

*Habitat.*—Cape York, Torres Strait; depth, 3 to 11 fathoms.

*Distribution.*—King's Island, Mergui Archipelago; coast of Burmah.

*Remarks.*—The single specimen of this sponge in the Challenger collection is a conical segment of a more or less rounded sponge, with an apex corresponding to the centre of the sponge, the sides to the radiating spicular fibres, and the base, which is more or less flattened, to the outer surface of the sponge; it measures 12 mm. in radius and 12 mm. in width across the base. It would appear therefore to have been torn away from a specimen which was somewhat larger than that described by Carter. Carter's specimen, however, is complete, and this may account for the greater length of the triænes given in his measurement, though it will not explain the larger size of the oxeas. The general characters of the spicules in the two specimens are, however, so similar that, notwithstanding this, I have not felt justified in creating a separate species for the Challenger specimen.

The ectosome varies from 0·16 to 0·27 mm. in thickness, and consists of collenchyma, the matrix of which stains with hæmatoxylin, and the collencytes of which are not usually visible; small fusiform cells occur in it, especially where it adjoins the choanosome, and pigment-cells are closely scattered through it, they are round or oval in outline, about 0·08 mm. in diameter, and contain numerous darkly coloured pigment-granules enclosed within a distinct cell-wall. Most of the megascleres of the sponge are arranged in radiating fibres, but a few lie loosely scattered tangentially in the ectosome. I have not been able to satisfactorily determine the characters of the choanosome. They appear to be somewhat abnormal. The flagellated chambers appear to be somewhat small, about 0·0276 mm. in length. I could not discover the manner of their communication with the excurrent canals, but they do not present a eurypylous appearance. The mesoderm appears to be generally granular, but a number of vesicles, about 0·0118 mm. in diameter, are scattered through it; they contain an oval, protoplasmic, deeply-stained, nucleated body; with these occur less frequently pigment-cells; in places this tissue passes into one wholly composed of the vesicular cells, separated by a framework composed of small fusiform cells, which run in one general direction, curving on each side of the vesicular cells; not more than one fusiform cell lies between two vesicular cells as a rule.

The megascleres, as previously stated, are chiefly arranged in spicular fibres, but the ectosomal orthotriænes are separately distributed throughout the ectosome, within which they are entirely immersed. From Carter's illustrations they have much the appearance of calthropides, though Carter himself terms them zone-spicules. This suggests several interesting questions, for the solution of which slices showing these spicules in their true orientation are necessary. These I readily obtained by adding Canada balsam to the paraffin used for embedding, which thus acquired great toughness, and by cutting the