

extremity, from which project numerous fascicles of siliceous threads. The sponge body is of a light brown hue, and rigid to the feel. Its surface exhibits an intricate interlacement of the sponge tissue, which appears mainly composed of stellate, siliceous spicules of various sizes. The coarser spicules of the surface have five rays. Four of these together are irregularly cruciform, while the fifth projects in a direction opposite to all the others. They appear to be so arranged that the crucial rays interlace with those of the contiguous spicules forming a lattice-work on the surface of the sponge, while the odd ray opposed to the others penetrates the interior of the sponge. The finer tissue, seen through the intervals of the latticed arrangement on the surface of the sponge, appears to be made up in the same manner of finer stellate spicules. Some of the longest stellate spicules of the surface have a spread of half an inch.

“The fascicles of siliceous threads projecting from the body of the sponge are upwards of twenty in number, and over 2 inches in length. They resemble in appearance tufts of blonde human hair. The individual threads are nearly like those proceeding from the lower end of *Euplectella*. Where thickest, they are less than the $\frac{1}{200}$ of an inch in diameter, and become attenuated towards the extremities. At first, as they proceed from the body of the sponge, they are smooth and then finely tuberculate. The tubercles are gradually replaced by minute recurved hooks, which become better developed approaching the free end of the threads, which finally terminate in a pair of longer opposed hooks, reminding one of the arms of an anchor. The objects of the tufts of threads, with their lateral hooklets and terminal anchors, would appear to be to maintain or moor the sponge in position in its ocean home.”

Without knowing of these publications by Leidy, Wyville Thomson had in 1869 given a detailed and thorough account of a sponge designated *Holtenia carpenteri*, several specimens of which he had collected to the north-west of Scotland, from a depth of 530 fathoms in the course of his deep sea investigations in the “*Lightning*.” The form of these specimens, which were about as large as one’s fist, was “globular, elliptical or subcylindrical.” A spacious and tolerably smooth central cavity, half the diameter of the sponge, diminishes superiorly to a round space of perfectly uniform breadth, while from the closed under side a tuft of numerous individual clusters of tolerably long, bow-shaped siliceous spicules doubtless rooted in the sand, runs out in a radial direction. On the lateral wall, and most abundantly near the upper surface, long radially directed spicules project freely, while the boundary of the wide superior osculum is formed by a compact wreath of vertical spicules measuring about 1 cm. or more in length. Both on the outer and inner surfaces of the tolerably firm cup-shaped sponge body, a firm rind is formed of strong compact siliceous spicules which lie in the skin, and are grouped together in stellate fashion, while the parenchymal mass itself is penetrated by a system of numerous cavities and canals. The siliceous spicules which penetrate and cover the entire organism resemble generally those of *Hyalonema*. The