

spindle narrows abruptly before its apex and then gives origin to a sharply marked off process, which is sometimes bent at an angle. Often also the point of the spicule is bent, hook-like; further, one end may be rounded off or both ends may be blunted. The spindles are thickly covered with small warts, which stand out straight and whose surfaces are again covered with minute spines. Usually these are less thickly placed than in the spicules of the preceding species. Size, 1.6 by 0.12; 1.0 by 0.25; 1.6 by 0.14; 1.6 by 0.12; 1 by 0.183; 1 by 0.125; 2 by 0.13 mm. Spicules having an average length of 1 mm. predominate, hence they may be easily seen in the cœnenchyma even with the unassisted eye.

In the calyces the spicules are spindle-shaped and rounded off at the basal end, and stand vertically or obliquely upon the cœnenchyma. They usually project from the base to the margin of the calyx, and form eight not very distinctly separated groups. They measure 0.8 to 1 by 0.125 mm. The tentacular operculum is always composed of eight series of from two to three converging spindles, lying in the base of each tentacle. Beneath these there is a well-developed colleret of bent spindles. All these are covered with short, sharp, not very thickly set spines. The spicules of the colleret measure 0.67 by 0.067; 0.75 by 0.075 mm.; those of the tentacular operculum, 0.36 by 0.05; 0.358 by 0.05 mm.

The axis is horny and flexible, in the thicker parts of a horny brown colour, in the thinner parts yellowish. The colour of the cœnenchyma and of the calyx is shining coral-red, that of the tentacular operculum yellow.

This species may be distinguished from the foregoing even on external examination. The secondary branches are usually ramified and arise at more acute angles. They also exhibit the pinnate arrangement less distinctly than in the preceding species, where they come off straight and are frequently unbranched. Moreover the difference in the thickness of the twigs and branches is slight, while in *Muricella perramosa* the secondary branches and the twigs are much more slender than the branches. The ramification in *Muricella nitida* is relatively closer; the calyces stand further apart and are more concentrated on one surface of the colony. The spicules of the cœnenchyma are on an average larger and recognisable even with the unassisted eye.

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

Verrill's specimen is from Ebon Island, in the Central Pacific, south-west of the Ralik group.

*Muricella gracilis*, n. sp. (Pl. XXV. fig. 7).

The colony forms a thin, delicate little stem, ramified in one plane and rising from a conical, encrusting base. One can distinguish an ascending main stem, from two sides of