

the tentacular nerve (the existence of which was doubted by Gegenbaur); the two nerves from the ventral segment supply the cephalic region (proboscis, lips, &c.).

From each pedal ganglion two large cords proceed laterally to innervate the fin, within which they are very widely ramified.

The enteric or stomato-gastric system is constituted as follows:—The buccal ganglia (Pl. IV. fig. 2, *g*) are connected to the cerebral ganglia by very short cords, in contradiction to the condition figured by von Jhering.<sup>1</sup> These ganglia are closely approximated, and not separated by a long commissure as is indicated by the figure of this author.

The buccal ganglia give off in front and at the sides threads which innervate the buccal mass and the salivary glands. Posteriorly, a strong nervous cord (“nerf stomacal” of Lacaze Duthiers) extends over the œsophagus as far as the stomach (Pl. IV. fig. 2, *h*), where these two nerves form a gastric plexus (*i*).

This exhibits considerable regularity, and is composed of two nervous rings, one on the anterior and one on the posterior portion of the stomach; these are united by four threads passing between the four masticatory plates. At the points of junction between these threads and the rings there are small ganglionic enlargements.

This regular gastric plexus probably exists in all the Thecosomata, but the small size of the stomach in other species renders its demonstration difficult, whilst in *Cymbulia*, where the stomach is larger and the nerves thicker, it is much more easily seen.

An identical arrangement has recently been recorded in the Tectibranchiate Opisthobranchs by Lacaze Duthiers.<sup>2</sup> In these animals (*e.g.*, *Philine*) the two “nerfs stomacaux” lead to the regular gastric plexus formed by an anterior and a posterior gastric nervous ring, which are united by threads passing between the masticatory plates.

The otocysts are situated posteriorly on the ventral surface of the pedal ganglia, Formerly I stated<sup>3</sup> that von Jhering was in error in representing an auditory nerve leading from the otocyst to the cerebral ganglion. I now recognise that I was mistaken; since that time I have had an opportunity of studying the same species as von Jhering, *Cymbulia peroni*, in which the otocysts are deeply coloured with dark brown pigment, which extends along the auditory nerve, and thus renders it very easy of detection.

## 2. *Cymbuliopsis*.

In the sum total of its external characters (form of the fin, proboscis, &c.) this genus resembles *Gleba* rather than *Cymbulia*, but the shape of the hardened portion of the mantle differs widely from the corresponding part of *Gleba*.<sup>4</sup>

<sup>1</sup> Vergleichende Anatomie des Nervensystemes und Phylogenie der Mollusken, pl. v. fig. 19.

<sup>2</sup> Considérations sur le système nerveux des Gastéropodes, *Comptes rendus*, t. ciii. p. 585.

<sup>3</sup> Recherches sur le système nerveux des Ptéropodes, *Arch. de Biol.*, t. vii. p. 116, note 5.

<sup>4</sup> Compare the systematic Report on the Thecosomata, Zool. Chall. Exp., part lxv. fig. 2, p. 100 (*Cymbuliopsis*), and fig. 3, p. 102 (*Gleba*).