

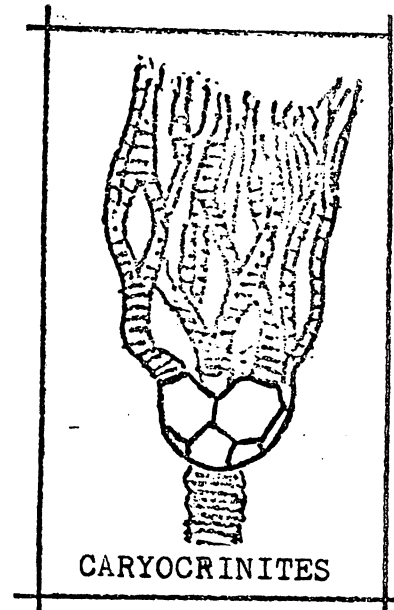
# M. A. P. S.

# DIGEST

Volume 2 Number 3

January 1979

Official publication of the  
Mid-America Paleontology Society



## FROM THE SECRETARIES NOTES

The program for November "Living Fossils" presented by Bob Cooper was scheduled prior to the business meeting. This very informative slide/lecture concerned itself with the present-day descendants of many of the fossil invertebrates and insects with which we are familiar. A trip to the ocean will enable us to see and feel these creatures, and give us a greater appreciation of our fossils.

As the program was quite lengthy the only business brought before the meeting was a recommendation that \$175.00 be allowed for the Swap Committees use for advertising and printing. This was approved.

As an "echo" from the November meeting, the postcards returned by members ratified the election of 1978-1979 officers. Director for the 2-year term is Don Good; Mary Boland will serve the remaining year of Doug DeRosears term.

Due to the recent ice-storm, the attendance in December was down. The society is now officially incorporated in Iowa as a non-profit group. Ray Fairbanks presented a number of changes necessary in our constitution. (These will be published in the DIGEST later), before being acted upon. For the benefit of all who can attend meetings, it was decided that a regular meeting will be postponed one week in the future

in case of inclement weather. Our April 1st meeting will be held in conjunction with the National Fossil Exchange. A report on the progress of this activity will be found on another page of this DIGEST.

After much discussion it was moved, seconded and carried that a new membership category be established: Dealer Membership at \$20.00 per year. Such members will have their business with address listed in the DIGEST and in the annual Membership Roster. Such memberships are non-voting. If the dealer desires voting privileges a separate individual membership must be paid for.

Jim Frink provided an excellent demonstration program on fossil preparation, utilizing both hand tools and power tools. He also commented on various types of vibrators and air-abrasive cleaners.

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## Program/Meeting Notes

Remember.....our January meeting has been re-scheduled for the 13th as the Augustana College buildings will be closed on our regular meeting date.

Steve Good, son of MAPS members Don and JoAnn Good, will present the program "Collecting in Wyoming" in color slides. This will cover Steve's last summer stint with the U S Geological Survey.

"A LOVE OF FOSSILS BRINGS US TOGETHER"

from the Presidents Desk:

The holiday season is over, and the new year under way. One of my resolutions is not to be offended nor to offend others because they want to reach our goals by a different route.

The worst thing that can happen to a society is to split into factions, so our main objective must be to keep sight of the purposes of the society as we try to have these accomplished in one way or another.

In MAPS, because of our diverse and widely scattered members, there is a real danger of so-called "cliques" developing because of communication problems. I feel that we must all go the "extra mile" with each other to prevent this happening. When a member picks up his chips and goes home, for whatever reason, we are all the losers. The best way to prevent this is for every person either to speak up at our meetings, or if you are too far away to attend meetings, to write me a letter stating your views. All the letters I receive will be discussed by the Board and then answered.

It will take several years to develop the best ways to promote the study, use, collecting and display of fossils and we will make many errors before the best program is developed. The only way to have a successful program is to try, and then evaluate the function and proceed from there. Any club that stops trying new programs and activities is a club that has stopped developing and is on the road down.

