curved inwards, each forming with basal ray an angle of about 110°; some of them are provided with embryonic apical rays, reaching occasionally 0·2 to 0·3 mm. in length.

Subgastric triradiate spicules.—Sagittal; lateral rays either lying in the same plane or forming with one another an angle varying from 180° to 140°; all rays of the same diameter, varying from 0·02 to 0·05 mm.; basal ray straight, tapering from the base to a sharp point, reaching 0·8 mm. in length; lateral rays curved, often undulating, usually half as long as basal ray, often of the same length, occasionally even longer, not exceeding, however, 0·8 mm.

Triradiate spicules of the parenchyma.—Either quite regular, or showing a slight tendency to sagittal differentiation; rays sharply pointed, maximum size about 1 mm., diameter varying from 0·1 to 0·125 mm.

Dermal triradiate spicules.—Regular, more slender than the triradiate ones just described; rays either tapering from the base to sharp points or of cylindrical form; average size of the rays 0·3 mm. in length by 0·02 mm. in diameter.

Colour.—Pale yellowish.

Habitat.—Torres Strait, Australia, September 7, 1874; depth, 3 to 11 fathoms.

Family Leuconidæ (Leucones) Hæckel.

Heterocœla, whose usually round flagellated chambers communicate with the central cavity not immediately but by means of its more or less deep lateral invaginations (exhalent canals), the corresponding opening of the flagellated chambers being of less diameter than that of the subjacent exhalent canals; with quite irregular disposition of the spicules in the parenchyma.

Leucilla, Hæckel (sensu mutato).

Leuconidæ with flagellated chambers of an elongated, cylindrical form, recalling that of the radial tubes of the Syconidæ, with the skeleton of the parenchyma bearing traces of a certain regularity in the arrangement of its constituent parts, owing to the disposition of the subgastric and subdermal spicules directly opposite to each other.

Leucilla connexiva, n. sp. (Pl. VI. figs. 1*a*–1*e*).

I can give but little information with regard to the external shape of this species. There is not in the Challenger collection one complete specimen of this interesting form, but only some fragments which have fortunately proved quite fit for anatomical examination. Both the surfaces are rather rough; the thickness of the walls is about 0·8 mm.; the disposition of the openings of the exhalent canals is far from being so