

MAPS Digest



Volume 3 Number 8

April, 1980

Official Publication of the
Mid-America paleontology Society

FROM OUR PRESIDENT

MAPS will be very much in evidence at the Lincoln Show. We'll have a special exhibit there. We need help from members to sit by the exhibit. Stop by and volunteer an hour or two. Then on Friday afternoon from 2 until 5 we'll be conducting a fossil seminar. Besides presentations by several of our members, the new slide program we've developed will be christened.

We're still growing, membership wise. Keep spreading the word. If each of us can recruit one new member this year we would break the 500 mark, making us the largest club in the Midwest Federation.

Don

MAY MEETING -- FIELD TRIP

The May MAPS meeting is a field trip to the Medusa Portland Cement Company, Dixon, IL.

Meet at the gate at 9:30, Saturday, May 3. Release forms to be signed and then into the quarry. DON'T FORGET full safety equipment is the order of the day--hard hats, safety shoes and glasses. Stay away from overhanging cliffs and respect for quarry property is, of course, expected.

We will be looking for Devonian trilobites, cephalopods, gastropods and brach

Medusa Portland Cement Company is located on State Highway 2 northeast of Dixon.

(continued page 8)

MARK YOUR CALENDARS

3 May MAPS Meeting -- Field Trip --
Dixon, IL (See first page)

6 - 8 Rocky Mountain Show
June Topeka, KS

12 - 15 National Midwest Show
June Lincoln, NE

20 - 22 Eastern -- Charleston, WV
June

4-5-6 MAPS July Meeting -- Field
July Trip, Carthage, IL

1-2-3 MAPS Meeting -- 2 August
Aug 11 a.m. Bedford, IN

1 - 3 California -- Pasadena, CA
Aug

1 - 3 Northwest -- Boise, ID
Aug

15 - 17 South Central -- Shreveport,
Aug LA

EXPO II REPORT

Expo II was even bigger and better than Expo I. Persons from 18 states, Canada and Portugal filled 120 tables with fossils. The weather was especially good, with some attendees doing some collecting enroute.

An excess of 100 persons attended the evening meeting and program. We gained many new members during the Expo and broke the 250 membership mark that week end.

It was also financially successful. We took in \$847 at the auction. After all expenses were paid, we were showing a profit in excess of \$1,000. Our total bill for the facilities and coffee was just over \$300. It would be hard to beat that price.

Expo III will be held again at Tanner Hall, Western Illinois University, Macomb, April 24-26, 1981.

1982 is open and can be moved to another site. Let us know if you'd like to have it in your area. Include a description of the facilities and costs. Experience teaches us we need 15 to 18 months advanced notice to reserve facilities. Get your requests to us for consideration as soon as possible.

Don

FIELD TRIP WEEKEND -- JULY MEETING

July 4-6 is the big field trip in the Carthage, Illinois area. There will be collecting of Mississippian and Pennsylvanian materials including ferns, crinoids, fish teeth, etc.

We must have advance registration so write Don Good if you are coming and do so no later than June 16. Also indicate if you will be camping or need motel lodging and for which nights. If you're camping, will you require electricity and water-sewer hook up?

Bring swap material with you. We'll have a Saturday night pot luck supper followed by MAPS meeting.

If you choose to call in your reservations, Don's phone number is --

309-582-5232

APRIL MEETING

FOSSILIZATION -- Dr. Fred Behnken, Prof. Geology Department Augustana College

The fossil record is biased, incomplete and misrepresentative. For example-- 80,000 living species of snails, 12,000 living species of clams. Yet the entire fossil record from the Paleozoic, Mesozoic and Cenozoic eras has thus far yielded 30,000 fossil species combined.

The total number of described species is estimated from 1 to 2 million. The total number of species which may have lived is estimated at 50 million to 4 billion--most estimates center around 500 million.

The chances of an organism being preserved as a fossil is measurably enhanced if: 1) it possesses preservable hard parts; 2) the organism's remains are buried quickly after death in a site "favorable" for preservation. 3) remains escape total decomposition until the sediment is lithified--unearthed by uplift and erosion so man can find this treasure.

3 modes of preservation--unaltered, altered, and trace fossils.

