

fig. 5, *a*), while those of the pedicels having an elongated shape and being directed towards the middle line of the ventral surface are remarkable in that their blind end is slightly expanded and terminates in numerous, ten or more, cæcal branches. As above stated, the processes in *Pannychia* communicate with small branched vesicles, while the pedicels are provided with elongated ambulacral cavities.

The genus *Lætmogone* amongst the Deimatidæ (Pl. XLII. figs. 2 and 7), as well as most of the representatives of the Elpidiidæ (Pl. XLII. fig. 5, *c*, and Pl. XXXVI. figs. 5 and 6), are provided with unbranched ambulacral cavities, the form and appearance of which have already been demonstrated in the description of the species. The cavities, especially those belonging to the pedicels, seem in general to become elongated and tapered towards their cæcal end, which lies more or less close to the medio-ventral line, while their opposite portion, from which the pedicels proceed, often attains a considerable width; sometimes, as in *Lætmogone violacea*, *Scotoplanes globosa*, *Elpidia glacialis*, &c., this portion is so broad and wide that the cavities of the different pedicels become closely crowded side by side and separated from one another by a thin wall only (Pl. XLII. fig. 2, and Pl. XXXVI. fig. 5).

In the two known species of *Deima* a canal system is present which, as far as I know, does not exist in any other Holothurid. As may be remembered these two forms carry a great number of minute papillæ arranged in a single crown round the anterior aperture of the body (Pl. XLIII. fig. 2, *a*, and fig. 5, *a*), inside which the tentacles are situated. These papillæ, which are strengthened by small branched and perforated, irregular calcareous deposits, are in communication with fine canals (Pl. XLIII. fig. 5, *d*), which lie closely crowded side by side and are intimately united with one another, thus forming a continuous whole which closely surrounds the tentacular cavities. The canals being directed outwards and backwards, it has been possible to follow them as far as the neighbourhood of the most anterior part of the radial ambulacral vessels. The walls of the canals are made up of longitudinal fibres, and are supported by small, branched, scattered calcareous spicules. Along each of the canals a distinct nerve-branch is visible. There is no doubt that this system of canals is connected with the ambulacral system, and in *Deima validum* it appeared to me that this communication takes place just where the radial ambulacral vessels begin.

In some Elaspoda, as, for instance, in *Ilyodæmon maculatus*, &c. (Pl. XLII. fig. 3, *c*), larger or smaller cavities are present in the more or less thick perisoma, which cavities should be regarded as belonging to the water-vascular system. The walls of the ambulacral system frequently contain a varying quantity of calcareous deposits.

THE REPRODUCTIVE ORGANS.

In all the Elaspoda, without any known exceptions, the sexes are distinct, as is the case in the majority of the other Holothurioidea. Generally, the reproductive organs are more or less bilaterally symmetrical, consisting of two fascicles of longer or shorter,