

is commonly truncated or broken off, sometimes pyramidal. The central end is everywhere thinned, more or less pyramidal, and the neighbouring spines are propped one upon another by the triangular faces of their small basal pyramids. A slight pressure is sufficient to destroy their connection.

The number and disposition of the radial spines seem to be variable and irregular, but require further researches. In four of the observed eight species I found constantly ten spines, in two other species from ten to twenty (commonly twelve or sixteen), and in two species twenty or more. A certain order or disposition of the spines within the conical space in which they radiate could nowhere be ascertained.

When I first observed *Litholophus*, I supposed that it might only be a mutilated or altered form of an *Acanthonia*. Afterwards, observing many specimens with ten spines, I was led to the suggestion that they were produced by self-division of an *Acanthonia*, and that the number of the spines in each half of the body might be afterwards doubled. But this suggestion seems to be refuted by the fact that in no other genus of the numerous ACANTHARIA is self-division observed, and that many hundreds of *Litholophus* which I observed exhibit quite constantly only a single form of radial spines, that of *Acanthonia*—simple quadrangular spines without any apophyses.

Genus 320. *Litholophus*,¹ Haeckel, 1862, Monogr. d. Radiol., p. 401.

Definition.—Litholophida with a variable number of quadrangular diverging radial spines, united with pyramidal bases in the apex of the conical central capsule.

The genus *Litholophus*, the only one of this family, exhibits the peculiarities just described, but might more nearly be defined as a typical "genus" by the quadrangular form of the radial spines, identical with those of *Acanthonia*.

The central capsule of *Litholophus* is constantly conical or pyramidal, commonly opaque, of a dark brownish or reddish colour; it contains many small nuclei. It envelops the basal half of all radial spines in such a manner that their basal parts are united in its apex, and their distal parts pierce the rounded base of the conical capsule (Pl. 129, fig. 2).

The calymma or the jelly envelope of the central capsule is only developed at its base, where the spines radiate; at the conical mantle of the capsule it is very thin. The spines seem to be perfectly enclosed in the calymma and connected with it by the same contractile retacula or "myophrisca" which we observe in the *Acanthonida*. The pseudopodia arise only from the rounded base of the conical capsule, and radiate between the spines, piercing the calymma, diverging within the conical space occupied by the fascicle of spines.

¹ *Litholophus* = Stony brush; λίθος, λίφος.