

situated *in front* of the lobe which bears the operculum.¹ (It has already been remarked that the larval *Cymbulix* have an operculum.²)

So far as I can judge, this appendage seems to be most properly comparable with the middle part of the foot of the Heteropoda which carries the sucker, and is called by Grobben³ "rudimentär Sohle des Protopodiums." These two portions occupy strictly corresponding situations.

I do not, however, agree with Fol⁴ that this appendage of the Cymbuliidæ corresponds with the posterior lobe of the foot of the Gymnosomata. I think rather that this last is homologous with the central and posterior parts of the foot of the Aplysioidea.

The Mantle extends ventrally, and also a little dorsally, much further than in the Cavoliniidæ, in order to form the cartilaginous "shell," which is in fact nothing more nor less than an induration of the subepithelial dermic layer of the mantle.

The pallial gland (Pl. III. fig. 8, *a*; Pl. IV. fig. 7), which is a modification of the internal epithelial layer of the mantle, differs from that of the Cavoliniidæ in being obviously asymmetrical, the right portion being the larger. It is divided into anterior and posterior parts by a transparent band, which is itself asymmetrical (see Pl. III. fig. 8).

Since *Cymbulia* does not possess a true shell, the columellar muscle, corresponding to that of the Limacinidæ and Cavoliniidæ is entirely wanting.

The space between the fin and the "shell" (Pl. IV. fig. 1, *d*) is freely open and leads into the pallial cavity. On removing or cutting through the fin (Pl. III. fig. 7, *e*) the opening of the mantle-cavity is seen to be asymmetrical, thus differing from that of the Cavoliniidæ; this opening is in fact decidedly turned to the right.

In consequence of the reduction of the dorsal surface of the animal the pallial cavity appears to extend along the dorsal side to just below the heart (Pl. IV. fig. 1, *n*) between the kidney and the visceral mass (*h*) (digestive and generative organs),⁵ which appears to hang freely into the mantle-cavity. It must be noticed that the aboral extremity of this visceral mass almost corresponds to the ventral prominence of the same mass in *Cavolinia gibbosa*, for example, where there is a tendency to the dorso-ventral elongation so pronounced in *Cymbulia*.

Thus the ventral surface of *Cymbulia* reaches a little further than this aboral extremity of the visceral mass.

On either side of the visceral mass there may be seen on the inner wall of the mantle rather large muscular bundles, arising where the fin joins with the visceral mass and

¹ Krohn, Beiträge zur Entwicklungsgeschichte der Pteropoden und Heteropoden, pl. i. fig. 13, *d*.

² Zool. Chall. Exp., part lxxv. pl. ii. fig. 14.

³ Zur Morphologie des Fusses der Heteropoden, Arb. Zool. Inst. Wien, t. vii. p. 224.

⁴ Sur le développement des Ptéropodes, Arch. d. Zool. Expér., sér. 1, t. iv. p. 193.

⁵ This is clearly shown in fig. 1 of my systematic Report on the Thecosomata (Zool. Chall. Exp., part lxxv. p. 97).