

*Alimentary Canal.*—The abdominal part of the alimentary canal is very opaque, being of a dark indigo-blue colour. This gives the colony its peculiar tint, and it is caused by the blood-corpuscles, which are nearly black, being collected into small clumps which fill the large sinuses extending through the mantle.

The œsophageal opening, placed at the posterior end of the branchial sac, near the dorsal margin, is of large size, and has the edge and its inner surface for a short distance down thrown into a remarkable series of folds, presenting curiously complicated ridges and tooth-like processes (Pl. XII. fig. 4). The œsophagus is short and wide, and opens into the slightly larger stomach, which is continued without much diminution in size into the intestine, the first portion of which forms with the stomach and œsophagus a slightly curved antero-posterior line. The intestine having reached the posterior end of the abdomen, turns sharply round and runs forward parallel to the stomach; then curving upwards, crosses the anterior part of the œsophagus, and after a short rectal course through the peribranchial cavity, ends in a rather prominent anus, the margin of which is disposed in a series of regular folds (Pl. XII. fig. 4). The stomach is not plicated, and there is no typhlosole in the intestine (Pl. XII. fig. 8).

*Vascular System.*—The heart is placed on the right side of the body in the abdominal region, and lies in the elongated space between the stomach and the intestine. It is a long fusiform undulating tube with very thin walls, which are seen under a high power to contain closely placed transverse fibres which sometimes exhibit a fine cross striation, and are circular in section. Outside this muscular coat is a thin layer of connective tissue, consisting of a delicate membrane in which fusiform and branched corpuscles are imbedded.

*Reproductive Organs.*—The genital glands are situated on the left side of the abdomen (Pl. XII. fig. 6), to which they are more closely applied than in the last species. In this case the male organs greatly predominate. A large number of oval or pyriform pale yellow vesicles with granular contents are scattered over the surface of the intestine. These are the spermata or testes. They are in connection with short and fine ducts which unite into about a dozen larger ones, and these converge towards and open into the lower end of a large opaque yellowish-brown vas deferens, which runs up the inner edge of the intestine towards the atrium (Pl. XII. figs. 6, 7).

Usually in the adult Ascidiozoid no ovary is visible (Pl. XII. fig. 6). Rarely one or two large ova are seen among the testes, and more frequently one, two, or three mature ova are found occupying different positions on their way to the atrium (Pl. XII. fig. 6). In young Ascidiozooids, however, from the base of the colony (see p. 96), the ovary is well developed, and exactly resembles that of the last species (see Pl. XII. fig. 8). These circumstances seem to indicate the existence of protogyny, each Ascidiozoid being first female and then male, and the ova of those near the base being fertilised by the spermatozoa of the older ones farther up the colony. An Ascidiozoid such as the one