

depend. The hairs are not straight, but wavy, and appeared stiffer than ordinary cilia. This sense organ was not in sufficiently good preservation to allow of more accurate histological investigation. A large nerve from the ganglion passed directly over it in the middle line.

“A pair of strong muscular masses is developed at the posterior part of the nucleus, one mass lying on either side. These muscles appear to take origin from the under side of the thickened horizontal membrane above, and to terminate on the sides of the posterior part of the nucleus. The terminations of the muscular slips composing the muscles are bifurcate (Pl. X. fig. 3, *m.b.*). Other narrow transverse muscular bands are present between the mouth and rectum, embracing the fore part of the nucleus (Pl. X. fig. 3, *m.b.*). The use or homologies of these muscles are not apparent.

“The endostyle lies in the middle line, at the back of the nucleus, between the pair of posterior muscles of the nucleus (Pl. X. fig. 3, *en.*). It is very short. It showed the characteristic structure of the Ascidian endostyle—long, fine, granulated, spindle cells, packed close side by side, with their long axes at right angles to the length of the organ.

“The relation of the endostyle to the horizontal membrane was not observed, since the organ was only discovered after the nucleus had become detached from the membrane. The endostyle was then found tucked in between the paired posterior muscles of the nucleus. It is placed in the position given to it in the figures, because this seems to be the necessarily correct one. The organ, at all events, is on the ventral side of the animal, or on the side of the mouth opposite to that on which the nerve ganglion lies, which is its normal seat.

“The length of the base of the Ascidian was 5.5 cm., breadth 4.75 cm.; extreme length between tips of the protuberances 7.5 cm.

“On the whole this very perplexing animal appears to be an Ascidian, in which the respiratory sac is flattened out so as to become nearly horizontal, and in which no gill network is present. In *Cystingia* (Bronn, Kl. und Ord. ii. p. 131) a gill network cannot be distinguished.

“The radial muscles belong to the longitudinal set of other Ascidiæ and are internal; the circular are external in relative position. I can find no homologues of the muscles of the nucleus. In having the viscera contracted into so small a nucleus, the animal resembles *Salpa*. The nerve ganglion is abnormal in position, in being situate on the nucleus. It nevertheless is normal, in lying between mouth and anus, whilst the endostyle is on the opposite side of the mouth, as in other Ascidiæ.

“The name *Octacnemus bythius* is proposed for this curious eight-rayed deep-sea form.”

Professor Moseley expresses his views as to the structure of this animal in