

Off Cebu, 100 fathoms.

Station 192. September 26, 1874. Lat. $5^{\circ} 42' S.$; long. $132^{\circ} 25' E.$; 129 fathoms; mud.

**Asthenosoma coriaceum* (Pl. XVII.^a figs. 5-7).

Asthenosoma coriacea, A. Agassiz, 1879, Proc. Am. Acad., vol. xiv. p. 201.

This is a large species allied to *Asthenosoma grubii* in having an extremely thick leathery cuticle, but readily distinguished from it by the greater height of the coronal plates; in specimens of the same size there are more than twice as many plates as on the abactinal surface of *Asthenosoma grubii*. The plates of the abactinal surface carry but few primary spines limited to the neighbourhood of the ambitus; while on the actinal surface the plates bear over a great part of the floor, long comparatively stout hollow primary spines but slightly curved and very slightly flaring, resembling more nearly the primary actinal spines of *Phormosoma* than the characteristic flaring trumpet-shaped spines of *Asthenosoma*. The abactinal surface is nearly bare; it carries but few primaries near the ambitus, and small, short, sharp secondaries and miliaries confined mainly to the outer edges of the ambulacral and interambulacral zones. With this exception the general arrangement of the tubercles both in the ambulacral and interambulacral areas resembles that of *Asthenosoma tessellatum*; the coronal plates are also more prominently pitted (Pl. XVII.^a figs. 6, 7), and towards the abactinal system, where the plates are very narrow, their presence is indicated by angular rows of pits following the course of the coronal plates (Pl. XVII.^a fig. 7). It is quite possible, as I have stated in the preliminary Report of the Challenger Echini (Proc. Am. Acad., 1879, vol. xiv. p. 201), that this may be the adult of *Asthenosoma tessellatum*, yet from the identity already clearly apparent in specimens differing far more in size in other species of the genus, both in *Asthenosoma pellucidum* and in *Asthenosoma grubii*, I am inclined to keep it distinct for the present, as in the specimens of *Asthenosoma tessellatum*, measuring 140 mm., and in one of *Asthenosoma coriaceum*, 220 mm. in diameter, there is only a difference of a few plates in the number of coronal plates, while we might expect, judging from their size, a greater difference in the number.

Station 173. July 24, 1874. Lat. $19^{\circ} 10' S.$; long. $179^{\circ} 40' E.$; 315 to 310 fathoms; coral.

Station 172. July 22, 1874. Off Nulcualofa, Tongatabu; 18 and 240 fathoms; coral.

**Asthenosoma tessellatum* (Pl. XII.^a figs. 14, 15; Pl. XIX.^a fig. 1; Pl. XIX.^b).

Asthenosoma tessellata, A. Agassiz, 1879, Proc. Am. Acad., vol. xiv. p. 201.

Only a single specimen of this species was collected; it is of a dark chocolate colour,