

together; and that the brown colour of the bottom of the groove is caused by the granular brown cell elements in that locality. The spicules are composed of carbonate of lime, and are very similar to those found in the vessels of the branchial sac, but here they are larger and considerably more branched. In the prominent white edge of the endostyle (Pl. VIII. fig. 5, *w.e.*) each of the quadrangular patches is a dense mass of spicules closely matted together in the centre, and rather more open at the edges where the tips of the branches are seen projecting. The different patches are united together by the branches which stretch from one to the other. The rather denser alternate patches send down branches of spicules into the translucent area (Pl. VIII. fig. 5), while the intermediate patches, which are not so dense, have no connection with that area.

The translucent area, immediately inside the prominent white edge, has a series of spicules stretching longitudinally along its centre and leaving a clear space along each side (Pl. VIII. fig. 5, *t.a.*). Some of these spicules are very complicated, extending for a great distance, and branching and uniting again so as to form a tangled mass. They are united to the spicules of the outer white edge by the branches which dip in from the denser patches, but have no connection with the spicules of the central brown area.

When the lateral brown bands encroach upon the translucent area they lie along the line of spicules, so as to leave a clear space separating them from the central brown area internally and from the white edge externally. The central brown area is also provided with spicules (Pl. VIII. fig. 5, *c.b.a.*), but here they are not nearly so prominent on account of the strong colour of the cells overlying them. The spicules are arranged in two longitudinal series leaving a clearer space in the middle, across which however they send branches which unite here and there. They extend laterally slightly beyond the brown area into the clear band on the inner side of the translucent area, and may even overlap the tips of the spicules of the translucent area, but they were never observed to unite with them.

Over the white prominent edge and the translucent area the epithelium forming the surface of the endostyle is clear and transparent. The cell elements, however, are distinctly visible. In surface view they are square or polygonal cells of moderate size provided with distinct dark nuclei. When seen in profile they are cubical. The lateral dark brown bands are formed of columnar epithelium. The cells are very long and narrow, and closely packed together. They taper towards their lower ends, and some of them towards their free ends also. The nuclei are only seen in the profile view of the cells and are variable in position, being usually in the widest part of the cells, sometimes near the free end but sometimes deep down. The surface view of these cells has the appearance of a very fine mosaic.

The central brown area constituting the bottom of the groove is composed of extremely long columnar epithelium apparently not ciliated. The cell elements are here rather difficult to distinguish. They are very greatly elongated, and are columnar or fusiform in