

fore finish in the solid glandular parenchyma of this latter, and cannot pass through it and enter into the wall of the siphons. A small part only of the tracheæ enters into this latter. The distal ends of all tracheæ are open, surrounded by exodermal epithelia, as in the other Disconectæ. No tracheæ are found in the marginal tentacles, nor in the peripheral part of the umbrella outside the centradenia.

The margin of the pneumatocyst is circular and not lobate in the flat discoidal Porpittellidæ, whilst it is divided into numerous radial lobes in the campanulate Porpalidæ; the lobes are here sometimes small, sometimes widely prominent. Their number is originally eight or sixteen, and by furcation thirty-two or sixty-four (Pl. XLVIII. figs. 4, 5).

*Central Siphon.*—The large central polypite of the Porpittidæ is not different from that of the Discalidæ, a thick-walled and very contractile tube of very variable form. Usually it is inversely conical, its diameter decreasing gradually from the broad proximal base towards the distal mouth. Sometimes the upper half, or the stomach, is ovate and much wider than the lower half, or the cylindrical proboscis. Its transverse section is either circular or octagonal, in consequence of eight prominent radial folds. In some larger species the outer wall exhibits sixteen longitudinal folds instead of eight, and sometimes eight larger (perradial) and eight smaller (interradial) ribs alternate. To these correspond the same number of internal furrows at the inside of the siphon. These furrows lead into the basal openings of the stomach, in which the primary radial canals open (eight or sixteen). The basal ostia form a regular corona; in some larger species their number is increased, numerous secondary and tertiary ostia being intercalated between the eight primary ones. The base of the stomach is separated completely from the overlaying centradenia by the structureless solid gastrobasal plate.

*Centradenia.*—The large central gland, or the so-called “central organ” (formerly “liver”), exhibits the peculiar composition described above (p. 31). In the Porpittidæ it is much more voluminous than in the Discalidæ and Velellidæ, and occupies the whole space between the inferior face of the pneumatophore and the superior face of the sub-umbrella which bears the siphons. The central gland is largest in some lenticular or subglobular Porpalidæ, where its weight and volume are greater than those of all other parts of the body together; it is relatively smaller in the flat discoidal Porpittellidæ. The dense network of canals in the central gland is in its upper brown or blackish half composed of hepatic vessels (with biliary epithelium), in its lower green or whitish half of renal vessels (with epithelium secreting guanin crystals). The compact exodermal epithelium filling up the intervals of the canal-network contains masses of cnidoblasts and probably secretes the gas, which enters into the open distal ends of the tracheæ.

*Gonostyles.*—The numerous polypites of the subumbrella, which produce by budding the medusiform gonophores, in the Porpittidæ are not mouthless palpons as in the Discalidæ, but mouth-bearing siphons as in the Velellidæ. They are, therefore, usually called “smaller polyps, sexual polypites, or peripheral siphons” (shortly “perisiphons”). They