

The branchial sac has never large longitudinally running folds, such as are found in the Molgulidæ and Cynthiidæ. The system of internal longitudinal bars is always present, and is well developed. These tubes, by their intersection with the transverse vessels, form the meshes visible on the inner surface of the sac (fig. 19), and at the

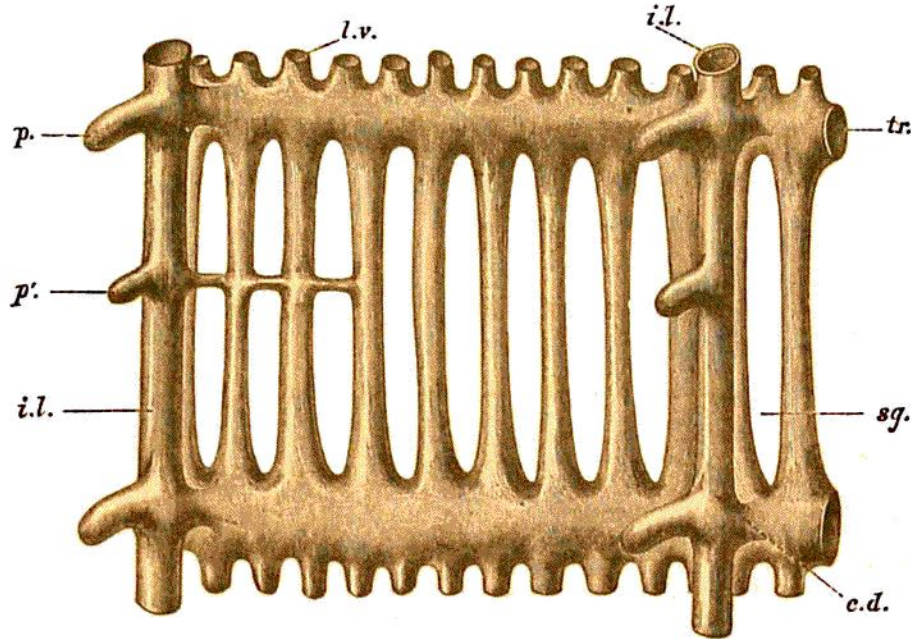


FIG. 19.—A Single Mesh of the Branchial Sac of *Ascidia*, seen from the inside.

*tr.*, transverse vessel ; *i.l.*, internal longitudinal bar ; *l.v.*, fine longitudinal vessel ; *p.*, papilla ; *p.*, smaller intermediate papilla ; *c.d.*, connecting duct ; *sg.*, stigma.

corners of the meshes the internal longitudinal bars bear usually knob-like projections or papillæ (fig. 19, *p.*) projecting into the interior of the sac. In some species (e.g., *Ascidia aspersa*, O. F. Müller, and *Ascidia styeloides*, Traustedt), these papillæ are absent, or very rudimentary ; while in other species (e.g., *Ascidia meridionalis*, Herdman, and *Ascidia*

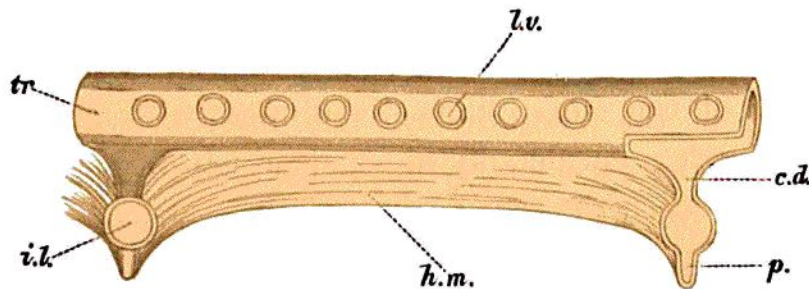


FIG. 20.—Diagrammatic horizontal section through a Mesh of the Branchial Sac of *Ascidia*, showing the interior of the transverse vessel, connecting duct, and papilla at the right hand end.

*tr.*, transverse vessel ; *l.v.*, fine longitudinal vessel ; *i.l.*, internal longitudinal bar ; *p.*, papilla ; *c.d.*, connecting duct ; *h.m.*, horizontal membrane.