

essentially from those of the Pedata. There is always a circular canal which surrounds the gullet and sends forwards five "main canals" (Pl. XLIII. fig. 4, *k*), which divide into branches communicating with the tentacles, and give off five radial ambulacral vessels which run backwards along the longitudinal muscular bands, separating them from the ambulacral nerves. In my report on the genus *Elpidia*¹ I showed that this genus had only two radial ambulacral vessels, one along each side of the ventral surface. After that, Danielssen and Koren not only established the truth of my observations concerning *Elpidia*, but also asserted that their own new genera *Irpa* and *Kolga* had only two radial vessels. Having most carefully examined the rich material of partly enormous forms brought home by the Challenger Expedition, I am fully convinced that all the Elasipoda are provided with five radial ambulacral vessels. By injecting the odd ambulacral vessel, which is easily done in *Lætmogone*, *Oneirophanta*, *Scotoplanes globosa*, and in many other large forms, not only does the vessel in question become filled with colouring matter, but also the circular canal and its branches, and the same result is attained by filling the dorsal ambulacral vessels or their processes with some coloured liquid. Even by means of transverse sections of these ambulacra one can easily be convinced that these vessels are present in all forms which I have examined, and, consequently, even in *Elpidia glacialis* and *Kolga nana* (Pl. XLII. fig. 8). It must be admitted that I have had no opportunity to examine *Irpa abyssicola* and *Kolga hyalina* described by Danielssen and Koren, but it would be very singular if such closely allied forms should form exceptions to the rule.

Danielssen and Koren² are right in not agreeing with the opinion expressed by me concerning the lateral ventral ambulacral vessels of *Elpidia glacialis*. In fact, I succeeded no better in distinguishing the true lateral ventral vessels than the other vessels, for what I described as such are only the large very remarkable ambulacral vesicles or rather cavities which communicate with the pedicels, lie side by side and are closely united with one another, thus appearing like a large wide canal which runs along each side of the body and is divided by very thin double walls into cavities, corresponding to the pedicels in number. These partition walls were most strictly described by me, and the figures 4, 28 and 29 in my memoir on the *Elpidia* give a true idea of their appearance. The extremely narrow and fine ambulacral vessels which become distinguishable only in transverse sections, had escaped my attention. Thus, it is evident that the general arrangement of the water-vascular system in the Elasipoda corresponds to that in the Pedata.

The circular water-vessel, which in some forms, as, for instance, in *Oneirophanta*, *Deima*, *Orphnurgus*, &c., is very wide, but in others, as, for instance, in *Benthodytes sanguinolenta*, &c., seems to be comparatively much narrower, does not closely

¹ Kongl. Svenska. Vetenskaps Akademiens Handlingar, Bd. xiv. No. 8, Stockholm, 1877.

² Echinodermen fra den Norske Nordhavsexpedition (Nyt Magazin for Naturv., Bd. xxv. 2, Christiania, 1879).