

fig. 10). This genus has, like *Centrostephanus*, ten large plates on the buccal membrane (Pl. VIII. figs. 3, 7, 11, 14, 15) carrying miliary spines.

The abactinal system is, as in the Cidaridæ, large and circular, but the genital and ocular plates are uniform in size, and form a narrow ring as in *Glyphocyphus* (Pl. VIII. figs. 4, 13) round the membrane covering, as in the Diadematidæ, the large anal system. In the genital ring of *Centrostephanus rogersi* two of the ocular plates, those adjoining the madreporic plate, are excluded from the anal system. There are in the ambulacral system, as in *Hemicidaris* and *Salenia*, two vertical rows of large tubercles limited to the ambitus and the actinal system (Pl. VIII. fig. 9), and as in other Diadematidæ the ambulacral system is broad compared to that of the Cidaridæ proper (Pl. VIII. figs. 5, 9). The interambulacral system has, as in *Cidaris* proper, only two vertical rows of large primary tubercles (Pl. VIII. figs. 5, 8). The test is globular, much as in *Amblypneustes*. The most remarkable feature of this genus is the structure of the ambulacral system; the plates composing it are, as in the Cidaridæ, small, arranged in two vertical rows, the plates are nearly of a size, and each plate is perforated by a pair of large pores placed close together (Pl. VIII. fig. 16). The pores are situated on the outside edge of the plates and run in a vertical line (not undulating as in *Cidaris*) from the apex to the actinal system (Pl. VIII. fig. 9). The primary tubercles are perforated and crenulated. The teeth are grooved as in the Cidaridæ and Diadematidæ.

In *Aspidodiadema tonsum* the slender long-headed pedicellariæ (Pl. XLII. fig. 5) are remarkable for the small triangular base of the valve (Pl. XLIV. fig. 15). The globular short-headed abactinal pedicellariæ (Pl. XLII. fig. 4) differ from those of *Aspidodiadema microtuberculatum* (Pl. XLIV. fig. 18); in the latter the valves extend into a stout, rather blunt point with smooth edges, while in *Aspidodiadema tonsum* the short valves are scalloped on the edges and terminate in a powerful hook.

**Aspidodiadema microtuberculatum* (Pl. VIII. figs. 10-16; Pl. XXXVIII. figs. 17, 18; Pl. XLIV. figs. 16-18).

Aspidodiadema microtuberculatum, A. Agassiz, 1879, Proc. Am. Acad., vol. xiv. p. 199.

This is a larger species than *Aspidodiadema tonsum* (comp. Pl. VIII. figs. 1 and 10), and is readily distinguished from it by the smaller number of miliary spines covering the test, their irregular size, and by the more numerous, shorter, stouter, dark violet primary spines carried on the interambulacral area. The colour of the test and spines of all the specimens of this species collected by the Challenger was in alcohol of a very dark violet, the same is also the case with the large specimens of *Aspidodiadema* dredged by the "Blake" during the season of 1878-79.

In the median ambulacral spaces there are no large primary tubercles, only small secondary tubercles, nearly of uniform size, placed on the inner angle of the ambulacral