

rawsoni is shown in Pl. X. fig. 8. The adjacent edges of two contiguous first brachials send out short processes which meet one another and rest upon the fused muscle-plates of the two radials beneath, so as to cut off a tubular space from the body-cavity. I have found nothing like this in either of the other specimens, which have lost all the visceral mass together with the second and following brachials (Pl. X. fig. 6). The structure in question may be only accidental, or on the other hand it may perhaps have some relation to the anal tube.

The presence of the syzygy between the first and second brachials of *Rhizocrinus* renders it a matter of some difficulty to obtain entire specimens, especially of *Rhizocrinus rawsoni*. For the arms break away at this point, carrying with them the entire visceral mass. This is the condition of the individuals represented in Pl. X. figs. 1, 6, 8; while fig. 20 shows the arm-bases from the second brachial onwards, and the visceral mass which they enclose. Two of them have been removed so as to expose the simple digestive apparatus, with the oral plates around the mouth and a relatively long anal tube. The position of the genital glands in the pinnules borne by the epizygals of the third syzygial pair is also well shown.

I am strongly inclined to believe that the loss of the visceral mass and arm-bases may occur and be made good during life. This appears to have taken place in the Havana specimen represented in Pl. X. fig. 7. Small oral plates are visible in the centre at a point much below their usual level, which is seen in fig. 20; while the second brachials are so much smaller than the first that the difference is evidently due to fracture and reparation, just as so often occurs on the arms of *Pentacrinus* and *Comatula*. But in this case all the arms broke away together, carrying the visceral mass with them, so that a new one had to be developed within the ring of regenerated arms. Not much is to be seen of it, however, except the oral plates, the replacement of which is a point of considerable interest. It has long been suspected that eviscerated *Comatulæ* have the power of restoring their disks;¹ but this is the first instance of the kind that I have met with in a Stalked Crinoid.

Owing to the fact that the ring of anchylosed basals in *Rhizocrinus* was at first regarded as an enlarged top stem-joint, the affinity between this genus and *Bourgueticrinus* has been supposed to be much closer than can be admitted in the light of our present knowledge. For in some respects *Rhizocrinus* stands farther from *Bourgueticrinus* than even *Bathycrinus* does. The fossil genus *Mesocrinus*,² although still but imperfectly known, is probably nearer *Bourgueticrinus* than either of these two genera. But it appears to differ from them in the smaller size of the upper stem-joints, a point in which it resembles both *Rhizocrinus* and *Bathycrinus*. In the two best known species

¹ See Marshall, *Quart. Journ. Micr. Sci.*, 1884, vol. xxiv., N. S., pp. 525, 526.

² On Two New Crinoids from the Upper Chalk of Southern Sweden, *Quart. Journ. Geol. Soc.*, vol. xxxvii. p. 130, pl. vi. figs. 1-7.