

interfered with. The one bulla was 3·6 inches long, the other was 3·4 inches. They closely corresponded in size to the tympanic bones of the northern pike whale (*Balænoptera rostrata*). The larger specimen also resembled in its configuration the bulla of *Balænoptera rostrata*, it is figured by Mr Murray (Pl. VII. fig. 3); the smaller was also very like it on the external convex surface, but the internal surface, where it curved towards the tympano-periotic fissure, was much more convex in the deep-sea specimen than in the recent *Balænoptera rostrata*. There can, I think, be no doubt that both these specimens are from Cetacea of the genus *Balænoptera*, and from an animal closely allied to, if not identical with, the *Balænoptera rostrata* of the North Atlantic Ocean. It is possible that they may have belonged to the pike whale of the Southern Ocean, named by Dr Gray, *Balænoptera huttoni*, an animal which Dr Hector states,¹ "is hardly distinguishable from the northern *Balænoptera rostrata*."

Belonging to the same type of bullæ, but not more than 3 inches or 3·2 inches long, were several bullæ, all of which, with one exception, were thickly coated with manganese, and the hollow of the bulla was almost filled with it. They were not only shorter than the bulla of *Balænoptera rostrata*, but not so swollen out (Pl. II. fig. 11). I am not aware of any existing *Balænoptera* in which the bullæ have such small dimensions; but in the series of fossil ear-bones from the Red Crag of Suffolk, in the Museum of the Royal College of Surgeons of England, collected by Professor Flower, is a specimen marked 1452*x*, which he is disposed to regard as a small *Balænoptera*, that agrees in size with these specimens, and has a general resemblance in form, although differences in the smaller features of detail can be recognised. These bullæ may have belonged to a species of *Balænoptera* no longer extant.

The other type of bulla belonging to the second group consisted of two bones 3 inches in length. They were much more compressed laterally than was the case with the bullæ of the *Balænopteridæ*, and were concave on the outer surface, but the inner surface was almost entirely broken away, so as to expose the interior of the bulla. In both specimens (obviously a pair) the outer surface was scored with elongated, somewhat curved furrows, as is represented in Plate VII. fig. 5 of Mr Murray's plates on the deep-sea deposits. The general direction of these furrows corresponded with that of the long axis of the tympanic bone; but, though generally alike, they were not quite symmetrical in the two bullæ. In one specimen the grooved surface was completely coated with a very thin layer of manganese, in the other only partially so. The fact, however, that the manganese lined the grooves shows that they must have been imprinted on the bones before the deposition of manganese began at the bottom of the ocean. Whether they are natural marks, or artificially produced by the teeth of a fish or other marine animal, it is difficult to say. These bones seem to belong rather to the type of the *Balanidæ* than the *Balænopteridæ*, though they are very much smaller than the

¹ Trans. New Zealand Institute, vol. x. p. 337.