The genus Stauracantha differs from its ancestral form, Xiphacantha, in the ramification of the four crossed apophyses on each spine. These bear either lateral branches, which are parallel to the cross axes of the radial spine itself (subgenus Stauracanthonium), or they are forked, with divergent branches not parallel to those cross axes (subgenus Stauracanthidium). Both subgenera may perhaps be better separated as genera. They form the transition to the Stauraspida.

Subgenus 1. Stauracanthonium, Haeckel.

Definition.—Apophyses of the radial spines not forked, but crossed by perpendicular branches, which are placed in tangential planes and parallel to the cross axes of the quadrangular spine itself.

1. Stauracantha orthostaura, n. sp. (Pl. 130, fig. 5).

Spines four-sided prismatic, with simple apex and small leaf-cross at the base; with four thin slender conical apophyses in the proximal third. Each apophysis represents a regular rectangular cross, being intersected in its middle by one perpendicular rod of its own length.

Dimensions.—Length of the spines 0.3, breadth 0.02; distance of the apophyses from the apex 0.15 to 0.2.

Habitat.—South Pacific, Station 169, surface.

2. Stauracantha tetrastaura, n. sp.

Spines four-winged prismatic, with four broad prominent edges, pyramidal apex, and large basal leaf-cross, with four broad compressed apophyses about in the middle. Each apophysis represents a vertical lamella (placed in a meridian) with convex distal and concave proximal edge, and is crossed in its apical part by one perpendicular short rod.

Dimensions.—Length of the spines 0.5, breadth 0.03; distance of the apophyses from the centre 0.2.

Habitat.—Central Pacific, Station 272, surface.

3. Stauracantha diplostaura, n. sp.

Spines four-sided prismatic, with truncated apex and broad basal leaf-cross; in the proximal half with four slender conical apophyses. Each apophysis is crossed in its apical half at right angles by two short parallel transverse rods.

Dimensions.—Length of the spines 0.32, breadth 0.012; distance of the apophyses from the centre 0.11.

Habitat.—South Pacific, Station 291, surface.