

straight or somewhat curved, stout, abruptly pointed, 2.25 by 0.06 mm. 2. *Oxea* of the cortex (Pl. XLIII. fig. 3), cylindrical to fusiform, straight or curved, abruptly pointed, 0.556 by 0.013 mm. 3. *Microxea* of the cortex and choanosome (Pl. XLIII. fig. 4), cylindrical, straight, abruptly pointed, 0.125 by 0.004 mm.

II. Microsclere. 4. *Amphiaster* (Pl. XLIII. figs. 5-7), axis short, cylindrical; actines in terminal whorls, none in continuation of the direction of the axis; 0.007 by 0.003 mm.

*Colour*.—Greyish-white.

*Habitat*.—Bahia.

*Remarks*.—The single specimen of this sponge is a fragment of a more or less cake-like mass, with one surface flattened, and the opposite irregularly undulating; it measures 113 mm. in breadth by 120 mm. in length and 65 mm. in thickness. The fractured surface seems to have passed through the middle of the sponge, and reveals the coarse spicular fibres which radiate somewhat spirally from an excentric node towards the surface, beyond which the component spicules project for about 0.4 mm., forming the first line of defence of the cortex (Pl. XLIII. figs. 8, 9); between these are packed the oxeas of second size (No. 2), they project for about 0.24 mm., and are more numerous than the larger oxeas; finally, forming the most superficial and most densely packed layer of spicules, follow the microxeas (No. 3), which do not project for more than 0.05 mm. The microxeas are also scattered through the choanosome, and are especially numerous about the surface of the larger canals, into the lumen of which they project.

The spicules of the cortex are bound together by a fibrous collenchyma.

The amphiasfers are scattered generally throughout the sponge. They sometimes present an accessory whorl of actines around the middle of the axis, and then are suggestively similar to a "Sceptrella." The Scolopidæ would thus appear to be nearly related to the Spirastrellidæ.

It is impossible, such is the impenetrability of the close palisade of cortical spicules, to obtain tangential sections, and thus one cannot determine the characters of the pores, neither can satisfactory radial sections be obtained by the paraffin method; nothing but freezing can succeed in a case like this, and I leave this to subsequent observers. The mesoderm of the choanosome appears to be a granular collenchyma, and the flagellated chambers are eurypylous.

The general character of the spicular skeleton reminds one forcibly of that in Carter's genus *Trachya*, and that of the cortex is distinctly Suberitic; indeed, were the oxeas replaced by tylostyles, one would not hesitate to place the sponge with the Suberitidæ.