

coronal plates, while in its general appearance, its colouring, and the structure of the spines it approaches *Asthenosoma tenue*. Notwithstanding that there is but a single adult specimen of this species, I have no hesitation in describing it as distinct. The colour of the test in alcohol is yellowish, the spines of the same tint, with large violet patches on the actinal surface. The special characters of *Asthenosoma gracile* are the two irregular rows of small primary tubercles in the ambulacral area extending about half-way to the abactinal system from the ambitus, and in the interambulacral areas the coronal plates near the ambitus carrying from three to four primary tubercles (Pl. XVII.\* fig. 4); while further towards the abactinal region the number of large tubercles is gradually reduced to one on every other plate. There are secondaries or miliaries loosely and irregularly arranged on the narrow plates; the interstices between the coronal plates of both areas are much as they are in *Asthenosoma hystrix*, judging from the width of the connecting membrane. On the actinal side the primary tubercles of the interambulacral area form, as they do in *Asthenosoma hystrix*, two principal vertical rows extending from the ambitus to the actinostome, the one adjoining the poriferous zone, the other in the median line; the rest of the plate is occupied by from four to seven small secondaries with a few miliaries arranged in irregular horizontal rows (Pl. XVII.\* fig. 3). In the ambulacral area the primary tubercles are small, arranged in an irregular vertical row nearer the median line, with secondaries and miliaries placed much as they are in the interambulacral zone. The actinostome of the specimen figured natural size on Plate XVII.\* fig. 1, measured 26 mm. in diameter, the abactinal system 16 mm. The primary spines are short, slender, blunt at the extremity, differing mainly in size from the shorter and sharper secondaries and miliaries. On the actinal surface, however, the spines of the actinal membrane are slightly curved and spathiform, and a few of the primary spines are also curved, trumpet-shaped, flaring at the extremity. The abactinal system (Pl. XVII.\* fig. 2) differs from that of *Asthenosoma pellucidum* in having large pointed genital plates extending into the median interambulacral space and comparatively small ocular plates, while the abactinal system of *Asthenosoma pellucidum* is remarkable for the uniform size of the ocular and genital plates (Pl. XVIII. fig. 6).

Small specimens of *Asthenosoma* from Stations 184 and 219 are referred to this species with considerable doubt. The largest of these young specimens differs more from *Asthenosoma gracile* (figured on Pl. XVII.\*) than young specimens of corresponding size differ from *Asthenosoma pellucidum*. The arrangement of the tubercles on the abactinal surface (Pl. XII.\* fig. 5) in a specimen measuring 24 mm. is such as would be found in a species of *Asthenosoma* at any rate closely allied to *Asthenosoma gracile*, although the appearance of the actinal surface is more like that of a *Phormosoma* than that of an *Asthenosoma*, and the size and position of the ocular plates (Pl. XII.\* fig. 5) is different from that of the oldest *Asthenosoma gracile* figured on Plate XVII.\*

Dr Studer (Monatsber. Berlin Akad., 1876, p. 464) has described from Great Harbour,