

the surface of their base (Pl. XIII^a. *Fig.* 5). The marginal crenulations of the disk are, no doubt, also generic. The disk is very thin along the margin, but a little further inward its thickness is suddenly increased, and that thickened portion is so furrowed as to assume a crenulate appearance (*Figs.* 6, 7, 8, 10, and 11). A comparison of our *Polyclonia frondosa* with the *Polyclonia Mertensii* of Brandt, leaves no doubt that the species of the Gulf of Mexico differs from that of the Pacific Ocean. Plate XXII. of Mertens shows that, in the species of Ualan, the lasso-tentacles are of an enormous size, in comparison to those of our species, and are more uniformly distributed upon the whole lower surface of the arms, to their very tips, though the largest are about the centre, while in *Polyclonia frondosa* they are chiefly clustered upon the base of the tentacles, and only a few of them are found between their branching ramifications. The arms of *Polyclonia Mertensii* seem also to be more slender, and longer than those of *Polyclonia frondosa*, and the marginal crenulations of the first, more distinct and isolated than those of the latter. The color of *Polyclonia Mertensii* is represented as a uniform yellowish brown, the lasso-tentacles alone being white. Our species, on the contrary, has brighter hues, the prevailing tint being a grayish blue, passing, sometimes, into olive color, and sometimes into yellow, with lighter broad rays trending radiatingly in the direction of the eyes. At some distance from the margin there is a broad circle of a different tint, sometimes slightly marked, at other times quite distinct, with concentric bands of different tints, varying in different specimens from light gray to bluish gray, or yellowish gray to paler or darker blue and purple. The whole upper surface of the disk is adorned with minute epidermal wrinkles or folds, radiatingly reticulate.

Whether *Polyclonia*, contrary to what I have observed in *Aurelia* and *Cyanea*, survives for a long time the period of breeding or not, I am unable to state from direct observation; but this much is certain, that, while adult specimens of *Polyclonia frondosa* were found in the greatest abundance upon the reef of Florida, I occasionally noticed, floating near the surface of the water, small *Medusæ*, varying from a quarter to half an inch in diameter, which, owing to a general resemblance to our *Polyclonia*, I was led to consider as the young of this species. They presented the same distribution of color, and the same unusual number of eyes, which in itself distinguishes this genus from all the other *Acalephs* of the American coast. There is, therefore, every probability that these young *Medusæ* were young *Polycloniæ*. But if this is truly the case, these young are highly instructive, as showing the great resemblance there is between the *Rhizostomeæ* and *Semæostomeæ* in the earlier periods of their growth; for, in the smallest of the young, the mouth was wide open, as in the young *Aurelia* (Pl. XI^a. *Fig.* 18), the whole oral apparatus consisting in a broad funnel, with an entire margin, of a somewhat quadrangular