

abdomen the longitudinal bands become more numerous and form a strong muscular investment to the reproductive organs. The branchial siphon is rather long (Pl. XXIII. figs. 3, 5), and its anterior end is distinctly six-lobed. In some cases the lobes are large and widely separated (Pl. XXIII. fig. 5). The sphincter is well developed.

The branchial sac is rather long and narrow, and contains many rows of stigmata. The most noteworthy feature in regard to it is the comparatively great width of the transverse vessels, which are all of the same size, and have bands of muscle fibres running along their length (Pl. XXIII. fig. 4, *m.f.*). In some specimens neither the transverse vessels nor the stigmata are quite so wide as the figure shows. The ciliated cells placed along the sides of the stigmata are large and distinct, and have their free ends pointed.

The endostyle is narrow and inconspicuous, its course is undulating. The languets are not numerous, but they are rather large; they are tentacular in form and are pointed. The tentacles are rather inconspicuous, and the aperture of the dorsal tubercle is very small. The nerve-ganglion is large and globular.

The alimentary canal forms a long narrow loop (Pl. XXIII. fig. 3). The œsophagus commences at the posterior end of the dorsal edge of the branchial sac, and runs directly backwards. It is funnel-shaped at its upper end (Pl. XXIII. fig. 3, *æ.*), and then rapidly narrows to form a slender tube which opens into the anterior extremity of the somewhat ovate stomach. The long axis of the stomach is directed antero-posteriorly, and the anterior end is the wider and more rounded of the two. The wall of the stomach is usually somewhat folded transversely. The intestine emerges from the narrow posterior end of the stomach, and runs backwards as a tube of variable calibre and irregular course (Pl. XXIII. fig. 3, *i.*). It then turns round ventrally and anteriorly, and becoming suddenly wider runs forwards as the rectum parallel to the intestine, stomach, and œsophagus to reach the posterior end of the branchial sac, where it crosses over to the dorsal side, and finally opens into the peribranchial cavity.

The reproductive organs lie completely behind the intestinal loop. Both ova and spermatic vesicles may be found in the same Ascidiozoid. The vas deferens is a long tube, but it is not so conspicuous as is usual in the Compound Ascidiæ. Tailed larvæ were found in some Ascidiozooids lying in considerable numbers in the peribranchial cavities. They have long narrow bodies (Pl. XXIII. fig. 6) provided anteriorly with three slender adhering papillæ, and the pigmented sense-organs (of which two are present) are placed close together near the posterior end of the body.

In several of the Ascidiozooids ova of smaller size than those in the post-abdomen and small embryos in various stages of development were found in the dorsal part of the peribranchial cavity. A careful examination showed that these were Crustacean embryos, and a few completely developed Nauplii were found amongst them. They evidently belong to the Copepoda living in the common cloacal cavities of the colony, and as the