canal; just as in the common octoradial Hydromedusæ (*e.g.*, *Trachynema*, *Rhopalonema*). This regular corona of eight simple radial tentacles is permanent in the simplest and oldest form of the Disconectæ (*Discalia*, Pl. XLIX. figs. 1–4). In all other genera of this order the number of tentacles is rapidly increased, either by interpolation of eight interradial secondary tentacles between the eight perradial primary ones, or by budding of new secondary tentacles on both sides of the base of the primary ones, so that there arise eight bunches of tentacles (*Disconalia*, Pl. L.; *Porpalia*, Pl. XLVIII.). In the larger Porpitidæ their number is afterwards so multiplied, that the margin is armed with a rich corona of many hundreds, or even thousands of tentacles (*Porpema* and *Porpita*, Pls. XLVII. and XLV.). They are here densely crowded, and arranged in concentric girdles (sometimes six to nine or more); the uppermost (or proximal) girdle usually bears the smallest, and the lowermost (or distal) the largest filaments. Their number is much smaller in the Velellidæ, where they form only a single submarginal series in *Rataria* (Pl. XLIV.) and *Velella*, a double (or rarely multiple) series in *Armenista* (Pl. XLIII.). Also in this family the original number seems to be eight, and in some smaller forms are found sixteen; but in consequence of the bilateral development of the umbrella, their number and arrangement is often modified, bilateral, or irregular. In the young larval forms (*Ratarula*) often two primray tentacles, situated at the opposite poles of the major axis (or sagittal diameter) of the elliptic disc, appear earlier than the others; this heterochronism is certainly kenogenetic.

Structure of the Tentacles.—The tentacles of the Disconectæ are very different from those of all other Siphonophoræ; they are relatively short and thick, rather rigid, and their movements are sluggish, as in most Trachomedusæ. In general they are far less extensile and contractile, and do not exhibit that peculiar development and movement which are obvious in most of the Siphonanthæ, and are similar to that of the Anthomedusæ. The body of each tentacle in all Disconectæ is a hollow cylinder with a very strong muscular wall and a narrow canal, closed at the distal end and opening at the proximal end into the annular canal of the margin, or the marginal zone of the canal network. The wall is composed, as usual, of the following five strata, enumerating them from without inwards:—(1) An exodermal epithelium, armed with cnidoblasts, often vibratile in some parts; (2) a strong layer of longitudinal muscles; (3) a thin, but firm and elastic structureless supporting lamella; (4) a thin layer of ring-muscles; (5) a vibratile entodermal epithelium, lining the central canal, composed of very large vacuolate entoderm cells similar to the axial cells in the tentacles of many Trachomedusæ.

The armature of the tentacles with cnidoblasts exhibits characteristic differences in the families of Disconectæ. *Discalia* (Pl. XLIX. figs. 1–4), as the simplest form of all, and likewise probably the youngest larval stages of all Porpitidæ, possess eight simple tentacles, which bear a single cnidosphere (or a spherical knob composed of cnidocysts) at their distal end (Pl. L. fig. 9).