

not to be distinguished from a species of *Stelletta*. But there is another family, also possessing sterrasters, the Placospongidæ, which differs widely from the Geodiidæ, partly in the character of the external openings of the canal-system, and still more in the total absence of triæne or tetraxon spicules; the sterraster, however, is such a highly peculiar form, known in no other group outside the Geodiidæ, that its presence in this case may be taken as allying the Placospongidæ with the Geodiidæ; for the two families thus united we find the common name Sterrastrosa.

The Sterrastrosa, Euastrosa, and Streptastrosa are all united together by the common possession of some form of aster, and, as a rule, they possess as well a second distinctive aster, they may, therefore, be united together in a single order, the Astrophora, as opposed to the Sigmatophora.

The remaining families are the Placinidæ, Corticidæ, and Thrombidæ; in all three there is an entire absence of megascleres, and in the first two the microscleres are variously modified tetractinose asters, in the last the microsclere resembles a minute triæne, and in one of its species is accompanied by a still smaller microsclere, which bears much the same relation to the larger form that the microscleres in the Astrophora and Sigmatophora do to the megascleres; this second form of microsclere, which is one of the minutest of all known spicules, is an amphiaster, the straight, slender axis being terminated by four minute recurved spines at each end; its form is quite peculiar and its origin obscure, so that it throws no light on the relationship of the family; as microscleres of only one order are present in the other two families, they will not help us much in an investigation into the relative constancy of characters, but it may be pointed out that, while the Corticidæ differ from the Placinidæ widely so far as the character of the mesoderm and type of chamber-system are concerned, they are evidently closely united together by the characters of the spicules, which in this case as in others are found to be more persistent than those of the soft parts. The character by which all three families are united into a single group is the presence in all of small spicules, which are all derivable from a tetractinose aster; thus in the Placinidæ the aster may assume the character of a candelabrum or of a triæne, the triæne in one species, *Placina trilopha*, resembling that of the Thrombidæ, except that it is not spinose; in the Corticidæ the candelabrum has been preserved as the characteristic form, in the Thrombidæ the triæne. In none of these Sponges do the spicules occur aggregated into fibres, and while the Placinidæ are evidently a primitive group from which the other two have been derived, these last agree together in possessing a diplodal chamber-system and a collenchymatous mesoderm; the three families may, therefore, be classed together as a single group, forming a third suborder, the Microsclerophora.

In searching for relatively constant characters we have been able to unfold at the same time the nature of our classification, and we have arrived at the result that such a phenomenon as an absolutely constant character does not exist; Sponges like other