Unaltered, original remains of the fossil, soft parts and hard parts. Preservation of the soft parts occurs in stringent conditions. Examples, frozen mammoth, woolly rhino, musk ox in Pleistocene glaciers and permafrost in Siberia and Alaska; mummies of Pleistocene cave sloths and amber for insects. Examples of preservation of hard parts are chitinous skeletons of arthropods like trilobites, shelled invertebrates, pelecypods, cephalopods, gastropods, vertebrate bone and teeth, cellulose plant material. Hard parts must escape destruction by scavengers and chemical decomposition; needs rapid burial to protect potential fossil.

Altered remains are preserved in various ways: permineralization, replacement, carbonization, molds and casts. In permineralization the original composition of the fossil is unchanged while pores are filled by a chemical cement.

(continued page 8)

**MINE SAFETY ACT -- PUBLIC LAW 95-164
H. R. 1603**

Background on why all of us need to help by writing our Congressman today.

July, 1979, in a letter to the editor of GEOTIMES, a geology magazine, James H. Stitt, Chairman Department of Geology, University of Missouri, Columbia, MO writes the following: "Quarries off limits - Public Law 95-164 (passed March 9, 1979) transferred authority over all mining operations from the Dept of Interior to the Dept. of Labor. This sounds innocent enough, but apparently this transfer also included a bunch of new stringent rules on quarry and mine visits by non-mine personnel that have led the quarry operators in Missouri (and, I suggest other states as well) to refuse us any further entrance to their quarries and mines. We can no longer take student field trips to these places or do research there. The quarry operators tell us that in order to allow visitors they must 1) be sure all visitors have hard hats, hard-toed boots and safety glasses; 2) fill out and send in forms (in advance) and get government clearance for visits; 3) carry expensive insurance riders to cover any such visitors; and 4) if caught in violation of any of the above, they are subject to a \$10,000 fine per occurrence. We have had excellent relationships with local quarry owners, and have for years regularly run field trips to their quarries to collect minerals, fossils, and rocks. For some formations, these are the only good exposures available. If these are now permanently off-limits, the geological training of students around the country will be adversely affected. It's not the quarry operators who initiated this; it's the ---- (ed. note) government!"

And now a quote from June Zeitner, AFMS News letter. "Have you written to your Congressman to support House Bill No. 1603? It is designed to exclude gravel pits and rock quarries from the Federal Mine Safety and Health Act. Since these companies have asked for our support, chances are good that if this act is passed, many of our favorite collecting sites will be reopened. ACT NOW."

Still a third quote, this from Douglas Applegate, Member of Congress, to Lloyd J. Millhorn. "...concerning H.R. 1603... This bill has been referred to the House Education and Labor Committee whose Subcommittee on Health and Safety conducted fourteen days of hearings on it. The purpose was to study the impact of P. L. 95-164 on the sand and gravel limestone and crushed stone industries. Because of this forum, many misunderstandings and misinterpretations by the Mining Safety and Health Administration came to light. Significant progress was made in correcting these matters and the subcommittee pledged its support in continuing its monitoring of the implementation of the law to assure that it is fair and equitable."

Submitted by Lloyd Millhorn
Rt. #1
Sherrodsville, OH

(Editor's note--Another letter to your Congressman at this time could have the effect of helping both the quarry operator and the fossil collector. Keep your letter simple and address it to this subject only).

CALIFORNIA REUNION CELEBRATION

Not to be outdone by their inability of attending the Expo II in Macomb, IL a representation of MAPS western contingent held their own reunion celebration over the weekend of Mar. 22-23 at the home of Rozaline & Bert Johnson in Napa Valley, CA. Hilda Maloney of Willows, Judy Owyang of LA motored in with swap material. With invited Paleo interested guests, a most enjoyable and informative time was passed.

A visit was scheduled to the Paleo Museum at Pacific Union College and a stop to preview the future fossil museum in upper Napa Valley. Oh yes, collecting on the College Paleo Dump was most rewarding with mineral and fossil specimens discarded by the Department as a bonus.

Dr. Edward Stump, who collected extensively in Africa at sites in Ethiopia, Kenya

(continued page 7)

