Arbacia of the east coast of the United States that it was intended to replace the wear of the tip of the spines in moving about, a use to which the huge curved spines of this genus, placed as they are above the ambitus, can hardly have been put, unless possibly to raise the test high above the bottom and keep it in suspension; this, however, is probably not a common use of these radioles of the abactinal surface as although slightly worn they are not sufficiently reduced to show extensive usage.

There are no notes with these specimens on their movements after they are brought up in the dredge.[1] We find as in all *Arbaciæ* the round-headed pedicellariæ (Pl. VI. figs. 17, 18) occurring near the abactinal region, while the large-headed, triangular, long-stemmed pedicellariæ (Pl. VI. fig. 16) are found along the test towards the ambitus and more abundantly near the edge of the actinal membrane. The large plates of the actinal membrane are covered by numerous short-stemmed round-headed pedicellariæ (Pl. V. fig. 2). The colour of the base of the shaft of the primary radioles is brownish, of the secondary spines many are of the same colour, but as many are of a brilliant carmine, the white part of the primary shaft, its shoe, is often banded longitudinally with brilliant vermilion or with rectangular spots of the same colour on the upper part of the shaft. In large specimens only here and there a coloured primary spine is found, while in young or smaller specimens the spines are nearly all brilliantly coloured (Pl. V. fig. 3), the glistening white shaft of the large specimens being usually of a delicate pea-green colour, which is well set off by the longitudinal bands or the spots of brilliant vermilion along the shoe, the base of the shaft being a dark greenish-brown or red. In these specimens the short flat spines near the actinal area are frequently banded and spotted like the larger ones. In small specimens the secondary spines are all coloured (Pl. V. fig. 3), and near the abactinal surface they are more or less club-shaped (Pl. VI. figs. 20, 21*d*), much like the rudimentary temporary spines of the abactinal region of the Arbaciadæ, only they are articulated and not soldered to the test as is the case in the other genera of this family.

In a specimen measuring 41 mm. in diameter, the width of the ambulacral system (Pl. VI. fig. 7) near the ambitus is as great as that of the interambulacral. In the former there are twelve primary tubercles increasing rapidly in size from the actinal opening towards the edge of the test, where there follow three to four very prominent tubercles, which are again followed by smaller tubercles rapidly decreasing in size and extending to the genital ring (Pl. VI. figs. 1–3, 5, 7). The scrobicular circles are large, and adjoining primary tubercles are separated in the median ambulacral space by

[1] Quite a number of specimens of *Cœlopleurus floridanus*, A. Agassiz, were dredged during the season of 1878–79 by the "Blake." On placing them in a pail of water I found that they used their large spines as indicated above merely to raise themselves off the bottom when disturbed, using the shorter, stouter tipped spines of the actinal surface for locomotion much as the common *Arbacia pustulosa* of the east coast of the United States. Their movements, however, were much slower than those of *Arbacia pustulosa*, which moves rapidly (see Revision of the Echini). The colour of the West India *Cœlopleurus* is quite well kept in alcohol, and I presume the same is the case for the *Cœlopleurus* collected by the Challenger, which show like the Florida species a great range and beauty of coloration.