Gil Norris

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### NATIONAL FOSSIL EXPOSITION

This is the activity previously known as the National Fossil Exchange; it has been renamed as our society members will be displaying and selling in addition to their trading.

The Mid-America Paleontology Society, assisted by the Earth Science Club of Northern Illinois, and the Eastern Missouri Society of Paleontology, will conduct a NATIONAL FOSSIL EXPOSITION at Tanner Hall, Western Illinois University, Macomb, Illinois on March 31st and April 1st, 1979. The show / swap hours are from 9AM to 6PM on Saturday, and from 9AM to 4PM on Sunday. A banquet is scheduled for 7PM on Saturday, with a speaker following.

Members (and non-members alike) are encouraged to reserve tables for displays and for the swap/sell. Display space is free, but must be reserved prior to March 1st. Charge for a 6-foot table is \$5.00 for the weekend or \$2.50 per day. All correspondence and reservations are to be made with Mrs Cheryl DeRosear, Box 125, Donnellson, Iowa 52625, or phone 319-835-5521.

Inexpensive dormitory lodging at the University is available (see page four of the December DIGEST. To arrange for this lodging contact Mr Wallace Harris, 325 East Franklin, Macomb, Illinois 61455, or phone 309-833-4869.

An article on MAPS and the NATIONAL FOSSIL EXPOSITION will appear in the February issue of the Lapidary Journal.

## FOSSILS ARE WHERE YOU FIND 'EM

by Diane Dare

Recently the jewelry store where I work held a special showing of lithographs by Edna Hibel, and I borrowed the book "Hibel Lithographs" edited by Theodore Plotkin (JAR Pub. 1977) just to find out what this art form is. You can't imagine how surprised I was to open the book and see what looked like familiar fossils!

"When I visited the quarries in Solnhofen in Bavaria, the one area in the world where limestone of the quality suitable for doing fine lithographic work is quarried, I was fascinated by the local museum display of fossils embedded in limestone millions of years ago" writes MS Hibel. This compact, finegrained limestone is the same as that seen in the display of Solnhofen fossils recently at the MWF show in Cedar Rapids! The book of MS Hibel includes a page of fossils reprinted by permission of the Freunde des Museum beim Solenhofen Aktien-Verein.

In lithography the artist makes a drawing on the flat stone, the stone is processed until ink adheres to the image, the ink is rolled on, paper pressed against the stone, and the image is picked up (in reverse). This process was invented in Germany around 1795 by a man looking for an easier way to print music, Alois Senefelder.

The stones used for this purpose are 3" to 6" thick; large stones of even quality are rare but occasionally are found up to 36" by 50" in size. The stone is ground to the desired smoothness and grain, then the artist draws or paints directly on it using grease pencils, crayons, and grease-based ink.

When the drawing is done, the surface is washed with an etching solution composed of weak acid and gum arabic; the acid fixes the areas covered with grease to make them accept grease based ink, while the gum arabic seals the rest of the surface so that it repels ink if kept wet. If the stone is not properly etched gum arabic doesn't prevent the ink from "taking" in the

non-printing areas and all is lost.

The stone is then inked with black ink to make a test print. "Stones, being sensitive to heat and humidity will change from one impression to the next" says the author. Once a stone is inked, paper is placed over it, then stone and paper are run thru a press (usually a bed on which the stone is placed), then the bed and stone slide under a bar that exerts pressure to transfer ink to paper. Sometimes the stones break under this pressure.

For a multi-color work, each color is printed from a separate stone. When the entire edition is done the surface of the stone is ground off and it is prepared for another drawing.

