

running along the genital furrow in its immediate neighbourhood towards the frontal shield, within which it forms an arch, and leaving it in the region below the right rhinophore, enters the body cavity; now this long free portion of the duct is somewhat thicker, and forms a coil in which the two parts, the prostatic and muscular, can often be easily recognised by their colour. To the last part of the vas deferens is attached a strong retractor muscle, and the vas deferens is then continued into the longer or shorter (when retracted) sac-shaped penis, which opens into the male genital cleft.<sup>1</sup> In most Onchidiadæ the last part of the vas deferens is lined with a strong cuticle, which, as in the Doriopsidæ, Phyllidiadæ, and other Nudibranchiata, has longitudinal rows of small hooks; the anterior portion of this last part can be everted. In many Onchidiadæ<sup>2</sup> there opens near the penis a very long coiled glandula hastatoria, which is prolonged in front into a spindle-shaped or sausage-formed ampulla, opening on to the male genital cleft at the side of the penis by its special duct and the straight long dart at its end.

Concerning the *development* of *Onchidium* not much was known until recently. Stoliczka observed that the young animals live massed together in deep earth-holes, and remarked that they perhaps had a direct development without larva. Semper<sup>3</sup> endeavoured, but in vain, to find the eggs. Joyeux Laffuie<sup>4</sup> finally succeeded in tracing the development of *Onchidium celticum*.

*Onchidium* appears to be *amphibious*, inasmuch as it is found on those parts of the shore where there is a regular ebb and flow.<sup>5</sup> According to Semper<sup>6</sup> the *function of the dorsal eyes* is to protect the animal from its (presumed) chief enemy, *Periophthalmus*; immediately it sees one of these approaching, it draws its body together and squeezes out a secretion from abundant cutaneous glands.

*Onchidium* is mainly an inhabitant of tropical or sub-tropical regions; from the Mediterranean only one species (*Onchidium parthenopeium*, d'Ch.) is known, and a very similar (*Onchidium celticum*, Cuv.; *Onchidium boreale*, Dall) from the northern part of the Atlantic. The different "species" agree very much in the outer form, and most of the species described by different authors will not be recognised with certainty. In recent times Semper has observed that certain parts of the genital apparatus afford useful systematic characters. The division of the Family into the genera *Onchidium*, *Peronia* (Blainville), and *Onchidella* (Gray) cannot be retained. Stoliczka<sup>7</sup> first clearly showed this. Semper<sup>8</sup> divides the Onchidiadæ into *Onchidium* proper and *Onchidella*

<sup>1</sup> Semper, *loc. cit.*, p. 254.

<sup>2</sup> Semper, *loc. cit.*, p. 254.

<sup>3</sup> Semper, *loc. cit.*, p. 488.

<sup>4</sup> Joyeux Laffuie, Organisation et développement de l'Oncidie, *Onchidium celticum*, Cuv., *Archives de Zool. expér.*, t. x., 1882, pp. 1-159, pls. xiv.-xxii.

<sup>5</sup> Jhering, Ueber die system. Stell. von *Peronia*, 1877, pp. 9-15.—Joyeux Laffuie, *loc. cit.*, p. 237.

<sup>6</sup> *Loc. cit.*, pp. 30-32.

<sup>7</sup> Stoliczka, The Malacology of Lower Bengal, 1., On the genus *Onchidium*, *Journ. of Asiat. Soc.*, vol. xxxviii. 2, 1869, pp. 100, 101.

<sup>8</sup> Semper, *loc. cit.*, *Ergänzungsh.*, 1877, p. 40; Heft v., 1880, p. 254.