

tains a granular plasma and numerous clear vesicles scattered through its substance. As a rule a small nucleus is visible close to the wall of the ovum, which is distinctly coloured by alum carmine. The size of the eggs is much the same throughout the whole ovary; in *Sylon challengerii* (Pl. CL. fig. 1) they are nearly spherical, with a diameter of 0.06 mm., in *Sylon schneideri* (fig. 7) they are oval and slightly larger, the dimensions being 0.08 by 0.06 mm. Here and there between the ovarian eggs, especially in *Sylon challengerii*, stripes of connective tissue with rather large oval nuclei are visible.

The visceral mass is inclosed by an epithelium which is truly chitinogenous, and has a chitinous outer wall at its surface. This chitinous membrane—at all events when the animal carries no eggs in the mantle cavity—is pressed against a similar membrane, which forms the inner surface of the mantle. The latter organ consists of two layers of epithelial cells, separated from one another by connective tissue and muscular fibres; at the outer surface a rather thick and very resistant chitinous membrane is secreted by the epithelial cells, whereas the inner coating of chitin is thin and in not quite full-grown specimens is fused with the exterior chitinous membrane of the visceral mass. At the places where later on the openings of the mantle are formed, a thick, lenticular, chitinous disc (Pl. CL. fig. 2) is observed. The chitinous membrane at the surface of the mantle in the same preparation is distinctly double, but when the process of exuviation takes place the outer layer probably carries away the lentiform disc also, and so opens the genital pores. Between the two chitinous membranes of mantle and visceral mass the mantle cavity is formed by a simple parting of the two membranes.

In the series of preparations of *Sylon challengerii*, the gland, whose secretion serves probably for gluing the eggs together, is seen to be distinctly developed; but I observed only one gland, and not two as is the case in *Sacculina*. One of the sections of the gland is shown on Pl. CL. fig. 1, which fairly well corresponds to the description of it given by Delage in the case of *Sacculina*. He calls it the cement-gland, a name, which, as Giard pointed out,<sup>1</sup> is inexact, for it has quite the function of an "Eikittdrüse," or "glande collétérique." It is a tubular gland, much ramified, and very irregularly convoluted, and a kind of chitinous membrane is seen everywhere within the interior of the different parts. The gland as a whole, with the connective tissue between its convolutions, forms a lentiform mass. In *Sylon challengerii* the opening of the female genital apparatus does not take place, as is the case with *Sacculina*, by means of a vestibule (the atrium of Delage) situated in the centre of the mass of the gland; for I did not find a trace of such an atrium in any one of an uninterrupted series of preparations, all the sections being perpendicular to the surface of the lentiform glandular mass. At one side of the gland, however, the epithelium of the surface of the visceral mass forms a distinct invagination (Pl. CL. fig. 1, *d*), and perhaps the opening of

<sup>1</sup> A. Giard, Sur l'orientation de *Sacculina carcini*, *Comptes rendus*, March 10, 1886.