

**Cystechinus clypeatus* (Pl. XXXV.^b figs. 10, 11; Pl. XLII. figs. 15, 16; Pl. XLV. figs. 29-31).

Cystechinus clypeatus, A. Agassiz, 1879, Proc. Am Acad., vol. xiv. p. 208.

Numerous fragments of a large species of *Cystechinus* were collected, some of which were fragments of the abactinal surface with the anal system well preserved. This showed a different arrangement of plates from those of either *Cystechinus vesica* or *Cystechinus wyvillii*, both in the apical system and in those of the coronal plates of the abactinal region. The terminal coronal plates are larger and form rows, the interambulacra and ambulacra consisted evidently of fewer plates than in the other species of the genus. The abactinal system resembles closely that of *Cystechinus wyvillii*; the genital plates are, however, proportionally larger, the left anterior and the right posterior far exceeding the others in size, and extending entirely across the abactinal area, the whole central part of which is formed by the junction of the genital plates.

The madreporic body is more concentrated than in any other species of this genus, forming a sharp, well-defined triangular button on the right anterior genital plate. There are four genitals all equally developed, and, in the fragments preserved, all greatly expanded, forming huge clusters round the apical system. A piece of the actinal surface near the actinostome shows that in this species the actinal surface is more closely covered with primary tubercles than the other parts of the test. The spines are whitish, long, slender, cylindrical, somewhat curved, the shaft slightly swollen towards the anterior extremity beyond the middle. The miliaries are quite numerous, carrying short, straight, sharp cylindrical spines. Near the actinostome the primary spines are short and club-shaped, and the whole space between the primaries is thickly covered with secondary spines and short-stemmed pedicellariæ, which are large-headed, pyramidal, and rounded.

The actinal membrane and the immediately adjoining parts of the test are thickly covered with short miliary club-shaped spines. The large elliptical anal system is placed with its longest diameter vertically, and is protected by numerous irregularly-shaped plates (Pl. XXXV.^b fig. 11) carrying miliaries; the anal opening is small and placed centrally. The edge of the test adjoining the anal system is thickly covered by miliaries forming a broad band, with an indistinct outer edge (almost a fasciole) surrounding it; this band of miliaries gradually passes into the miliary tuberculation of the adjoining part of the test.

The test of this species is quite stout, judging from the thickness of the fragments preserved, and measuring similar parts of *Cystechinus wyvillii*; this species must have attained at least 200 mm. in diameter. In the specimens from the greatest depths at which this species has been found, the test is much thinner than in the fragments which are found near the 1000 fathom line.

As a general rule among the Pourtalesiæ, the test of the different species having an extended bathymetrical range varies very materially in thickness, according to the depth