

is directed towards the closed end of the animal, and only near the gastric openings their disposition becomes irregular.

*Triradiate spicules of the parenchyma.*—Like those in *Leuconia saccharata* in most cases regular, but with rays not exceeding 0.45 mm. in length, usually still shorter (0.3 mm. and less). In the first case the proportion between the length and the thickness of the rays is like *Leuconia saccharata* 10:1; the rays of the smaller spicules are more slender, the corresponding proportion varying from 12:1 to 20:1. The sagittally and irregularly differentiated triradiate spicules of the parenchyma are too rare to be of any systematic significance.

*Dermal triradiate spicules.*—Not differing from those of the parenchyma, and showing the same variations with respect to size and slenderness, with only this distinction that the cases of sagittal differentiation—the lateral rays growing more or less curved forwards—are more numerous.

*Dermal quadriradiate spicules.*—Rare. Sagittal; basal and centripetally directed apical ray straight, lateral rays curved forwards, often undulating; all rays tapering from the base to approximately sharp points, rarely longer than 0.4 mm., with a diameter of 0.03 mm. to 0.04 mm.

*Colour.*—Violet-greyish.

*Habitat.*—Station 149, off Kerguelen Island; January 29, 1874; depth, 70 fathoms.

*Leuconia loricata*, n. sp. (Pl. II. fig. 2; Pl. VII. figs. 6a–6b).

The chief characters of this species, represented in the Challenger collection by a single specimen, 30 mm. long. and 8 mm. broad, are the following:—(1) a strongly-developed cortex 0.5 mm. thick, the width of the whole wall being 2 mm., consisting of several parallel layers of sagittal triradiate spicules; (2) a quite irregular disposition of the parenchymal spicules, only those which are near the inner surface lying more or less parallel to it; (3) minute spined acerate spicules scattered everywhere in the body, but chiefly coating the inner surface. The structure of the canal system presents no deviations from the general type.

*Skeleton.*—The skeleton consists of minute spined acerate spicules, of triradiate spicules of the parenchyma, of cortical triradiate, of cortical stout and linear acerate, and of acerate spicules of the peristome.

*Spined acerate spicules.*—The modifications of their form, and the intermediate stages between them and common spindle-shaped minute acerate spicules, although rare in *Leuconia loricata* yet still to be found, are given on Pl. VII. fig. 6a–6a'''. Their average length is 0.025 mm., with a diameter of 0.002 mm. Numerous on the inner surface, they are very rare in the parenchyma and in the cortex.