

purple and greenish pigment; and almost immediately, without any definite intermediate steps, the outer wall is filled with calcified tissue—it becomes covered with fine spines and pedicellariæ, a row of tentacular feet come into action round the mouth, the vent appears at the posterior extremity of the body, and the young assumes nearly the form of the adult. These later changes take place very quickly; but they are accompanied by the production of so much heavy purple and dark-green pigment that it is difficult to follow them. The viscera are produced at the expense of the abundant yolk; and the animals at once take a great start in size by the imbibition of water into the previsceral cavity. The young urchins jostle one another on the floor of the breeding-pouch, those below pushing the others up until the upper set are forced out between the rows of fringing spines of the pouch; but even before leaving the marsupium, on carefully opening the shell of the young, the intestine may be seen already full of dark sand, following much the same course which it follows in the adult. The size of the test of the young on leaving the marsupium is about 2.5 mm. in length by 2 mm. in width.

We took along with the last species in Stanley Harbor several specimens of a large species of *Asteracantion*, which formed a marsupium after the manner so well described by Sars in *Echinaster Sarsii*, MÜLLER, by drawing its arms inward and forward, and forming a brood-chamber over the mouth. In some samples of this species the young were so far advanced that when the mother was placed in a jar they crept out of the nursery and wandered over the glass wall of their prison; this brood had entirely lost the pseudembryonic appendages, but in their younger condition these are very apparent, though scarcely so well developed as in the young of *A. violaceus* on our own coast.

On the 27th of January, 1874, at Station CXLIX., off Cape Maclear, on the south-east coast of Kerguelen Island, we dredged