

series decreasing in size downwards, and the supply evidently coming from the genital clefts beneath. In several specimens which I examined, although by no means in all, there were groups of eggs and of young in still earlier stages, free in the body-cavity in the interbrachial spaces.

“It thus seems that in this case the true ‘marsupium’ is a portion of the body-cavity, and that the protection afforded by it is supplemented by the attachment of the young to the surface of the disk, maintained for some time after their extrusion or escape.

“The process of propagation in *Ophiacantha vivipara* differs from most of the other cases described, in the eggs being successively hatched, and the young being found consequently in a regularly graduated series of stages of growth. Although I had not an opportunity of working the matter out with the care and completeness I could have wished, I feel satisfied, from the examination of several of the young at a very early period, that in this case no provisional mouth and no pseudembryonic appendages whatever are formed, and that the primary aperture of the gastrula remains as the common mouth and excretory opening of the mature form. From the appearance of the ovaries and of the broods of young, I should think it probable that this species gives off young in a continuous series for a considerable length of time, probably for some months.

“I have selected these illustrations of the development of the young of Echinoderms from the egg without the intervention of a locomotive ‘pseudembryo’ from a much larger number. As I have already said, I cannot, on account of the unfavourable conditions for carrying on such investigations under which the majority of the species were procured, say with certainty that no trace of pseudembryonic appendages or provisional organs exist in any of these instances, but I feel satisfied that none such occurs in *Psolus ephippifer*, in *Hemiaster cavernosus*, or in *Ophiacantha vivipara*. Neither am I in a position to state that in these southern latitudes direct development is universal in the sub-kingdom. I believe indeed that it is not so; for species of the genera *Echinus*, *Strongylocentrotus*, and *Amblypneustes* run far south, and a marsupial arrangement seems improbable in any of these. It is, however, a significant fact that, while in warm and temperate seas ‘plutei’ and ‘bipinnariæ’ are constantly taken in the surface-net, in the Southern Ocean they are almost entirely absent.”

FROM HEARD ISLAND TO THE ANTARCTIC CIRCLE AND AUSTRALIA.

It will doubtless be interesting to navigators to know how the Challenger fared when cruising in the little-known region of the Antarctic and among the ice, therefore the various movements of the ship are here given in detail.

On the 8th February, at 1 A.M., a heavy sea struck the ship and stove in the two