Salacia polygastrica, n. sp. (Pl. XXV.).

Habitat.—Tropical Atlantic; Station 338, March 21, 1876; lat. 21° 15′ S., long. 14° 2′ W.; depth, 1990 fathoms.

Corm.—The trunk of the single specimen observed had in the expanded state a length of 120 to 150 mm., and bore about eight developed cormidia, besides the same number of young and undeveloped ones in the proximal portion, beyond the apical float. The ordinate cormidia were separated by long naked internodes. The cylindrical trunk was filiform and had a diameter of only half a millimetre, but exhibited a high degree of firmness and elasticity. Although it was much contracted in the spirit bottle, it was possible, by softening it gradually with water, to make it so elastic that it could be extended to that degree which is figured in Pl. XXV. fig. 1.

Pneumatophore (fig. 1, lateral view; fig. 2, horizontal section, near the pylorus infundibuli; fig. 3, apical view, fore-shortened).—The large float is ellipsoidal, 10 mm. long, 6 mm. broad. Its apex is truncate, with a central dimple, which contains the stigma or the apical opening for the emission of gas (fig. 3, *po*). In the apical view (fig. 3) strong radial muscles (*pm*) are visible, which open the stigma; beyond them lie the circular muscles which compose the sphincter closing it. This eye-like sphincter is surrounded by a corona of eight roundish radial lobes, covered by dark pigment-granules. I could not make out the true nature of these lobes (fig 3, seen from above, and fig. 1, in profile). The uppermost part of the pericystic cavity appeared to be divided by eight radial septa into eight radial pouches opening below; but the dark pigment covering them (much richer than is represented in fig. 3) prevented their distinct recognition. The apparent septa may be only radial folds.

Pneumatocyst.—The chitinous air-flask is spindle-shaped and occupies the upper two-thirds of the float-cavity; it exhibits two openings on the two poles of its axis, the apical stigma for the emission of gas (fig. 3, *po*), and the basal pylorus infundibuli (fig. 2, *py*), through which the gas, secreted by the exodermal epithelium of the infundibulum, enters into the cavity of the air-flask. The outside of the cuticular pneumatocyst is covered by its matrix, the exodermal pneumatosac; this has an annular constriction round the pylorus (fig. 2, *py*), and forms beyond it a hemispherical cavity, the infundibulum or pneumatochone. From this arise eight radial bunches of hypocystic villi (figs. 1–3, *pv*), which fill up the greater part of the hypocystic cavity. Each villus is composed of a few colossal exodermal giant-cells (1 to 2 mm. in diameter) and of a ciliated epithelium of small entoderm cells covering them (as in Pl. XXIV. fig. 6).

Cormidia.—Each ordinate polygastric cormidium (fig. 4) is a botryoidal cluster composed of about ten to twenty siphons and gonodendra, each siphon provided with a long simple tentacle. Four to six siphons only seem to be fully developed in each