

In the first place, slender sword-shaped hexacts occur in great numbers. In these both the prolonged ray and the four rectangularly intersecting transversals are smooth, and terminate in a truncated point, while the sixth ray opposite the former is thickened in its middle portion, and beset with outwardly-directed prongs. I am inclined to believe that these sword-shaped hexacts represent the hypodermalia of the dermal skeleton, and that they bore on their distal ray those floricoles which were found here and there, though indeed very much scattered, and which are figured in a fragment in Pl. XII. fig. 7. This floricole form is distinguished by the small number (three to five) of the terminal claws, and by a peculiar median outward bending of each of the six terminal rays borne by each principal.

Four different forms of rosette also occur. In the first place, discohexasters in which each principal bears four terminal rays, slightly bent in an S-like manner; these terminal rays increase in thickness towards the exterior, and bear terminally a large hemispherical terminal plate, with small marginal teeth (Pl. XII. fig. 2). In the second place, discohexasters with four straight terminal rays, each of which bears on its unthickened extremity a deep campanulate terminal disc whose margins are divided into parallel pointed teeth (Pl. XIII. fig. 4); thirdly, discohexasters half the size of the above, in which each of the principal rays bears a bundle of from twenty to thirty thin terminals varying in length, and terminating in small four-pronged transverse discs (Pl. XII. fig. 6); and fourthly, graphiohexasters with a bundle of very fine somewhat diverging raphides, which are borne on the discoid terminal expansion of each principal ray (Pl. XII. fig. 5). As somewhat loose parenchymalia, the scattered simple hexacts and diacts with central intersection nodes are to be noted.

The reference of this sponge to the Euplectellidæ, and to a position somewhere in the neighbourhood of *Tægeria*, I base upon the character of the main skeletal framework, and on the great abundance of sword-shaped floricole-bearing hexacts, which doubtless belong to the dermal skeleton.

Perhaps the variety A of Oscar Schmidt's *Rhabdodictyum delicatum*¹ is identical with my *Dictyocalyx gracilis*, as is suggested by the figure,² and the short but very apposite description of the framework which Oscar Schmidt has given in the words: "an airy wall arises from a thick pillar-like base." I would also have accepted O. Schmidt's designation for this Hexactinellid, had the name selected by O. Schmidt appeared to me to be more suitable for his variety B, to which his description (especially of a peculiar rosette) chiefly refers. This variety B is likewise included in the Challenger material, and will be immediately described.

¹ Spongien des Meerbusens von Mexico, p. 46.

² *Loc. cit.*, pl. vii. fig. 3a.