

When brought into large glass jars, in a swimming attitude, they assume, alternately, two very different positions. When at rest (Pl. XIII^a. *Fig.* 1) and floating, the umbrella is slightly and uniformly arched downward, the margin alone expanding and contracting gently, while the peduncle, with its eight arms, hangs loosely down, the ramifications of the arms being turned inward, and slightly folded together. In this condition the actinostome projects so far below the umbrella, that the holes, leading into the genital pouches, are easily seen. When more active (Pl. XIII.), the actinostome is drawn up and spread under the umbrella, in such a manner, that all the ramifications of the arms are turned outside, and present the appearance of innumerable ramifications interlocked with one another. The disk is alternately expanded and contracted, so as to assume, in its contracted condition, an hemispherical form, while in the expanded condition, Pl. XIII. *Fig.* 1, the centre of the umbrella is alone raised above the level of the peripheric part of the disk, and the margin hangs abruptly down. Pl. XIII^a. *Fig.* 6, represents this species from above, part of the outline being suppressed; Pl. XIII. *Fig.* 2, represents it from below; but, to avoid a useless multiplication of the figures, different parts are drawn in different segments, or the same parts in a different state of preservation, or in a different state of contraction, and one segment, 7, is represented as injected. In segments 1 and 2, two arms are drawn in their natural expanded condition, showing their junction near the centre, and the peculiar appendages which cover the surface of the centre, in the females. In segments 4 and 5, two other arms are represented without the delicate fringes of their margin, in order to show how the edges of the arms are soldered in Rhizostomeæ. This mode of connection extends to the very centre of the lower floor, even to the part covered by the peculiar appendages of the centre. In segments 7 and 8, near the centre, these appendages are represented as they appear in the males, *m*. Outside of these appendages, in segments 7 and 6, the chymiferous tubes are injected, in order to show their ramifications and anastomoses. In segments 8, 9, 10, 11, and 12, the surface of the lower floor is exhibited in a natural condition, but in different states of expansion and contraction. When most contracted, as in segment 8, it is marked by undulating furrows, following mainly the direction of the principal branches of the chymiferous tubes; in a less contracted condition, as in segments 9 and 10, the wrinkles are more numerous, but less deep, and do not so distinctly exhibit their relation to the chymiferous tubes, near the margin, though it is quite apparent nearer the central cavity. In segments 11 and 12, the lower floor is entirely stretched, and appears smooth. Notwithstanding the changing aspect of the lower floor, the folds described above are unquestionably determined by structural relations, and it is a significant fact, that their general disposition recalls, in the most striking manner, the ramifications of the ambulacral furrows, upon the