

to four pairs of strong conical teeth; from the edges of the two smaller (sagittal) wings arise also three to four pairs of teeth, but very short and broad, triangular; each of these teeth bears on both its (lateral) sides two opposite slender conical teeth, which are parallel to the large conical teeth of the lateral wings. Therefore all teeth (eighteen to twenty-four) are placed opposite in pairs in three parallel planes. Base of the spines pyramidal, with a small leaf-cross. The central capsule of this large and very remarkable species commonly entirely includes the apophyses of the spines, and is opaque, whitish.

Dimensions.—Length of the spines 0·2 to 0·3, breadth of the distal half 0·002 to 0·004, of the proximal half 0·01 to 0·02.

Habitat.—Cosmopolitan; Mediterranean, Atlantic, Pacific, surface.

Subfamily 3. STAURACANTHIDA, Haeckel.

Definition.—Astrolonchida with a cross of four free apophyses (or four crossed longitudinal rows of apophyses) on each radial spine.

Genus 330. *Xiphacantha*,¹ Haeckel, 1862, Monogr. d. Radiol., p. 384.

Definition.—Astrolonchida with four simple apophyses on each radial spine, opposite in pairs in the form of a cross.

The genus *Xiphacantha* was founded by me in 1862 for all those Acanthometrida which bear simple or branched apophyses on their twenty equal spines. I restrict here the genus to those Astrolonchida which bear on each spine a cross of four simple, not branched, apophyses. These are either conical teeth or broad wings, sometimes extremely thin leaves. *Xiphacantha* may be regarded as the ancestral form not only of the subfamily Stauracanthida, but also of the Tessaraspida, derived from the latter.

Subgenus 1. *Xiphacanthonia*, Haeckel.

Definition.—Apophyses of the radial spines small, formed like a tooth or a hook, not wing-shaped. Edges of the spines commonly narrow, little prominent.

1. *Xiphacantha quadridentata*, Haeckel.

Xiphacantha quadridentata, Haeckel, 1862, Monogr. d. Radiol., p. 387, Taf. xviii. figs. 15a, 15b.
Acanthometra quadridentata, J. Müller, 1858, Abhandl. d. k. Akad. d. Wiss. Berlin, p. 48, Taf. x. fig. 3.

Spines slender, four-sided prismatic, gradually thinner towards the simple pyramidal apex. Base with large wing-cross. Four apophyses about in the middle of each spine, conical, straight, smooth, about as long as the basal breadth of the spine. Central capsule opaque, reddish-brown.

¹ *Xiphacantha* = Sword spine; ξίφος, ἀκανθα.