THE FOLKLORE OF FOSSILS -- continued from March Digest

Ken Machin
Westcott Buckinghamshire ENGLAND

It has long been recognised that a high percentage of the expense of government has been caused through the pilfering of government property. This is so today and it was no less so in England in the 18th and 19th centuries. It reached such proportions that the British Government was forced to introduce a government mark to be stamped on all government owned goods. They chose as a mark part of the Coat of Arms of an English nobleman, in the form of a broad arrow. Best known for its use on the uniforms of the inmates of our prisons, it soon became well known to the populace. The inhabitants of the county of Shropshire had long been familiar with a similar mark which appeared in some of the rock formations of their county. This is due to the presence, in the Silurian strata of the fossil remains of a terebratulid brachiopod, Pentamerus oblongus J de C Sowerby. It is so abundant in some layers that they are known as the Pentamerus beds. Pentamerus and its close relatives are characterised by the presence in the pedicle valve of a spoon or trough-like structure or spondylium, usually supported on the floor of the shell by a low septum. The spondylium is an attachment point for the muscles employed in the articulation of the valves. The usual mode of preservation is as an internal or external mould. The position of the spondylium and the septum appear as a long slit in the rock connected at one end by two slits that represent the shell walls, resulting in an arrow-shaped slit. Hence the name Government Rock.

Star Stones

Two groups of fossils are known by the name of star stones. These are crinoids of the genus Pentacrinites and corals such as Isastrea and Cyathopora. In discussing crinoids from Staffordshire, Plot differentiates between the internal moulds and the unaltered crinoid stems, calling the latter Entrochii or wheels within wheels. He refers to the fact that the single ossicles are sometimes used as beads to form a necklace which in some parts are known as St. Cuthberts Beads. In the columns and single ossicles of Pentacrinites, Plot saw the very apparent star-like shape which he called Asteriea and related them to the Heavenly Bodies or Air. He visualised these as single stars. He also made what is possibly the first attempt to extract fossils from surrounding matrix. He says of Pentacrinites which are common in the Jurassic strata of Oxfordshire, (the columns) 'if but steeped a night in vinegar or other sharp liquor (they) may be divided the next morning with safety and ease'.

The second type of star stones, the colonial corals, Plot visualised as being like constellations and he named them Astroites or starry stones. Isastrea and Cyathopora from the Jurassic are the most likely species that he was discussing when writing of Oxfordshire. Even the rough surface of the newly extracted corals show a star-like quality, but this is even more apparent when they are cut and polished. Isastrea oblonga is a common and attractive species from the Portland beds of southern England. Specimens from Tisbury in Wiltshire are particularly well preserved and are frequently found silicified and thus able to take a high degree of polish. This is known as Tisbury starstone or starry agate.

Shepherds Crowns, Sepherds Purses, Fairy Loaves

These are some of the names given to fossil sea-urchins. Although echinoid tests are of common occurrence on the beaches of Britain and the living animal familiar

for many centuries, it seems that Plot was unable to relate the fossil echinoids to their modern counterparts. He was quite conversant with the modern echinoids calling them sea Hedg-hogs, sea Thistles or sea Apples. His inability in this direction was apparently due to the fact that fossil echinoids are only rarely preserved with the spines intact, whilst the living animal complete with spines was comparatively well known. He called the fossils Histicites or Porcupine stone without bristles. In Britain echinoids are commonest from the Cretaceous chalk deposits of the downlands of southern England where numerous flint casts may be found. In the late 19th century a Bronze Age burial of a woman and child was excavated on the Dunstable downs in Bedfordshire. The skeletons were completely surrounded with a hundred or more flint echinoid casts, mainly of the species Ananchytes ovatus and Micraster coranguinum. The name shepherds crown refers mainly to the genus Echinocorys which has a typical helmet or crown shape which is heightened by the five double rows of pores which resemble the supporting arms of a medieval monarch's crown. There is also a resemblance to a medieval leather purse which accounts for the alternative appellation of shepherds purse. The association with the shepherds is obvious when one realises that in the past the downlands were used pretty exclusively for sheep herding.

Fairy loaves refers both to Echinocorys and Micraster since the shape of both is reminiscent of a country baker's cottage loaves. It was sometimes believed that the echinoids were loaves of bread left for or by the fairies. More recently it was believed that if a fossil echinoid was kept in the house, the household would never be short of bread.

As one moves westwards out of the chalklands and into the Jurassic limestone country of Oxfordshire, Gloucestershire etc., these folk stories are transferred to other species of echinoids. Notably Clypeou ploti one of the largest of British echinoids which is a flattened species shaped like a bun or flat loaf.

Returning to Cretaceous species, some of the other beliefs are:

- Southern England: if kept on the dairy shelve they will stop the milk souring.
 Hampshire: gravel pit workers place them in the excavating machinery to bring luck.
 General: When a fossil echinoid is found it should be spat upon and thrown over the left shoulder to give one in the eye to the devil, as with the practice of throwing spilt salt over the left shoulder.
 Denmark: used in the household as a protection against thunder storms and as a charm against witchcraft.

