

(2) hexact hypodermalia; (3) pentact hypogastralia; (4) oxyhexasters scattered among the parenchyma; (5) protuberant floricoles.

The spicules which belong to the first category, and are provided with thick, short, conical rays, are scattered in the inner portion of the walls of the tube. They are particularly abundant, and are arranged in a cruciform manner in the circular membrane surrounding the parietal gaps. In this situation pentacts chiefly occur, in which the unpaired ray penetrates the parenchyma radially outwards, while the four rectangularly crossed rays of the two other axes lie parallel to the bounding surface. Often, however, (especially in the inner thinner marginal portion of the circular membrane), only one of the two latter pairs of rays is fully developed, so that triacts arise whose paired rays, lying in the same axis, extend tangentially to the free margin of the parietal gaps, while the unpaired ray is directed radially. If, again, the latter remain undeveloped, diacts arise which have been designated by Marshall "compass-spicules" on account of their resemblance to a compass needle, being much swollen in the middle. Completely formed hexacts belonging to this category of spicules are less frequent; when they occur they lie in the parenchyma at some distance from the gastral surface, or from the free margins of the parietal gaps. They are usually regularly developed (Pl. III. fig. 18), more rarely shortened in one ray (Pl. II. fig. 1, *a.b.c.*). While in the lattice-like network of the outer skin *dermalia* proper are absent, regularly arranged *hypodermalia* occur underneath as slender hexacts of equal form and size, and provided with a greatly prolonged proximal ray, four times longer than the other five rays, which are of approximately equal length, and like the former run gradually out to a point (Pl. III. fig. 16; Pl. IV. figs. 3, 4, 5). The long principal axis is at right angles, the two transverse axes are parallel to the surface of the body.

In well-preserved portions the axial cross of the hypodermalia lies about 0.1 mm. beneath the skin. Their distal ray extends into a point-like elevation of the skin, which it seems to push out. On its outer end it carries a floricoles which extends over the skin (Pl. IV. fig. 4).

Since the corresponding tangential rays of the neighbouring hypodermalia are apposed to one another laterally for half of their length or even more, quadrate or rectangular meshes are formed, over the centre of which the skin is, as a rule, somewhat depressed (Pl. IV. fig. 4). If this involution extends still further, the skin finally becomes applied closely against the tangential rays of the hypodermalia, and it may even seem as if the latter occurred in the skin. On the summit of the outer ridge there is usually a row of particularly strong and long hypodermalia.

To the system of the hexact hypodermalia there corresponds, on the inner side of the entire tube and of the large excurrent passages, a system of similar slender pentact hypogastralia with pointed extremities (Pl. III. fig. 13; Pl. IV. fig. 3). These occupy the same relative position to one another and to the gastral limiting membrane of the