

diacts, which are either scattered at random, or aggregated in bundles. Several forms of rosettes also occur, and in greatest abundance, simple oxyhexasters with short principal rays, and with two to four straight or hook-like, moderately diverging, terminal rays on the extremity of each of the principal rays (Pl. XIV. fig. 13; Pl. XV. figs. 9, 11, 12). The number of the terminal rays may vary from one to three on each of the main rays (Pl. XIV. fig. 8; Pl. XV. fig. 11). These remarkable skeletal elements from whose globular centre four, three, or two rays spring, which are greatly bent in one plane, or even spirally twisted, I regard as arrested derivatives of oxyhexasters (Pl. XIV. figs. 10-12; Pl. XV. fig. 10). In the outer part of the parenchyma, graphiohexasters with close bundles of almost parallel fine terminal rays appear (Pl. XV. fig. 19).

Whether the elegant discohexasters represented in Pl. XIV. fig. 9, which are provided with an S-like terminal ray, and with very small terminal discs, really belong to this species, or are not rather intruded bodies, I have lately begun to doubt.

These and similar discohexasters also appear in that fragment of *Holascus* which is represented in Pl. XV. fig. 14, and the individual spicules are figured after Wyville Thomson in figs. 15 to 23 of the same plate.

The *dermal skeleton* consists of sword-shaped hypodermalia with greatly prolonged proximal rays which run out to sharp points at the extremities, with a thick scaly or toothed distal ray, and with four transverse rays intersecting at right angles, obliquely pointed at the extremity, and of median length. Upon these, as on the proximal ray, small pointed elevations may often be observed.

The tangential arms of these hypodermalia always lie somewhat beneath the dermal membrane, which is raised up in a conical elevation by the distal ray. Close to the outer portion of the proximal ray, and over the whole distal ray,—even extending beyond the outer extremity of the latter,—thin diacts are disposed which run out to points at both ends. These may serve as defensive weapons in place of the floricoles which are here absent (Pl. XIV. fig. 6).

The *gastral skeleton* consists of hexact sword-shaped hypogastralia, in general resembling the hypodermalia, but somewhat more delicate. Thin diacts are here and there apposed to the spicular rays, and are even more delicate than those of the outer skin.

2. *Holascus fibulatus*, n. sp. (Pl. XV. figs. 1-5; Pl. XVI.).

A species of *Holascus*, markedly characterised by the possession of numerous double-hooked fibulæ, is included among the sponges of the Challenger expedition. Three specimens were obtained, one (represented in Pl. XV. fig. 1) in a trawling to the south Australia (Station 160, lat. 42° 42' S., long. 134° 10' E.), at a depth of 2600 fathoms, from a red clay bottom; while the other two were got in a trawling which was made in