

large size (Pl. XXI. fig. 5) and are usually rather opaque. In some sections of the genital mass their germinal vesicles and germinal spots are remarkably well seen, and a distinct dot inside the germinal spot is visible. Transverse sections through the post-abdomen behind the genital mass show that it is traversed by the usual double-walled thin septum, which is curved so that its lumen is sigmoid (Pl. XXI. fig. 18). The remainder of the post-abdomen is almost entirely formed of opaque mesoderm cells. Figure 18 represents an oblique section, and the three cavities at its upper end are spaces which were occupied by the spermatic vesicles forming the lower part of the genital mass.

Tylobranchion,¹ n. gen.

Colony large and massive.

Systems inconspicuous.

Ascidiozooids large, elongated antero-posteriorly, and distinctly divided into regions.

Test gelatinous.

Branchial Sac large and well developed. Transverse vessels provided with numerous large papillæ.

Dorsal Lamina represented by a series of languets.

Alimentary Canal large. Stomach-wall folded longitudinally.

Reproductive Organs forming a long post-abdomen.

This genus is distinguished from the other Polyclinidæ by the structure of the branchial sac. This organ is large and well developed, and it possesses numerous stigmata which vary considerably in size, but the most important point is that the transverse vessels, which are numerous and of large size, bear on their inner edges well-marked papillæ projecting into the cavity of the sac. These papillæ probably represent the connecting ducts of the Simple Ascidiæ, and if we regard the longitudinal vessels in the branchial sac of *Pharyngodictyon mirabile* as being internal longitudinal bars, then the present genus will occupy an intermediate position between that form and the other Polyclinidæ as regards the development of this part of the branchial sac. Further remarks will be found under the description of the single species.

Tylobranchion speciosum, n. sp. (Pl. XXII. figs. 1-17).

The Colony is irregularly wedge-shaped, with the larger end uppermost. The base of attachment at the posterior end is comparatively small, and from this point the colony

¹ From τύλος and βράγχιον.