

*Subumbrella* (fig. 1).—The inferior, distal or basal face of the umbrella is divided into four different zones. The central zone, with a diameter of 3 to 4 mm., is occupied by the gastrobasis or the fundus of the large central siphon. The broad middle or gonostylar zone (4 to 6 mm. in breadth) is occupied by the numerous sexual siphons or gonostyles. The third or tentacular zone (2 to 3 mm. broad) bears the numerous tentacles. The fourth or outermost zone (1 to 2 mm. broad) is formed by the inferior face of the free mantle-border.

*Pneumatocyst* (fig. 1, fig. 5, *pf*).—The float, filled with air, is a flat circular disc of 15 to 20 mm. diameter. Its thickness increases considerably from the centre towards the margin, owing to the height of numerous radial folds. The form of the pneumatocyst presents a great resemblance to a regular *Fungia*, the disc being folded radially in a very regular manner. The vertical folds arise in the upper surface in eighty or ninety high radial ridges, with deep valleys between them, whilst branched radial lamellæ are prominent on the lower face.

The octoradial structure of the pneumatocyst is very distinct on its upper face, since the eight equidistant primary rays are more prominent than all the others. They arise from the septa of the eight radial chambers which surround the central chamber. The octant between every two primary folds is bisected by a secondary ray, somewhat less prominent, but also stronger than all the others. Sixteen tertiary or adradial ridges arise in the middle between the eight primary and the eight secondary rays. The other rays are developed in the peripheral half of the disc only. The total number of radial ribs is about eighty in a specimen of 15 mm. diameter, one hundred and twenty in a larger specimen of 20 mm. The most elevated part of each radial rib bears a radial series of stigmata. The number of concentric annular septa is about fifty in the former, eighty in the latter. These are wider (about twice as broad) in the middle part of the disc than in the central and the peripheral part.

The thickness of the chitinous wall of the air-chambers is much greater in the upper than in the lower face, and it increases from the periphery of the disc towards the centre. It equals in the central half of the disc the height of the air-chambers. Numerous strata of chitinous substance are here deposited as secondary supports of the disc-wall, and have closed the stigmata (fig. 1, *p*<sup>2</sup>). The conical tubercles of the surface of the disc are produced by stronger deposits at separate places (*p*<sup>1</sup>). The stigmata of the air-chambers remain open in the peripheral part of the disc only (*pe*); they are urn-shaped, very numerous, and irregularly scattered in radial rows (fig. 2, *pe*).

The lower face of the pneumatocyst, which is in close contact with the centradenia, is more strongly folded than the upper face; the folds are here ramified centrifugally, and form high triangular lamellæ, the height and number of which increase from the centre towards the periphery (fig. 1, *p*<sup>4</sup>). Eight primary radial lamellæ, arising from the septa of the eight pericentral radial chambers, are more prominent than the eight secondary