

their whole extent, and, in spite of my endeavours to discover any initial or further stages in their development, I find these oval bodies enclosed, though differing in size but always with precisely the same external appearance. I believe they belong to some low plants.

Colour.—Outer surface black, parenchyma dirty yellowish-grey, skeletal fibres brownish-yellow.

Habitat.—Off Barra Grande, September 10, 1873; depth 400 fathoms, red mud.

Cacospongia amorpha, n. sp. (Pl. VI. fig. 5).

The properties of the skeleton of this species recall those of *Euspongia officinalis*, var. *lobosa*, as regards the tendency of the primary fibres to ramify, but the fibres, both primary and secondary, are comparatively far larger, as are also the meshes formed by them; one might illustrate the difference between these two forms by comparing them to a bush and a tree.

The species is represented by two specimens, one of a massive stout appearance, the other 100 mm. high by about 20 mm. thick, of roundish outline in the upper part, and flatly compressed near the rather extended bases. The outer surface is denticulated by prominent primary fibres forming conuli of 1 mm. on an average, and 3 to 5 mm. distant from one another. In many instances the membrane between the conuli is not homogeneous but sieve-like, the pores being very conspicuous. All the primary fibres are overcharged with foreign bodies, this property rendering them of irregularly angular outline; some of the secondary fibres are devoid of any enclosures, others on the contrary being more or less covered with sand-grains, fragments of spicules, &c., and often a fine secondary fibre shows an extension in its middle, owing to the presence of a sand-grain many times larger than the diameter of the fibre itself. It may also be added that, as in *Hircinia variabilis* according to F. E. Schulze,¹ the primary fibres in my *Cacospongia amorpha* show a tendency to form meshes.

Colour.—Outer surface grey, parenchyma butter-like, skeletal fibres pale brownish-yellow.

Habitat.—Bahia, shallow water.

Cacospongia murrayi (Pl. IV. fig. 3; Pl. VI. fig. 8).

It is really very agreeable, after such a bad species as that just described, to pass on to the description of such a *bona species* as *Cacospongia murrayi*. The single specimen on which this species is founded is represented on Pl. IV. fig. 3, the skin of one part being stripped off. The external surface is smooth throughout, and is represented by a rather thick dermal membrane, which, owing to the great number of foreign

¹ *Zeitschr. f. wiss. Zool.*, Bd. xxxiii. pl. iii. fig. 1, 1880.