

APPENDIX A.

DESCRIPTION OF TWO NEW SPECIES OF SIMPLE ASCIDIANS.

The two specimens described below were sent to me after the publication of the second part of this Report. They both represent new species, and are referable, one to the genus *Abyssascidia* in the family Ascidiidæ, and the other to the genus *Styela* in the family Cynthiidæ. They were found in the Southern Ocean.

Abyssascidia vasculosa, n. sp. (Pl. XI. figs. 1-6.)

External Appearance.—The body is of an elongated ovate shape, with the anterior end narrower than the posterior. It is somewhat flattened dorso-ventrally, and was probably attached by a small part of the ventral edge. The apertures are placed far apart. The branchial is anterior and terminal. It is wide and is distinctly eight-lobed. The six-lobed atrial is nearly three-fourths of the way back. It is smaller than the branchial, and is placed on a well-marked tubular projection which is directed posteriorly. The surface is perfectly smooth. The colour is a clear transparent grey.

Length, 3 cm. ; greatest breadth, 1.5 cm.

The Test is thin and easily torn. It is smooth and glistening, and is perfectly transparent. It is richly provided with vessels which enter near the posterior end of the ventral edge and branch through all parts.

The Mantle is not strong. Its musculature is confined to the right side, where it forms a close but irregular network. The muscle bands are very numerous, but are not strong.

The Branchial Sac is very delicate. The transverse vessels are all of the same size. The internal longitudinal bars are very narrow. They are joined to the transverse vessels by large triangular flap-like connecting ducts. The papillæ at the angles of the meshes are large and of irregular shape. The stigmata are large, and the fine longitudinal vessels are relatively very narrow. There are about four stigmata in a mesh.

The Dorsal Lamina is a narrow membrane with a deeply cut edge. Every fourth projection is larger than the rest, and is continued across the membrane so as to look like a languet joined to its fellows by a serrated web.

The Tentacles are very numerous and extraordinarily long. They are of two sizes placed alternately.