In Denmark an echinoid of the genus Conulus was found in an Iron Age burial. It had been mounted in bronze as an amulet.

The Dudley Locust

To the layman trilobites along with the ammonites are probably the best known and most attractive of fossils. This attraction has existed for thousands of years as evidenced by archaeological finds. At an Upper Palaeolithic, Magdalenian layer rock shelter site at the Grotte du Trilobite in Arcy-sur-Cure, Yonne, France, a Silurian trilobite perforated for suspension was found along with a piece of lignite carved in the likeness of a beetle. Primitive man apparently considered a trilobite to be a type of beetle, something which is easy to understand if one compares a trilobite with the scarab beetle amulets of the ancient

Egyptians. The species found at the rock shelter was Dalmanites hawlei, the nearest source of which was 1250 miles to the east in southern Germany.

In some areas of Britain trilobites are found abundantly in the Palaeozoic rocks. At Bron-y-Buckley Wood, Welshpool, Montgomeryshire they are so common that in the 'Silurian System' (1839) Sir Roderick Murchison named the spot Trilobite Dingle a name it still bears to this day.

Silurian, Wenlock Limestone outcrops at Dudley in Worcestershire have been quarried since the 17th century and this was given a great boost by the industrial revolution of the 18th and 19th centuries. These limestones are rich in fossils and well preserved specimens of the trilobite Calymene blumenbachi (Brongniart) are common, some in the curled position. This curled position reminded the quarrymen of woodlice and they were generally looked upon as beetles or other insects. Eventually they were named Dudley Locusts or Dudley Insects.

A big demand from collectors led to many forgeries being made and specimens have been found skillfully made up from the parts of fragmentary specimens, unfortunately not always from fragments of the same species. So well known during the 18th century the Dudley Locust eventually came to be considered as the emblem of the town and it appeared in the Common Seal of the Corporation as far back as 1866. In 1957 the College of Heralds granted Dudley Armorial Bearings incorporating the device from the Common Seal, so the Dudley Locust now has a permanent place in the Coat of Arms of the town. (Concluded May issue)

OLDEST EVIDENCE OF LIFE FOUND L.A. TIMES by George Alexander
Submitted by Judy Owyang, West Los Angeles, CA

The oldest evidence of life on earth--a basketball-sized rock that was built up layer by layer by primitive bacteria-like organisms about 3½ billion years ago--has been found by an international team of scientists from UCLA.

The rock (was) discovered last summer in a hot, desolate part of western Australia....The oldest evidence of life previously known was a 3.1 billion-year old stromatolite. The latest discovery thus pushes back the known existence of living creatures by 400 million years.

Because such structures are still being built in a few places around the world, scientists know that stromatolites are assembled by algae or bacteria floating in shallow waters...."These organisms were probably very much like the same guys that make pond scum today," said Prof. J. Will Schopf, the UCLA paleobiologist and director of the international Precambrian Paleobiology Research Group. "They would have been surface creatures, with an exterior coat of sticky musilage that they themselves had secreted.

The purpose of that gluey outer layer is not quite clear, Schopf said, but it is clear that it would have attracted--and held--mineral grains that were also present in the shallow waters with the bacterial-algae organisms.

In time, the microscopically small organisms would have found themselves so encrusted with grains that it would have been impossible for them to receive the sunlight they needed to carry out photosynthesis. When that time came, the mobile creatures would have slipped out of their mineral shell like a hermit crab vacating a mollusk shell and simply climbed to a higher elevation where their exposure to sunlight was unimpeded.

Unimpeded, that is, until they became covered over anew with still more minerals like calcium carbonate and once again were forced to move to higher water. In this way, layer upon layer of calcium carbonate was laid down and the rock was formed.

(continued next page)

CAN MAMMOTHS LIVE AGAIN?

We've all read accounts of the discoveries of mammoth carcasses with stomachs containing fresh foliage and flowers and meat fresh enough to be eaten by dogs and even men. Vladimir N. Chernigovsky of the Soviet Academy of Natural Sciences, quoted in the newspaper TRUD, believes it may be possible to isolate and culture a mammoth cell, combine it with a sex cell from a modern elephant, irradiate and destroy the elephant nucleus, replace it with mammoth genetic material and implant the result into a female elephant. Some 18-20 months later VOILA!! a giant test tube baby!

