

*Stannophyllum radiolarium*, n. sp. (Pl. I. figs. 2A–2C).

*Habitat*.—Station 271 ; depth, 2425 fathoms ; bottom, Globigerina ooze.

Sponge with a thin, homogeneous, whitish, flabelliform or reniform leaf, in the basal margin of which a long slender pedicle is inserted. Distal margin hemielliptical, integral. Surface finely granular, without concentric zones and without ribs. Skeleton composed mainly of siliceous Radiolarian shells. Spongin-fibrillæ between them very thin and delicate, many isolated, others aggregated in small bundles.

*Stannophyllum radiolarium* is the most delicate and fragile among the species here described, differing from the others mainly in the composition of the pseudo-skeleton ; this is composed almost entirely of siliceous Radiolarian shells, between which a scanty maltha is developed, including the spongin-fibrillæ. These are less fully developed and thinner than in any of the other species, and run for the most part isolated or in very small bundles (composed of four to eight fibrillæ, rarely twelve to sixteen or more). The diameter of the fibrillæ is usually between 0·001 and 0·002 mm., often less, rarely more (0·003 to 0·005 mm.).

*External Form*.—The colour of this species in the dry state is whitish or light yellowish grey. The thickness of the thin and delicate leaf is only 1 to 1·5 mm. (more rarely 2 to 2·5 mm.); its diameter is usually between 30 and 50 mm., and the length of the slender pedicle is about the same. The semicircular margin of the leaf is integral. The two parallel surfaces are nearly smooth, quite even, pierced by very small pores, without concentric zones and without ribs. In the elasticity and consistence of the dry leaf this species is intermediate between *Stannophyllum zonarium* and *Stannophyllum pertusum*. It is connected with both species by transitional forms. The dermal pores are smaller than in the latter, and its finely granular even surface distinguishes this species at once.

*Xenophya*.—The pseudo-skeleton of this species is a fine collection of Radiolarian shells. The majority of the numerous species of Spumellaria and Nassellaria, which are found in the ooze of Station 271, are to be found aggregated in the skeleton of this delicate sponge, connected by a small quantity of clear maltha, and separated by the numerous thin spongin-fibrillæ, which form a rather regular network between the branches and in the meshes of the symbiotic Hydroid.

*Stannophyllum pertusum*, n. sp. (Pl. I. figs. 3A, 3B).

*Habitat*.—Station 271 ; depth, 2425 fathoms ; bottom, Globigerina ooze.

Sponge with a broad, reniform or flabelliform leaf, in the basal margin of which a slender triangular pedicle is inserted. Distal margin semicircular, with numerous