

The test is strong and tough and quite opaque. It is, however, rather thin except at the posterior end. It is white on section.

The mantle is very thick, and has imbedded in it large pale genital glands, which from their number and appearance might almost be considered as polycarps.

The branchial sac is strong. There are four folds upon each side, and they seem to vary somewhat in size, two or three being large, as in *Styela radicata*, and the rest much slighter. The branchial sac in other characters (Pl. XLIX. fig. 10) resembles that of *Styela radicata* (cf. Pl. XXIV. fig. 7, in the First Part of the Report). The internal longitudinal bars are broad and ribbon-like. The transverse vessels are all of about the same size, with the exception of the occasional much wider ones (Pl. XLIX. fig. 10, *tr.*). In some places the sac is very irregular. The figure given shows four rows of stigmata passing first into three then into two and finally into one at the edge of the fold (*br.f.*).

The tentacles are large. The branchial aperture is so much invaginated (probably through sudden and extreme contraction) as to fill up the branchial siphon and cover completely the prebranchial zone and the bases of the tentacles. The dorsal tubercle is in the same condition as in *Styela radicata*.

In a case like the present one, where a species was described from a single specimen and then another specimen turns up afterwards which differs somewhat from the first, it is very difficult to decide whether the two should be united or considered distinct species. I think it best, taking into consideration what we know as to individual variation in Ascidians, to refer the present species to *Styela radicata*, at least until some other specimens are found which will throw light upon the affinities of the two forms. This specimen was obtained at Station 163D, June 12, 1874, Twofold Bay, Australia; lat. 33° 57' 30" S., long. 151° 39' 15" E.; depth, 120 fathoms; bottom, green sand.

*Styela pusilla*, n. sp. (Pl. XLIX. figs. 7, 8).

*External Appearance.*—The body is dome-shaped or almost hemispherical. The posterior end forms the wide base of attachment, and has a slightly expanded margin. The anterior end is convex, and the sides are alike. The apertures are both anterior, not distant, and very inconspicuous. The surface is minutely wrinkled all over so as to give it a roughened appearance. The colour is an earthy brown.

The length of the body is 4 mm., the greatest breadth of the body is 6 mm.

*The Test* is moderately thick and rather tough. It is quite opaque. The inner surface is smooth, and of a bluish-white colour.

*The Mantle* is yellow in colour, and has the musculature well developed. It is attached to the test closely at the apertures only. The bundles of muscle fibres form a close but fine network. The sphincters are strong.

*The Branchial Sac* has several folds upon each side. The transverse vessels are moderately wide and all alike. The internal longitudinal bars are not very stout. The