the sponge, and near the larger canals lie tangentially to their walls. The sigmaspires occur throughout the sponge. The margins of the sphincters of the oscules and the pores are bounded by the microstrongyles of the dermal layer, and the exposed surfaces of the sphincters show beneath the epithelium numerous sigmaspires.

Colour.—(?). Size, 18 mm. in diameter by 12 mm. in height.

Habitat.—Station 307, Agassiz.

Remarks.—This sponge is very clearly distinguished from *Scleritoderma flabelliformis* from the Ki Islands, partly by the general form, and partly by the size of the microstrongyles, which are twice the length of those in the latter species.

Genus 2. *Aciculites*, O. Schmidt.

Scleritodermidæ in which the ectosomal spicules are rhabdi; microscleres are absent.

The occurrence of an ectosomal layer of rhabdi suggests an alliance with *Scleritoderma;* and since, judging from the Tetillidæ, the sigmaspire is an inconstant spicule, its absence is not a matter of such importance as to exclude the genus from the Scleritodermidæ.

Aciculites higginsi, O. Schmidt.

Aciculites higginsi, O. Schmidt, Spong. Meerb. Mexico, p. 29, pl. ii. figs. 1, 4, 13, 1879.

Sponge.—Cushion-shaped, attached either by the entire base or by its margin only; in the latter case the middle of the base rises upwards, so as to leave a large hollow cavity between it and the surface of attachment. Oscules one or several, seated on the summit of slight conical elevations or in slight depressions, forming the centre of a stellate system of superficial canals, which can be traced as ramifying dark-coloured lines beneath the surface, provided with a sphinctrate margin, protected by a tent-like arrangement of rhabdi, which radiate from the circumference towards the centre. Pores simple, 0·03 mm. in diameter.

Spicules.—I. Megascleres. 1. *Desma*, small; cladi short, thick, richly tuberculate, protocladi 0·065 by 0·026 mm. to 0·084 by 0·039 mm. 2. *Rhabdus*, variable, usually a tylotostrongyle, the tylus scarcely thicker than the rhabdome, minutely spined; rhabdome smooth, cylindrical, curved; sometimes a strongyle, sometimes, but very rarely, a tylotoxea, 0·271 by 0·01 mm. to 0·355 by 0·01 mm., but variable, sometimes much shorter.

II. Microscleres absent.

Beneath the external epithelium the rhabdi form a single layer lying tangentially; they also occur directed at right angles to the surface, with the tylus directed outwards