

species are represented on Pl. II. fig. 6. The largest of them reaches 65 mm. in length, with a maximum diameter of 10 mm.; the walls are 2.5 mm. to 3 mm. thick, the cortex strongly developed. The outer surface is smooth, the inner slightly rough.

*Skeleton*.—The skeleton consists of gastric and parenchymal quadriradiate spicules, and of dermal triradiate and quadriradiate spicules.

*Gastric and parenchymal quadriradiate spicules*.—Either regular or sagittal, the lateral rays becoming more or less curved, or even irregular, all rays instead of being straight, becoming irregularly bent and of different lengths; all rays of the same average diameter (0.005 mm.), tapering from the base to sharp points; facial rays 0.02 mm. long, the length of the apical ray inconstant, varying from 0.02 mm. to 0.08 mm. The gastric quadriradiate spicules follow the course of the exhalent canals throughout their whole length, and their presence or absence on the surface of the cavities of the parenchyma shows whether we have to do with an exhalent or inhalent canal system.

*Dermal quadriradiate spicules*.—Extraordinarily rare; regular; all rays of the same length, not exceeding 0.75 mm. by 0.075 mm., smooth, tapering from the base to sharp points.

*Dermal triradiate spicules*.—Regular, rays of a rather cylindrical form, 0.55 mm. long, 0.03 mm. in diameter, lying in the cortex in several parallel layers, becoming smaller in the low collar and sagittally differentiated, the angles between basal and lateral rays becoming more acute (120°–95°), and the lateral rays themselves, like those in the oscular triradiate spicules of *Leucetta vera* becoming horn-shaped.

*Colour*.—Cream white.

*Habitat*.—Station 163A, June 3, 1874, off Port Jackson, Australia; depth, 30 to 35 fathoms; rock.

#### Family TEICHONIDÆ (Teichonia, Teichonellidæ), Carter.

Heterocœla with outer surface differentiated into two different planes, one bearing pores, the other oscula.

#### *Eilhardia*, n. gen.

Teichonidæ of calyciform shape. The surface carrying pores supported by triradiate and minute acerate spicules, that bearing oscula propped by large acerate spicules.

In honour of the naturalist whose extensive and precise investigations have marked a new era in Spongiology, I name this genus *Eilhardia*, and the single species of the genus at present known *schulzei*.

*Eilhardia schulzei*, n. sp. (Pl. II. fig. 7; Pl. IX. figs. 1–10).

This form is doubtless the most beautiful of all the calcareous Sponges hitherto known. The shape of its body is calyciform, the concave surface is dull, the convex has a silvery