

Grant. The first presents a clearly defined view of the lower half of the right posterior arm, with its attached pinnules. The second presents a much less clearly defined view also of what appears to be the right anterior arm, with its attached pinnules. Evidently both the brachials and pinnulars of these two arms are arranged in uniserial order. It is assumed that the left pair of arms presented the same characteristics. Only the right posterior arm attached to the Billings type-specimen is here described in detail.

Twelve brachials (Brachials 1 to 11 are numbered in the figure on plate III) are exposed, and each bears a single pinnule on its right side. All of the brachials above the first are flattened slightly from front to rear (Plate II, figs 3A, B, C), the ratio of the lateral diameter to the adoral-aboral diameter being as 10 to 9 (Fig. 3A). The length of each brachial usually equals about three-halves of its lateral diameter. The facets supporting the pinnules are concave (Fig. 3C), their margins being distinctly elevated, especially on their lower sides. The location of these facets is slightly above the middle of each brachial. On that side of the brachial which is opposite the pinnule (Fig. 3B), the brachial tends to be slightly more angular in a direction parallel to the length of the arm. The original length of the complete arm is unknown, but probably it equalled about three-halves of the length of the theca. The rate of tapering of the successive brachials, as far as preserved, is but moderate. Analogy with *Amygdalocystites* and *Canadocystites* suggests that the pinnules of all four arms of *Coriarocystites* were attached to the right side of the arms, the aboral side of each arm facing the observer, and the distal end being directed upward.

16. *The pinnules.*—The length of the pinnules probably equalled 30 millimeters, and may have reached 35 millimeters. There is but little variation in the length and width of the pinnulars, about four occupying a length of five millimeters. Except in the case of the first two or three pinnulars, most of the pinnulars are strongly flattened transversely (Plate III; also figs. 4A, B, C, on plate II), the pinnules being placed, for purposes of description, in an approximately vertical position, with the aboral side facing the observer. The ratio of the transverse diameter to the adoral-aboral diameter (Fig. 4A) is about 8 to 5. The lateral edge of the pinnulars (Fig. 4B) tends to be more or less angular in a direction parallel to the length of the pinnule, thus giving the pinnulars a lens-shaped cross-section.

In the Billings type-specimen, here figured, a series of small, flat, quadrangular plates lines one side of two joints of that fragment of the pinnule which is marked D on plate III, and traces of similar small plates are seen at the point C, on one side of the pinnule attached to the eighth brachial. (See also fig. 4C on plate II.) These small quadrangular plates are interpreted as covering-plates. Their number