

Family III. DESMACIDONIDÆ.

Megasclera of various forms, usually monactinal. Microsclera always present and always including chelæ.¹

Subfamily 1. ESPERELLINÆ.

1886. *Esperina*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 337.

Skeleton fibre not echinated by laterally projecting spicules.

Genus *Esperella*, Vosmaer (Pls. XIII., XIV., XV., XVI.).

1833. *Esperia*, Nardo, Isis, p. 522.

1869. *Raphioderma*, Norman, Brit. Assoc. Rep. for 1868, p. 333.

1874. *Raphiodesma*, Bowerbank, Mon. Brit. Spong., vol. iii. pp. 94, 235.

1885. *Esperella*, Vosmaer, Bronn's Klass. u. Ordn. d. Thierreichs, Porifera, p. 353.

Shape various, amorphous or symmetrical. Megasclera all monactinal, usually styli, but sometimes with slightly developed, oval heads; smooth. Microsclera palmate anisochelæ, to which may be added either sigmata, trichodragmata, small isochelæ² or toxa, or combinations of these. Fibre usually distinct, branching and anastomosing, often containing much spongin.

The name *Esperia*, which has so long been in use for this genus, was altered by Vosmaer (*loc. cit.*), to *Esperella*, because he found that it had already been given to a genus of Lepidopterous Insects.

Many species of the genus *Esperella* attain a high degree of complexity both as regards spiculation and the arrangement of the soft parts; a very characteristic feature, though it perhaps hardly deserves a place in a generic diagnosis, is the breaking up of the main fibres of the skeleton as they approach the surface of the sponge into brushes of separate spicules which support the dermal membrane.

The canal system is usually very complex and the pores are sometimes collected into definite "pore-areas," although they may at the same time occur scattered on other parts of the sponge.

The Challenger dredgings have brought to light several very remarkable species of this genus, but by far the most remarkable is the one which we have called *Esperella biserialis*, obtained at two stations in the South Pacific at depths of 2385 and 2250 fathoms respectively. This species has the external form of a *Cladorrhiza*, but with a distinctly bilateral symmetry; while the anisochelate microsclera, though exceedingly

¹ We have included one or two species without chelæ on the supposition that they have had them and subsequently lost them.

² Very possibly only young forms of the anisochelæ, *vide* Carter, Ann. and Mag. Nat. Hist., ser. 4, vol. xiv. p. 102.