

the imperfect condition of the top of the disk in the specimens which were cut, I have been quite unable to make out many details of structure. One point, however, is of interest, and that is that there are more than five water-tubes; for there seem to be three in each interradius, and not one only as in *Rhizocrinus*. As in this genus too, there are strongly marked interradiial diverticula of the gut (Pl. VIIb. fig. 7), which are supported by the expanding processes attached to the inner faces of the third radials (Pl. VII. fig. 4a; Pl. VIIa. fig. 17).

The arms of *Bathycrinus* present no essential anatomical differences from those of other Crinoids. The food-groove which is sunk within the ventral furrow of the skeleton (Pl. VII. fig. 8; Pl. VIIIa. figs. 4, 5), instead of being some distance above it (Pl. LXI. figs. 4-6), is narrow relatively to the width of the arm, and protected by covering plates, as already described. The radial blood-vessel (Pl. VIIIa. figs. 4, 5, *b*) and ambulacral nerve (*n*) could be clearly distinguished in sections, the latter being exceedingly thin, or apparently sometimes even absent beneath the middle line of the ambulacrum.

Except at the arm-bases the water-vessel (*w*) is relatively small, being much flattened from above downwards; but the tentacles are large and bear numerous papillæ. Beneath the water-vessel, and projecting into the subtentacular canal, so as almost to divide it into two parts, is a more or less continuous band of closely nucleated connective tissue, which perhaps represents the structure marked *x* by Semper¹ in *Actinometra parvicirra* (*Actinometra armata*, Semper, MS.). At the bases of the arms the subtentacular canals are hardly traceable, their places being occupied by a complicated network of genital vessels, which are doubtless connected in the disk with the upper end of the plexiform gland, as in other Crinoids. But this plexus soon passes into a simple genital cord, as represented in Pl. VIIIa. figs. 4, 5, *gc*. It sometimes nearly fills up the small genital canal in which it lies, while there is a large and triangular coeliac canal beneath it (*cc*).

The axial cords of the rays and arms of *Bathycrinus*, like that within the stem, are remarkable for the extensive subdivisions of the branches which proceed from them. Like those within the pinnules of *Holopus* and *Hyocrinus* (Pl. Vc. figs. 2, 3, 8, *a*), they take a somewhat wavy course within the radials, as is seen in Pl. VIIb. fig. 1, *A*; while the branches which come off from them in the second and third radials are shown in figs. 6, 7, *a'*. Owing to the small height of these joints, the two dorsal branches which are usually so well defined in the Comatulæ (Pl. LXI. fig. 6) extend themselves laterally in the plane of the transverse articular ridge, while they are scarcely visible at all in the arms. On the other hand, the branches which extend upwards towards the ventral surface of the arm subdivide again and again, giving rise to a number of exceedingly fine fibrils, in the course of which bipolar, and occasionally multipolar, cells are clearly to be distinguished (Pl. VIIIa. figs. 4, 5, *a'*). This character is better shown in *Bathycrinus* than in any other Crinoid which I have yet examined.

¹ *Arbeiten aus dem zool.-zootom. Institut in Würzburg*, 1874, Bd. i. p. 261.