

apparent, and it is of importance to note carefully that their ends, even if they do not pierce the perisoma, are always closely united to and fused with the body-wall in the medio-dorsal line; no *Elasipoda* are found in which the madreporic canal depends freely into the peritoneal cavity or is attached only to the dorsal mesentery. In the following species the water-vascular system communicates with the exterior by one or several pores:—*Lætmogone wyville-thomsoni*, *L. violacea*, *L. spongiosa*, *Ilyodæmon maculatus*, *Achlyonice paradoxa*, *Scotoplanes globosa*, *S. papillosa*, *S. robusta*, *Kolga nana*, *K. hyalina*, *Parelpidia cylindrica*, *Elpidia purpurea*, *E. incerta*, *E. willemoësi*, *Peniagone wyvillii*, *P. vitrea*, *P. affinis*, *Benthodytes typica*, *B. abyssicola*, *Psychropotes longicauda*, and *P. semperiana*. I am fully convinced that only in a few forms, viz., *Oneirophanta mutabilis*, *Orphnurgus asper*, *Irpa abyssicola*, *Elpidia glacialis*, and *Benthodytes papillifera*, the madreporic canal does not open externally but is intimately united to the body-wall in its medio-dorsal line; concerning the rest of *Elasipoda* the material has been too scanty to allow of any satisfactory researches.

When examining that group of the *Elasipoda* in which the ambulacral system does not open externally, one finds that in most cases the madreporic canal terminates in a larger or smaller porous tubercle or plate, one side of which is closely united to the body-wall, while the other is free. In *Orphnurgus*, &c., the madreporic tubercle is divided by the mesentery into two halves, each being flat, slightly concave, and measuring about 4.5 mm. in length (Pl. XXXVIII. fig. 10). The size, form, and structure of this tubercle are highly variable in the different species. In *Orphnurgus* the network which composes it is of a very solid structure, the free surface being roughened by numerous calcareous papillæ. In *Oneirophanta* the tubercle is more convex but without the solid structure present in *Orphnurgus* (Pl. XXXVIII. figs. 11, 12), and in *Benthodytes papillifera* it has an almost globular shape. *Elpidia glacialis* has, on the contrary, no madreporic tubercle,—according to Danielssen and Koren traces of one are present in a thin very minute network,—and it appears that the terminal part of the stone canal ends cæcally within the body-wall.

In most forms where the water-vascular system is in communication with the exterior, the madreporic canal usually opens by one (Pl. XXXVIII. figs. 2 and 5) but not infrequently by several pores. Danielssen and Koren¹ were, some years ago, the first to describe, in their report on the Echinoderms dredged during the Norwegian North Atlantic Expeditions, a Holothurid, *Kolga hyalina*, which had the madreporic canal running out in a pore. At about the same time I observed the very same peculiarity in several of the Challenger Holothurioidea. The pore or pores always pierce the body-wall at the very place where, in the other *Elasipoda*, the madreporic tubercle joins the body-wall, that is, in the medio-dorsal line at a longer or shorter distance from the

¹ Nyt Magazin for Naturvidenskaberne, Bd. xxv. 2, Christiania, 1879.