

1. *Lithophyllum cruciatum*, Haeckel.

*Acanthometra cruciata*, J. Müller, 1858, Abhandl. d. k. Akad. d. Wiss. Berlin, p. 49, Taf. xi. fig. 11.

*Xiphacantha cruciata*, Haeckel, 1862, Monogr. d. Radiol., p. 385, Taf. xviii. fig. 13.

Spines cylindrical, very thin, crossed perpendicularly in the distal third by a thin transverse beam; both lateral rods of the cross have the same length as the distal end. Apex simple. Base pyramidal, without leaf-cross.

*Dimensions*.—Length of the spines 0·05 to 0·15, breadth 0·001 to 0·002.

*Habitat*.—Mediterranean, Atlantic, Stations 352 to 354, &c., surface.

2. *Lithophyllum gladiatum*, n. sp. (Pl. 130, fig. 3).

Spines compressed, sword-shaped, two-edged, crossed perpendicularly in the middle part by a broad, somewhat curved transverse beam; both lateral rods of the cross are triangular compressed, and have the same length as the proximal end. Apex simple. Base pyramidal, without leaf-cross.

*Dimensions*.—Length of the spines 0·2 to 0·25, breadth 0·01.

*Habitat*.—North Pacific, Station 241, surface.

3. *Lithophyllum condylatum*, n. sp.

Spines compressed quadrangular, tapering from the broader middle towards the two ends; from the middle part arise two opposite perpendicular apophyses, which bear on the rounded end a thickened condyle. Apex simple. Base pyramidal, with a small leaf-cross.

*Dimensions*.—Length of the spines 0·1 to 0·12, breadth in the middle part 0·02.

*Habitat*.—Central Pacific, Station 266 to 272, surface.

4. *Lithophyllum foliosum*, J. Müller.

*Lithophyllum foliosum*, J. Müller, 1858, Abhandl. d. k. Akad. d. Wiss. Berlin, p. 52, Taf. xi. figs. 6–10.

*Xiphacantha foliosa*, Haeckel, 1862, Monogr. d. Radiol., p. 385.

Spines lanceolate, tapering from the broader middle towards the two ends. From the middle part or from the outer third arise two opposite triangular apophyses, which are not perpendicular to the axis of the spine, but form an acute angle with its distal part. Therefore each spine represents a broad leaf with a middle rib and with three lobes or truncated teeth. The distal apex is distinguished by a violet colour. Base pyramidal, without leaf-cross. Central capsule yellow.

*Dimensions*.—Length of the spines 0·05 to 0·1, breadth 0·02 to 0·03.

*Habitat*.—Mediterranean, French shore, Saint Tropez, J. Müller.