

Beneath the thin non-porous epistereom lies the thick mesostereom. That part of the mesostereom which is in contact with the epistereom forms a practically continuous sheet, penetrated only by pores, and from this sheet the greater part of the mesostereom is suspended in the form of vertical lamellæ. (Plate IV, figs. 3 and 1D.) Viewed along the suture planes, where exposed by the dismembering of the theca, these lamellæ appear thin and narrow toward their junction with the continuous exterior part of the mesostereom, but they thicken toward their inner terminations for a distance of almost a millimeter. These lamellæ do not radiate from the center of the thecal plates, but form groups, all lamellæ belonging to the same group being perpendicular to the same suture line between two adjacent plates. If imaginary lines be drawn from the center to the angles of each plate, then the lamellæ will be found grouped in triangles limited laterally by these imaginary lines. In each triangle the lamellæ will be found perpendicular to the suture line forming the base of the triangle, the triangles of adjacent plates forming rhombs, which, however, give no indication of their presence on the unweathered surface of the plates. The adjacent triangular groups of lamellæ are separated usually by grooves, widening toward the center of the plates and narrowing toward the angles. Both the lamellæ and the inter-lamellar spaces are directly connected across the suture planes.

The epistereom is thin and non-porous. However, if only slightly weathered, it is found to be underlaid by pairs of short lunate pores extending parallel to the epistereom, just beneath the latter, appearing on the weathered upper surface of the mesostereom as short lunate grooves, the concave sides of each pair facing each other. The presence of these pairs of lunate pores often is indicated on the exterior surface of the epistereom by short lunate ridges (Plate II, figs. 1A, 1B, also 1D), which correspond in size, form and position with the pores beneath. Three or four series of these pairs of lunate pores may occur between the centers of the thecal plates and the suture lines, the pairs of different series more or less alternating with each other in position.

Each lunate pore is connected near its distal end with a small circular or oblong pore penetrating the outer more or less continuous sheet of the mesostereom, and leading into the spaces between the vertical lamellæ. Pores of the same pair always connect with different inter-lamellar spaces, being separated by one of the lamellæ. The right hand pore of one pair, however, usually is connected with the same inter-lamellar space as the left hand pore of the nearest adjacent pair, proximally or distally, i.e., either nearer the center of the thecal plate or nearer the suture line. In this manner, three or four pores belonging to different pairs may be connected to the same inter-lamellar space. There is no connection between pores belonging to the same pair.