

## NEW SPECIES OF HAMILTON CRINOIDS

By WINIFRED GOLDRING

This crinoid material is part of that collected by G. Arthur Cooper in the Colgate University quarry in working out a problem for his master's thesis. The beds from which these specimens were collected are of Hamilton age, considered Ludlowville by Mr Cooper.

At first glance, without knowing the beds from which the specimens came, one might believe that one was dealing with an Ithaca-Chemung fauna, especially as regards the inadunate forms. It is quite evident that the Ithaca-Chemung type of crinoid fauna had already crept into these Hamilton beds. Two new species are represented. One has been found occurring in fair abundance, and to this the name *Charientocrinus* (?) *cooperi* has been given in honor of the collector; the other has been called *Poteriocrinus* (?) *colgatensis*. Of the two other species collected, one is a young specimen and has been identified with *Gennaeocrinus carinatus* Wood; the other is referred to *Botryocrinus nycteus* (Hall).

I am indebted to Mr Cooper for the opportunity of studying this material and for permission to retain the types and duplicate material for the State Museum.

### *Charientocrinus* (?) *cooperi* sp. nov.

Plate I, figures 1-3; text figure 1

This species belongs in the characteristic family Glossocrinidae with species of the genera *Glossocrinus*, *Liparocrinus*, *Catactocrinus* and *Charientocrinus*. *C. cooperi* bears a strong resemblance in general to the genotype, *Catactocrinus leptodactylus* Goldring; but the latter has arms that do not bifurcate, a different arrangement of the pinnules and the stem is not so cirriferous, especially in the proximal portion. The strongest affinities, so far as the present material shows, is with *Charientocrinus ithacensis* Goldring. The anal area in no specimen is well shown. For the time being the species is referred with a query to the genus *Charientocrinus*.

The dorsal cup in a typical specimen is about 3 mm high, with small, low infrabasals. The cup is ornamented with conspicuous folds or ridges. The posterior side is shown in one specimen, but not very clearly. The structure of the cup in this area is apparently that of *Poteriocrinus*, *Decadocrinus* etc., as is seen in all the genera referred to the family Glossocrinidae, and this species likewise has

the type of anal tube (Figure 1B) characteristic of the genera of this family. The latter is long and slender, in no place preserved for its full length. In one of the smaller specimens, the anal tube has a width of 2.6 mm in the proximal portion; only 16 mm of the tube is preserved and it tapers very little. The specimen from which the measurement of the dorsal cup was taken shows parts of the anal tube, which measures 2.8 mm in width more than half way from the proximal end, and even extends a little beyond the tips of the arms. The tube is shown in several specimens to be composed of rows of narrow plates, but only two specimens give any indication of the median, dorsal, armlike series of plates so characteristic of the genus.

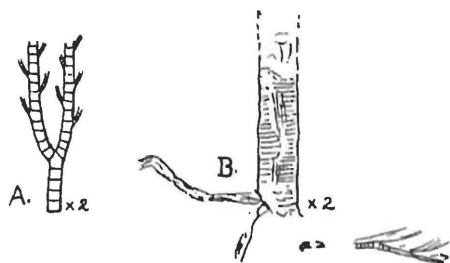


Figure 1 *Charientocrinus* (?) *cooperi* sp. nov. A. Proximal portion of an arm showing the arrangement of the pinnules, x2; B. Proximal portion of anal tube, x2.

There are five primibrachs, the fifth axillary, giving rise to two arms to the ray, ten to the crown. The arms are very long (over 51 mm) and slender, compared with the height of the dorsal cup, and bear very long, slender pinnules. The pinnules are borne alternately on each side on every second brachial, thus giving a space of four brachials between the pinnules on each side (figure 1A). The brachials are quadrangular and short, eight occurring in a space of 4.3 mm in the proximal portion.

The column is slender, pentagonal, not preserved for any great length, but bearing on the nodals, so far as preserved, very long slender cirri. The column is composed of alternating thin and thick columnals; the cirri-bearing columnals, the nodals, are close together.

This species differs from *C. ithacensis* in the fewer primibrachs, the arms not branching above the primibrachs, the more conspicuous folds on the plates of the dorsal cup and in the more cirriferous column.

*Horizon and locality.* Hamilton beds, Campus quarry, Colgate University, Hamilton, N. Y.

*Poteriocrinus* (?) *colgatensis* sp. nov.

Plate 2, figures 1-6

This is a very characteristic species, but as the arm characters are missing it is referred with a query to the genus *Poteriocrinus*. It is so characteristic, however, that there could be no difficulty in identifying it. It is a large species with a heavy, pentagonal, cirriferous stem. The length of the crown is not known, but one specimen measures 65 mm from the base of the calyx to the distal portion of the anal tube, which is not fully preserved.

