on the sides, the dorsal edge being entirely free from them, as in *Hypobythius moseleyi*. In some places on the sides they are placed very closely, and have a curiously undulating course (Pl. XXXVII. fig. 3).

The longitudinal arrangement of the chief bands of the musculature recalls the twelve or fourteen parallel and longitudinally running muscle bands in the allied genus *Ciona*, and also the usually longitudinal arrangement of the musculature in the Clavelinidæ.

The branchial sac is the most remarkable characteristic of *Hypobythius*, and distinguishes it from all other Simple Ascidians. There are no folds, and there are no internal longitudinal bars, a condition which is only equalled in simplicity by the sac in the genus *Clavelina*. Only a single system of vessels can be recognised, branching and anastomosing so as to form a close network (Pl. XXXVII. fig. 4), the small rounded meshes of which are the stigmata. The tentacles and dorsal lamina cannot be made out.

The viscera form an elongated compact mass along the dorsal edge of the branchial sac (Pl. XXXVII. fig. 1). The alimentary canal is simple, forming a U shaped loop open anteriorly. This seems at first sight an abnormal arrangement, but if the intestine (fig. 1, *r*.) be pulled more to the left and ventrally (towards the right hand side of the figure), so as to lie upon the left side of the branchial sac, the relations of the parts of the alimentary canal will be found to be much the same as those in *Ascidia*, or any other typical Simple Ascidian.

The globular ovary and the ramified testis lie together in the intestinal loop, between the stomach and the intestine, and the oviduct and large vas deferens (called by Moseley the tubular testis) run anteriorly alongside the rectum, and on its right hand side, which, if the intestine be pulled ventrally, as suggested above, would become the dorsal side, the normal position of the genital ducts in the Ascidiidæ.

One specimen, somewhat damaged, was obtained by the trawl in the North Pacific Ocean, at Station 248; July 5, 1875; lat. 37° 41′ N., long. 177° 4′ W.; depth, 2900 fathoms; bottom temperature, 1°·1 C.; bottom, red clay, with concretions of peroxide of manganese.

Hypobythius moseleyi, n. sp. (Pl. XXXVII. figs. 6–9).

External Appearance.—The body is of an elongated pyriform shape, compressed laterally, and attached by the posterior end. The anterior end is broad and slightly rounded; the posterior is narrow, produced, and tapers to the small terminal area of attachment. The dorsal and ventral edges are long, and converge posteriorly from the end of the wide anterior extremity. The apertures are both anterior, large, and open, but sessile, and apparently not lobed; the branchial is near the ventral edge of the anterior end, and is directed anteriorly; the atrial is at the anterior extremity of the dorsal edge, and is directed anteriorly and slightly dorsally.

The surface is smooth all over. The colour is yellowish-grey, pale brown in parts.

Length of the body, 9 cm.; breadth of the body, 4 cm.