

mass traversed by foreign bodies. The epithelium lying below this deposit is without cilia, and varies very much in height; the epithelial stratum sometimes shrinks to an almost invisible layer, and sometimes rises into long, filamentous cylindrical cells.

The wall in *Cereus spinosus* is very thick (as much as 3 mm. in transverse section), tough, and leathery as in the majority of Sagartidæ. It is constricted at the upper end by a circular muscle, which, in spite of its strength, is entirely concealed in the mesoderm of the wall. The muscle is nearly 1.5 cm. long and nearly 2 mm. broad in section at its upper end, whilst it becomes narrow below as usual. It is separated both from the ectoderm and the endoderm by a layer of connective tissue, 0.5 mm. broad, and without muscles. Seen in transverse section (Pl. VI. fig. 1), the muscular fibrillæ in the upper half of the muscle form rows rising from within and below, obliquely upwards and outwards; they are separated by broad bands of connective tissue, and placed in tiers one above the other. Here and there a row consists of a single flattened primitive bundle, the indentations of whose surface indicate its tendency to split up into a series of smaller bundles. This process has, however, usually taken place, so that each single tier is composed of a series of smaller roundish bundles and larger flattened bundles. Two successive tiers of bundles are not completely separated, but connected by a network of thin branched anastomosing cords; the bundles of each tier are connected with one another in the same way. The former is visible in sections taken parallel to the surface of the wall, the latter in sections parallel to the base of the animal.

The character of the muscle changes in the lower half as the bundles of fibrillæ are scattered at considerable distances from one another. The larger bundles are lobed in transverse section, or resolved into a group of smaller bundles of fibrillæ.

The radial striation is distinctly marked on the oral disk, and is caused by the manner in which the muscles are arranged, while this again is correlated with the distribution of the tentacles. The radial muscular layer is ectodermal and pleated very uniformly, so that the single folds of muscles are only slightly branched, and lie beside one another like the leaves of a book. Besides this uniform pleating, the enlargement of the muscular layer is due to the fact that the supporting layer is thinner at the insertions of the septa, but becomes thickened above the middle of each interseptal space, where it forms a sharp, roof-like ridge. The ridges formed in this way produce the radial striation of the oral disk already mentioned; seen from the surface, they do not project very sharply so long as they are covered by epithelium, which in a measure reduces their inequalities. The ridges begin near the margin of the mouth (Pl. I. figs. 4 and 5); they are forty-eight in number, twenty-four corresponding to the intraseptal spaces of the first, second, and third orders, and the other twenty-four to the intermediate interseptal spaces. The first twenty-four are broadest near the margin of the mouth, become narrower towards the periphery, and end on the twenty-four tentacles of the innermost row, where they run a little way divided into two by a shallow furrow. The second twenty-four ridges differ,