

this specimen to be an exaggeration of some of the younger stages (Pl. XXX. figs. 6, 7), which show a very marked tendency towards a high conical test. The specimen figured on Plate XXX.<sup>a</sup> figs. 1-5 has, like the younger stages, only one large well-developed primary tubercle on each coronal plate of the abactinal part of the test. This abnormal specimen of *Urechinus naresianus* shows how close is the affinity between *Urechinus* and *Cystechinus*, and that we may have in these genera fully as great a difference in the outline of the test as we find in any of the species of *Ananchytes* from the Chalk.

The colour of the test in alcohol varies from a dirty yellow to a dark brownish-red.

Station 146. December 29, 1873. Lat.  $46^{\circ} 46'$  S., long.  $45^{\circ} 31'$  E.; 1375 fathoms; bottom temperature,  $1.5^{\circ}$  C.; globigerina ooze.

Station 147. December 30, 1873. Lat.  $46^{\circ} 16'$  S., long.  $48^{\circ} 27'$  E.; 1600 fathoms; bottom temperature,  $0.8^{\circ}$  C.; globigerina ooze.

Station 158. March 7, 1874. Lat.  $50^{\circ} 1'$  S., long.  $123^{\circ} 4'$  E.; 1800 fathoms; bottom temperature,  $0.3^{\circ}$  C.; globigerina ooze.

Station 302. December 28, 1875. Lat.  $42^{\circ} 43'$  S., long.  $82^{\circ} 11'$  W.; 1450 fathoms; bottom temperature,  $1.5^{\circ}$  C.; globigerina ooze.

#### \**Cystechinus*.

*Cystechinus*, A. Agassiz, 1879, Proc. Am. Acad., vol. xiv. p. 207.

This genus has the facies of *Ananchytes*, and is also closely allied to *Galerites*. It has, like the latter, the test made up of plates of nearly uniform size in the different interambulacral areas, and large plates like the Ananchytidæ in the ambulacral areas, and a slightly sunken actinostome. In this genus the actinostome is less eccentric than is usual in Spatangoids, and in this respect one of the Galeritic features of the genus is strongly marked. The anal system is just below the ambitus, but it has the abactinal system of the Ananchytidæ. It, however, forms a most interesting genus, and with *Pourtalesia*, which was first described from the dredgings of Mr Pourtalès and the allied genera *Palæotropus*, *Neolampas*, and the like, shows the affinities of the Spatangoids with the Echinolampadæ.

It has, like all *Pourtalesiæ*, simple ambulacral pores. It is remarkable how the structure of so many of the Spatangoid forms is satisfactorily explained by the different genera of *Pourtalesiæ* collected by the Challenger, and how greatly the knowledge of the members of this family has helped us to understand the true relationship, not only of many aberrant groups of Spatangoids, but also their relationship to the Clypeastroids and Echinolampadæ.

In addition to the proportions of the coronal plates in the ambulacral and interambulacral areas, the rudimentary auricles, the raised edge of the actinal opening described in the following species are points specially interesting.