tuberculate discohexacts, numerous discohexasters, in which each of the short simple principal rays bears four long terminals. These become gradually thicker towards the exterior, and finally end in a small compact transverse disc. The size of these discohexasters varies from 0·05 to 0·1 mm. in diameter.

The dermal membrane contains pentacts with rudiments of a sixth distal ray. The four tangentials end in a rough terminal knob, while the longer proximal radial is usually pointed (Pl. XCIX. figs. 3, 4).

Gray's original specimen is said to have been brought from Malacca (?). O. Schmidt obtained his forms from St. Lucia, West Indies, from a depth of 116 fathoms, and from lat. 23° 1′ N., long. 83° 14′ W., from a depth of 190 fathoms.

3. *Dactylocalyx (?) patella*, n. sp. (Pl. C.).

The completely macerated dictyonal framework displayed in Pl. C. fig. 1, probably belongs to a cup- or platter-shaped sponge, with walls at least a finger's-breadth in thickness. The tissue consists of an anastomosing network of tubes of very different calibre, varying from 2 to 4 mm. in width, and running in a generally radial or slightly curved course. As to the structure of the natural bounding surface nothing certain can be said.

The beams of the dictyonal framework, which form a network with approximately square or more irregular meshes, are moderately strong and quite smooth. Only the conical bosses projecting radially into the lumen of the canals or beyond its free bounding surface are beset with small pointed tubercles.

Since no loose spicules were found, it must remain somewhat doubtful whether the generic designation is correct.

Some specimens of this species were obtained by the Challenger Expedition off the coast of Portugal, others to the south-west of Bermudas, from a depth of 1075 fathoms, and coral mud ground.

Genus 2. *Scleroplegma*, O. Schmidt (Pl. CI. figs. 1, 2).

From the diagnosis which the author of this genus has given in his Spongien des Meerbusens von Mexico, p. 56, it unquestionably follows that the genus should be ranked in the family Mæandrospongidæ, Zittel. It seems to me doubtful, however, whether all the forms referred by O. Schmidt to this genus were really *Scleroplegmata*. On the contrary, from his own description, I am forced to conclude that his *Scleroplegma lanterna* and *Scleroplegma herculeum* belong to another set of forms. But with this I have not much to do, since I have not been able to examine the original specimens of these two species. I have, however, a half specimen of *Scleroplegma conicum*, Schmidt, which