sized principals and terminals of equal length, such as occur so abundantly in *Aulocystis zittelii*, are here wholly absent. On the pentact dermalia the proximal radial ray is much drawn out. St. Vincent, West Indies.

Species 2. *Aulocystis zittelii*, Marshall.

Pear- or egg-shaped form, from the size of a hen's egg to that of a man's fist. The system of anastomosing thin-walled tubes, as thick as a finger, exhibits a central main passage, or two may be present. From the latter, simple or slightly branched anastomosing tubes radiate outwards, and between these there is an irregular system of wide anastomosing intercanals. The whole system of tubes is covered externally with a thin smooth enveloping capsule, which at the end of the principal passage and lateral tubes exhibits cleft-like or irregularly stellate apertures, while the portions of the capsule above the intercanals consist of a more uniformly porous plate or skin, through which the water enters the sponge. The dictyonal framework supporting the walls of the tubes seems to be very regularly constituted, and consists of beams with pointed tubercles, enclosing meshes usually exactly square or cubical. They are united by nodes of intersection, which are so surrounded by strong beam-like oblique buttresses, with tubercles but without axial canal, that the edges formed from the latter are the edges of a regular octahedron. The direct continuations of the beams within the octahedron are weakly developed and smooth, but provided with axial canals. The loose parenchymalia include small, somewhat regularly formed, oxyhexasters, various discohexasters, isolated delicate graphiohexasters, and in certain regions long oxydiacts with central swelling. The ordinary form of discohexaster is that with medium-sized principals and almost equally long terminals, and more rarely that form with short principals and long delicate terminals, or that with short principals and long strongly developed terminals, with thick terminal discs or knobs. The dermal skeleton consists, like the gastral, of oxypentacts, with rough ends to the rays. There is almost always a rudiment of the atrophied sixth ray represented by a small rounded tubercle. Philippines; West Indies; Little Ki Island, 140 fathoms.