

ganglion. These, with the possible addition of the languet and the ciliated groove in the dorsal tubercle, or opening of the subneural gland, are the only sense organs known.

There is no circle of tentacles in the branchial siphon. The peripharyngeal bands are in their usual position in the Tunicata, running round the front of the branchial sac from the anterior extremity of the endostyle to the front of the dorsal lamina. There is a subneural gland underlying the ganglion. Its duct leads forwards, and opens into the front of the branchial sac just anterior to the peripharyngeal bands. The opening widens out to form a richly ciliated groove, which may be either straight and elongated antero-posteriorly (Pl. VI. fig. 11) or curved upon itself to form a more or less elaborate "dorsal tubercle."

The endostyle is long and straight. It runs to the posterior end of the branchial sac, where it and the dorsal lamina meet on the opposite sides of the œsophageal aperture. The heart is placed near the posterior end of the endostyle, ventrally to the œsophagus.

The alimentary canal is relatively small, and is coiled up along with the testis to form a small compact opaque mass, the "nucleus" or visceral mass (Pl. IX. fig. 7, *visc.*). This arrangement of the viscera is characteristic of *Salpa*, and distinguishes it from the next genus *Cyclosalpa*, in which the alimentary canal is stretched out, and consequently no "nucleus" is formed. The anus opens into the peribranchial cavity on the dorsal surface of the nucleus (Fig. 7, *α*).

The figure (Fig. 7, p. 55) represents an aggregated or sexual *Salpa* which in an earlier period of its existence was a member of a chain, and consequently it shows a testis and a developing embryo. The ova (always few in number, usually only one) appear at a very early period in the developing chain *Salpa*, while it is still a part of the gemmiparous stolon in the body of the solitary *Salpa*; while the testis, on the other hand, does not develop until much later. This protogyny prevents self-fertilisation. The ovum is situated in the median dorsal line, not far from the posterior end of the body, and lies at first in a blood-sinus of the mantle, enclosed in an ovisac, the wall of which is prolonged to form a narrow tube, the oviduct, which opens into the peribranchial cavity on its right side. Spermatozoa from another and older sexual *Salpa*, belonging to a different chain, gain access by means of this oviduct and fertilise the ovum.

The embryonic development is carried on in a "brood-pouch" formed by an enlargement and modification of the oviduct into a sac which projects into the peribranchial cavity, and eventually ruptures so as to set the embryo free. At an early period in its development, part of the wall of the ovisac, probably along with part of the embryo itself, becomes converted into the "placenta," an organ in which the foetal and maternal blood-streams circulate in close proximity, or actually coalesce during one period. At a somewhat later stage, a number of cells placed near the posterior end of the body