

seminalis, with a very short duct (Pl. III. fig. 4, *c*). *Cavolinia longirostris* appears to form a transition between this arrangement and that observed in the other typical *Cavoliniæ*, for in this species the vesicula seminalis has the form of a long cæcum, towards the extremity of which is a swelling, which is wanting in the other species of *Cavolinia* (*s. str.*).

On the other hand, there are in all *Cavoliniæ*, at the distal extremity of the genital duct, the same accessory glands as in other Thecosomata; a large muciparous gland and smaller albumen-gland close together. In group A, however, there is a pyriform receptaculum seminis at the end of a long duct, a little in front of these glands.

The genital aperture (Pl. III. fig. 4, *e*), the ciliated seminal groove (*f*), and the orifice of the penis, are situated as are the corresponding parts of other Cavoliniidæ. The penis encloses a horny stylet (*e.g.*, in *Cavolinia trispinosa*, Pl. III. fig. 5), which Souleyet¹ did not notice in the genus.

The Nervous System.—In *Cavolinia*, as in all other Thecosomata, the cerebral ganglia are situated at the sides of the œsophagus, and connected by a long suprœsophageal commissure. They are in reality cerebro-pleural ganglia, for each encloses a pleural centre within it.

The pedal ganglia, as in *Cuvierina*, and probably all other Thecosomata, have a second small anterior commissure, which is readily visible in a series of transverse sections of the central nervous system.

As in the case of *Clio* the visceral mass is formed of two asymmetrical halves, the right being the smaller of the two. All the figures, therefore, which represent this mass as symmetrical are incorrect.

Thus in the typical *Cavoliniæ* the visceral ganglia are disposed as in *Clio*, and the nerves take origin in the same manner. The two pallial nerves (*1* and *4* in the figures of the nervous system) are very strong in this species, in correlation with the presence of the pallial appendages and of the extensible margins of the mantle. In *Cavolinia inflexa* the two halves of the visceral ganglionic mass are rather further separated, but still asymmetrical.

In the forms included in group A (*Cavolinia trispinosa* and *Cavolinia quadridentata*) the ganglionic elements of the visceral commissure are clearly separated, as in *Cuvierina*, into two asymmetrical ganglionic masses (the right being the smaller), but to a less extent than in *Cuvierina*. The nerves take origin in a manner similar to that described in the latter genus.

This clear separation of the ganglia in group A shows beyond doubt that these species are the most archaic of the living forms of this genus—a view which is supported by the presence of the balancer, as in *Clio*, and the less specialised character of the foot.

On the other hand, the absence of a gill, the characters of the mantle, of the genital

¹ Voyage de la Bonite, Zoologie, t. ii. p. 125.