

are well defined and prominent bourrelets. The anal system is circular, deeply sunken at the extremity of the wide anal groove.

The only specimens of this species collected were denuded of spines. The whole test is covered by a uniform granulation much as in Pl. XX. fig. 17, formed of the primary spines with their sunken areolas, and the intertubercular space is closely covered by minute miliaries; the areolas become less sunken towards the actinostome, and the primaries are also more distant.

The ambulacral pores continue from the petals to the phyllodes in a single row, one pore to each plate placed close to the lower suture (Pl. XX. fig. 17); they are not prominent on the abactinal surface of the test.

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

SPATANGIDÆ.

Family SPATANGIDÆ, Agassiz, 1836, Prod. Mon. Rad. (*emend.*).

POURTALESIÆ.

Sub-family POURTALESIÆ, Wy. Thomson, 1877, Voyage of the Challenger, Atlantic, vol. i. pp. 376, 396.

From the analysis given of the characters of the genera allied to *Pourtalesia* proper, it becomes quite evident that we have to deal with a very remarkable group of Echinids, standing in many respects in striking contrast to other Spatangoids, while possessing at the same time affinities to other families of the Petalosticha, and thus showing a close structural relationship hitherto unsuspected between apparently widely different forms. For these reasons it has seemed best to separate this group of Echinids as a new family from the other Spatangoids, and in this I follow the suggestion made by Thomson that these species would probably form a new family characterised by their simple ambulacral system; but as I have shown this character, while well marked in *Pourtalesia*, *Paleopneustes*, *Echinocrepis*, *Cystechinus*, *Aceste*, and the like, becomes less apparent in *Genicopatagus*, *Homolampas* and *Argopatagus*; and such genera as *Aceste* and *Aërope*, are evidently more closely allied to the *Brissina* than to the *Pourtalesia*, or more properly *Aërope*, is an embryonic *Brissopsis* while *Aceste* is an embryonic *Schizaster*.

The course of the alimentary canal in the *Pourtalesia* seems quite variable. In *Echinocrepis* (Pl. XXXV.* fig. 13), after leaving the actinostome the narrow œsophagus opens into a broader alimentary canal, which extends vertically towards the apical system, turns back upon itself over the actinostome curving to the left, then sweeps in a horse-shoe round the edge of the test to the opposite side of the test where it forms a reverse loop to the left (seen from the actinal side) side of the test, and then goes straight to the anal system as a somewhat narrow intestine. The alimentary canal is supported in its place in this genus by a few thin mesenteries, and the two main loops are connected by a broad