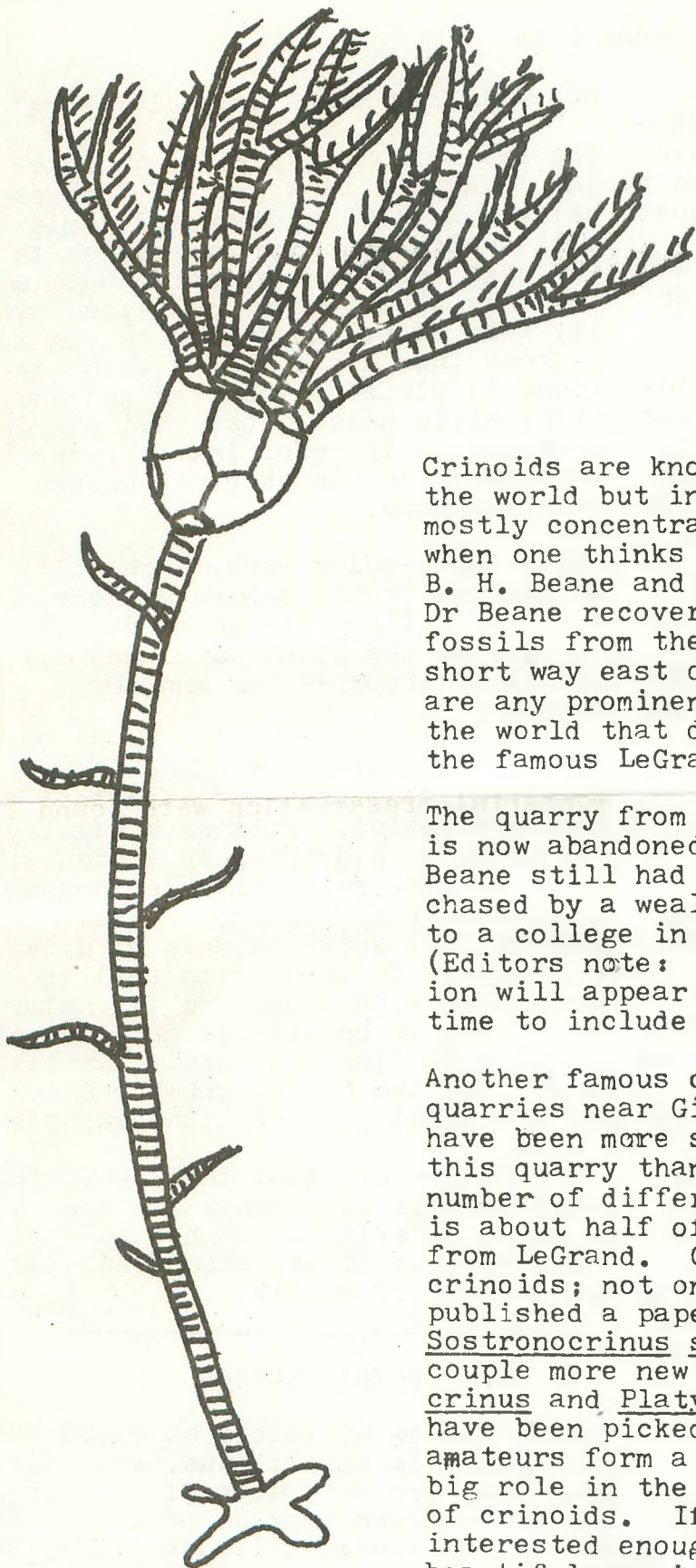
Says the author, "Each stone is a creation of nature that has its own characteristics. Putting a magnifying glass to a drawing on a stone, or to a lithograph, reveals thousands of irregular shapes in a random pattern that serve to make up a wash or a line. To be able to feel the quality of each stone and its natural grain, and to be able to get the most out of each stones natural characteristics are two of the great challenges and the great joys of lithography".

I'm sure you all know that beautiful fossiliferous limestones are used as building materials, but how many of you knew that it was also used this way in the art world?

