

many hundred fragments and teeth of small size. The majority of the teeth were more or less thickly coated with manganese, the smaller ones apparently to a greater extent than the larger ones. The hard dentine of one of the *Carcharodon* teeth was found to contain 33.66 per cent. of phosphoric acid, equal to 73.48 per cent. of tricalcic phosphate, and 2.28 per cent. of fluorine. The inside of the tooth was filled with deposits of manganese, iron, and clayey materials, resembling the manganese nodules in composition, and containing only 0.83 per cent. of phosphoric acid.

Station 286, 2335 fathoms.—Over 350 sharks' teeth and fragments were counted from this station, including about thirty *Carcharodons*,¹ half of them perfect, the largest nearly 3 inches (76 mm.) in length; about two hundred *Oxyrhina* and *Lamna* teeth,² the largest of the former $2\frac{1}{2}$ inches (64 mm.), and of the latter $1\frac{3}{4}$ inches (44.4 mm.), in length; and over one hundred small teeth, *Hemipristis*, &c.³ All the teeth were more or less deeply imbedded in depositions of manganese. Three of the *Oxyrhina* teeth yielded 32.58 per cent. of phosphoric acid, equivalent to 71.12 per cent. of tricalcic phosphate, while the black material which filled the interior of the teeth yielded only 7.97 per cent. of phosphoric acid, equivalent to 17.39 per cent. of tricalcic phosphate.

Station 289, 2550 fathoms.—One perfect *Oxyrhina* tooth, about $1\frac{1}{2}$ inches (28.6 mm.) in length, deeply imbedded, and fragment of a similar tooth.

Station 293, 2025 fathoms.—One *Carcharodon* tooth, about $1\frac{3}{4}$ inches (44.4 mm.) in length, and one *Oxyrhina* tooth, about $1\frac{1}{4}$ inches (31.6 mm.) in length, the former with, the latter without, a coating of manganese.

Mammalia.—The remains of Mammalia were exceedingly rare in the great majority of the Challenger's dredgings and trawlings. In all the terrigenous deposits and calcareous oozes they were not observed, but the "Blake" expedition dredged off the coast of North America a few bones, and one or two sharks' teeth belonging to the same species as some of those noted in the foregoing list. Numerous remains of Cetaceans were collected by the Challenger in the same trawlings in which the sharks' teeth were obtained, principally the dense earbones and beaks of Ziphioid whales, but besides these were a few fragments of the other more areolar bones, evidently in the process of being dissolved by the action of the sea-water. A microscopic examination of the nuclei of the manganese nodules revealed the fact that many of these concretions had been formed around bone fragments, the structure of which had almost disappeared. The following list gives the number, condition, and nature of these Mammalian remains in the trawlings and dredgings at the several stations where they were procured :⁴—

¹ Sections of one are given in Pl. X. figs. 4, 4a.

² See Pl. VI. figs. 14, 22; Pl. X. fig. 5 (section).

³ See Pl. V. figs. 8, 9.

⁴ All these bones were examined and determined by Professor Sir William Turner; see Report on the Cetacea, Zool. Chall. Exp., part iv.