

by a series of transverse bars, between which lie more or less reniform depressions. The bottoms of these reniform depressions are traversed in their centres by the under edge of a septum, on either side of which is an oval perforation.

- Fig. 6. The same. Portion of the upper surface of the wall of the corallum near its margin to show the arrangements of the perforations. Two series of perforations are shown. The perforations are disposed in pairs on either side of each septum. At the bottom of the figure the commencement of two septa are shown. The wall is folded, so as to rise on either hand towards the lines of origin of the septa, thus forming a series of low ridge-like elevations, separated by corresponding lines of depression or valleys, the bottoms of which correspond with the costæ.
- Fig. 7. The same. Diagrammatic representation of one of the septa seen from its side to show the arrangement on the septal margin of the paliform spines, and the indented lower border of septum. The indentations correspond in position with the depressions seen in fig. 5.
- Fig. 8. *Stephanophyllia formosissima*. The coral with the soft parts *in situ* to show the arrangement of the tentacles. On the right hand side the primary (1) and secondary (2) septa are indicated by lines to show the position of the tentacles with regard to them. Enlarged 2 diameters.
- Fig. 9. The same. Vertical section through the soft parts of a decalcified specimen.
- A, A. Apertures in the basal tissue, through which passed in the living state of the coral the transverse bars of the perforated wall of the corallum.
 - B, B. Apertures in the mesenteries.
 - C. Spongy mass of soft tissue covering the columella.
 - D. Oesophagus.
 - S. Stomach-cavity bounded by the edges of the mesenteries, each bearing mesenterial filaments.
 - E. Principal or primary mesentery, showing the arrangement of muscular fibres upon it.
 - O, O. Ova.
- Fig. 10. Diagrammatic representation of the mutual arrangement of the hard and soft parts in *Flabellum*, as seen in a section of a portion of it cut transversely to the vertical axis. The several layers are indicated by the shading throughout, the corallum being represented as black; E. Ectoderm; EN. Endoderm; B. Mesoderm; W. Wall of the corallum; S, S. Septa; M, M. Mesenteries; A, A. Muscles of the mesenteries; MF. Mesenterial filaments; T. A. tentacle.