

connective.¹ The *lower* half was connected with the upper on either side by two connectives; it consisted of two pairs of ganglia lying upon each other, whose wide, broad commissure was about as long as the greatest diameter of the ganglia; they were separated by the strong arteria bulbi pharyngei. The (three?) *pleural ganglia* were somewhat smaller than the others, less flattened, and of transversely oval form; in front of their commissure was the thin sub-cerebral commissure. From each ganglion four nerves, partly united at the base, were given off to supply the side walls of the body and the back; one of these was especially thick, and extended backwards along the sides of the back. From each ganglion were given off two nerves, running along the sides of the posterior aorta as far as the anterior genital mass, giving off to it several branches, and finally reaching the hermaphrodite gland; from one of the left nerves a strong branch went to the region of the anterior bile duct. From the right side of the visceral commissure, near the ganglion, two nervi genitales arose, and were distributed to the vas deferens and the glandula hastatoria. The *pedal ganglia*, rather larger than the others, were of a rounded contour; they gave off a short nervus pediacus anterior, a nervus pediacus medius externus, and a nervus pediacus posterior longus, which entered the sole of the foot about the middle of its length, dividing into a superficial and deep branch; from the latter arose numerous twigs directed obliquely inwards. A rope-ladder-like system, as first described by Semper² in opposition to v. Jhering³ cannot, however, be dissected *in situ*. The *buccal ganglia* are of a rounded contour, and lie within a wide, but still rather adherent capsule united by a commissure (Pl. V. fig. 3, *b*), about double as long as the diameter of the ganglia; the two nerves going off from them supply the salivary glands, the œsophagus, and the hinder portion of the bulbus; upon them were ganglionic swellings; from the middle of the commissure a strong dichotomously branching nerve was given off, running backwards. *Sympathetic ganglia*⁴ were found here and there upon the viscera; on the spot, where the arteria genitalis divides on the under surface of the anterior genital mass, there was a large white ganglion of oval contour and .3 mm. diameter.⁵

The summit of the *rhizophore* was invaginated about 1.2 mm., and at the bottom of this depression was the *eye*; its greatest diameter was about .28 mm.; the lens was yellowish, the pigment blackish-brown. The fine optic nerve was given off as a branch from the upper part of the rhizophorial nerve. At the base of the eye, enveloping it,

¹ It would be of high interest to examine whether the *Onchidia* possess the mouth-lobe-ganglion of the Pulmonata.

² *Loc. cit.*, p. 481.

³ H. v. Jhering, Ueber die system. Stell. von Peronia, 1877, pp. 8, 9.

⁴ According to Semper, the *buccal commissure* with its ganglia in the Gasteropoda represents the vagus of the Annelides. Cf. P. B. Sarasin, Entwicklungsgesch. d. Bithynia tentaculata, 1882, pp. 56, 57.

⁵ Owing to the state of hardening of the central nervous system, it was impossible to investigate it fully. There appeared to be three pleural ganglia, of which the smaller right one and the median one were more nearly approximate.