

and the like. The general colour of the test of this species is yellowish-grey, the sutural lines of the coronal plates are distinct, and the poriferous zone and ambulacral system well defined from the ambitus to the actinostome, the ambulacral tentacles prominent, swollen, tapering, and tipped with a slight sucker, while they become pointed on the abactinal system and are much less prominent. The miliaries and secondaries of the actinal surface are more numerous than upon the abactinal surface. In a smaller specimen measuring not more than 91 mm. in diameter the difference between the tuberculation of the actinal and abactinal surfaces is not so marked (Pl. XIX. figs. 7, 8). The scrobicular area, it is true, is already covered by the swollen integument attached to the base of the spine, but there is no such striking difference as in the adult; the greater prominence of the ambulacral zone of the actinal surface, however, already exists (Pl. XIX. fig. 8). The sutures of the plates are also better defined, and the coronal plates are not yet broken up into secondary plates. The line of demarcation between the actinal membrane and the coronal plates is not so well defined, and the same is the case as to the line of demarcation between the abactinal system and the coronal plates adjoining the anal system. There is no material difference in the arrangement of the plates or of the pores, but the coronal plates of young specimens overlap but little, and the genital as well as the ocular plates (Pl. XVIII. fig. 9) are far more distinct than in the adult where the large anal plates have forced their way between them.

Thomson was the first to call attention to the peculiar structure and arrangement of the internal organs of this group;¹ the observations here recorded will supplement the earlier ones of Thomson.

The genital organs are narrow; they branch slightly, forming small clusters on each side of a long median tube. They extend not more than half-way from the abactinal system towards the edge of the test (Pl. XIV. fig. 1). The main ambulacral tube is large and specially prominent on the actinal side (Pl. XIV. fig. 2) where the ambulacral pores are closely crowded together, and the lateral tubes extending to them from the main tubes form, as has been noted by Thomson, a series of parallel tubes across the median ambulacral plates (Pl. XIV. figs. 2*a*, *a'*). These lateral tubes are finer and more distant in the abactinal part of the test (Pl. XVIII.^b figs. 10, 11) forming delicate lines merely, not visible without being magnified (Pl. XIV. fig. 1). The general arrangement of the alimentary canal reminds us of that of the Diadematidæ (see plate xxvii., Revis. Echini); but in addition we find that the mesenteries attaching it to the test form in this family (as has already been noticed by Wyville Thomson) a series of partitions in the shape of large open horse shoes, extending over the ambulacral systems and confining the loops of the alimentary canal to the interambulacral spaces (Pl. XIV. fig. 2). The extremities and edges of these mesenteries are attached to the actinal and abactinal floors by exceedingly fine threads. The whole system of horse shoes thus forms a sort of pouch, with

¹ Echinoidea of the Porcupine Expedition, Trans. Roy. Soc., vol. clxiv. part 2, plate xlvi.