

extending into the mantle. These muscles are probably constrictors of the pallial cavity; and they have perhaps an influence on the successive dilatations of the kidney. It was these muscles which van Beneden¹ took for gills; but, as will subsequently appear, *Cymbulia*, like *Clio*, is destitute of these organs.

The Digestive Tract.—The mouth is not as in the Cavoliniidæ and Limacinidæ (except *Peracelis*) bordered by lateral lips; here the lips are dorsal and ventral, and are produced along the sides of the proboscis to unite and become continuous with the dorsal margin of the fin.

The horny portions of the buccal mass have already been described, notably by Troschel; it is only necessary to note that the two jaws are situated more ventrally than in the Cavoliniidæ.

Into the buccal cavity open the two salivary glands (Pl. IV. fig. 2, *c*) which, though readily visible, have not been noticed by any previous author.

The œsophagus is very large (Pl. IV. fig. 2, *d*), and scarcely distinctly separable from the stomach (*e*). This latter contains within it the same large masticatory plates as in the Cavoliniidæ; the fifth posterior plate, though still triangular, differs a little in form, being very elongated.

The stomach does not present at its posterior extremity a true cæcum like that of *Cavolinia* and some species of *Clio*, but only a large and not very deep *cul de sac*. The intestine does not arise at the posterior extremity of the stomach but a little anterior to it.

The liver is constituted like that of the typical *Cavoliniæ*; according to Gegenbaur² it opens into the stomach by from three to six canals. I have only been able to see, however, two of these hepatic ducts. This multiplicity of ducts among the Thecosomata is an archaic character, which the Cymbuliidæ have retained.

The intestine is longer and more coiled than in the preceding forms of Thecosomata, but morphologically the curvature is the same as in the Cavoliniidæ. The intestine is entirely enveloped in the liver, only the extreme portion of the rectum being free. The anus is not situated so far to the left as in the Cavoliniidæ, scarcely passing the median line, but the terminal part of the intestine is directed distinctly towards the left side.

The Excretory and Circulatory Organs.—The kidney is situated on the dorsal aspect of the visceral mass, at the bottom of the pallial cavity. It is almost symmetrical in form and extends along the mantle, across both sides of the visceral cavity, in such a manner that when looked at in profile by reason of its transparency the lumen appears almost circular (Pl. IV. fig. 1, *h*). The walls of this organ are exceedingly thin and transparent as in *Clio*. It opens into the pallial cavity by an oval aperture (*m*) surrounded

¹ Exercices Zootomiques, pl. i. fig. xii. *b*.

² Untersuchungen über Pteropoden und Heteropoden, p. 48.