very large, usually twice to three times as broad as the inner shell, and irregularly polygonal; the usual and prevailing form is pentagonal, but hexagonal meshes are also often intermingled, more rarely meshes with four, seven, or eight sides.

The cylindrical tangential tubes possess in general the same shape as in the similar Aulosphærida, have a thin wall, are filled by jelly, and contain a delicate axial filament in their axis; they differ, however, in a peculiar constant character; in the middle of each tube is inserted an inner radial beam coming from the inner shell, so that both together have the form of a T. The central point of insertion has a somewhat shorter radial distance from the centre of the body than the two nodal points on both ends of the tangential tube, so that the latter is slightly geniculate (figs. 1–5). The two halves of each tangential tube are usually somewhat thinner on the central end (where the inner radial beam is inserted), thicker on the distal end (where the outer radial tube arises); at both ends they are closed by a thin transverse septum. Often also some other septa are developed, so that each tangential tube seems to be composed of four to six joints or segments. Usually the tangential tubes are armed with spines or anchor-threads, similar to those of the inner radial beams. The length of the single tangential tubes is usually between 0·1 and 0·3, their diameter from 0·01 to 0·02.

The nodal points of the outer lattice-sphere, in which the outer radial spines arise, seem to possess the same structure as in the similar Aulosphærida. Since three tangential tubes are connected in each nodal point, in its centre is the union of three small astral septa or sutural partitions. The small nodal cavity on the inside of the nodal point has probably three small pores, which lead into the three tangential tubes between the three astral septa. A fourth pore probably leads from the nodal cavity into the cavity of the hollow radial tube. This structure is difficult to observe, but seems to be demonstrated by the fact, that in the complete and carefully purified skeletons which are treated with hot mineral acids and afterwards dried, all cylinders, the tangential as well as the radial tubes, become easily filled by air (compare the description of the similar structure in the Aulosphærida).

The external radial tubes which arise in the nodal points of the outer shell are either cylindrical or cylindro-conical, straight, and usually about as long as the diameter of the inner shell. Their structure and armature is the same as in the similar Aulosphærida. In the axis of each radial tube runs a delicate axial filament, which is connected with its thin and fragile wall either by filiform transverse branches or by delicate transverse septa. The outside of the radial tubes is either smooth (figs. 3–5) or armed with scattered spines (fig. 4) or with verticils of lateral branches; each verticil is usually composed of three or four branches. The distal end of the radial tubes is rarely simple, pointed; it is usually armed with a spathilla of three or four curved terminal branches (figs. 3, 5) sometimes with an elegant corona composed of twenty to thirty thin radially divergent branches (fig. 4).