Zoology Part LIII: Report on the HEXACTINELLIDA. By Professor F. E. Schulze. Bound in Volume 21,1887.

inner trabecular framework as the hypodermalia do to the outside skin. The long unpaired distal ray extends into the parenchyma, while the four short rays of the two other axes form a cross which lies close beneath and parallel to the gastral membrane. Though this system of hypogastral pentacts also extends for a considerable distance into the excurrent passages, it does not extend as far as their terminal diverticula (Pl. IV. fig. 3).

The numerous rosettes present in the parenchyma are all oxyhexasters whose short compressed principal rays are continued with a slight terminal thickening into the strongly diverging, straight terminal rays which are six times longer. The number of terminal rays belonging to a principal ray varies from two to five, and it is the same in most cases on all the six arms of a rosette, though it may differ in individual arms. The most common case is for every arm to have three terminal rays (Pl. III. fig. 1).

Such oxyhexasters occur on the one hand in the outer trabecular framework, with which they are compressed between the convex outer sides of the chambers; and on the other hand, in the inner trabecular framework, with which they extend to the final expansions of the excurrent canal system, between and in front of the terminal openings of the chambers. They do not occur, however, either in the chambers themselves or in their delicate walls. The dermal and gastral membranes are also free from them.

The other rosette, much more striking on account of its elegant form and exposed position—the floricome—is regularly distributed over the whole outer skin, and is scattered on the tips of the conical elevations of the skin into which the distal extremity of a hypodermal hexact extends (Pl. IV. figs. 3, 4, 5).

Each of the six short, narrow, principal rays becomes divided into seven or eight terminal rays, which are bent in an **S**-like manner, are arranged in a whorl like the petals of a lily, and consist of a very thin basal portion or stalk, slightly bent and convex towards the outside, and of an outer portion which gradually increases in thickness. The latter bends outwards in a stronger curve, and ends in a firm, almost hemispherical plate, whose sharp semicircular outer border is prolonged into six or eight claw-like prongs (Pl. II. fig. 9; Pl. III. fig. 11).

Since these terminal rays of the floricome usually project freely from the pointed elevations of the skin, either entirely or with their claw-bearing extremities, they penetrate any soft body which may come in contact with the sponge. The delicate stalk will then readily break off, and the terminal portion remain in the foreign body. In this manner the floricomes of the *Euplectella* serve as weapons of defence against the attacks of soft skinned animals such as fishes, molluscs, worms, and the like.

I observed that most floricomes had one of their axes so applied to the distal ray of the corresponding hypodermal hexact that they lay at right angles to the surface of the skin. Not unfrequently, however, I found them also lying obliquely as if misplaced. Though floricomes are not to be found on many, and especially on prominent portions of the skin, it may be reasonably supposed that they were originally present here as well as

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