

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' (fig. 144). The ovarian openings are, of course, opposite the inter-

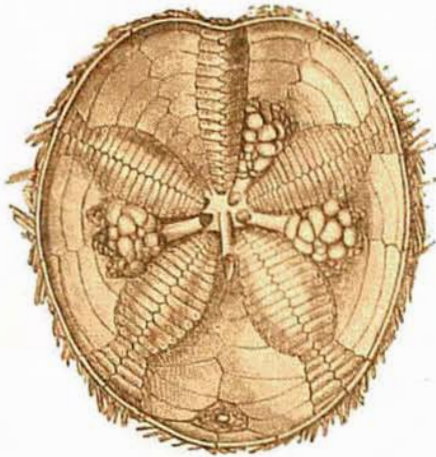


FIG. 144.—*Hemiaster cavernosus* (Phil.).  
The apical portion of the test of the female  
seen from within. Slightly enlarged.

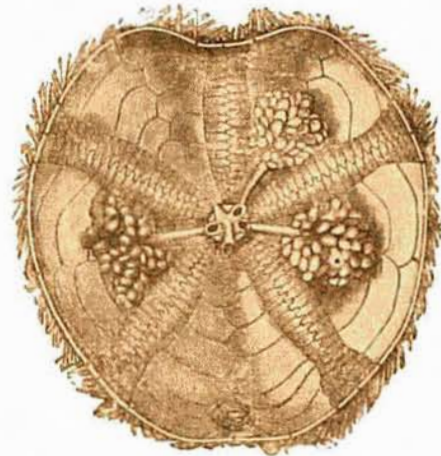


FIG. 145.—*Hemiaster cavernosus* (Phil.).  
The apical portion of the test of the male  
seen from within. Slightly enlarged.

radial 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 (fig. 146).

“ 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 from the large size and the opacity of the egg and embryo it is not a very favourable species for observation, had other conditions been favourable, we had all the material for working out the earlier stages in the development of the young very fully. The eggs, on being first placed in the pouches, are spherical granular masses of a deep orange colour, enclosed within a pliable vitelline membrane, which they entirely fill. They become rapidly paler in colour by the development of the blastoderm; they then increase in size probably by the imbibition of water into the gastrula-cavity; and a whitish spot with a slightly raised border indicates an opening which, I have no reason to doubt, is the permanent

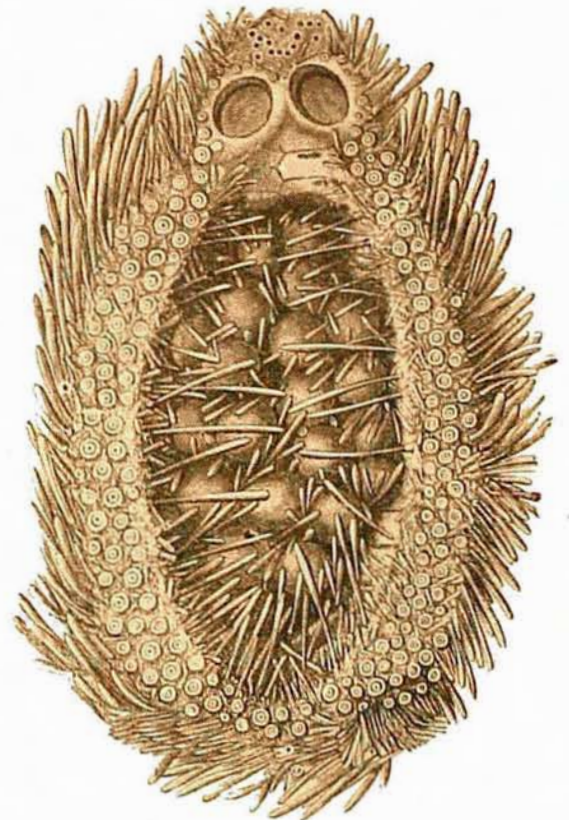


FIG. 146.—*Hemiaster cavernosus* (Phil.). The arrangement of the eggs in one of the marsupial recesses. Five times the natural size.