

here they are visible also when covered with soft parts, so that the outer surface of the sponge is distinguished throughout by small conuli 0·2 to 0·33 mm. high, the average distance between them being 1 mm.; but it differs both from *Coscinoderma lanuginosum* and *Coscinoderma confragosum* with respect to the character of its surface, which has no special superficial incrustation, the skin not differing from that of *Euspongia* or *Cacospongia*, and the manner in which the fibres form meshes. As in most other Spongidæ, the meshes are here polygonal, although still formed by fibres all of the same size—on an average 0·042 mm., i.e., almost three times as thick as those of *Coscinoderma confragosum*—a new character distinguishing this species both from *Coscinoderma lanuginosum* and *Coscinoderma confragosum*. The average size of the meshes is 0·25 mm. In external shape the specimen representing this new species in the Challenger collection is in the form of a crust, but with local thickenings 10 mm. in height. In contrast to the Challenger specimen of *Coscinoderma confragosum*, which shows a very well developed osculum, no oscula can be discerned on the surface of this specimen.

Colour.—Soft parts pale greyish, skeletal fibres brownish-yellow.

Habitat.—On the reefs Honoruru, Sandwich Islands; depth 40 fathoms.

Coscinoderma altum, n. sp. (Pl. V. figs. 4–6).

This species is a good species also, provided of course that the genus *Coscinoderma* be good. The meshes of the skeleton, as in the species just described, are of polygonal outline, but on an average twice as large, the fibres themselves being one and a half times as thick. Unlike all other representatives of the genus hitherto known, the fibres are abundantly charged with foreign enclosures, so that they appear of a rather dirty-white colour. Again, the external appearance of the sponge itself is novel, and is perhaps not devoid of systematic importance. While in the two preceding species we have had to deal with forms either incrusting or massive, *Coscinoderma altum* is found in the form of a long cylindrical stalk with rounded upper end 230 mm. high and about 18 mm. broad, with denticulated outer surface, the prominences 0·75 mm. high and 2 mm. apart being however rather blunt, and the skin itself presents the same appearance as that of *Aplysina aërophoba* as drawn by F. E. Schulze.¹ The specimen contained numerous Morulæ, and I make use of this opportunity in order to turn attention to a peculiarity which, in a still higher degree, I have very often observed in *Cacospongia* and *Euspongia*, as mentioned in my paper "Ueber die Spermatogenese bei *Sycandra raphanus*," but which, as far as I am aware, is hitherto undescribed. I mean the extraordinary growth of the endothelial cells surrounding the growing embryos. They do not differ in size from other parenchyma-cells when young, but as they grow they do not become like the pavement-cells, but increase both in area and volume. Again, when surrounding a Morula

¹ *Zeitschr. f. wiss. Zool.*, Bd. xxx. pl. xxi. fig. 1, 1878.