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 MAPS Jacket Patches

These are now available at \$1.00 each, postpaid. In black, blue, and silver grey they are very attractive. They can be obtained from JoAnn Good, 410 NW 3rd St, Aledo, Illinois 61231; or from Gil Norris, 2623 34th Avenue Court, Rock Island, Illinois 61201; or from Dick Johannesen, 2708 34th Street, Rock Island, Illinois 61201



## CRINOIDEA

by Amel Priest

Crinoids are known from many places throughout the world but in the United States they are mostly concentrated in the Midwest. Usually, when one thinks of crinoids, they think of Dr. B. H. Beane and the LeGrand (Iowa) crinoids, as Dr Beane recovered so many of these beautiful fossils from the quarry near his home, just a short way east of Des Moines. I doubt if there are any prominent universities or museums around the world that do not have at least one slab of the famous LeGrand crinoids.

The quarry from which these famous specimens came is now abandoned and the many slabs which Dr. Beane still had at the time of his death were purchased by a wealthy industrialist and presented to a college in Wisconsin as the Beane Collection. (Editors note: a further article on this collection will appear in the April MAPS DIGEST, just in time to include in your vacation planning for '79)

Another famous crinoid locality is the limestone quarries near Gilmore City, Iowa. Probably there have been more specimens, in numbers, taken from this quarry than the one at LeGrande; however the number of different species found at Gilmore City is about half of those which have been recovered from LeGrand. Gilmore City is still producing crinoids; not only that, but in 1970 H. L. Strimple published a paper describing a new genus and species Sostronocrinus superbus. Shortly after that a couple more new species have turned up, Megistocrinus and Platycrinites. All of these new species have been picked up by amateur collectors, so amateurs form a very important part and play a big role in the scientific research of the world of crinoids. If these amateur collectors weren't interested enough to rescue these interesting and beautiful specimens, they would be reduced to road rock or concrete. Sad, but all too true.

continued next page

## CRINOIDEA (continued)

After all, the quarry operators are not mining fossils for us but getting out rock, and fossils are a part of the rock. As an example, I cite a personal experience. I had located some crowns in a quarry in south east Iowa, and the manager said they would blast this ledge in about two months, well along into the winter. I fully intended to go back at that time but one thing after another came up and it was spring before I did get back, only to find that all the rock in that ledge had been removed and crushed! A terrible feeling of sickness came over me as I realized what I had allowed to happen. Not one crinoid did I find there! So, in a large part it is up to the amateur collectors to rescue these important fossil remains from the maws of the crushers and save them for posterity and for science.

Near Burlington, Iowa there are outcrops of a very crinoidal limestone. These formations are called the Burlington Limestone, and are found over a wide area. The author has personally collected the localities around Burlington and Hannibal, Missouri, in Sedalia and Booneville in central Missouri, and at Springfield in southern Missouri. The formations are easy to recognize because it is almost a coquina of crinoid remains. The crinoids of the Burlington Formation are mostly calyx specimens, and of the camerate type. Crowns are sometimes found but they are not common.

Probably the equal of the LeGrand crinoids in fame and preservation are those found near Crawfordsville, Indiana. Collectors there, even before the turn of the century, sent shipments of these beautiful crinoids all over the world. They are found in a sort of siltstone and clean up in really fine fashion, many specimens entirely free of matrix.

The Glen Dean Formation, part of the  
Maestri Series of southern Indiana,  
and Illinois, have yielded

some fine specimens. They are younger in age than those found at Crawfordsville. All the preceding localities are in Mississippian age formations where crinoids reached their peak in profusion of growth and number of different species.

A famous locality for Devonian crinoids (and trilobites) is near Sylvania Ohio. Here the fossils are sometimes partially pyritized. In Iowa, the Cedar Valley limestones have produced some very fine crowns, but in no great numbers.

Silurian crinoids occur in the Waldron Shale of Indiana and Tennessee and some of them are quite large in size.

One of the great finds of Pennsylvanian age crinoids occurred in the late '60s, and was written up in Earth Science magazine. This was the LaSalle crinoids from near Pontiac, Illinois. These truly beautiful specimens, with wonderful preservation were found by a devoted amateur, Mrs Christina Cleburn. She helped to rescue these crinoids from the jaws of the rock-crusher as the buffalo-wall-like depression where they were once deposited has long since gone through the crusher. It is thought by many paleontologists that dead crinoids drifted along sea-bottoms and settled in depressions like this one; this may be the reason why so many great finds appear to be in "nests".

