plane as that of the aperture, in these instances the oscular membrane is also extended in the plane of the oscule. In *Myriastra*, another of the Stellettidæ, the openings of the excurrent canals within the cloaca are sometimes hispidated by small oxeas (p. 117).

Spicules of the Incurrent Openings.—The margins of the pores, whether occurring on the outer surface of the sponge or in special vestibular recesses (*Cinachyra*) are in the Tetillidæ frequently hispidated by trichodal spicules, usually protriænes; the excurrent pores in the cloacas of *Cinachyra* are similarly hispidated.

In the genus *Thenea* the margins of the equatorial poriferous recesses are fringed with long spicules, which project outwards and downwards where they fringe the upper margin, and upwards and outwards from the lower margin; when the recesses are circumscribed, forming several oval areas, the spicular fringe becomes a tube; occasionally the upper fringe is united to the lower by a strong thread of fibrous tissue.

Modifications of the Radiate Type.—In some sponges, chiefly the Tetillidæ, the radial fibres are spirally twisted about one diameter of the sponge, usually the vertical; there is no constancy in the direction of the twist, the spiral being as often left as right handed (*vide* p. 25). This modification may be explained as resulting from a difference in the rate of growth of the choanosome or spicular tracts and the cortex. They would appear to be spiral curves of pressure.

Many sponges which possess a radiately arranged skeleton when young lose all traces of it or any other arrangement when they attain to larger growth; this is the case with *Pachymatisma* and probably with most sponges which are closely related to species with a radiate skeleton, but which are without it themselves; as instances may be cited *Caminus*, *Erylus*, and many others.

Cortical Spicules.—With the differentiation of the cortex there arises the possibility of a further differentiation of spicules; in the Tetillidæ cortical spicules occur in most corticate genera, in *Craniella* they are confined to the inner and fibrous layer of the cortex, which they traverse not quite radially but with an inclination a little on each side of a true radial; in *Cinachyra* they are more nearly radial in direction, but occur chiefly in the outer three-quarters of the cortex, which, however, is fibrous throughout; in *Chrotella* they lie chiefly tangentially in the cortex, but without any precise arrangement. In none of the remaining Choristida do cortical megascleres play so important a part as in the Tetillidæ, occasionally in the Stellettidæ and the Geodiidæ small cortical oxeas are present hispidating the outer surface of the sponge, though without contributing largely to its support as they do in the Tetillidæ. In the Geodiidæ, however, hispidating cortical spicules may sometimes be observed, which though of apparently slight importance in the economy of the sponge itself, are of great interest owing to the resemblance which they bear to certain small cladoxeas described by Ridley and Dendy as hispidating the cortex of a Suberite (*Proteleia sollasi*);[1] these are very minute

[1] Ridley and Dendy, *Ann. and Mag. Nat. Hist.*, ser. 5, vol. xviii. p. 152, pl. v.