Cloning has been successful with relatively simple life forms. A frog, cloned from a single cell, is the highest animal form that has been made public. Viktor M. Mikleson, of the Institute of Cytology in Leningrad, says two years of experimentation with mammoth cells have thus far been unsuccessful but the work continues. He has collaborated with scientists from Wayne State University in Michigan in studying blood cells from a baby mammoth discovered in Siberia in July, 1977, age 39,000 years. A successful skin graft of woolly mammoth onto a living elephant might be an interesting preliminary step to see how close the relationship is, how their cells react and reproduce, discover how much insulation mammoth hair provides and then extrapolate the temperature they could survive. Each of the steps in cloning is incredibly difficult but theoretically possible.

The Russians are cloning, the Russians are cloning...

Submitted by Cynthia Miller

article in N.Y. Times by Craig Whitney

quoted in Wilmington Evening Journal -- 3-6-80

Prof. Malcolm R. Walter of the Australian Bureau of Mineral Resources who found the rock, along with Profs. John M. Hayes of Indiana University and Hans Hofmann of the Univ. of Montreal, said that he was confident both of the biological origin of the rock's structure and of its ancient age.

The age was independently calculated by three institutions--Caltech, the Lamont-Doherty Geological Observatory of Columbia University and the Australian National University--based on the relative concentrations of two rare earth metals, samarium and neodymium, in volcanic lavas surrounding the stromatolite formation.

Their age calculations of those volcanic layers were between 3.45 billion and 3.52 billion years old according to Schopf....The significance of this discovery said Schopf, is that it shows life to have originated on earth very soon after the planet formed. Formation of the planet has been determined by many other scientists to have begun around 4.5 to 4.6 billion years ago and concluded around 4 billion years ago.

Sometime between 4 billion and 3.4 billion years ago, life caught fire in the complex chemical environment that then existed on the globe. By the 3.5 billion-year mark, it had progressed to the point of these colonies of bacteria or algae--which scientists say were complex compared with what must have been the very first living cells.

CALIFORNIA REUNION CELEBRATION, Continued

Dr. Edward Stump, who collected extensively in Africa at sites in Ethiopia, Kenya and on the coast of Mombasa, has returned after 2 years of collecting while with the Adventist Church Volunteer Medical Corp. with outstanding specimens. He and Mr. Walt Stanton, a Dental Technician have also collected in Canada....We were privileged to spend time drooling over wheel size ammonites. It made us want to book passage for Africa on the next flight out.

After what seemed an all too short visit plans were made to meet again May 2-3-4 to explore the Museum of Paleontology at Berkeley.

Rozaline and Bert Johnson

THE EVOLUTION OF MAPS or WOW! WHAT A CLUB Macomb. To see the incredible treasures from the seas, relics of ages past, is, to be sure, a mind-boggling, soul-stirring experience. But, to meet and come to know the people who spend time, energy and money to find the fossils and then meet to share, swap and buy, well, let me tell you the people (that includes YOU who belong to this club) transcend all those exquisite fossils. They are truly a very special group.

The curtain is drawn on Expo II. What a Show!! Too much talk about it would be like yesterday's mashed potatoes--but an enormous THANK YOU is in order to all those members who planned and executed a successful Show; and to all of you who so generously donated specimens for the auction, another enormous THANK YOU. Perhaps a list would be in order, but a page of this little missile would be used. Perhaps someday all the members of this extraordinary family will gather for the annual Reunion and you will feel what words cannot express.

Expo II -- a very special affair!!!!

You all know, or maybe you do not, at the very first meeting 19 people got together for a discussion of possibly organizing a fossil club. They came from Illinois, Iowa, and Wisconsin. That meeting was 14 February 78.

By June of that year there were 42 members in 4 states.

March, 1979, showed a membership of 136 from 12 states and 6 foreign countries.

As we go to press a year later there are 275 members in 32 states and 9 foreign lands.

Listening to the small but very dynamic nuclei who meet each month at Augustana is a fascinating hobby in itself. No one foresaw what has emerged; no one seemed to anticipate any kind of a national organization, let alone a world-wide organization. The question was, rather--Is there enough interest to sustain an area fossil club?

Now there is talk of satellite clubs--(see California Reunion Celebration, page 3). Without even planning a "western contingent" may already have emerged. The officers are amazingly open-minded and objective about what might/could happen next.

