

5. *Caligorgia flabellum* (Ehrenberg) (Pl. XIV. fig. 2).

*Prymnoa flabellum*, Ehbg., Corall. d. roth. Meeres, p. 134.

*Gorgonia verticillaris*, Esper, Fortsetz. d. Pflanzenthier, i. p. 156, pl. xlii.

*Xiphocella esperi*, Gray, Cat. Lithophytes Brit. Mus., p. 36.

*Caligorgia verticillata*, var., Gray, loc. cit., p. 35.

*Calicella elegans*, Gray, loc. cit., p. 37.

*Caligorgia flabellum*, Studer, Monatsber. d. k. preuss. Akad. d. Wiss. Berlin, 1878, p. 646, Taf. ii. fig. 13, a, b.

The species was founded by Ehrenberg for a Primnoid which the Berlin Museum had received with the Gerresheim collection. The species is not difficult to distinguish from others, especially from *Caligorgia verticillata* (Pall.). The axis of the main stem and of the main branches are compressed; this circumstance gave Gray occasion for the formation of his genus *Xiphocella*. The twigs come off at sharp angles on both sides of the stem and branches in alternating series. The number of cells forming a whorl varies; on the thicker branches there are eight, on the thinner six calyces, on the thin terminal twigs only four. Gray figures such terminal twigs under the name of *Calicella elegans*. The generic character which should separate *Calicella* from *Caligorgia*, namely the dichotomous ramification of the branches, exists here to as slight an extent as in any Gorgonid. The length of the polyps reaches up to 1 mm. They have four longitudinal rows of spicules, which cover the dorsal and lateral sides of the calyx; the ventral side is naked, only at the edge of the oral disc there are several small scales developed.

The operculum consists of eight scales, of which the ventral ones are the innermost and smallest. The form of the spicules is very characteristic. The calyx scales are broader than high, the prominences are elongated into sharp spines, which project from the surface of the calyx and form sharp projections on the edge. Length to breadth in mm. —0.23–0.35; 0.28–0.47; 0.26–0.33; 0.3–0.4. The opercular scales are large, the prominences up to the edge are produced into spines, and the lateral edges are toothed. A median keel is present in the dorsal opercular scales, which reach up to 0.7 mm. in length; the lateral ones attain a length of 0.5 mm. with a base of 0.25 mm.; the ventral ones 0.4 to 0.12. With these forms of spicules those of the type specimen of Gray's *Calicella elegans* agree.

The Challenger collection contains only a few branches, which in accordance with the structure of the calyx scales must be referred to this species. Their twigs are very robust and the calyces large and well developed; six to eight calyces form a whorl. The species has been obtained from Japan, Formosa, and the western part of the Indian Ocean. The Japanese specimens have the spines on the scales more strongly developed than those from the Indian Ocean or than those from the original specimen described by Ehrenberg.