

dredged on the northern coasts of Europe. The relative abundance of genera and species in these dredgings, compared with those at similar depths around Bermuda, was remarked, and will be referred to again when comparing the dredgings along continental shores with those at similar depths around oceanic islands. A *Boltenia*-like Ascidian, belonging to the new genus *Culeolus*, was taken for the first time in the dredging in 1700 fathoms, and is referred to in the following notes by Professor W. A. Herdman of University College, Liverpool, on the Tunicata collected by the Expedition:—

The Tunicata.—"The large collection of Tunicata made during the Expedition has added greatly to our knowledge of this interesting group, especially as regards its distribution. The pelagic Tunicates (the Salpidæ, the Doliolidæ, and the Pyrosomidæ), which form such an important constituent of the surface fauna of the ocean, have, on account of their abundance and the comparative ease with which they may be obtained, been much studied in many parts of the world. Hence the Challenger collection of these forms contains few novelties, but is of great value, since, from the constancy and care with which tow-net observations were conducted, and their results preserved, it affords much additional information as to the distribution of these pelagic Tunicates horizontally, and to a less degree vertically.¹

"The remarkable new genus *Octacnemus* described by Mr. Moseley² (see fig. 64), of which two species are known, seems to be an abyssal and considerably modified ally of the pelagic Salpidæ.

"The collection is rich in Compound Ascidians, but although many of them are new species, the great majority belong to common and well-known genera. This can be accounted for by the fact clearly brought out by the Challenger Expedition, that the Ascidia Compositæ form essentially a shallow water group, the bulk of the collection having been obtained close to land, or at localities, such as Kerguelen Island and Port Jackson, where the shore fauna was investigated. A few Compound Ascidians were, however, obtained from

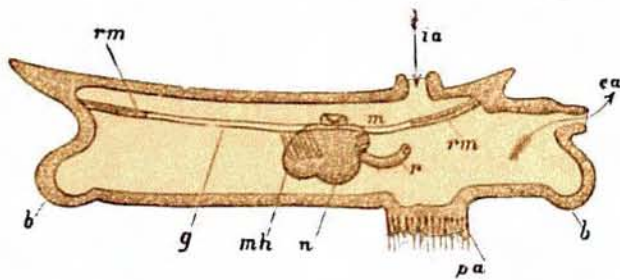


FIG. 64.—*Octacnemus bythius*, Moseley. Schematic, vertical, and longitudinal section, through the animal, along the middle line. *ia*, Mouth; *m*, opening of the oesophagus; *r*, rectum and anus; *ca*, cloacal aperture; *rm*, *rm*, radiating muscles; *n*, nucleus; *mh*, muscles of the nucleus; *g*, respiratory membrane; *b*, thickened margin of the base; *pa*, pedicle of the attachment. (After Moseley.)

great depths, such as 1600, 2050, and 2900 fathoms; but they show no notable morphological peculiarities.

"The horizontal distribution of the group is very wide, representatives being found in all the great oceans and in almost all latitudes.

¹ For details, see the forthcoming Report on the Tunicata, Part II.

² Moseley, *Trans. Linn. Soc. Lond. (Zool.)*, ser. 2, vol. i. p. 287, 1877; see also Report on the Tunicata, Part I., *Zool. Chall. Exp.*, part xvii., 1882.