shape. No nuclei are distinguishable, but the cell contents are throughout brown and granular. A finely granular matter, in some places traversed by very delicate strings or fibrillæ, lay along the floor of the groove, covering the tops of the cells; but nothing of the nature of cilia could be detected in any part.

The Dorsal Lamina is replaced by a series of languets or tentacular processes (Pl. VIII. fig. 8, *l.*), which are disposed in a single line along the dorsal edge of the branchial sac from the apex of the peritubercular area anteriorly to the œsophageal opening posteriorly.

The languets are relatively long and are very closely placed (Pl. IX. fig. 14, *l.*). Each has an elongated triangular form tapering from the base where it is attached to the pointed free end. They are about 4 mm. long, and are very delicate and transparent, except along the lateral edges and the tip, where there is a thickened border.

The histological structure of the languets is exactly similar to that of the internal longitudinal bars of the branchial sac. They are hollow, and the thin walls are covered in the greater part of their extent by squamous epithelium, which becomes thickened towards the edges and the tip, where the cells are cubical, thus forming the darker border. These cubical cells do not bear cilia.

The Tentacles are large, much branched, and of various sizes (Pl. VIII. fig. 7, *tn.* and *tn.'*). They spring from the upper margin of the præbranchial zone, and just at their bases a strong muscular band, forming the most posterior part of the sphincter muscle, runs round the lower end of the branchial siphon. There are sixteen principal tentacles, eight larger and eight smaller, placed alternately; but between these there are others here and there of a very much smaller size and having no definite arrangement. A moderately sized member of the circle of eight larger tentacles (Pl. VIII. fig. 7, *tn.*) is about 12 mm. long, and has from twelve to twenty branches. Some of these branches are simple, while others, generally about the centre of the tentacle, bear simple lateral processes. The eight smaller tentacles (Pl. IX. fig. 12) are one-third to one-half of the size of the larger ones, and have generally eight to twelve processes.

The main axis of each tentacle is an elongated tapering sac with thin walls, and has a ridge or dark band running out from the base to the tip along the upper surface (Pl. IX. fig. 12), while the lower or branchial surface is soft and membranous. The pinnæ start off from the sides of the main axis rather towards the under than the upper surface, and each of them has along its upper edge a dark ridge, while the lower surface is membranous and plain as on the main axis. This membranous lower surface is also, both on axis and branches, irregularly puffed out, or thrown into a series of projections and folds, while the upper surface is straighter, and has the appearance of being more tightly stretched.

The surface of the tentacles is covered with epithelium, thin and tesselated over the greater part of the surface, thicker and columnar along the dark band on the upper edge