Without question, the emphasis here at MAPS headquarters has shifted from strictly local thinking to national and international thinking. Our meetings are excellent but the emphasis has become EXPO. Before another year passes, if only everyone could be in

MAY MEETING -- Field Trip, Continued

Pack a lunch, bring hammers, chisels, and your own unique personality. See you at the Main Office and on to the quarry floor for a day of fun and ferreting out.....FOSSILS!

FOSSILIZATION, Continued

In replacement the original hard parts are replaced by other mineral matter. Replacement usually leads to a loss of detail of internal features. In carbonized remains there is a natural distillation, elevated burial temperature and pressure drives off volatile gases leaving a residue of carbon as an outline. And the last altered remains are molds and casts--impressions of original hard parts. Secondary evidences of past life.

The third mode of preservation is trace fossils--sedimentary structures resulting from an animal's activity--tracks, trails, burrows, feeding marks. Fossil excrement, coprolites, another example of a trace fossil may indicate food habits of the animal as well as its physiology.

(Editor's note--interesting subject and interesting speaker. Thanks for your time, Dr. Behnken).

Did you hear about the tree that was petrified with fear? It just stood there and rocked. The author of the above wishes to remain nameless---but our club does not.

Taken from Minutes of the first meeting of MAPS

Please add to your membership list:

Mrs. Matilda L. Berg
60-10 47th Avenue
Woodside, NY 11377
212-335-7755

Collecting 10 years. Printer. Will trade. Interested in all fossils and geology of. Has been interested in rocks and minerals now includes fossils.

Saul & Muriel Bloom
362 Walton Street
West Hempstead, NY 11552
516-489-2838

Collecting 5 years. Furrier. Will trade. Interested in invertebrates and vertebrates. Wants to increase knowledge and participate in all aspects of society because of genuine love of fossils

Loyd F. Crawley
1727 Kingsway Court
Cincinnati, OH 45230
513-232-4852

Collecting 15 years. Will trade. Interested in Echinodermata, trilobites, ammonites, brachiopods. Source of contact with other collectors.

Kathleen & Judith Deding
11 N. Cumnor
Westmont, IL 60559
-969-2522

Collecting 4 years. Sales. Will trade. Interested in Pit 11. Interested in field trips and learning about fossils of this area.

Charles R. & Janice Enigl
1856 Smith Street
Green Bay, WI 54302
414-437-4978

Collecting 15 years. Earth science teacher. Will trade when possible. Interested in all fossils.

Al Hartman
Box 96
Waterloo, IL 62298

Stephan J. Kopacz
2216 Otis
Warren, MI 48091
313-758-3346

Collecting 10 years. Biochemical research assistant. Will trade. Interested blastoids, Pit11, echinoderms (in general) trilobites, molluscs. Expand knowledge, develop contacts, contribute to the society.

Marilyn Gottlieb Stephan Koshland
9108 Delmar
Prairie Village, KS 66207
913-381-8271

Collecting 15 years. Artist, silversmith Dentist. Will trade. Interested in invertebrate paleontology. Gain more insights into world of fossils plus locate sights for digs.

George Lee Jr.
330 Paularino Avenue
Costa Mesa, CA 92525
714-545-2314

Collecting 10 years. Taxidermist. Will trade Interested in vertebrates and invertebrates. To promote the collecting and study of fossils.

L. Ronald Mallicone
P. O. Box 84
Uniontown, PA 15401
412-439-2806

Collecting 7 years. District Mgr. Baltimore Life Ins. Co., Will trade. Interested vertebrate and plant fossils. Meet people with similar interest, learn through contact and trading.

Clarence M. Schuchman
4812 "F" Parkway
Sacramento, CA 95823
916-428-8093

Collecting 15 years. Teacher. Will not trade. Interested in Cretaceous ammonites. Wants contacts with others especially professional paleontologists.

There are several corrections to the Membership list as printed. Sorry, I simply ran out of room in this Digest, matter of fact there are several things but no room. Thanks for your patience. See you next month. Madelynne

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 display 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 and the aims of the Society.

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

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

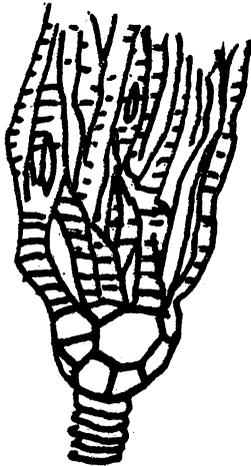
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FIRST CLASS MAIL

CYATHOCRINITES

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Davenport, IA 52806

Dated Material - Meeting Notice