1931

A NEW CRINOID SLAB, A BIT OF MISSISSIPIAN SEA BOTTOM

Erwin Hinckley Barbour

Follow this and additional works at: http://digitalcommons.unl.edu/museumbulletin

Part of the Entomology Commons, Geology Commons, Geomorphology Commons, Other Ecology and Evolutionary Biology Commons, Paleobiology Commons, Paleontology Commons, and the Sedimentology Commons

This Article is brought to you for free and open access by the Museum, University of Nebraska State at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Bulletin of the University of Nebraska State Museum by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.
A NEW CRINOID SLAB, A BIT OF MISSISSIPPIAN SEA BOTTOM

By Erwin Hinckley Barbour

Crinoids are popularly known as stone-lilies, feather-stars, and sea-lilies. The word lily is a misnomer, and many, misled by the name and by the lily-like form, associate crinoids with the plant kingdom. The name, feather-star, seems explicit for it refers to the feathery arms surrounding the cup or calyx, and expresses relationship to the starfishes and their kind. The cup is attached to a stem, and the stem is anchored to the ocean floor by so-called roots, which are really hold-fasts, or anchors. These features may be seen in the diagram at the end.

Crinoids belong to the echinoderms, of which 4000 species are known. Echinoderms are supposed to have ascended from the worms, and all of them are marine. They sprang into prominence during Ordovician, Silurian, and Devonian times, when the Pelmatozoa were especially prolific. The cystoids, which made an early start in the basal Cambrian, increased rapidly, culminated in Mid-Ordovician, declined steadily, and perished outright in the Mid-Devonian. The blastoids, tardy in starting, began in the Mid-Ordovician, reached their maximum in the Mid-Devonian, declined during the Mississippian, and became extinct before the Pennsylvanian. The crinoids, which have fared better, appeared in the late Cambrian, increased with enormous rapidity, reached their meridian in the Mid-Devonian, declined alarmingly during the Pennsylvanian and Permian, but rallied during the Triassic and especially the Jurassic, at which time they were both profuse and large. Their numbers were again greatly reduced during the Cretaceous. Altogether, crinoids have been a successful and persistent race, and certain species still survive.

The Nebraska State Museum, is possessed of a considerable collection of crinoids from the Mississippian limestone of the famous quarries at LeGrand, Iowa. There are numerous individual heads, small and large slabs, each containing from several to many crinoid heads with arms and
stems. Two or three of these slabs are worth figuring and recording in print. The largest of the slabs shown in figure 127 is 20 by 11 inches, and is covered by thirty crinoids. The three slabs comprise the following genera and species.

- *Rhodocrinus nanus*
- *Rhodocrinus kirbyi*
- *Rhodocrinus waterseanus*
- *Dichocrinus inornatus*
- *Platycrinus agassizi*
- *Actinocrinus sp.*
- *Goniocrinus sculptulus*
- *Aorocrinus radiatus*
- *Graphiocrinus longicirrifer*

The crinoid collection of this institution has been greatly enriched and beautified, and its interest and instructional value enhanced by a large slab recently acquired. This slab is one of those specimens rarely found. It attracts and holds the attention of old and young alike. It is a center-piece worthy of a place in any crinoid collection, and is such as all museums covet, but few acquire. The crinoid slab, as shown in the figure, is kite-shaped, being 4 inches thick, 39 inches long, and 20 inches wide. Over its surface are spread 208 crinoid heads and stems evenly distributed. It is simply a bit of petrified sea bottom from the Mississippian age, and illustrates how closely these sea-lilies grew at that time. The crinoids, which are dark, show up in bold relief on the light-buff limestone. This
Fig. 128—A kite-shaped slab of Mississippian limestone from the quarries at LeGrand, Iowa, showing 208 finely preserved crinoid heads with arms and stems. Collected and presented by Mr. B. H. Beane. The Morrill Palaeontological Collections the Nebraska State Museum. Specimen No. 22-7-31.
large slab, the smaller slabs, and the individual crinoid heads all of the Mississippian age, were furnished and classified for our collection by Mr. B. H. Beane of LeGrand, Iowa, who has become well-known to palaeontologists because of his remarkable success in collecting crinoids and asteroids. The slab comprises 12 species of crinoids; one being new and undescribed. Besides, there are two blastoids, Orophocrinus conicus. The genera and species represented on this slab are as follows:

Rhodocrinus kirbyi
Rhodocrinus waterseanus
Rhodocrinus nanus
Rhodocrinus sp. nov.
Platycrius agassizi
Scaphiocrinus globosus
Poteriocrinus legrandensis
Graphiocrinus longicirrifer
Aeroocrinus immaturus
Dichocrinus inornatus
Blastoid, Orophocrinus
conicus

It is certain that many citizens scattered over this broad region, whatever their business or profession may be, have an inherent interest in Nature, and for all such the following classification of the animal kingdom showing the position of the echinoderms may prove acceptable and helpful.

1. PROTOSOA, microscopic animals.
2. PORIFERA, sponges.
3. COELENTERATA, corals, etc.
4. VERMES, flat worms, thread worms, or round worms, wheel worms, bryozoa, and brachiopoda.
5. ECHINODERMA, crinoids, star-fish, sea urchins, and sea cucumbers, generally placed here.
6. ANNELIDA, segmented worms, such as angle worms, leeches, etc.
7. ECHINODERMA placed here by some authors.
8. ARTHROPODA, crabs, and insects.
9. MOLLUSCA, clam, oyster, squid, etc.
10. ECHINODERMA placed here by some authors.

VERTEBRATA, animals with vertebral column.

The classification of the Echinodera is shown pictorially below.

Fig. 129.—Classification of the Echinodera diagrammatically expressed.