

New Britain, a very remarkable *Astropyga* which he calls *Astropyga elastica*; unfortunately it is as yet not figured, but, judging from his description, it is closely allied both to *Asthenosoma* and to *Astropyga*; the coronal plates of the tests resembling in structure those of *Asthenosoma*, while the facies of the species and the arrangement of the spines recall *Astropyga radiata*. This species was not collected by the Challenger, but some of the young specimens of Echinothuridæ which have been provisionally named may ultimately prove to belong to this type; perhaps the young I have temporarily referred to *Asthenosoma gracile* from Stations 184 and 219. The differences to be observed in the structure of the test and arrangement of the spines in the figures of the young specimens called *Asthenosoma gracile* and the normal *Asthenosoma* and *Phormosoma* are quite striking when we compare them with the figures of an undoubted young *Asthenosoma* (*A. pellucidum*) and of a genuine *Phormosoma* (*P. tenue*).

Station 219. March 10, 1875. Lat. 1° 50' S., long. 146° 42' E.; 150 fathoms; mud.

Station 200. October 23, 1874. Lat. 6° 48' N., long. 122° 25' E.; 255 fathoms; mud.

Station 184. August 29, 1874. Lat. 12° 8' S., long. 145° 10' E.; 1400 fathoms; bottom temperature, 1.8° C.; grey ooze.

Station 169. July 10, 1874. Lat. 37° 34' S., long. 179° 22' E.; 700 fathoms; bottom temperature, 4.2° C.; grey ooze.

Phormosoma.

Phormosoma, Wy. Thom., 1874, Echin. Porcup., Trans. Roy. Soc., vol. clxiv., part 2, p. 732.

**Phormosoma tenue* (Pls. XIII., XIV., XVII.^a fig. 8; Pl. XVIII. figs. 7-9; Pl. XVIII.^a figs. 1-13; Pls. XVIII.^b, XVIII.^c figs. 5-9; Pl. XIX. figs. 7-9; Pl. XIX.^a fig. 2; Pl. XXXVIII. fig. 5; Pl. XXXIX. fig. 9; Pl. XL. figs. 29, 30; Pl. XLII. fig. 7; Pl. XLIV. figs. 19-24).

Phormosoma tenuis, A. Agassiz, 1879, Proc. Am. Acad., vol. xiv. p. 202.

In a large specimen (Pl. XIII. fig. 1) measuring 133 mm. in diameter, the primary tubercles (when seen from the abactinal side) are small and irregularly distributed over the whole of the abactinal surface both in the ambulacral and interambulacral areas; these tubercles carry slender, hollow, cylindrical spines tapering but little at the extremity, the intertubercular space is occupied by a few distant miliaries and secondaries carrying small sharp spines. Immediately on the edge of the test are seen a few of the large primary tubercles which on the actinal surface occupy the outer edge of the test and are arranged in vertical rows, diminishing very rapidly in size as they approach the actinostome (Pl. XIX.^a fig. 2). The spines of these large tubercles are cylindrical, hollow, and a few of them surmounted by a short conical hoof. These large spines are far less prominent than in such species of the genus as *Phormosoma hoplacantha*, *Phormosoma luculentum*,