

in different specimens. All efforts to diagram the basal thecal plates of *Comarocystites punctatus* in such a manner as to secure a primary series of 3, 4 or 5 plates has failed, nor is it possible to demonstrate the presence of any radial plan of arrangement of the lower thecal plates, extending outward from a supposed primary basal series.

If any increase in the number of plates forming the theca takes place in any except the earliest stages of growth, this increase in number can take place only at the base of the theca, where in contact with the column. Elsewhere the plates of the theca are almost uniform in size. The series of plates in contact with the column, however, frequently are unequal in size, smaller plates not infrequently being wedged in between larger ones, and the line of contact between the margin of the lowest plates and the top of the column is more or less irregular.

EXPLANATION OF PLATE II.

- Fig. 1. *Comarocystites punctatus* Billings. Specimen belonging to James E. Narraway. A, anterior side, photographed so as to show the thecal plates nearest the transverse apical food-groove, and coverplates on the anterior side of the food-groove; also the position of the anus and of the masses of stereom supporting the two pairs of arms. Several of the plates give distinct indications of the pairs of lunate pores which occur directly beneath the epistereom. B, posterior side, photographed so as to show the thecal plates along the upper half of the specimen, the cover plates on the posterior side of the food-groove, and the linear hydropore passing from the right posterior plate diagonally backward and to the right toward the middle of the adjoining plate. The facet for the support of the left posterior arm and the branch of the food-groove leading to the margin of this facet are well preserved; only a short part of the adjoining branch of the food-groove is seen. The upper part of the mass of stereom on the right of the food-groove has broken off beneath the level of the facets supporting the right pairs of arms. In both figures the anal pyramid is located on the right. C, five of the cover-plates of the food-groove enlarged. D, one of the thecal plates enlarged so as to show the indications of the presence of pairs of lunar pores presented by the epistereom in unweathered specimens. A, B, enlarged 3 diameters; C, enlarged 13 diameters; D, enlarged 8 diameters. The form and relative location of the thecal plates of this specimen are indicated in text diagram 1.
- Fig. 2. *Comarocystites punctatus* Billings. Specimen belonging to Walter R. Billings; view of right side, magnified 2.4 diameters. Photographed so as to show the anal pyramid, the thecal plates immediately surrounding the anal pyramid, and the diagonal arrangement of the thecal plates on this side of the specimen. Indications of the transverse apical food-groove terminating at the two masses of stereom supporting the pairs of arms are seen along the upper part of the figure.
- Figs. 3, 4. *Comarocystites punctatus* Billings. One of the brachials and one of the pinnulars of the type illustrated on plate III, magnified. 3, three views of a brachial, magnified 3 diameters; A, cross-section with indication of facet for attachment of the pinnule on the right; B, side opposite the facet; C, side showing the facet. 4, three views of a pinnular, magnified 6 diameters; A, cross-section; B, side opposite the cover-plates; C, side showing three cover-plates along one edge.

(To be continued)