

In the Molgulidæ and Cynthiidæ the whole wall of the branchial sac is thrown into a series of longitudinal folds running from the præbranchial zone to the neighbourhood of the œsophageal aperture. These folds project into the interior of the sac, and are directed towards the dorsal lamina (fig. 6, I.-IV. *br.f.*). They vary greatly in size and number, and in some cases are almost (*Styela grossularia*, &c.) or quite (*Eugyra*) rudimentary. They are especially well developed in the sub-family Cynthinæ, where they are often of very large size, and attain their greatest number on each side (12 or 13, in *Cynthia grandis*, Heller).

On these longitudinal folds the internal longitudinal bars are always more closely placed than they are in the spaces between the folds, and they become more closely placed the nearer they get to the crest of this fold. Hence the meshes become narrower and narrower as one passes along the side of a fold from its base to the crest. As a rule, in the space between two folds, the rows of meshes are all of the same size.

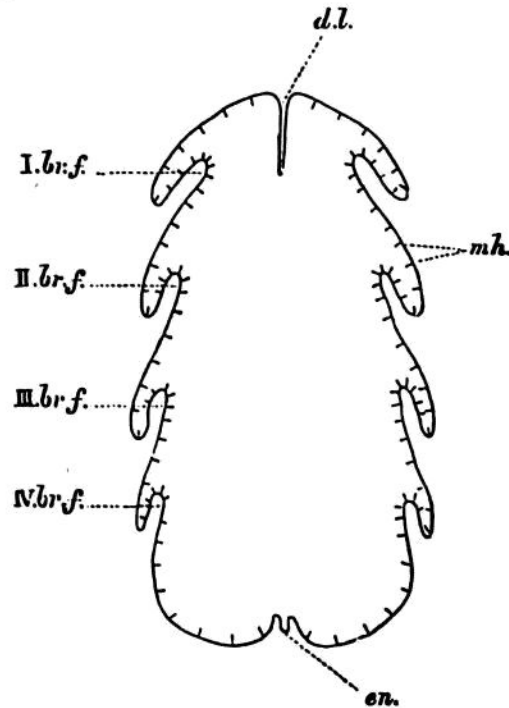


FIG. 6.—Diagrammatic transverse section of the Branchial Sac of *Styela*.  
I., II., III., IV. *br.f.*, the branchial folds; *d.l.*, the dorsal lamina; *en.*, the endostyle; *mh.*, one of the meshes.

In the Cynthiidæ the stigmata are longitudinal, and are arranged in regular rows separated by the transverse vessels, but in the Molgulidæ some of the transverse vessels usually become irregularly placed, and branch so as to disturb the regularity of the rows of stigmata. Then the stigmata themselves may become very irregular, as the interstigmatic vessels are usually curved so as to form more or less complete spirals. The different turns of the spiral are united by irregularly placed radiating vessels, thus forming stigmata of different lengths (Pl. VI. fig. 2). This arrangement of spiral interstigmatic vessels and curved stigmata is also found in the genera *Corella*, *Chelyosoma*, and *Corynascidia* among the Ascidiidæ, and attains its greatest development in the genus *Eugyra* (Pl. VI. fig. 8).