

## Suborder I. DICTYONINA, Zittel.

Skeletal spicules fused in such a way that every arm of a six-rayed spicule is applied to the corresponding arm of a neighbouring spicule, so that both become surrounded by a common siliceous covering. The continuous skeleton consists of a framework, with cubical or irregular meshes. Flesh spicules present or absent.

## Family 1. ASTYLOSPONGIDÆ, Zittel.

Sponge body very thick walled, unstalked, free (occasionally fixed by a broadly expanded base). Water vascular system consisting of radial canals extending from the surface to the centre, besides which vertical tubes disposed in radial rows to the number of eight or ten, are generally present. Lattice framework tolerably irregular with thick nodes of intersection.

Only fossil forms from the Silurian.

## Family 2. EURETIDÆ.

Fixed sponge bodies beaker-like, cylindrical, top-like or branched. Skeleton lattice-like; the intersection nodes of the fused hexradiate spicules non-perforated. Surface naked or protected by a thickening of the outer skeletal layer, sometimes covered with a very delicate network of fused spicules, which, in their form, differ but slightly from those of the rest of the skeleton. This outer dermal meshwork also surrounds the ostia. Structure of the root resembling that of the rest of the sponge body. Flesh spicules absent or present.

(a) Canal system well developed. Ostia of the blind radial canals occur variably on either surface. In addition to fossil genera belonging to different strata, this subfamily is represented by the living genus *Sclerothamnus*, Marshall.

(b) Canal system absent or scarcely developed. Besides the fossil genus *Verrucocælia*, the living genera *Farrea*, Bowerbank, *Eurete*, Marshall, and *Aulodictyon*, S. Kent.

## Family 3. COSCINOPORIDÆ, Zittel.

Sponge body beaker-like, stellate or branched, more frequently compressed. Radial canals very numerous, simple, straight, and blind. Ostia small. Skeleton finely meshed, dense, stony. The numerous radial canals exhibit the regular formation of cubical meshes. The intersection nodes of the six-rayed spicules are thick and seldom perforated. Dermal layer usually absent or only formed by a thickening of the outermost skeletal layer.

*Examples.*—*Coscinospora* and other fossil genera.