

Echinidæ, of such forms as *Echinus miliaris*, but the opening of the actinostome is comparatively larger. In all the buccal plates the tentacle of one of the pairs is rudimentary or even wanting (Pl. VI.<sup>a</sup> fig. 12). The test is thin, much as in the Salmacidæ, and it has as well as the spines a silvery lustre as in *Trigonocidaris*. The coronal plates are high; the pairs of large pores are arranged in a single vertical row.

The anal system is large, but still covered with a few large plates as in all young Echinidæ (Pl. VI.<sup>a</sup> fig. 13). The genital plates are of uniform size; the ocular plates are notched in the apex of the ambulacral row, they are excluded from the anal system. The primary tuberculation of the upper part of the test extends over the genital ring. The pedicellariæ are numerous, especially above the ambitus; they are all of the large-headed slender-stemmed form. The most striking feature of this genus, however, is the structure of the spines; thus far it was mainly among Cidaridæ, Salenidæ, Diadematidæ, and Arbacidæ, that the spines differed greatly in shape, in closely-allied genera, or even in the species of the same genus. Among the Echinidæ, though we find in very young specimens marked serrations along the fluting of the spines, yet these disappear with age, forming a more or less uniform fluting in all the Echinidæ proper. In this genus, however, the spines of the test are still prominently serrated in comparatively large specimens (Pl. VI.<sup>a</sup> figs. 11, 11a), at least in specimens of a size which, in the young Echinidæ which have been examined, have all the features of the adult. In addition to the serrations they are also flattened (Pl. VI.<sup>a</sup> fig. 11a), resembling to a considerable extent some of the spines of *Salenia varispina*. What shape they assume in the adult will be interesting to discover. This genus is most interesting, as it is the first instance showing any relationship in the shape of the spines, between the genera of the Echinidæ proper, and the Cidaridæ and Salenidæ, in addition to the common structural features of the actinostome. This genus has also affinities to *Trigonocidaris* and others of the Salmacidæ as stated above.

The test is flattened, the actinal cuts are slight; there is one large primary tubercle on each coronal plate both of the ambulacral and interambulacral areas, forming in both areas very distinct vertical rows; the rest of the interambulacral plates carry small secondaries irregularly arranged round the centrally placed primary (Pl. VI.<sup>a</sup> fig. 14); in the ambulacral area the primaries are near the median line, separated from the poriferous zone by irregular arcs of secondaries. The poriferous zone is comparatively broad, the pairs of pores well separated vertically.

Station 164. June 12, 1874. Lat. 34° 8' S., long. 152° 0' E.; 950 fathoms; bottom temperature, 2·2° C.; grey ooze.

Station 218. March 1, 1875. Lat. 2° 33' S., long. 144° 4' E.; 1070 fathoms; bottom temperature, 2·1° C.; globigerina ooze.

Station 207. January 16, 1875. Lat. 12° 21' N., long. 122° 15' E.; 700 fathoms; bottom temperature, 10·8° C.; mud.