many species of this family, as has been noticed by Troschel, who, however, considered the presence or absence of any fasciole as of considerable specific and even generic importance. It is evident from an examination of many specimens of this species, that we may have remnants of the lateral and anal fasciole irregularly scattered round the anal extremity either as imperfect anal fascioles or as branches of the peripetalous fasciole or as indistinct subanal and anal fascioles or remnants of the lateral fasciole.

In a young specimen measuring scarcely an eighth of an inch, and in younger stages (Pl. XX.[a] fig. 9), the anal system is placed within the peripetalous fasciole, so that the second or normal stage, as we have it in the adult, is due to the gradual passage of the anal system from this abactinal position to one below the peripetalous fasciole, and the formation of a new peripetalous fasciole inside of the anal system, and thus at one time the anal system was included within a triangular space formed by a branch of the original peripetalous fasciole, and the new base of the same turning across the odd interambulacrum between the anal system and the abactinal system.

These branches are sometimes persistent, and have been also noticed by Troschel, who, however, was not aware of their origin in *Faorina*. This secondary subanal fasciole usually disappears with age, and is not identical with the permanent subanal or anal fasciole which is formed at a later stage, while the other branch if persistent would form a fasciole above the anal system. The great variation existing in the extent and distinctness of the anal fasciole is well shown in the differences found to occur in specimens of various sizes from one and the same locality in *Hemiaster cavernosus*. It is also plain that the anal fasciole, as such, derived its origin from the peripetalous fasciole, while the subanal fasciole is formed independently, and may exist where no peripetalous fasciole is found, as in *Spatangus*, *Maretia*, and the like; and many older genera, such as *Palæotropus*, *Argopatagus*, *Pourtalesia*, and *Urechinus*.

The following description of the manner in which the young are carried in the marsupium formed by the deeply-sunken lateral ambulacra is taken from Thomson's account in the Voyage of the Challenger, vol. ii. p. 231:—"In the female, the pore-plates of the paired ambulacra are greatly expanded and lengthened and thinned out, and depressed so as to form four deep, thin-walled, oval cups sinking into and encroaching upon the cavity of the test, and forming very efficient protective marsupia (Pl. XX.[a] fig. 6 = fig. 44). The ovarial openings are, of course, opposite the interradial areas, but the spines are so arranged that a kind of covered passage leads from the opening into the marsupium, and along this passage the eggs, which are remarkably large, upwards of a millimetre in diameter when they leave the ovary, are passed; and are arranged very regularly in rows on the floor of the pouch, each egg being kept in its place by two or three short spines which bend over it (Pl. XX.[a] fig. 2 = fig. 46). Among the very many examples of this *Hemiaster* which we dredged in Accessible Bay, and afterwards in Cascade Harbour, Kerguelen, there were young in all stages in the breeding-pouches, and although