

In one specimen (Diagram No. 6) showing the transverse apical food-groove very well, the posterior margin of this food-groove appears occupied exclusively by the plate marked *rp* in the diagram. The stereom protuberances, supporting the arm pairs, appear to rest upon the margins of the adjacent thecal plates. These stereom protuberances appear to be deposits made by the bases of the arms at the ends of the transverse apical food-groove, and not to be a part of the thecal plate system. The peristomial plates, on the contrary, are ordinary thecal plates. Judging from the presence of small plates along the margin of the stereom protuberances in some specimens, and their absence in others, these small plates may be additions during the later stages of growth of the individual.

In *Comarocystites punctatus* the number of thecal plates in a vertical series often numbers 9 or 10; in *Comarocystites shumardi* this number usually is only 6 or 7. The theca grows in size chiefly by growth at the margin of the individual thecal plates. It is quite evident from the absence of small intercalated plates in some of the specimens at least that the enlargement in growth does not depend upon the introduction of intercalated plates within the general body of the theca, although it is not impossible that additional plates, during earlier stages of growth, may be added at the base. The evidence in favor of such a suggestion is not very clear and consists chiefly in the presence, at the base, of plates of small size inserted between those of larger size.

22. *The so-called variety obconicus.*—Meek and Worthen probably were in error in attempting to distinguish a variety *obconicus*, as distinct from *Comarocystites shumardi*. Close examination of the type specimen (Figure 2a, on plate 1, Geol. Surv. Illinois, vol. III) fails to show any distinguishing features excepting that presented by the more attenuate base. As a matter of fact, however, there is no evidence that this attenuate base is anything more than an individual characteristic. The second specimen figured by Meek and Worthen under the variety name *obconicus* (Figure 2b, on plate 1, of the Illinois report cited above) does not differ in any respect from ordinary specimens of *Comarocystites shumardi*, and certainly does not possess an obconical base. The first specimen presents clear evidence of the division of the mesostereom into vertical plates, shorter toward the angles of the plates, and separated by very narrow interspaces. The column has a width of 2.8 millimeters, and 17 columnals of about equal size occur in a length of 5 millimeters. The surface of the column is minutely granulate, as in *Comarocystites punctatus*. The second specimen does not differ in any respect from small specimens of *Comarocystites shumardi*. Only the left half of the theca is exposed but this half includes all, from the base to the stereom protuberance supporting the left pair of arms. Even the forking of the left end of