opening exhibits ventrally a scale, or several little scales, which afford the support for the ventral opercular scales. The operculum consists of eight triangular pointed scales with broad, spiny bases; it is distinctly bilateral. The two dorsal pieces of the operculum are the largest and cover with their edges the next smaller dorso-lateral scales, these again the ventro-lateral ones. The small ventral pieces are most deeply placed. The calyx scales are very characteristic. From the nucleus, which is always somewhat concentrically placed, rough prominences radiate to the edges. These are frequently produced into short spines, and are sometimes united into thorny ribs which run out into spines on the upper edge of the scale. *Caligorgia flabellum* (Ehbg.), and *Caligorgia compressa*, Verr., show the highest degree of development, while more delicate forms still remind one of *Plumarella* in the structure of the scales.

The growth of the colony is intercalary. New calyces arise on the inside of the base of the old ones, so that first at the base of one whorl a new whorl begins to be formed, which through further growth of the internode gradually moves away from the first.

The enumeration of the species here depends upon the development of the calyx scales; the first to be mentioned still exhibit an approach to the genus *Plumarella*.

1. *Caligorgia sertosa*, n. sp. (Pl. XIV. fig. 2*a*; Pl. XXI. fig. 9).

The slender upright stem gives off branches on two sides in alternating series; these remain simple and bear whorls of always four calyces. Each whorl is separated from the next by a wide interspace. The small calyces, 1·5 mm. long, bear four longitudinal rows of broad scales, of which only two are visible from the dorsal side. There is only one ventral scale on the edge of the calyx, the remainder of the ventral area is naked. The operculum is bilateral, its ventral scales very small, half covered by the lateral ones. When they are laid together the operculum forms a sharp cone over the obliquely truncated mouth-opening.

The little colony, unfortunately broken into several pieces, resembles in habit *Sertularia abietina*. The stem, of which the base is wanting, ascends straight up to a height of 210 mm. Its diameter reaches 2 mm. at the beginning; at 20 mm. from the apex it is still 1 mm. Its transverse section is at the commencement cylindrical, but becomes oval from the place where the branches come off. These first begin at a height of 70 mm. They are simple, unbranched, and arise in alternating series at distances of 10 to 11 mm. on one side. They come off from the stem at angles of nearly 45°, their greatest length reaches in the middle of the colony 45 mm.; towards the apex and the base they gradually decrease in length. Polyp calyces are placed solitary on the last third of the stem, but they form on all the twigs successive whorls of four polyps. The whorls are separated from one another by an interspace of 1 mm. The calyces are small, cylindrical, somewhat thickened towards the mouth-opening; their length reaches 1·5 mm.