

calyces the spicules consist of three-rayed stars, with intervals between the points of the rays of 0.21 and 0.25 mm.

The foliar expansions of these spicules are chiefly two, which form an acute angle with one another, and have a height of 0.2 and 0.13 mm. The colleret is formed of curved roughened spindles of 0.26 mm. in length, and 0.04 mm. in breadth; those forming the operculum are flat, with marginal branching spines, truncated at one extremity, and more pointed at the other; 0.47 in length and 0.07 mm. broad. The axis is horny, brown, not longitudinally striated, slightly flattened on the stem portion, it is flexible in the slender branches, and soft. The colour of the stem in spirits is brown. The oral regions of the polyps are of a violet hue, owing to a corresponding coloration of the spicules of the colleret and of the opercular region.

*Habitat.*—Station 232, the *Hyalonema*-ground, Japan; depth, 345 fathoms; bottom, green mud.

2. *Acamptogorgia alternans*, n. sp. (Pl. XXIII. fig. 6; Pl. XXVII. fig. 4).

The colony consists of a low and slightly branched little stem, 90 mm. in height, somewhat flattened, which gives off branches on both sides, at angles of from 70° to 80°, which are again furnished with simple unbranched twigs. The branches either go straight off from the stem, or bend after a little upwards, and then proceed parallel to the principal stem. The length of the largest branches is 50 mm.; of the simple branches 15 mm. The diameter of the chief stem at its base is 3 mm.; of the larger branches 1.5 mm. The terminal branches become thickened towards the apex up to 2 mm. in diameter. The cœnenchyma is thick and rough. The polyps are sparsely scattered on the stem; they are more closely placed on the branches and twigs; they stand at right angles to the stem, at opposite sides, in alternating series, and at intervals of from 1 to 1.5 mm. At the apices they are closely crowded. The form of the polyp calyx is that of a blunt cone. The diameter of the base is 1 mm., the height 1 mm. The opercular region is low and conical. The spicules of the cœnenchyma and polyps are alike, as in the former species. In the cœnenchyma they are more spiny, and there are curved spindles, frequently with foliar prominences. Length 0.3; 0.21; 0.4 mm., with a diameter of the spindle of 0.06; 0.08; 0.023 mm. In the calyx there are triradiate spicules, with the third ray shortened, and with a bifoliar appendage with dentate margins; the rays measure 0.33; 0.38; 0.3; 0.16 mm.; height of the foliar expansions 0.16; 0.25; 0.22; 0.23 mm.; long diameter of an expansion 0.16; 0.25 mm. The colleret contains long curved spicules with few spines, of 0.5 mm. in length, and 0.04 mm. in breadth, and 0.46 long by 0.044 mm. broad. The opercular spicules are flat, spiny, armed at one end with smooth projections, towards the other they are more pointed; they are 0.39 mm. long by 0.06 mm. broad.