

to separate into distinct sub-genera on comparing such extreme forms as *Pourtalesia miranda*, *P. laguncula*, and *P. phiale* with such forms as *Pourtalesia ceratopyga* and *P. rosea*. The former group is distinguished by the extreme tenuity, almost transparency, of the test and its more or less bottle-shaped outline, while the latter group contains species with a flattened test, a triangular outline from above and a comparatively thickened test.

On examining, however, the group of *Pourtalesia* to which *Pourtalesia hispida*, *P. carinata*, and *P. jeffreysi* belong, the impossibility of maintaining this arbitrary division becomes at once apparent.

Pourtalesia hispida, while having the general appearance of *Pourtalesia miranda*, has a much thicker test, and in *Pourtalesia carinata* we have a stout test and a prominent snout, with a posterior apex, and the closer tuberculation of the group to which *Pourtalesia rosea* and *P. ceratopyga* belong. It is remarkable how great is the variation in the extent of the separation of the bivium and trivium at the apical system in the different species of the genus.

In *Pourtalesia rosea* the genital plates join the ocular plates of the bivium (Pl. XXII.^a fig. 6), in *Pourtalesia laguncula*, *P. hispida*, *P. ceratopyga*, *P. carinata* and *P. jeffreysi* the plates of the posterior lateral interambulacra extend entirely across between the bivium and trivium, completely separating them (Pls. XXII. fig. 19; Pl. XXII.^a fig. 10; Pl. XXVIII. figs. 11, 12; Pl. XXVIII.^a fig. 12).

I have to add as one of the generic characters of *Pourtalesia* the existence of a well-developed subanal fasciole, which in some of the species forms a broad band round the anal snout.

**Pourtalesia carinata* (Pls. XXVII.^a, XXXVIII. figs. 30, 31; Pl. XLI. figs. 49-52; Pl. XLII. figs. 24, 25; Pl. XLIII. figs. 20-23; Pl. XLV. figs. 46-52).

Pourtalesia carinata, A. Agassiz, Proc. Am. Acad., vol. xiv. p. 205.

This is a large species with a comparatively stout test. It resembles in outline *Pourtalesia miranda*, but is more gibbous, with a more regularly-sloping anterior extremity (Pl. XXVIII.^a fig. 2), which brings the apex more posteriorly than in that species. The greatest breadth of test seen from above is also more posterior (Pl. XXVIII.^a fig. 1). The primary spines are more numerous on the median interambulacral line of the abactinal side of the test on the anterior and on the odd interambulacra. The rest of the test is quite thickly covered with small secondary spines increasing in size towards the ambitus, and on the actinal side the keel of the plastron carries still larger primary spines on tubercles closely packed on the ridges of the line of the actinal keel (Pl. XXVIII.^a fig. 8), and also crowded on the actinal part of the anterior interambulacra and on the interambulacral plate near the anal snout (Pl. XXXVIII.^a figs. 3, 4). The greatest height of the test is posterior, the apex not corresponding with the apical system. The subanal fasciole