

figured the teeth of another type of *Phormosoma* (*Phormosoma tenue*) on Pl. XVIII.<sup>b</sup>, these teeth differ considerably in the size of the foramen of the pyramids, and the shape and prominence of the median ridge. The jaws of *Phormosoma tenue* are proportionally more solid than those of *Phormosoma placenta*, and also broader in proportion to their height.

The plates of the actinal membrane imbricate, as do those of the test, away from the actinostome. In the abactinal system the membrane is only partly covered by the plates, leaving a marked reticulation between them; the tubercles of these plates are very indistinctly crenulate and surrounded by a broad smooth areolar space. The whole surface of the abactinal part of the test is dotted by delicate pigment (violet) spots. In the ambulacral areas these spots are closely packed round the openings for the passage of the suckers, forming a delicate ring at the base; the suckers near the abactinal region become pointed (Pl. XVIII.<sup>b</sup> fig. 12). Suckers are present on the actinal region somewhat beyond the ambitus (Pl. XVIII.<sup>b</sup> fig. 13). On the abactinal surface of a specimen measuring 168 mm. in diameter (Pl. XVIII. fig. 7), the primary tubercles are arranged on the interambulacral area in two irregular vertical rows. Towards the ambitus the tubercles are more numerous, arranged in three or four irregular rows. The secondary tubercles are irregularly arranged, increasing in number towards the edge of the test. In the ambulacral area there are two irregular vertical rows of primary tubercles, and, adjoining the ambulacral pores, on the interior edge, secondary tubercles are arranged in an irregular vertical row; these, as well as the primary tubercles, become more numerous towards the edge of the test. The primary tubercles of the abactinal region are smaller than the large primary tubercles which cover the actinal region, being really intermediate in size between them and the secondary tubercles. The pedicellariæ of the abactinal surface of the test are scattered over the whole surface of the test. They are, however, more numerous in the ambulacral area, and in the adjoining part of the interambulacral area. The pedicellariæ are long stemmed with a small head articulating with a second stem, from twice to three times the length of the head (Pl. XVIII.<sup>a</sup> fig. 11). A second kind of pedicellaria with an inverted conical head, and a comparatively stouter joint articulating upon a long stem occurs not unfrequently upon this surface of the test (Pl. XVIII.<sup>a</sup> fig. 13). They resemble those figured by Thomson for *Calveria hystrix*.

Close to the ambitus on the actinal side the primary tubercles take a great development, the scrobicular areas of the tubercles of the interambulacral and the single one of the ambulacral area occupying the greater part of a plate, but except on three or four of these large primary plates the other tubercles near the actinostome soon assume the proportions of those of the abactinal surface (Pl. XIX.<sup>a</sup> fig. 2), but they are placed close together.

The secondaries, miliaries, and pedicellariæ, are also far more numerous on the actinal side of the test, and we find there a third kind of pedicellaria with a shorter articulation