

* *Salenia hastigera* (Pl. IV. figs. 3-17; Pl. XXXVIII. fig. 10).

Salenia hastigera, A. Agassiz, 1879, Proc. Am. Acad., vol. xiv. p. 198.

This species differs from *Salenia varispina*, A. Agassiz (Revis. Echini, pl. iii. figs. 8-14), in the closer and uniform granulation covering the abactinal system, and the more central position of the genital openings (Pl. IV. fig. 10). The primary spines are comparatively much longer, some of them equalling four times the diameter of the test (Pl. IV. fig. 3). They are more or less cylindrical, varying but little in shape. Though they are usually straight, sometimes considerably curved, they taper very gradually and are covered from the base to the tip with numerous small sharp spines closely arranged in regular rings round the shaft (Pl. IV. fig. 17). On the longest radioles the small spines are frequently worn off, the extremity of the shaft showing only a delicate longitudinal striation. The primary radioles of the actinal surface are similar to those of *Salenia varispina*, but, although flattened and with few sharp spines along the margin, are quite slender. The spines of the median interambulacral space and of the ambulacral region are short club-shaped but less variable in outline, and more slender, especially towards the abactinal region, than the corresponding spines of *Salenia varispina*. The apical system of *Salenia hastigera* conforms entirely in the arrangement of its plates with that of the normal *Salenia*, the anal system being surrounded by two of the genital plates and by the subanal plate.

In young specimens of *Salenia varispina* the anal system encroaches only upon one of the genital plates, and subsequently in older specimens the position of the anal system does not differ in the two species. In none of the specimens of *Salenia hastigera* examined, even the smallest, do we find any indications of the deep pits along the lines of sutures of the plates of the abactinal system, such as are so well-marked in young specimens of *Salenia varispina*. The madreporic body is not more prominent than in the other species of the genus; it consists of only four to six small openings adjoining one of the genital openings (Pl. IV. fig. 16). The ocular plates are proportionally longer and narrower than in *Salenia varispina*. The anal system is covered by a number of plates irregularly arranged in two to three concentric rows round the anal opening; they carry small papillæ. In a younger specimen the plates immediately round the anal opening (Pl. IV. fig. 12) are triangular, much as the plates covering the whole anal system of *Salenia varispina*. With this exception and the comparatively larger size of the ten buccal plates of the actinal membrane, the smaller specimens of *Salenia hastigera* (Pl. IV. figs. 12, 13) already possessed the characteristic features of the larger specimens. The number of primary tubercles in the interambulacral area is smaller in this species (Pl. IV. fig. 15) than in *Salenia varispina* (Pl. IV. fig. 1), in the proportion of six to eight; and in the ambulacral area at the actinostome we find only two or three large tubercles (Pl. IV. fig. 14), while in *Salenia varispina* (Pl. IV. fig. 2) they form, as in