Zittel are not the Tetractinellida of Marshall, this change in termination is both justifiable and convenient; Vosmaer's Tetractina is, however, anticipated by my Choristida.

The examination of the material brought home by the Challenger served to deepen my conviction of the close relationship of the Choristida and Lithistida, and since the researches of all other naturalists who have made a close study of these two groups have led them to similar views,[1] I shall retain both the name and the group first proposed by Marshall.

The Tetractinellida are not by any means all provided with tetractinose or even triæne spicules. Triæne spicules though present in many Lithistids are absent from more; and some sponges which may fairly be included in the Choristida (*Placospongia* for instance) are equally devoid of them, and also of tetractine spicules.

The triæne spicule also is far more characteristic of the group than the tetraxon, and thus it would be quite as appropriate to term it the Triænellida as the Tetractinellida. This, however, is not a matter of any importance, and as to the absence of triænes and tetraxons, such cases are remarkably rare in the Choristida; and though much more common in the Lithistida (whole families being without these spicules here), yet as the whole of this order is bound together by the constant presence of the desma, and since the ancestral forms from which all the others have descended are characterised by both triænes and tetraxons, or tetraxonid desmas, the term can be appropriately used, just as Monaxonida may for a group which includes Sponges (Ceratosa) without Monaxonid spicules.

There is one serious inconvenience attaching to the presence of Sponges in the Choristida which do not possess either triæne or tetraxon spicules, for these make it impossible to frame a short definition which shall include them along with the rest; they find no acknowledgment in the definition here adopted for the Tetractinellida, and my apology for this is two-fold; in the first place it is not absolutely certain, but only highly probable, that they are degenerate Tetractinellid forms, so that in including them in the group I have attached to them a query, and in the next place if they are truly immediately descended from the Tetractinellids, it may still, as a matter of convenience, be permitted to refer them to the Monaxonids, since they actually are Monaxonid, than to destroy the simplicity of our classification; their phylogenetic descent may be left to be indicated by genealogical trees.

These remarks open up the whole question as to the views which should guide us in framing a classification; at present it appears to be generally admitted that a system of classification should be founded rather with reference to the blood-relationships of organisms than to the mere sum of their resemblances and differences in structure. With regard to the higher forms of life there is everything to be said in favour of this view, the more especially since a strictly morphological and a phylogenetic classification

[1] O. Schmidt, Spong. Meerb. Mexico, p. 13, 1879; Döderlein, *Zeitschr. f. wiss. Zool.*, Bd. xl. p. 69, 1884.