

difference with regard to the structure of the skeleton; in *Oligoceras collectrix* the skeleton is represented by small isolated horny trees, and there are parts in the body where no skeleton is to be found at all; in the species I am describing it is present everywhere, but though a continuous network, is very often interrupted by large, enclosed, foreign bodies. The skeletal fibres are full of fragments of spicules, sand-grains, &c.; their form, whether cylindrical or flat, as well as the size of the meshes formed by them, is very variable. A portion of the skeleton ($\times 2$) is represented on Pl. VI. fig. 13. The thickness of its fibres, vertical and horizontal indiscriminately, varies from 0.06 to 1 mm.

Colour.—Outer surface greyish, parenchyma butter-yellowish, skeletal fibres white.

Habitat.—Station 208, January 17, 1875, lat. $11^{\circ} 37' N.$, long. $123^{\circ} 31' E.$; depth 18 fathoms, blue mud.

Cacospongia compacta, n. sp. (Pl. VI. fig. 11).

The external shape of the single specimen representing this species in the Challenger collection recalls that of *Euspongia officinalis*, var. *lobosa*, but of course this coincidence is of no further consequence, the form in question showing the closest affinities to *Cacospongia oligoceras* just described. There are, however, the following distinctions: the meshes in the former are comparatively large; in the latter they are so very narrow that the whole skeleton at first sight appears to be a compact mass (comp. Pl. VI. fig. 11); in both cases the horny substance is scantily developed, the chief foundation of the skeletal fibres being represented by foreign enclosures, but while the fibres of *Cacospongia oligoceras* and its whole skeleton are friable, those of *Cacospongia compacta* are rigid and hard. Again, when a fibre of the former is seen under the microscope, it gives the impression that the taking in of foreign bodies has been influenced by the kind of growth of the fibre; they are disposed in it as if following certain laws of distribution, and although overloaded with them, the fibres still possess a rather smooth surface. It is a strained expression to speak of differentiated skeletal fibres with regard to *Cacospongia compacta*; a portion of its skeleton when magnified conveys the impression as if there were previously some sand-grains disposed in the parenchyma without any order, and these sand-grains were latterly enveloped in a continuous mass of horny substance. Here a large sand-grain, and immediately as a continuation of this thickening a short piece of a typical horny fibre without any enclosures, finishing again with a new similar thickening.

We are hitherto in complete uncertainty as to the systematic value of the colour of the horny substance in these and other cases. But if it be of consequence, this character alone would justify the separation of both the forms compared; in *Cacospongia oligoceras* it is colourless, while in the species I am characterising it is of an intense yellow colour.