has a peculiar construction, which however could not be more minutely investigated as the tentacles were not sufficiently well preserved. The ectodermal cells in the central sucking-pit are much flatter, and without nematocysts (fig. 16, *x*). The muscular plate, consisting of strong longitudinal fibres (*m*), lies immediately under the ectoderm (*q*). Then comes a thick gelatinous supporting plate, which acts as elastic extensor against the pull of the longitudinal muscular fibres, and re-extends the contracted tentacles, shortened by the latter. In the sucking-cup the gelatinous fulcral lamella forms a peculiar thick cap (fig. 163′), which encloses the cæcal end of the tentacle canal and is sharply divided by a distinct boundary line (*z″*) from the thinner gelatinous plate of the peduncle (*z‴*). The endoderm (*d*) forming the epithelium of the tentacle canal (*ct*), consists of high, dark-brown pigmented cylindrical cells, having numerous unicellular glands distributed among them. The cæcal distal end of the tentacle canal shows a very peculiar condition unknown to me in any other Lucernarid. The end of the canal is closed by a conical wedge, which completely fills the distal end of the lumen of the tube and is enclosed by endoderm. This axial wedge of the sucking-cup (fig. 16, *y*) dyes a much more intense dark red with carmine than any other part of the tentacle. It contrasts sharply with the yellow-brown endodermal cells enclosing it, and seems composed of roundish corpuscles, thickly pressed together, which refract light strongly and look like nematocysts. This axial wedge of the sucking-cup perhaps serves as a firm support during its adhesion.

The formation of the gastrovascular system (Pl. XVI. figs. 2–7; Pl. XVII. figs. 13–16) does not differ essentially in our *Lucernaria* from that known in other species of this genus; it lies between the simpler formation of the Tesseridæ (Pl. XV.) and the more developed formation of the Periphyllidæ (Pls. XVIII.–XXII.). As in the Tesseridæ it is divided into a central principal intestine (" gaster principalis "), and a peripheric coronal intestine (" gaster coronalis "), communicating by four perradial gastral openings (*go*). The principal intestine consists of three parts, viz., the aboral basal stomach in the peduncle, the central stomach, and the freely projecting buccal stomach or œsophagus. The central stomach is separated from the basal stomach by the pyloric opening (" pylorus "), and from the buccal stomach by the palatine opening (" palatum "). The basal stomach (" gaster basalis," *gb*) is the peduncle canal already mentioned; it passes through the entire length of the peduncle, and ends cæcally in its oral basis, whilst it opens at the oral peduncle end by the pylorus (*gy*) into the central stomach. The basal stomach originally presented a simple cylindrical or quadrangularly prismatic hollow space, corresponding to the " apical canal " of the Tesseridæ. As the four interradial tæniola (*ft*) project from the wall of the peduncle into the stomach, they divide its periphery into the four perradial peduncle grooves or half canals already described (fig. 13, *cp*). In this way the basal stomach acquires in transverse section the characteristic regular cross shown in fig. 13, Plate XVII. The central stomach (" gaste centralis ") has usually a coni-