

calcareous Sponges, and that as regards the most distinctively sponge-cells they possess, viz., the choanocytes. For, as Haeckel has shown, these are comparatively large in the Calcarea and small in the Plethospongiæ; I have proposed, therefore, to use this character, which is more fundamental than that derived from the spicules, as a means of classification, naming those Sponges which are provided with comparatively large choanocytes Megamastictora (*μαστίκτωρ*, *ὁ*, the scourger, a fanciful term for a flagellated cell or choanocyte), and those with comparatively small choanocytes Micromastictora.<sup>1</sup> The Megamastictora contain only a single subclass, the Calcarea, the Micromastictora are subdivided into three, the Hexactinellida, the Demospongiæ, and the Myxospongiæ. Lendenfeld,<sup>2</sup> agreeing that the Sponges are subdivisible into two groups, which he terms subclasses, proposes to follow Gray, naming one Calcarea, and the other Silicea.

The Megamastictora may be defined as Sponges in which the choanocytes are comparatively large, from 0·005 to 0·009 mm. in diameter, and in which the embryological development is marked by an amphiblastula stage. The Calcarea are Megamastictora possessing a skeleton of calcareous spicules.

The Micromastictora are Sponges in which the choanocytes are comparatively small, not exceeding 0·003 mm. in diameter, and the embryological development is characterised by a blastula or planula stage.

The subdivision of the Micromastictora is a subject on which there is general agreement among spongologists up to a certain point: thus it is generally admitted that the Hexactinellida form a very natural group, which may be sharply separated from the rest of the class; but a difference of opinion exists as to the most convenient mode of classifying the remainder, which constitutes by far the larger portion of the class; Vosmaer and Lendenfeld propose two orders—the Spiculispongiæ and Cornucospongiæ, according to Vosmaer, or the Chondrospongiæ and Cornucospongiæ, according to Lendenfeld.

Vosmaer's classification will be better understood by giving the following short abstract:—

Class I. Porifera non-calcareæ (equivalent to our Micromastictora).

Order I. Hyalospongiæ (identical with the Hexactinellida: the term Hyalospongiæ is a synonym).

Order II. Spiculispongiæ. Skeleton rarely absent, when present consisting of independent spicules, which may be united by interlocking as in the Lithistida, or into a fibre by organic substance.

Suborder I. Lithistina (identical with our Lithistida).

<sup>1</sup> Sollas, *Zoological Record*, vol. xxii., Spongiæ, p. 13, 1886.

<sup>2</sup> Lendenfeld, *Proc. Zool. Soc. Lond.*, 1886, p. 573 (1887).