

The intestine arises from the posterior part of the stomach; it is short and passes directly without any flexure to the right side, where the anus is situated. Thus the curvature of the digestive tract is lateral and to the right, and not neural. If it appear a little ventral this is in consequence of the great reduction of the pedal surface. It opens into a cloacal depression, like that of *Clionopsis* (Pl. IV. fig. 10), where is also found the opening of the kidney.

The Respiratory and Excretory Organs.—The situation and structure of the gills have been already described in three genera in the systematic portion of this Report. The primitive gill is the lateral one, which also is nearest to the auricle of the heart, this latter being posterior. For the rest the heart is shaped as in the Thecosomata. The arterial system is more easily followed than in these latter; but it does not present any special or interesting disposition.

The kidney, whose existence was suspected by Gegenbaur,¹ is an organ with thin walls, not very obvious, and difficult to demonstrate by dissection. It is made up, as in *Clionopsis* and *Clione*, of a flattened sac, situated between the visceral mass and the lateral gill, and opening anteriorly into the cloacal depression near the anus.

The Generative Organs.—The genital gland (Pl. IV. fig. 8, *a*) occupies the posterior part of the visceral cavity. It forms a compact mass, presenting lobes more or less distinctly separated. The genital duct (*b*) arises from the anterior part of the gland, a little ventrally; it is rather thin at its origin, but dilates as it proceeds as far as the middle of its course.

This duct, somewhat coiled, reaches the accessory genital glands, which are situated ventrally at the anterior end of the visceral mass; among these may be distinguished a coiled muciparous gland (*c*), and a small albumen gland (*d*), situated on the back of the other and to some extent embedded in it.

After these two glands the genital duct presents a receptaculum seminis (*e*) rather long and ovoid in shape; then it opens on the right side of the cervical region behind the posterior margin of the fin of that side. At the genital aperture (*f*) commences a ciliated spermatic groove, parallel to the fin, and passing forwards in front of the anterior border of the fin to the orifice of the penis, which is situated on the anterior aspect of the right side of the foot. The penis, which is coiled up in a cavity of the head, is rather long, and has the same form as in the other Gymnosomata, such as *Clione*.²

The Nervous System.—The only information we possess regarding the nervous system of the Pneumonodermatidæ is derived from the researches of Cuvier,³ van Beneden,⁴ Souleyet,⁵ and Gegenbaur,⁶ and is based upon the study of the genus *Pneumoderma* alone.

¹ Untersuchungen über Pteropoden und Heteropoden, p. 86.

² Zool. Chall. Exp., part lviii. p. 47.

³ Mémoire sur l'Hyale et la Pneumoderme, *Ann. Mus. Hist. Nat. Paris*, t. iv. p. 225, pl. lix. B, fig. 9.

⁴ Recherches anatomiques sur le Pneumodermon violaceum, d'Orb., *Mém. Acad. Sci. Bruxelles*, t. xi. p. 43, pl. i. fig. 2.

⁵ Voyage de la Bonite, Zoologie, t. ii. p. 267, pl. xv. figs. 29–38.

⁶ Untersuchungen über Pteropoden und Heteropoden, p. 97.