Permian crinoids have been found in Nevada and Kansas, but the most famous locality is on the island of Timor.

Ordovician crinoids occur in northeast Iowa and in Canada, but the best specimens have come from the Cincinnati Shale formations of Ohio.

Wherever there are fossiliferous limestone exposures there is always the possibility of important fossil discoveries, and persistent curiosity by amateur collectors is needed to save these specimens and call them to the attention of professionals.

(From The Pyriter, Dallas Co Rock Club)

THE PASSIONATE PALEONTOLOGIST  
(after Marlowe)

Come roam with me and be my love,  
And we will all the pleasures prove,

That fossil fauna, and the field  
Of prehistoric reptiles yield.

We'll delve among Jurassic rocks  
And tabulate primordial shocks.

The Trachodon and Stegosaurus  
Will lay their secrets bare before us.

We'll learn, in farthest Karakoram  
About their bones and how they wore 'em.

Look on dark Cretaceous diorama,  
'Twill be the Glyptodon's pajamas.

I'll stir thy heart to glad delerium  
With samples of Holochititherium,

And dig thee quaint Chelonian legs  
Or dinosaurian storage eggs.

I'll make thee pretty beads and lockets  
Of teeth from Brontosaurian sockets,

And carve thee gadgets from the bier  
Of Eocene Titanothera.

I'll feed thee choicely with the data  
Compiled from Paleozoic strata,

And on the Pterodactyl's knees  
We'll build our own hypothosees.

So, if these pleasures may thee move  
Come roam with me, and be my love.

by Corrine R Swain, 26 January 1974  
(from The Prospector)

FOSSIL MAGAZINE, remember that one ?

The Publishers Clearing House may be able to get you a substitute magazine, no money back. There is no charge for the service. Write to Robert H Treller, Publishers Clearing House, 382 Channel Drive, Port Washington, New York, 11050

EARLIEST DIAPSID REPTILE IDENTIFIED

The oldest ancestor of most modern and fossil reptiles has been identified as a slender, delicately-limbed lizard about the size of an average iguana. Petrolacosaurus kansensis, which lived during the Upper Pennsylvanian period, about 290 million years ago, is an evolutionarily link to the ancestral stem reptiles and the dawn of the diapsids, the "ruling reptiles". Diapsids include the majority of both fossil and living reptiles.

It is presently believed that all reptiles evolved (stemmed) from a single group during the Pennsylvanian period. The Petrolacosaurus seems to occupy a key evolutionary position, more advanced than the stem reptiles but still at the fountainhead of all the diapsids.

As an evolutionary bridge, the 3-foot lizard was not only similar to the earliest known diapsids, says Robert R Reisz of the University of Toronto, but it bore a remarkable resemblance to the romeriids, prominent representatives of the stem reptiles. Consideration of the four to five pound lizards anatomical structure leads Reisz to suggest that it belongs to the order Eosuchia. Petrolacosaurus skull is perforated like the skulls of other early eosuchians but unlike those of romeriids, by several well-developed fenestrae (small perforations in the bone). Some of the animals other "post-romeriid" features, including elongated vertebra, a massive pelvic girdle, hollow ribs, and long bones, are also evident in Upper Permian and even Triassic eosuchians, from 225 to 180 million years old.

"Having determined this state of affairs to exist" says Reisz, "there still remains a gap between Petrolacosaurus and the first emergence of a variety of eosuchians during the Upper Permian!" Reisz believes this gap is the consequence of an environment unsuited for the fossil record.

