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*Antipathella subpinnata.*

The polyps of this species are subregular in size, but occasionally near the apex of a pinnule small and immature individuals are to be observed (*cf.* Pl. XIII. fig. 3). The average length of a polyp in the sagittal axis is 1 mm., and about 0.5 mm. in the transverse axis. The elongation in the transverse axis is frequently most marked in young individuals. The tentacles in spirit specimens are subcylindrical with a dilated base; they may be 0.6 mm. long. The space between the tentacles is occupied by a large rounded prominence, on which the mouth opens. The oral aperture is usually much elongated and slit-like. In certain cases, where the mouth is preserved widely open (Pl. XIII. fig. 4), it forms a large, circular, shallow pit, exposing the elongate stomodæum below, and has a diameter corresponding with that of the oral prominence itself. The outer margin is circular, but the inner one is crenate, each depression corresponding with the insertion of a mesentery. The zooidal tissues consist of a relatively thick ectoderm, a thin and apparently homogeneous mesogloea, and a glandular entoderm of variable thickness. The polyps are incompletely separated from one another by plate-like mesogloéal septa, clothed on each side with entoderm. In sections parallel to the axis of a pinnule, but which do not pass through the sclerobasic axis and its surrounding tissue (Pl. XIII. fig. 5), the septa are seen to pass straight across from the mesogloea of the zooidal surface to that beneath. In mesial sections, however, the septa are seen to cease above the circumaxial tissue, and a series of transverse sections of a pinnule in the interzooidal regions shows that each septum has a somewhat circular aperture near its base, through which the sclerenchyma and the tissue surrounding it pass. As the septa are not fused with the circumaxial tissue, the cœlentera of adjoining polyps are in communication with one another at this point. The stomodæum is much elongated in the sagittal axis of the polyp and has a slit-like lumen. It consists of a flattened, straight or slightly-folded, tube, which reaches to within a short distance of the circumaxial tissue (*cf.* Pl. XIII. figs. 5, 6, and 7). In sagittal sections (Pl. XIII. fig. 6) it extends to a point on a level with the insertion of the sagittal tentacles, and the free border is usually somewhat thickened. In sections parallel with the long (transverse) axis of a polyp, the inner margin of the stomodæum is seen to take a sharp bend outwards, and, after a short subhorizontal course, it ultimately fuses with the transverse mesenteries. The structure and arrangement of the mesenteries is best studied from a series of horizontal sections, commencing at the surface of the oral cone. A little