

quadrant. The largest velar canal lies nearest the interradial pedal and shows 6 to 8 pairs of side branches, partly simple, partly cleft. On the other hand, the number and size of the irregular side branches increases at intervals towards the frenulum (fig. 8). The velar canals lie freely in the gelatinous fulcral lamella of the velarium and are not connected by a cathammal plate; they are therefore secondary formations, which have subsequently grown with the solid supporting plate of the velarium from the distal margin of the lobe pouches.

The four perradial rhopalar canals (or ocular vessels) arise by a funnel-shaped basis from the middle line of the radial pouches above the velar frenula, and pass, narrowed, immediately into the peduncle of the sense club, in whose free head part they end in an ampulla-shaped expansion. The four tentacle canals (or the pedal canals leading into the tentacles) arise at the four interradial angles of the umbrella by a double root, as each tentacle receives a root canal from the distal corner of each quadrangular radial pouch. Each pouch therefore gives out two root canals for two adjacent tentacles. The junction of the two root canals takes place immediately below the distal end of the septum. The tentacle canal proceeding from it traverses the entire length of tentacle, and is comparatively very narrow, owing to the thickness of the tentacle wall. A kind of marginal circular canal is formed by the communication of the radial pouches, which is produced at their distal margin by the root canals.

The genitalia (Pl. XXVI. figs. 2, 6, 10, s) form eight broad, thin, semi-oval leaves which are fastened in pairs along the four interradial septal selvages, and project freely from these into the four radial pouches; they occupy the greater part of their hollow space so that the two reproductive leaves of each pouch touch each other or even overlap with their free margins in its middle (fig. 2, s). Claus sees in this formation "a very peculiar arrangement" (1879, *Zoologie*, p. 289). The difference presented between the reproductive glands of the Cubomedusæ, and those of the other Acraspeda, is, in fact, only insignificant; and the former may easily be referred back to the latter. Most Lucernaridæ show the same conditions in the broader anatomical sense, as in these two genitalia come upon each of the four broad radial pouches. These, however, do not belong to the said pouches, but rather to the interradial septum, which separates each two pouches. The two genitalia, which belong to two adjacent pouches and are separated by a septum, form one pair, and in *Haliccyathus*, as in *Tesserantha* (Pl. XV.), are connected into a horse-shoe by a convex arch at the proximal end of the septum. In the remaining Lucernaridæ (Pls. XVI., XVII.) this U-shaped connective arch has undergone retrograde formation, so that eight separate adradial reproductive leaves lie beside each other, and this holds good for the Peromedusæ and Cubomedusæ. In all cases, likewise, the reproductive elements are formed from the subumbral endoderm of the radial pouches (fig. 10, *rw*). Then the reproductive leaves are fastened to the septum in such a way that they touch the umbral wall immediately; but as they are completely