

with those of the American species, even to the constricted truncate aperture (Pl. XXXIV. *Fig. 11, k¹*), but they bear also free medusæ. The branches spread nearly at right angles (Pl. XXXIII. *Fig. 11*), and the whole appearance of the hydromedusarium reminds us of that little Caryophyllaceous plant, the *Spergularia rubra*. In the earlier stages of growth (*Fig. 2*) the stem is very simple; the branches arise, at intervals of about one tenth of an inch, in a spiral, and, in progress of growth, each branch gives off other branches, which are arranged in the same way. Every interval of the chitinous stem, between any two branches, is gently curved (*Fig. 6, β*), and the outlines are parallel; at the base of each there are four or five rings (ϵ); and so is it with every branch, whether it be primary, secondary, or tertiary. Each branch pursues a zigzag course, every internode trending at an angle of forty-five degrees from the previous one.

The pedicels of the hydra calyces (*Figs. 6 and 11, C*) are ringed (c^2), from base to apex, and, when fully developed, are nearly as long as the intervals of the branches. Those hydræ which terminate the branches (*Fig. 6, C¹*) are usually not completely developed, at least the pedicels are not as long as the others, and, being in direct continuation with the branches, appear as if partially ringed, whereas the smooth portion belongs to the branches proper. The calycle of the sterile hydræ varies in shape from a narrow (*Fig. 5, c³*) to a broadly campanulate (*Fig. 12, c³*) outline, but its form is more or less dependent upon the contraction or expansion of the hydra. When the calyx is empty, and left to itself, it assumes a broad campanulate form (*Fig. 12*). The rim (c^4) is even, but polyhedral (*Fig. 12^a*), and each of the twelve sides (c^5) is slightly curved inwardly. This peculiar figure is confined to the terminal fifth of the cup, whereas the remaining portion is perfectly circular in outline. At a short distance above the base of the calyx, equal to the height of one of the rings, a semi-partition (c) projects into the cavity of the bell. It is as thick as the wall of the calyx, at its margin, but thins out to a sharp edge at the border of the central hole, which occupies one fourth of its breadth. The cavity thus formed below the semi-partition, is half as deep as broad. The wall of the calyx is thin at the base, where it bears the same proportion to the whole that the shell of a fowl's egg bears to the whole egg, but it thins out gradually to the margin, where it is a mere film, and very frail and flexible. During the breeding season, the reproductive calyces (*Fig. 11, A B*) occupy the forks of the branches and of the pedicels; each one is borne on a short peduncle, consisting of three or four rings, and, when fully developed, broadens gradually upwards, and, attaining a height double that of the hydra calycle, it suddenly constricts (Pl. XXXIV. *Fig. 11*) to one third of its previous breadth, and then terminates in a slightly expanding short neck (k^1), which is about as long as two of the rings of the peduncle. The breadth