

posterior extremity of the test in a shallow groove; the test is covered with tubercles of uniform size equally distributed over the plates (Pl. XX. figs. 5, 8), except in the lateral posterior interambulacra, where the plates are comparatively bare (Pl. XX. fig. 7), as well as on the actinal surface (Pl. XX. fig. 6), where the tubercles are somewhat larger in the interambulacral areas and on the actinal plastron. The peripetalous fasciole is broad, pentagonal, with rounded corners; the anterior lateral ambulacra are longer than the posterior pair, the latter being comparatively short. The petals are all slightly sunken, the odd ambulacral petal is the longest, and its pores are double but not conjugate (Pl. XX. fig. 9).

In the apical system there are four large genital plates; the right anterior carries the madreporic body (Pl. XX. fig. 11); the bivium is separated from the trivium by two large intercalated interambulacral plates. The actinostome is placed in a slight depression formed by the sloping in of the last actinal plates of the trivium and adjoining lateral posterior interambulacra. The posterior interambulacral labium is prominent (Pl. XX. fig. 6); the actinostome is narrow, transverse, the buccal shields extending from the anterior edge occupy the greater part of the opening. The lateral petaloid ambulacra have broad, flat, triangular feet, with rounded tips (Pl. XX. fig. 22), while the suckers of the odd ambulacrum and the other ambulacra outside of the petals have simple feet with indistinct suckers. The spines are long, cylindrical at the base, and slightly club-shaped at the extremity (Pl. XX. fig. 12); from the ambitus to the actinostome they are larger, longer, and pointed, the spines of the actinal plastron are specially prominent diverging from the median line; they are spathiform and quite stout. The miliaries are short club-shaped spines (Pl. XX. figs. 12, 14, 15) similiar to those of the fascioles, only stouter, showing as plainly as possible that the spines of the fascioles are only minute miliary spines arranged in definite rows. I cannot understand why writers on Echinoderms insist continually in bringing up the relationship of the fascioles and of the vibratile chords of the *Pluteus* and *Brachiolarians*. To any one who has studied the embryology of Echinoderms, and has followed the homology of the spines, this appears utterly unmeaning. What possible relation there can be between a chord of vibratile cilia such as we find fringing certain plastrons of the *Pluteus* and the specialisation of calcareous spines remaining in a more or less embryonic stage, and arranged along certain lines which only appear after the young Sea-urchin has reached a considerable degree of development, I am unable to perceive. The intermiliary granulation (Pl. XX. fig. 13) reminds us of the intermiliary granulation of such genera as *Arbacia*, in which these granules are isolated and pass by degrees into club-shaped spines recalling the miliary spines of this species.

The suckers of the petaloid ambulacra are interesting for their close affinity to the suckers of the petaloid area of *Echinarachnius*, which form, as it were, the natural link between the fringed suckers of the petaloid ambulacra of the higher Spatangoids through