

The conules are larger, polygonal, and plate-like; a central style rises from the middle of some of them—the remains of a bud stalk (Pl. XLIV. fig. 2). The corners of the conular plates are either confluent with those of adjacent plates, or united by short united rounded ridges; the pore-sieves lie in the deep depressions between the conules. Only one bud remains attached, and that is situated on the side of the oscular eminence. It measures 6 mm. in length and 4 mm. in diameter, and is supported by a stalk 5 mm. long, which appears to be continued through it, projecting for 4 or 5 mm. distally beyond it. Its surface is smooth, and a section shows the presence of a thick fibrous cortex, apparently not differentiated into two layers, but containing spherasters. There is no sign of an oscule.

From the scarred surface of the conules and comparatively large size of the only bud remaining attached, it would appear that some time had elapsed since the sponge produced its last crop of buds; it is therefore with interest that we find the choanosome abundantly crowded with ova, which occur throughout it in all regions alike (Pl. XLIV. figs. 4–6). Each ovum lies in a cavity of the choanosome, corresponding in shape with itself, but of much greater dimensions, a difference no doubt due to the contraction which occurred on placing the sponge in spirits. The wall of the cavity is lined with epithelium, and between this and the ovum occurs a finely granular film, sometimes adherent to the ovum, sometimes to the wall, or sometimes partly to both; this appears to be a coagulated albuminous substance (Pl. XLIV. fig. 6, *alb*). The ovum is oval, about 0.075 by 0.063 mm. in length and breadth, with a well-defined darkly stained outer wall (vitelline membrane?); finely and evenly granular contents, and an excentrically placed, deeply staining, round nucleus, 0.0075 mm. in diameter. The including cavity measures 0.095 by 0.138 mm. in length and breadth.

The general anatomy of both specimens is similar, the intercortical cavities are well developed; and in the characters of the choanosome and canal-system there is no divergence from the structure of the typical species, *Tethya lyncurium*.

*Tethya japonica*, n. sp. (Pl. XLIV. figs. 7–14).

*Sponge* (Pl. XLIV. figs. 7, 8).—Spherical, attached, conules rounded, gemmiferous. Pores in sieves leading into extensive intercortical cavities (Pl. XLIV. fig. 11). Oscule not visible. Cortex differentiated into an outer and inner layer.

*Spicules*.—I. Megasclere. 1. *Strongyloxea*, of the usual form, 1.51 by 0.026 mm.

II. Microscleres. 2. *Cortical spheraster*, actines oxate, simple, numerous; centrum 0.035 mm. in diameter; total diameter of spheraster 0.067 mm.

3. *Somal* and *choanosomal chiaster*, similar, actines cylindrical, tylote; 0.0118 mm. in diameter.

*Colour*.—Greyish-white.