

in other *Euspongia* the primary fibres run usually more or less parallel to one another, here they show a very pronounced tendency to ramify; the spaces between them and their secondary, but still vertically directed, branches being filled with an irregular network of fibres originating also from the primary ones, but in a more or less horizontal direction. The average basal diameter of the primary fibres is 0.1 mm., that of the tertiary only 0.03 mm. The latter, in contrast to the primary fibres, are in most cases quite free from foreign enclosures. This variety is a connecting link between *Euspongia officinalis* and *Cacospongia mollior*, and may be classed in the species last mentioned with the same right as in *Euspongia officinalis*.

Colour.—Outer surface pale greyish, parenchyma colourless, fibres straw-yellowish.

Habitat.—Bahia, shallow water.

Hippospongia, F. E. Schulze.

Spongidæ with fine skeletal fibres and small meshes, the fibres admitting of no distinction into primary and secondary ones; distinguished by a system of canals permeating the body in all possible directions.

Hippospongia anomala, n. sp. (Pl. VII.; Pl. VI. fig. 2).

This species is represented in the Challenger Collection by a single but very large specimen 350 mm. broad, 200 mm. high, and 40 mm. thick, drawn of the natural size, but in a bent position on Pl. VII. For its characters, common to the whole genus, I refer to the diagnosis in the foregoing paragraph. The character distinguishing it from other species of the genus is a property which renders its grouping in the genus *Hippospongia* rather disputable. I mean the presence of quite distinct primary fibres directed obviously towards the outer surface, on an average four times as thick as the others, and absent only in the skeleton supporting the thin membranes covering the lacunæ immediately under the outer surface. It must be said that the terminal skeletal processes of a *Hippospongia equina*, when seen with the naked eye, show within them certain streaks perpendicular to the outer surface; but these streaks and the fibres in question of my *Hippospongia anomala* are quite different things, the last-mentioned being really nothing but single fibres thicker than the others, the first-mentioned being composed of many fibres and differentiated from the surrounding parts of the skeleton by the fact that the network formed by the fibres is here more compact than elsewhere. The appearance is therefore only an optical illusion; at any rate the property in question distinguishes my species readily from all others of the genus, but does not, however, decide the question whether it really belongs to the genus *Hippospongia*. Still I am of this opinion. As regards the rigidity of the skeleton this specimen is, indeed, allied to *Cacospongia mollior*; but apart from distinctions concerning the presence of the system of canals