

1. Of the three first named the one nearest the middle line is directed forwards and divides into two principal branches which innervate the dorsal and middle cones.
2. The middle nerve as soon as it issues from the ganglion gives origin to a strong thread passing to the anterior tentacle. Farther on a more slender branch springs from this nerve and gives off two branches, which innervate the lateral parts of the head and the retractor muscles of the buccal cones and of the anterior tentacle.

The main trunk further gives off a branch distributed to the hood covering the head, to the lips, and finally to the ventral cone ; before entering which it exhibits an anastomosis with the nerve to the middle cone.

Von Jhering describes the nerves of the buccal cones as having each a ganglion united by commissure with the nerves of the two neighbouring cones ; that is to say, they have a disposition identical with that observed in the brachial nerves of the Cephalopoda. This is, however, quite erroneous ; not one of the nerves to the cones presents a ganglion on its course. As for the "commissures" said to exist between these ganglia, I have never been able to observe anything more than the anastomosis indicated above between the ventral and middle cones ; this is oblique and has none of the characters of a regular commissure.

3. The lateral nerve, more slender than the preceding, passes round the buccal mass, and innervates the false lips, a pair of swollen pads situated at the base of the buccal cones.
- 4 and 5. The two nerves which arise from the dorsal surface of the cerebral ganglion and pass to the posterior tentacle, behave like the corresponding nerves of other Gymnosomata ; that is, they are optic and olfactory nerves, each ending in an enlargement.

Wagner¹ regards the terminal enlargement of the optic nerve as the olfactory ganglion. Now the constitution of the swelling at the end of the other nerve shows that it is the olfactory ganglion or rhinophore ; in fact it gives rise to a rather large number of small nerves which become lost in the extremity of the nuchal tentacle ; this is well known to be a character of the olfactory ganglion of the Gastropoda. On the other hand, the other swelling is comparable with the corresponding enlargement in the other Gymnosomata, in which, especially in *Pneumonoderma*, may be recognised the component parts of a rudimentary eye.²

The pedal ganglia are constituted as in the preceding Gymnosomata. Their second

¹ Die Wirbellosen des weissen Meeres, Bd. i. pl. xii. fig. 2, gn. 2.

² Pelseneer, The Cephalic Appendages of the Gymnosomatous Pteropoda, *Quart. Journ. Micr. Sci.*, 1885, pp. 494, 495.