.

On the 23rd October, in 2550 fathoms, there was again a large haul of manganese nodules with nuclei of palagonite, Sharks' teeth, and carbones of Whales. Of three large tympanic bones obtained here, one was 4 inches, another $3\frac{1}{2}$ inches, and the third 3 inches in length. These were all thickly covered with nodulated depositions of peroxide of manganese; sufficient of this was removed to show that they were all bullæ of Whales of the genus *Balaenoptera*. A large number of the nodules had bony nuclei, but the

¹ Zool. Chall. Exp., part iv. p. 40, 1880.