(From Sci

Please add the following to your Roster of Members:

Bonnie Faurote  
3381 Pheasant Hill Drive  
Akron, Ohio 44313

Helen V Jensen  
812 - 8th Avenue  
Coralville, Iowa 52240

(If these five people will send me the information I will "fill out" and publish a thumbnail sketch for each of them. Editor)

Madelyne Lillybeck  
1039 33rd Street Court  
Moline, Illinois 61265  
309-764-0921

Lou and Lois Rabe  
102 Agnes  
Port Byron, Illinois 61201  
309-523-3261

Joan and Tim Walker  
1210 Spring Street  
Davenport, Iowa 52803  
319-323-1566

Harold L Shadday  
1324 North Harbison Avenue  
Indianapolis, Indiana 46219  
317-897-0403

Collecting 20 years. Accountant. Will trade. Interested in trilobites and other rare fossils from Cambrian thru the Permian

Kenneth W Machin  
16 Raven Crescent, Westcott  
Aylesbury, Bucks, England  
HP180PA  
Phone Waddesdon 359

Collecting 12 years. Police officer. Will trade. Interested in cephalopods, vertebrates and echinoids.

John & Janet Anderson  
48 North Edgewood Avenue  
La Grange, Illinois 60525  
312-482-8297

Collecting 6 years. Computer programmer. Will trade. Interested in Pennsylvanian fossils from Mazon Creek (Pit 11) area

Mrs Edwin (Wilma) Hilgemann  
P O Box 216  
Leola, South Dakota 57456  
439-3341

Collecting 10 years. Housewife. Will trade. Interested in all fossils, but especially insects and plants. Only fossil collector in her club.

Harold S Meals  
4755 Baltimore Street  
Los Angeles, California 90042  
213-255-8404

Collecting 40 years. Retired. Will trade. Interested in all invertebrate fossils.

Jack D Mount  
Dept of Earth Sciences  
University of California  
Riverside, California  
714-787-3440 or 714-684-0607

Collecting 21 years. Museum curator. Will trade. Interested in Tertiary and Upper Paleozoic mollusca, plus Cambrian trilobites

## Phylum Echinoderma

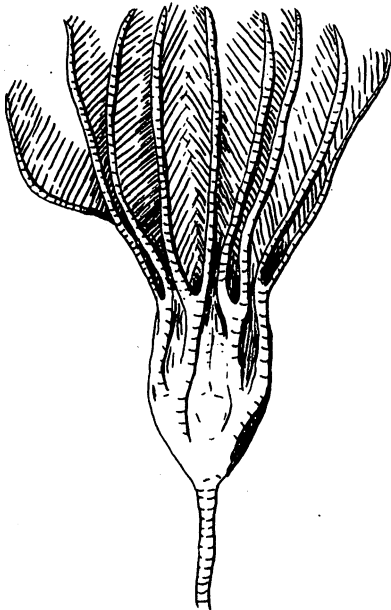
**GENERAL.** The starfish, sea-urchins, and their relatives are familiar examples of this phylum which includes also many less familiar animals. The echinoderms all have five-fold symmetry; they are all built on a pattern of five rays, though this is considerably modified in some cases. The whole body may have the form of a five-pointed star, or there may be only a pattern of five grooves on a round body, or the mantle may be surrounded by five arms, or arms in multiples of five. They may be attached to the bottom directly or by a stem (subphylum *Pelmatozoa*, including among others, the classes *Edrioasteroidea*, *Cystoidea*, and *Crinoidea*) or may be free-moving and stemless (subphylum *Eleutherozoa*, including among others, the classes *Stelleroidea*, *Echinoidea*, and *Holothuroidea*). Only the more important classes are described in detail here. The echinoderms are exclusively marine; their geologic range is Cambrian to present.

**CLASS EDRIOASTEROIDEA.** These are the seat-stars which look like starfish attached to a cushion-like disk covered with plates. They are only distantly related to the starfish, much more closely related to the cystids and crinoids. They are an extinct group which lived from early Cambrian to Mississippian times.

