

some of the species. In *Culeolus murrayi* the terminal twigs of the vessels open into large vesicles placed just below the surface of the test, and only separated from the external medium by a very delicate membrane. In several of the species there are

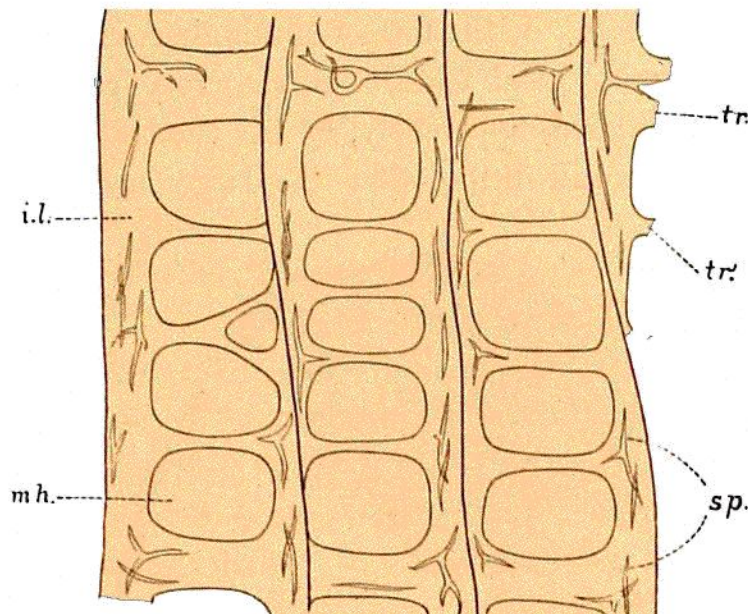


FIG. 66.—The Branchial Sac of *Culeolus wyville-thomsoni*, Herdman, from the inside; magnified about 50 diameters.
tr., large transverse vessel; *tr'*., smallest size of transverse vessel; *i.l.*, internal longitudinal bar; *mh.*, mesh; *sp.*, spicules.

thin-walled hollow papillæ or projections from the surface of the test, and these are in free communication with either the large vesicle or the ends of the vessels. This is obviously an accessory respiratory apparatus, permitting the blood circulating in the test (which when the heart contracts dorso-ventrally is impure) to be brought into such close relation with the external water as to ensure a certain amount of oxidation.¹

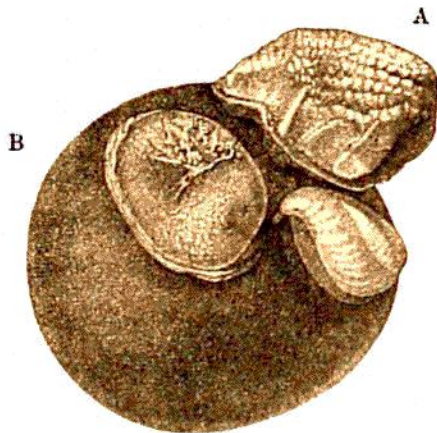


FIG. 67.—A, *Styela squamosa*, Herdman, and B, *Styela bythia*, Herdman (natural size), attached to a manganese nodule, from 2600 fathoms.

“A large number of other new species of Cynthiidae were obtained, but the only other one which cannot be referred to a known genus is *Bathyoncus mirabilis*, a form which agrees with the typical Styelinae in having simple tentacles, but differs from them in having a branchial sac of the skeleton type found in *Culeolus* and *Fungulus*. The large and well-marked genus *Styela* is remarkable on account of its very extended bathymetrical range.

Most of the species are found in shallow water, some few between tide marks; while six species in the collection are from between 100 and 600 fathoms, and two, *Styela bythia* and *Styela squamosa* (see fig. 67), both fairly typical members of the genus, were obtained at a depth of 2600 fathoms.

¹ For further details the reader is referred to the Report on the Tunicata, Zool. Chall. Exp., part xvii. pp. 93, 276.