

Gray's modification of this classification in 1872 is by no means an improvement, but notwithstanding numerous alterations the distinctness of the Placospongiadæ from the Geodiadæ is maintained.¹

Carter in 1875 (*loc. cit.*) regarded the Geodiidæ as a subfamily group of equal value to the Stellettidæ and Tethyina (our Tetillidæ), these three groups together constituting the family Pachytragidæ, Carter. The genus *Placospongia* was removed from all association with the Geodiidæ and placed in the subfamily Donatina, Carter, belonging to the Suberitidæ. In 1880² I adopted Carter's group Geodina, but included in it *Placospongia*, a Sponge which I probably had not then seen, and was clearly not well acquainted with. In the same year Carter³ justified the association of *Placospongia* with the Suberitidæ on the ground that it possesses tylostyles and spirasters; subsequently Carter⁴ proposed a new group, Placospongina = Placospongiadæ, Gray, adding that "in spiculation" it unites the two groups "Suberites" and Geodina. Vosmaer does not include *Placospongia* in the Geodiidæ, nor indeed does it find a place in his system.

Definition.—Sterrastroza possessing triæne megascleres.

The characters of the cortex, which is the most distinctive feature of the Sterraastroza, have been most closely studied in the Geodiidæ. The sterrasters are united together by fusiform fibrillated cells, probably inocytes, which are attached to the projecting ends of the actines, and these are frequently furnished with recurved spines to afford a surface of attachment: the connecting cells extend directly in a straight line from the surface of one sterraster to the opposed faces of its surrounding neighbours, and thus a strong, tough, composite sclerose and fibrous layer results, which we shall term the "sterrastral layer." It is a unique feature in the Sponges, nothing quite similar to it occurring in any of the other groups; in some cases, as in *Disyringa* for example, oxeas tangentially arranged are bound together by fibrous tissue in the cortex, but the union is produced by the fibres wrapping round the united spicules; a somewhat similar spicular layer also occurs in *Dragmastra*, which is characterised by a dragmastral layer of the cortex, but the dragmas in this case lie in clusters in a collenchymatous layer, and are not in organic connection with it; in another Stellettid genus, *Aurora*, a sclerose layer, in this case sphastral, occurs, but so far as one can conclude from an examination of dried specimens, there is just as little organic union of the scleres here as in *Dragmastra*; in *Craniella* and *Cinachyra* a composite layer of oxeas and fibrous tissue occurs, but without presenting any such union as occurs in the Geodiidæ; finally, in the Monaxonid *Tethya* the cortex is characterised by sphastrasters embedded in fibrous tissue, but though I have sought carefully for some signs of a direct connection between the scleres and the fibres, I have never been able to find any.

¹ Gray, *Ann. and Mag. Nat. Hist.*, ser. 4, vol. ix. p. 460, 1872.

² Sollas, *Ann. and Mag. Nat. Hist.*, ser. 5, vol. v. p. 241, 1880.

³ Carter, *Ann. and Mag. Nat. Hist.*, ser. 5, vol. vi. p. 55, 1880.

⁴ Carter, *Ann. and Mag. Nat. Hist.*, ser. 5, vol. ix. p. 357, 1882.