

horny sponges do really belong to the Keratosa, that, *e.g.*, *Dysidea antiqua*, Carter,¹ from the Carboniferous system, is really a horny sponge and not a worm-tube or something of that kind, in a word, should we feel certain that Keratosa is a palæontologically old group, of course we should regard *Hippospongia*, *Euspongia*, &c., as representing each a subgenus, and pay but little attention to the existence of forms like *Velinea gracilis*, Vosmaer, or my *Cacospongia intermedia* conditioning the *circulus vitiosus* above mentioned. But this is precisely the question to be answered; it is but too possible that Keratosa is a very recent group, and in this case the many-sidedness of their affinities may be explained by their very high variability, in which case only specific and varietal importance must be ascribed to the characters we regard now as of subgeneric or even generic value. Prof. F. E. Schulze established a new genus *Oligoceras*; he told me that all specimens of his *Oligoceras collectrix* were found between stones in a position which renders the presence of a special supporting skeleton superfluous; it is to be asked whether the loss of this latter is immediately realisable or not. It is, in one word, necessary to express more or less approximatively the proportion between the stability of these and other characters and their mutability, *i.e.*, their faculty of conforming to existing influences. His genus *Hippospongia*, F. E. Schulze characterises by the presence of numerous channels, *i.e.*, cavities breaking through the body of its representatives in different directions. That this property is due to the necessity of enlarging the outer surface is perfectly clear; it is again to be asked whether this character can be adopted in a short space of time. Mr. Carter established a genus *Coscinoderma*, but with the diagnosis he gave² to it in his last paper the genus is not adoptable: "Sieve-like incrustation, composed of foreign bodies uniformly foraminated and continuously spread over the surface, whose evenness is not disturbed by the usual polygonal projection of the subdermal fibre. Fibre fine, woolly." Should we follow it we should have this genus represented but by the single species *lanuginosum*. I widened the diagnosis and described as *Coscinoderma* also *Coscinoderma altum*, characterised by comparatively thick skeletal fibres, in most cases cored with foreign enclosures. The type-specimen of *Coscinoderma* possesses very fine fibres, all of the same diameter; the skeletal fibres of all *Cacospongiæ* are thick, and usually overloaded with foreign bodies; they admit, however, of the distinction of primary and secondary ones. *Coscinoderma altum* has thick fibres cored with foreign bodies, but all its fibres are of the same size. Ought I to class the form in question in the genus *Coscinoderma* or in that of *Cacospongia*? Ought we to ascribe to the differentiation of the fibres into primary and secondary ones a higher systematic consequence than to their equal size? The reader who has perused my description of the Challenger specimens will find there such alternatives at every step. And to sum up, so long as we possess no statements as to the stability of the characters of the horny sponges we shall have no natural arrangement of them. There

¹ *Ann. and Mag. Nat. Hist.*, ser. 5, vol. i., 1878, p. 139.

² *Ibid.*, February 1884, p. 129.