

IV. PHYSOSTOMI.

Scopelus, Gthr.

In the Report on the Deep-sea Fishes (p. 195) I have already shortly described the habits of these fishes. They are truly pelagic, but rarely or accidentally coming into the vicinity of land. They are exceedingly common in all seas of the Tropical and Sub-tropical zones, becoming scarcer in higher latitudes, a few species reaching the Arctic and Antarctic circles. Some of the species have a very wide range, and the limits of distribution of others are determined by latitude rather than longitude.

Of the numerous specimens obtained by the Challenger only a few were adult, the majority under 18 lines long, the smallest measuring from 5 to 7 mm. These younger specimens were generally destitute of scales and semipellucid; neither had they the phosphorescent organs developed. In two of the larger individuals, about 1 inch long, the scaly covering was perfect, but of the phosphorescent organs only a few on the side of the head and one at the root of the ventral fin were developed. I was unable to decide whether this paucity of phosphorescent organs indicates specific distinctness or is characteristic of stages of growth.

The specific determination of the majority of these small *Scopeli* is not only a matter of considerable difficulty, but generally of great uncertainty. It would be impossible to avoid mistakes which of necessity would lead to erroneous notions as to the occurrence of a species at a certain season in some area of the ocean. The following species, however, could be made out with a sufficient degree of exactness:—

1. *Scopelus caninianus* (Mus. Brit., an Cuv. Val.?). This species is not confined to the Mediterranean and Atlantic, where a specimen 3 inches long was obtained off the Cape Verde Islands on April 28, 1876, but is also tolerably common in the Pacific. Specimens from 20 to 36 lines long were caught at night in the tow-net in the neighbourhood of New Guinea, on November 5, 1874, and February 26, 1875, and also on the passage to the Admiralty Islands.

2. *Scopelus coccoi* (Cocco). Of this small but most common and most widely distributed species some eighty specimens were collected; south of Cape Verde Islands (April 28, 1876), on the passage to the West Indies, in the South Atlantic (March 7, 1876), in the South Pacific (October 20 and November 5, 1875), in Mid Pacific (August 25, 1875), near the Admiralty Islands, and on the passage to Japan. The size of the specimens ranged from $\frac{1}{2}$ to $2\frac{1}{4}$ inches.

3. *Scopelus nigro-ocellatus* (Gthr.). The type, the only specimen previously known,