**CLASS CYSTOIDEA.** This group of extinct (Ordovician to Permian) echinoderms with or without stem, may be distinguished from the crinoids (see below) by their poorly developed arms. The subclass *Blastoidea*, formerly considered a class, have regularly arranged plates and perfect five-fold symmetry in the arrangement of the food grooves.

The irregular cystids are seldom abundant but many kinds have been found in the Ordovician and Silurian rocks of Ohio. The regular forms (blastoids) are fairly common in some Devonian beds of Ohio. None has been found in the Pennsylvanian or Permian rocks of the state.

**CLASS CRINOIDEA.** Most crinoids or sea-lilies have a stem, which anchors the animal to the bottom; there are a few free-swimming or, more exactly, floating forms. Crinoids (fig. 45) have a globular body or cup to which are attached five arms which may branch several times and which may be much longer than the cup. After death, the plates of the body are often scattered and the stem is preserved in sections or separated into pieces (called columnals or ossicles); crinoidal limestones are made up of dissociated plates and columnals. The geologic range of the crinoids is Ordovician to present; they were much more abundant and varied in the Paleozoic than in the Mesozoic and Cenozoic.



Complete crinoids are a rarity everywhere; a few good specimens turn up now and then in the Ordovician, Silurian, and Devonian of Ohio. Crinoidal limestones are found in all systems, with the exception of the Permian and Pleistocene.

**CLASS STELLEROIDEA.** These are the starfish and their relatives. They are characterized by the star-shaped body with a central disk and five rays or arms covered with plates. They are rare as fossils and range from the Ordovician to the present.

Complete starfish are even rarer than crinoids except in a few favored localities. A few specimens are found from time to time in the Ordovician, Silurian, and Devonian of Ohio.

**CLASS ECHINOIDEA.** The sea-urchins are echinoderms with a globular or disk-shaped body which is covered in life with movable spines. Fossil sea-urchins (Ordovician to present) are rare in Paleozoic, more abundant in younger rocks.



## NATIONAL FOSSIL EXPOSITION

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Phone \_\_\_\_\_

## Application for display space

Total table length required \_\_\_\_\_  
Total floor space required \_\_\_\_\_  
I wish my exhibit to be beside my swap table: \_\_\_\_\_ yes \_\_\_\_\_ no  
I wish my exhibit to be in the formal exhibit for the duration of the  
Exposition \_\_\_\_\_ yes \_\_\_\_\_ no

## Application for Swap/Sell table

I wish to reserve \_\_\_\_\_ 6-foot tables  
Weekend - \$5.00 per 6-foot table \$ \_\_\_\_\_ total  
Single day - \$2.50 per 6-foot table \$ \_\_\_\_\_ total  
Saturday only \_\_\_\_\_ Sunday only \_\_\_\_\_

Registration form, with correct fees, is to be mailed to

Mrs Cheryl DeRosear  
P O Box 125  
Donnellson, Iowa 52625 phone 319-835-5521

Check here \_\_\_\_\_ if you wish information on camping or lodging.

Please type or print above information

The Mid-America Paleontology Society (MAPS) was formed to promote popular interest in the subject of paleontology, to encourage the proper collecting study, preparation, and displaying of fossil materials, and to assist other individuals, groups, and institutions interested in the various aspects of paleontology. It is a non-profit society incorporated under the laws of the State of Iowa.

MAPS is affiliated with the Midwest Federation of Mineralogical and Geological Societies, and with the American Federation of Mineralogical Societies. Membership in MAPS is open to anyone, anywhere, who is sincerely interested in fossils.

Family membership \$6.00; individual membership \$5.00; junior membership \$3.00 (between ages 8 and 16); and dealer membership (non-voting) \$20.00.

MAPS meetings are held on the 1st Saturday of each month, October thru May, at 2PM in the Science Building, Augustana College, Rock Island, Illinois.

-----  
President: Gilbert Norris, 2623 34th Ave Court, Rock Island, Ill. 61201

Vice President: Douglas DeRosear, PO Box 125, Donnellson, Iowa 52625

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