There are five large infrabasals measuring 2.7 mm in height. The total height of the cup is 9.8 mm. The cup must have been as broad or broader than high, but no measurements can be taken because of the flattened condition of the specimens. The plates of the anal area have the same arrangement as in the *Poteriocrinus* group. The radial and anal x are both comparatively large, and so are the first tube plates. The anal tube is long and broad and composed of numerous rows of narrow plates. In one specimen it is preserved for a length of some 55 mm. The anal tube is at least 12 mm broad in its distal portion and 13.5 mm broad a short distance above the calyx.

The arms are not preserved more than one or two brachials above the primaxil in any specimen. There are four primibrachs, the fourth axillary. The first primibrach is much larger than the others; the proximal face measures 5.3 mm and occupies practically the entire upper face of the radial; the distal face measures 2.8 mm. It has a height of 3 mm. The primaxil has a height of 3 mm; the other primibrachs are about 2 mm high and 2.3 mm wide. The brachials following the primaxil are shorter and not so wide.

The calyx plates are ornamented with radiating ridges and depressions at the corners of the plates. There is a spine 2.8 mm long on each primaxil and several about 3 mm long on the distal part of the anal tube.

The column is heavy and pentagonal, composed of nodes and internodes and bearing at the nodes two or three comparatively long, heavy cirri. The cirriferous nodes are quite close together, and the cirri are borne close to the calyx.

*Horizon and locality.* Hamilton beds, Campus quarry, Colgate University, Hamilton, N. Y.

## EXPLANATION OF PLATES

## Plate 1

**Charientocrinus (?) cooperi** sp. nov.

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Figure 1 Specimen showing well the character of arms and column.

Figure 2 Counterpart of the same. The calyx is more distinct here.

Figure 3 Plasticene squeeze of specimen shown in figure 2.

## Plate 2

**Poteriocrinus (?) colgatensis** sp. nov.

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Figure 1 Cast of part of a crown. The spines of the anal tube and primaxil are well shown; also the character of the column.

Figure 2 Plasticene squeeze of the dorsal cup and primibrachs of the same specimen. The ridges on the plates of the dorsal cup are quite distinct.

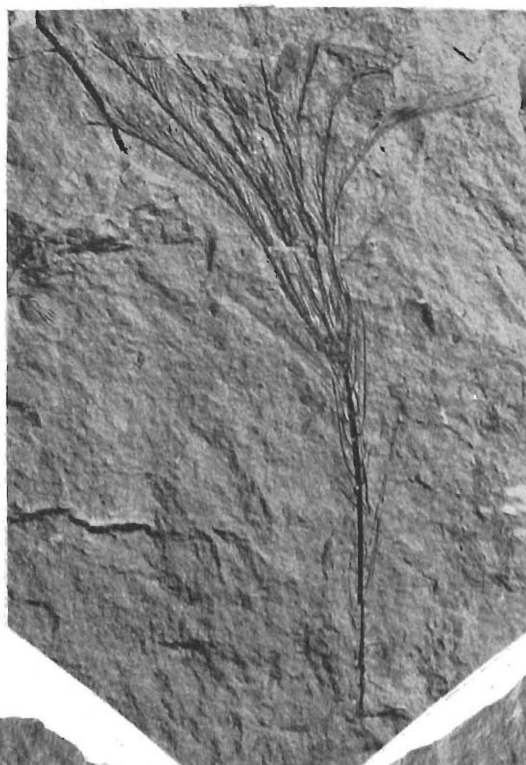
Figure 3 Cast of portion of dorsal cup of another specimen. Note the length of the spine on the primaxil.

Figure 4 Plasticene squeeze of another specimen showing the anal area (at left).

Figure 5 Internal cast of calyx and proximal portion of anal tube.

Figure 6 Portion of a column with cirri.

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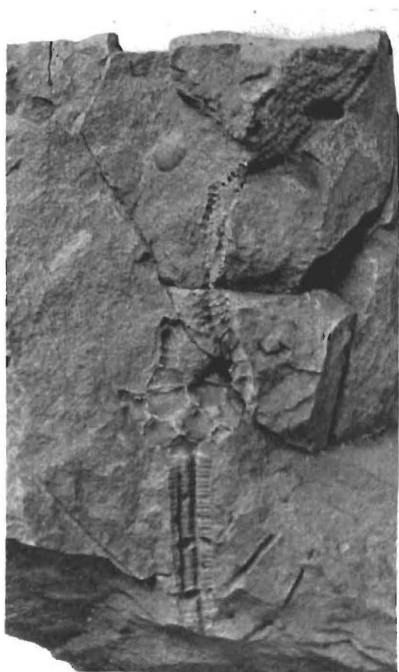
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