

spongy organ is a somewhat egg-shaped mass, consisting almost entirely of a delicate network of connective tissue with more or less open meshes.

The latter are rather wider in *Promachocrinus* than in any other Crinoid which I have examined. The trabeculæ forming its outer portion are much more delicate than those nearer the surface; and I have been unable to make out that they possess any epithelial covering. The surface of the organ, however, is more compact, with larger trabeculæ and generally smaller meshes. These are lined by epithelial cells, being in fact the ends of those blood-vessels forming the labial plexus which are connected with the spongy organ, mostly, if not entirely, on its ventral side (Pl. LX. fig. 5).

Some of these vessels are seen in more or less oblique section at the right end of the spongy organ of *Promachocrinus kerguelensis* (Pl. LIX. fig. 8), while the relation of the spongy organ to the labial plexus generally is well shown in the transverse and longitudinal sections through the disk of *Antedon eschrichti* (Pl. LX. figs. 3, 5). The spongy organ of this species is more compact than that of *Promachocrinus*. It is similarly situated in the space left by the incomplete adhesion of the visceral and parietal layers of the peritoneum; and it is suspended in this space by threads of connective tissue. It is practically the direct backward continuation of the labial plexus at the eastern angle of the mouth, where it is much more largely developed than on the opposite side. The relatively thick epithelial wall of the vessels gradually disappears as they enter the spongy organ; while the latter in its turn passes insensibly backwards into the plexus of vessels on the upper surface of the visceral mass, from which are derived both the inter-visceral vessels and the genital vessels of the two posterior ambulacra. The absence of an epithelial lining in the spaces of the spongy organ is very marked, although the epithelium is quite distinct in the blood-vessels which terminate therein. But, on the other hand, I have found, both in this species and in *Antedon quadrata*, that the nuclei of the connective tissue forming the trabeculæ stain very prominently, much more so than I could get them to do in *Promachocrinus kerguelensis*.

Although the simple reticular structure of the spongy organ in this latter type is limited, as described above, to that part of the labial plexus which is situated between the mouth and anus, yet the distinction between it and the remainder of the labial plexus is far less sharp than in *Antedon eschrichti*. For the vessels forming the labial plexus of this type are much more closely grouped, and have a less definite epithelial wall than is the case in *Antedon eschrichti*, so that it assumes a decidedly reticular character. This is also the case with the upper end of the plexiform gland, which retains its individuality till quite close to the mouth (Pl. LIX. fig. 9, *xv*), for it remains large and lobulated, instead of breaking up as in *Antedon*; and the connection of its reticular portion with the labial plexus at the north-east angle of the mouth is quite distinct; while at the western angle the labial plexus, though somewhat reticular in structure, is but poorly developed.