

of rigid skeleton uneven and excavated. Oscula, pores and expansile dermal system unknown. Skeleton stratified, forming a series of expanded crypt-like spaces. Fibre cylindrical, incipiently or minutely spinous. Interstitial spicula numerous, acerate, large and long, variable in size, disposed in lines at right angles to the stratification in loose fascicula of two to four or five together. Retentive spicula spinulo-multifurcate, hexradiate, stellate."

The surface of the rigid skeleton exhibited a series of square or irregularly angular areas, the angles of which were occupied by *thin perforated* angle plates with their inner margins curved, so that, when combined, they left a large circular or oval orifice in the middle of each space. The mass of the oval sponge itself he found to consist of a series of thin sinuous skeletal plates, not more than one-third of a line in thickness. In sections of the rigid skeleton at right angles to the surface of the sponge, he found that "it was formed of a series of crypt-like layers of skeletal fibre, each layer forming as it were a distinct and extensive crypt-like space, with short, stout, cylindrical pillars with gradually expanded bases and capitals, the intervening portions of the shafts of the columns being irregularly studded with acutely conical incipient spines."

The two excellent figures which Bowerbank has appended to his description (*loc. cit.*, pl. xxiii. fig. 8. and pl. xxv. fig. 1), show more clearly than the description itself that the knots of the rectangular meshes of the beam network are perforated in a manner quite similar to the fossil *Ventriculites*. They exhibit in the interior a delicate hexradiate axial cross, but consist externally of siliceous strands, which correspond to the margins of a regular octahedron. This, too, was definitely stated by Carter in his description of the Hexactinellida in 1873.<sup>1</sup> "*Myliusia grayi*, both in generic form and structure, has many distinguishing characters, especially that which consists in an octahedral lantern-like appearance of the joints produced by the vitreous fibre stopping short of the joint, and proceeding thence directly on from one arm of the hexradiate spicule to the other, so as to leave the centre intact and visible through the interstices."

An exhaustive and accurate description of this *Myliusia grayi*, Bowerbank, was given by Carter in 1877.<sup>2</sup> Here he describes it as follows:—"General form hemispherical; general appearance enteromorphous or cerebriform, sessile, consisting of tortuous anastomosing tubular canals or passages separated by equally tortuous labyrinthic intervals. Tubular canals or passages now terminating on the surface in round patulous or long tortuous gutter-like openings. Surface of tubular passages, both externally and internally covered with a dermal layer of small sexradiate spicules, whose horizontal arms, overlapping each other, form a continuous quadrilateral meshwork. Internal or body structure of the wall of the tubular passages composed of lozenge-shaped or lantern-like knots of vitreous fibre applied end to end, three or more layers deep, thus forming a laminate mass of trapezoids united to each other at their angles in successive rows, with

<sup>1</sup> *Ann. and Mag. Nat. Hist.*, ser. 4, vol. xii. p. 365.

<sup>2</sup> *Ann. and Nat. Mag. Hist.*, ser. 4, vol. xix. pp. 106-131.