

Among the small specimens of Echinothuridæ there are a few which I am unable to refer satisfactorily to any one of the species here distinguished, and which are for the present described under distinct names, the one as *Phormosoma asterias* and the other as *Phormosoma rigidum*, both these species differing from any of the species of *Phormosoma* here described in having extremely narrow coronal plates more like the species of *Asthenosoma* allied to *Asthenosoma grubii* and *Asthenosoma hystrix*.

* *Phormosoma asterias* n. sp. (Pl. XII.^a figs. 7-9).

The only specimen collected measures 30 mm. in diameter, the whole abactinal surface both in the ambulacral and interambulacral areas is covered by primaries arranged in somewhat irregular lines along the median lines of the plates (Pl. XII.^a fig. 9) with but few secondaries or miliaries on the plates near the ambitus. On the actinal surface, as in all young *Phormosomas*, there are from two to three primary tubercles (Pl. XII.^a fig. 8) with secondary tubercles and miliaries irregularly scattered over the comparatively bare plates. The actinal membrane is as yet covered only by the ten large buccal plates with a couple of minute plates near the actinal edge of the test, the first trace of the imbricating buccal plates of older stages. The course of the poriferous zone is quite sporadic, and the limitation of the ambulacral and interambulacral areas ill-defined near the actinostome. In addition to these features the abactinal system is remarkable for the large size of the anal plates in so young a specimen, for the elongated pear-shaped ocular plates and the large triangular genital plates, some of which show traces of subdivision, as if the proximal extremities of the genital plates eventually became cut off to form a part of the anal system.

Colour of test light yellowish-red.

Station 299. December 14, 1875. Lat. 33° 31' S., long. 74° 43' W.; 2160 fathoms; bottom temperature, 1.1° C.; grey mud.

* *Phormosoma rigidum* n. sp. (Pl. XII.^a figs. 1-4).

The largest specimen collected measured only 40 mm. in diameter, and might readily pass as the young of some species of *Astropyga* were it not for the characteristic *Phormosoma* structure of the actinal surface (Pl. XII.^a fig. 3) and of the abactinal system. The poriferous zone of this species is extremely narrow, more so than in corresponding stages of other species of *Phormosoma* (Pl. XII.^a fig. 4), and it is still confined to the very outer edge of the ambulacral zone. The coronal plates of the actinal surface in both areas carry already two large primary tubercles (Pl. XII.^a fig. 3), and the areolas show a slight trace of difference of level with the surrounding test, so that the whole of the actinal surface of the test appears thickly covered with large primary tubercles much as in *Phormosoma placenta*. The coronal plates of the abactinal surface are narrow and elongated, carrying, according to their size and position, from two to three primaries (Pl. XII.^a figs.