same plane as those at the other; but the one pair are trichotomate and the other simple. The other presents a rhabdome 0·0118 mm. long, bearing two cladi as long as itself at one end, but terminating in a sharp point without branching at the other. The cladi each bear two very minute spines, one on each side, near the pointed extremity; in other words, they are trichotomous.

Both these forms suggest an origin from some microsclere similar in general character to the large asters of *Thenea*, or *Plakina*. Amongst the transitional forms from a spiraster to an oxyaster in *Thenea*, one frequently meets with examples in which a slender rhabdome bears two cladi at each end; if the rhabdome instead of shortening and aborting as in *Thenea* should increase in size and an additional cladus appear at each end, a simple form of amphitriæne would result. On the other hand, the occurrence of irregular amphitriænes in *Tetilla stipitata* suggests another origin for these forms, and they may have been derived from a triæne. The curved form of the cladi observed in the immature triradiate form of amphitriæne mentioned above, suggests the possibility of a third mode of origin. Let a sigmaspire pass into a sigma, and from analogy with the calcareous sigmata of Echinodermata and Nudibranchiate Molluscs, we may expect this in some cases to develop an actine from the middle of its convex side. This would give a triradiate form, with two rays curved. Let these develop spines, one on each side of their termination, and the immature form of amphitriæne described results. Thus, there is considerable room for speculation on the mode of origin of these spicules, but without a basis of embryological data speculation is likely to prove barren.

Suborder II. ASTROPHORA.

Choristida in which one of the microscleres is some form of aster.

Demus I. STREPTASTROSA.

Astrophora in which one of the microscleres is some form of spiraster.

Family I. THENEIDÆ.

The ectosome never forms a cortex; the mesoderm is a collenchyma; the flagellated chambers eurypylous.

Thenea, Gray.

Theneidæ of symmetrical form, with one or more distinct oscules,and with specialised pore-areas, in addition to pores generally dispersed. The distinctive spicules are dichotriænes, which are arranged together with the other megascleres in radiating fibres.