

of irregular form are imbedded. The oral and excretory openings are on the upper surface, a little behind the anterior border of the ambulatory tract, and a little in advance of the posterior extremity of the body respectively. A slightly elevated pyramid of five very accurately fitting calcareous valves closes over the oral aperture and the ring of oral tentacles, and a less regular valvular arrangement covers the vent.

“In the middle of the back in the female there is a well-defined saddle-like elevation formed of large tessellated plates somewhat irregular in form, with the surfaces smoothly granulated (fig. 139). On removing one or two of the central plates we find that they are not, like the other plates of the perisome, imbedded partially or almost completely in the skin, but that they are raised up on a central column like a mushroom or a card-table, expanding above to the form of the exposed portion of the plate, contracting to a stem or neck, and then expanding again into an irregular foot, which is imbedded in the soft tissue of the perisome; the consequence of this arrangement is that when the plates are fitted together edge to edge, cloister-like spaces are left between their supporting columns. In these spaces the eggs are hatched, and the eggs or the young in their early stages are exposed by removing the plates (fig. 140). At first, when there are only morules or very young embryos in the crypts, the marsupium is barely raised above the general surface of the perisome, and the plates of the marsupium fit accurately to one another (fig. 139); but as the embryos increase in size, the marsupium projects more and more, and at length the joints between the plates begin to open, and finally they open sufficiently to allow the escape of the young. The young in one marsupium seem to be all nearly of an age. In *Psolus ephippifer* the marsupium occupies the greater part of the dorsal surface, and its passages run close up to the edge of the mouth, so that the eggs pass into them at once from the ovarial opening without exposure.

“In the male there is, of course, no regular marsupium; but the plates are arranged in the middle of the back somewhat as they are in the female, except that they are not raised upon peduncles; so that it is not easy at once to distinguish a male from an infecund female.

“Although we have taken species of *Psolus* sometimes in great abundance in various parts of the world, particularly in high latitudes, southern and northern, I have never observed this peculiar modification of the reproductive process except on this one occasion.

“On the 28th of January 1876 we dredged from the steam pinnace in about 10 fathoms water off Cape Pembroke, at the entrance of Stanley Harbour, Falkland Islands, a number of specimens of a pretty little regular sea-urchin, *Goniocidaris canaliculata*, A. Agassiz.

“The genus *Goniocidaris* (Desor) seems to differ from the genus *Cidaris* in little else than in having a very marked, naked, zigzag, vertical groove between the two rows of plates of each interambulacral area, and one somewhat less distinct between the ranges of ambulacral plates. It includes about half a dozen species, which appear to be mainly