

ambulacra the simple ambulacral pores characteristic of the genera of the Pourtalesiæ proper, such as *Pourtalesia*, *Echinocrepis*, *Cystechinus*, *Urechinus*, and *Calymne*, differ from these in having either a labiate actinostome similar to that of the normal Spatangoids, or in having a lateral fasciole in addition to the more or less rudimentary subanal fasciole found in the latter group. This second group also shows a tendency in the abactinal region to form rudimentary petals, but in these the tentacles, while passing through pairs of pores, still retain the simple character found in the Pourtalesiæ proper.

In *Aërope* and *Aceste* the odd anterior ambulacrum takes a great development, the suckers of that area occupying in one genus the greater part of the abactinal surface within the peripetalous fasciole; in the other the whole of the same space in the sloping anterior part of the test. This group of Spatangoids brings out the affinities of the Pourtalesiæ to such Spatangoids as *Brissopsis*, *Hemiaster*, *Echinocardium*, *Lovenia*, and the like.

The group of Spatangoids to which *Argopatagus*, *Homolampas*, and *Paleopneustes* belong, although it has the highly labiate actinostome so characteristic of the recent Spatangoids, is characterised by the rudimentary nature of the ambulacra and by the embryonic structure of the ambulacral and interambulacral plates, that is to say, by their uniformity in size. This is specially the case in *Argopatagus* and *Genicopatagus*, somewhat less in *Paleopneustes*, while in *Homolampas* the great difference in the size of the plates composing the ambulacra and interambulacra brings this genus nearer the typical Spatangoid in structure; in *Paleopneustes*, the closer relationship is indicated by the tendency to form more or less rudimentary petaloid ambulacra towards the apical system.

*Aërope* and *Aceste*, together with *Cionobrissus*, form a group of Spatangoids illustrating the affinities of the family Pourtalesiæ with the Brissina. In *Aërope* and *Aceste* the actinal surface of the test, while having the normal Spatangoid structure of a more or less well-developed actinal plastron, yet retains somewhat the cylindrical form of the Pourtalesiæ and the simple circular actinostome of this family. The ambulacral system, although more simple than in *Cionobrissus*, is surrounded by a more rudimentary, less distinctly defined peripetalous fasciole; and we have no trace of any anal snout which is still a prominent feature in *Cionobrissus*, and very rudimentary in the Brissina proper. The sunken odd ambulacrum of *Aceste*, the great development of the suckers of this ambulacrum in both *Aërope* and *Aceste* is a feature with which we had become familiar in young Brissina. The presence of a large anal fasciole surrounding the posterior part of the test is likewise a feature characteristic of the young of that family. In *Cionobrissus* the petaloid system is as greatly developed as in such genera as *Brissopsis* and *Macropneustes*. The affinities developed in so many directions in the group of Pourtalesiæ is one of its most interesting features; and as we have just traced the relationship of the Pourtalesiæ to the Brissina, and to such genera as *Hemiaster*, *Echinocardium*, *Lovenia*,