

not far distant. It is an elongated, fusiform, thin-walled sac, and is enclosed by a membranous pericardium composed of a thin layer of connective tissue uniting an open network of branched spicules similar to those found in the branchial sac, endostyle, &c. This is lined by a layer of squamous epithelium. The cells are large, polygonal in outline, and distinctly nucleated (Pl. IX. fig. 11).

The wall of the heart itself is composed of regularly arranged fusiform cells, interlocking with each other (Pl. IX. fig. 9). These cells are about twelve to sixteen times as long as they are broad, and are perfectly symmetrical, tapering gradually towards each end. They have large central distinct nuclei, which stain brilliantly in carmine and logwood. These cells are all distinctly striated transversely (Pl. IX. fig. 10). The striæ appear as dark bands, leaving clear spaces between them; there are usually about twenty in each cell.

*The Alimentary Canal.*—The first portion of the alimentary canal, consisting of the branchial sac or modified pharynx, has already been described; there remain still to be noticed the œsophagus, the stomach, the intestine, and the anus.

The œsophageal opening lies at the posterior end of the dorsal lamina near the posterior extremity of the branchial sac. It is an irregularly triangular aperture (Pl. VIII. fig. 8, *æ.æ.*), surrounded by a membranous lip of considerable breadth, which is the termination of the dorsal lamina. The œsophagus (*æ.*) is a short tube running in a curved course posteriorly and ventrally so as to reach round the posterior end of the branchial sac. It then opens into the irregular stomach (*st.*). This organ lies along the ventral edge of the posterior end of the branchial sac, and has a remarkable appearance (Pl. VIII. fig. 8, *st.*). It is an irregularly elongated pyriform sac, having its intestinal or anterior end rather the larger; its walls are curiously folded and sacculated, so that in external view it is multilobed, and the lobes are covered with bunches of little rounded processes. From its anterior larger end the intestine emerges. It is long and simple, but rather twisted in its course, performing several slight undulations. It runs forwards along the ventral edge of the branchial sac for about half its extent, and then, turning abruptly, it runs back almost parallel to the first part of its course, but lying to the left of it, and after curving round dorsally it passes to the left of the stomach and last part of the œsophagus, to terminate close to the atrial aperture (Pl. VIII. fig. 8, *æ.*). Just at the most anterior part of the intestine where it turns round, an irregular process projects from it into the narrow loop (Pl. VIII. fig. 8, *i.c.*). This is apparently a cæcum—possibly it may be an individual abnormality.

The whole of the intestine is thin walled, and its surface is smooth and of a dull leaden-grey colour. The wall of the stomach is thicker, and is of a pale yellowish-brown colour. There is no typhlosole or projecting fold of any sort in the intestine. The anal termination is slightly widened, and has an undulating free edge (Pl. VIII. fig. 8, *æ.*). The intestine contained fine mud of a dull brown colour.