

campanulate double-walled float is filled up by the centradenia (*uc*), which passes through its basal aperture (fig. 4).

An exquisite regular octoradial structure is visible in all parts of the pneumatocyst. The central chamber (*ph*) is nearly cylindrical, with an apical stigma (*po*), and surrounded by a regular corona of eight radial chambers (*pq*), each with a stigma above and a trachea below. The deep radial furrows between these eight lobes (fig. 7, *pr*) are prolonged to the periphery of the pneumatocyst, which is divided into eight large main lobes. Each of the latter is again divided by a median incision into two secondary lobes, and these again into four tertiary lobules. Thus the entire peripheral part of the float, beyond its equator, is radially lobate. The deep radial furrows of the superior face of the pneumatocyst correspond to high prominent radial crests or lamellar pouches of its concave lower face, and from the height of these lamellar crests arise numerous tracheæ entering into the centradenia. The double wall of the concentric ring-chambers presents therefore a very large surface, by means of the strong development of these radial folds.

*Centradenia* (figs. 6 and 9, transverse sections; fig. 4, *uc*, meridional section).—The large central gland exhibits in this Porpitid a strange cylindrical form, due to the unusual development of the vertical or longitudinal axis; the latter attains 3 to 4 mm., whilst the horizontal diameter of the cylindrical centradenia is only 1 to 1.5 mm. Its middle part is constricted by the embracing inferior margin of the campanulate pneumatocyst. The radial lamellar crests of the latter fit into corresponding meridional furrows on the surface of the upper head-like part of the centradenia. The lower cylindrical part of this latter is surrounded by the corona of sexual siphons, and its circular basal face is in contact with the basal plate of the sterile central siphon. From the periphery of this plate arise eight radial canals, which are soon forked; an outer main branch runs outwards to the tentacular zone and the umbrella margin; an inner main branch ascends vertically between the convex outer surface of the centradenia and the concave inner surface of the pneumatocyst. These eight centripetal liver-canals unite in the apical pole of the central gland, and form here a regular "liver-star" (fig. 8, *cm*) they give off numerous branches, which form a network in the exodermal parenchyma of the liver; between its branches numerous bent tracheæ are visible.

*Central Siphon* (*sh*, figs. 2 and 3 in profile, fig. 4 in vertical section, fig. 5 from below, fig. 10 in transverse section).—The large central polypite has an upper pear-shaped part (stomach) and a lower cylindrical part (proboscis). Its length is, in the contracted state, equal to the diameter of the spherical umbrella, and twice as great as its greatest horizontal diameter (near the base). Its thick muscular wall exhibits eight longitudinal exodermal furrows on the outside, and eight corresponding radial entodermal folds on the inside (fig. 10). Between these folds open in the basal part the eight radial canals (fig. 9, *sf*). The distal mouth has eight radial lappets (figs. 3, 4, *so*).