

The arrangement found in *Culeolus wyville-thomsoni* is perhaps the most distinct. Here the meshes are much smaller than in any of the other species, and three distinct sizes of transverse vessels are present (fig. 14). In *Culeolus murrayi* there are two sizes, arranged alternately. In the other four species the transverse vessels are apparently all of equal calibre.

The number of folds in the branchial sac was only determined in two of the species, *Culeolus murrayi* and *Culeolus wyville-thomsoni*, and in both it was six on each side. In the other species there are several folds on each side, probably six also. The simplest form of fold is that seen in *Culeolus perlucidus*, where it consists merely of one additional bar running parallel with and attached to each internal longitudinal bar on its inner surface. The irregular secondary transverse vessels and fine longitudinal vessels found occasionally in *Culeolus recumbens* and *Culeolus moseleyi* are very interesting as showing a tendency towards the formation of stigmata. This process has gone further in *Culeolus perlucidus*, where the fine longitudinal vessels intermediate to the internal longitudinal bars divide the meshes into spaces comparable with true stigmata.

With regard to the apparent absence of spicules in the branchial sac and endostyle of *Culeolus perlucidus*, Dr. Théel informs me that in some of the Challenger Holothurids the integument has been entirely, and in others partially, decalcified, in consequence probably of some impurity in the spirit in which they were preserved. Possibly a similar process has occurred in the case of this Ascidian.

The *Endostyle* was not examined in *Culeolus perlatus*. In all the other species, ignoring the absence of spicules in *Culeolus perlucidus*, this organ is very similar. In *Culeolus murrayi*, *Culeolus wyville-thomsoni*, and *Culeolus recumbens* the greatest development of spicules is in the outer clear edge, and in the last species they are confined to that locality. In *Culeolus moseleyi*, however, though present in the clear edge also, they are more plentiful over the central opaque area.

There is nothing worthy of remark in the languets along the dorsal edge of the branchial sac.

The Tentacles.—The tentacles are very similar in all the species, and are of the ordinary Cynthiad type. In some of the larger ones, however, especially in *Culeolus murrayi*, one notices that peculiar puffing out of the lower or branchial membranous surface of the tentacle so characteristic of the organ in the Molgulidæ.¹

In three of the species, *Culeolus murrayi*, *Culeolus wyville-thomsoni*, and *Culeolus perlatus*, the number of tentacles is sixteen, and they are of two sizes, eight of each being arranged alternately. In *Culeolus murrayi*, in addition to these, there are also a certain number of much smaller ones of various sizes, and having no apparent symmetrical arrangement. In *Culeolus wyville-thomsoni* one of the large tentacles situated in the dorsal region is very much larger than any of the others. In *Culeolus recumbens* the

¹ See H. de Lacaze-Duthiers, Les Ascidies Simples des côtes de France, Arch. de Zool. expér. et gén., t. vi. p. 477. Paris, 1877.