

fibrous tissue, penetrated by numerous branching anastomosing spaces (the "pallial capillaries" of some authors), and containing round, oval, fusiform, and stellate connective tissue corpuscles.

The inner surface of the mantle is lined by a continuous layer of tessellated epithelium—the "parietal layer of the atrial membrane" of Huxley, and the "lining membrane" of Hancock. The cells are squamous, polygonal in outline, and rather large. The nuclei are comparatively small, circular, central in position, strongly refracting, and stain deeply with carmine.

*The Branchial Sac* is the most characteristic feature of the genus, and presents striking peculiarities. In the present species it is of considerable size, occupying the whole of one side of the body of the animal. To the naked eye it presents the appearance of a coarse network, the meshes being very large and the vessels of considerable calibre.

A closer examination shows that, as in all the Cynthiidæ, the sac presents certain folds running longitudinally (or from the branchial to the œsophageal aperture) and projecting from its internal surface. These folds are twelve in number, six on each side of the sac. They are of moderate size, not very prominent, but still distinctly visible. Those nearest to the dorsal edge of the sac are more distinct, and are more closely placed than those towards the ventral edge, the pair next the endostyle being very slight.

The structure of this branchial sac is simple in the extreme (Pl. VIII. fig. 3). There are two series of vessels—the transverse and the internal longitudinal bars. If the branchial aperture be placed superiorly the transverse vessels will be found running round the sac externally like a series of horizontally placed hoops, while the internal longitudinal bars lie in a plane internal to the transverse vessels, and run down the inner surface of the sac from the anterior to the posterior end. The two series of vessels thus cross at right angles and form a network with rectangular meshes. At their points of intersection—the angles of the meshes—the vessels intercommunicate.

The transverse vessels (Pl. VIII. fig. 3, *tr.* and *tr.'*) are of two kinds, larger and smaller; they are placed alternately, and the larger vessels are about three times as wide as the smaller ones. The meshes formed by the intersecting transverse and internal longitudinal vessels are oblong, and have their greater extent antero-posteriorly or at right angles to the transverse vessels. Over the greater part of the branchial sac, the proportion between the sides of the mesh varies from 3:4 to 3:6 and is in most cases about 3:5, so that the transverse vessels are placed from once and a-half to twice as far from one another as the internal longitudinal bars are. On the folds, however, the meshes are much more elongated, in consequence of the comparative crowding together of the internal longitudinal bars on these parts, while the transverse vessels are at the same distances as in other regions of the sac.

The folds (Pl. VIII. fig. 3, *br.f.*) are merely longitudinal tracts along which the