

bythiidæ. It certainly has no near affinities with either the Molgulidæ or the Cynthiidæ, and I have placed it here amongst the Ascidiidæ because we have no evidence that it possesses the power of reproducing by gemmation. Setting this negative character aside, the genus seems to me to be more closely allied to the Clavelinidæ than to the Ascidiidæ, and if allowed to remain in the latter family, must be regarded as an abnormal member, not conforming to some of the most important characteristics, and displaying features which show it to be an annectent form between the Ascidiidæ and the Clavelinidæ. It agrees with the latter family in having the apertures circular and not lobed, and differs from all the other Ascidiidæ in having no internal longitudinal bars in the branchial sac. Further remarks upon the peculiarities and affinities of the genus will be found below the descriptions of the two species.

*Hypobythius calycodes*, Moseley (Pl. XXXVII. figs. 1-5).

*Hypobythius calycodes*, Moseley, Trans. Linn. Soc. Lond., ser. ii., Zool., vol. i. p. 287.

This is one of the two species described by Professor Moseley in his paper "On two new Forms of Deep-Sea Ascidiæ, obtained during the Voyage of H.M.S. Challenger," published in December 1876. As I have been able, from an examination of the single fragmentary specimen, to add little to Mr. Moseley's excellent account of this species, I shall merely transcribe the most important parts of that description, and refer for further particulars to the original paper.

"The animal has the form of an inverted cone, compressed laterally so as to have an oval transverse section. From the apex of the inverted cone is continued a cylindrical stem, which is enlarged towards its inferior extremity (Pl. XXXVII. fig. 1). The test is hyaline and extremely transparent. Where it is simple it is thin and flexible, but in certain spots it is strengthened and rendered stiff by the presence in it of rounded or plano-convex masses or plates of denser tissue, which are tough and cartilaginous in consistence, and which are disposed over the surface of the test in a nearly symmetrical manner. These plates are extremely conspicuous when the test is held up to the light and viewed by transmitted light, because they refract the light strongly; and the pattern formed by them on the test when thus viewed has a very peculiar appearance. The disposition of the plates on the ventral surface of the body will be seen from figure 1, that on the dorsal surface from figure 2 (Pl. XXXVII.).

"A series of globular lobes range on either lateral margin of the body, and give it here considerable rigidity, and a ridge of highly condensed tissue runs across the body at the upper margin of its dorsal surface. A series of flattened plates is disposed over the inferior region of the ventral aspect of the body, while the superior region of the same aspect, covering the gill sac and perforated by the inhalent aperture, is entirely devoid of plates, very thin and flexible, and most perfectly transparent. On the dorsal aspect of the body a very large plate occupies the middle line inferiorly, whilst immediately above