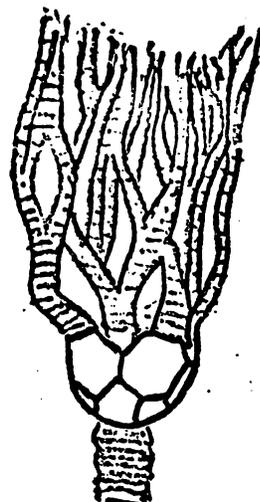


M.A.P.S. DIGEST

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CYATHOCRINITES

THE PREZ SEZ.....

The National Fossil Exposition is now history for 1979.

In 1980 the dates are March 22nd and 23rd at Tanner Hall, Western Illinois University, Macomb, Illinois. Fliers for EXPO II are already being printed for distribution at our summer meetings.

I have never seen as many excellent fossils as were available at Macomb. Members attended from as far away as California and Texas.

I want to thank everyone who helped make EXPO I the great success it was. This includes the swap committee, the members who guarded the display room at night, the persons who manned the info and registration table, the members who helped carry in and out the exhibits and swap material for others: whenever help was needed someone was there to pitch in and help. You who helped are all to be commended.

The live auction has enabled us to pay all bills and have enough left to run the society until dues are due again in October.

Gas permitting, I hope to see many of you at the MAPS meetings held at the different locations during the summer as they will be listed in the next issue of the DIGEST.

Gil Norris

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Three-Billion-Year-Old Fossils Found in Africa

Tiny fossils, some round and some with double-walls have been found in the ground with gold in the Orange Free State, South Africa.

Two kinds of life-forms that lived about 3-billion years ago in the Pre-Cambrian Era were analyzed by M. Schidlowski of the Mineralogisch-Petrographisches Institut der University, Heidelberg, Germany.

One form has a central core body enveloped in an outer ring; the other is a spherical or elliptical organism surrounded by double-layered walls.

Science Newsletter 87:199

"A LOVE OF FOSSILS BRINGS US TOGETHER"

March 31st Society Meeting

This was held following the banquet at the first National Fossil Exposition, at Western Ill. University, Macomb, Illinois. Called to order by Don Good, EXPO Chairman, he extended a welcome and thank-you to all, adding "Your enthusiasm and attendance just give goose bumps all over my body". He gave special thanks to the committees: Wallace and Esther Harris, liaison between the university and the society; to Doug and Cheryl DeRosear, Al Adams, Gil and Gerry Norris, and JoAnn Good. When introducing Doug and Cheryl DeRosear he also included Tommy Trilobite or Bessie Bryozoa, alluding to Cheryl's pregnancy.

Don reported people registered from California, Texas, Wisconsin, Iowa, Illinois, Indiana, Minnesota, Ohio, Kansas and Missouri. He also answered the question of whether we should advertise thru the various media or not, noting that we would be free to learn and to trade by not being pressured by the public to be at our tables all the time, tho we might have picked up a few more members had we advertised.

All were asked to fill out the EXPO questionnaire; this will serve as a guide for future events. A live auction was announced for 1:15PM on Sunday; each MAPS member was asked to donate a good specimen, along with the proper data on it. Our costs for the facilities for the weekend were \$300.00 plus the cost for printing flyers, advertising in national magazines, and postage. We will get some receipts from the sale of club patches, iron-on transfers, and donations. This will leave us a little short on total expenses but hopefully the auction will help.

In response to a call for comments, Mrs Hilda Maloney of Willows, Cal., called our attention to the fact that there are bills in the hopper in Montana and Colorado to stop ALL amateur collecting of fossils on public lands. Montana is even trying to include some private lands in their bill. She will send an ad-

dress for publication in the DIGEST so we can write our congressman to discourage this action nationally.

President Gil Norris then took over. Don Good extended an invitation, in the form of a motion, for MAPS to hold its July meeting at the Edwards River Swap at Joy, Illinois, July 14. The motion was seconded and carried. This is near Aledo, Illinois, where the swap was held previously. Gil then reminded members that we will meet at a swap at Green Lake, Wisconsin on June 3rd; at the MWF show in Columbus on August 4th, and September 1st in Peoria, Illinois.

Motion was made, seconded and carried that the MAPS DIGEST be suspended for the summer months, with the June issue carrying the summer schedule of events. Alberta Cray invited all MAPS members to attend the Cedar Rapids show at Hawkeye Downs on April 7th and 8th to see the mastodon skull found on the Nodaway River in 1978. The skull is complete with teeth and tusks.

Gil cited the growth of our membership, noting that we had grown from 18 members in February 1978 to 136 members in March 1979, in 16 states and 6 foreign countries. Ten new members were added the first day of the EXPO.

Wallace Harris announced that Western Illinois University has invited us to hold our Exposition here again, and he moved that we accept. Motion seconded and carried. Discussion of a date led to a suggestion that it be in early spring again. Wallace will check for open dates with the University.

Larry Osterberger, MAPS member and speaker for the evening, was introduced as a resident of Pitt 11. His slide lecture cited the unique assemblage of fossils represented in the Essex Fauna. It was a most interesting and informative program. Copies of Dr Gordon C Baird's article "Mazon Creek Census" were passed out. This will appear in a future issue of the MAPS DIGEST.

Respectfully submitted

Alberta Cray, Secretary

THE LAST HOURS OF BABY DIMA

(From The London Times)

MOSCOW. Soviet scientists have completed their autopsy of DIMA, the forty-four thousand year old baby mammoth found preserved in a block of ice in June of 1977. They now say that DIMA died of blood poisoning.

The Official Tass news agency reports that the baby mammoth, the pride and joy of Soviet science because of its near-perfect condition, died of blood poisoning stemming from a leg injury. DIMA's internal organs were so well preserved that the scientists were able to use them for their diagnosis. Blood and skin samples were among the first priorities for testing.

Tass said "When he was still alive, something hit his leg in two places and during his last hours of life he stopped eating".

Tass further said an investigation indicated that the little mammoth was pasturing with a larger herd of these long-extinct species on the arid sub-Arctic steppes of Siberia along with a collection of other animals typical of that time and place: wild horses, goats and bison along with a normal complement of regional insects.

According to Tass, scientists were suprised to learn that the mammoth, which was shipped to Leningrad for study after its discovery, had been buried in a mud flood shortly after death. Such flooding in northern Siberia was quite a surprise to geologists. The glaciers in this area retreated more than ten thousand years ago.

DIMA was only about 9 months old when its injury led to the blood infection that meant death accoring to Soviet scientists. It was amazingly well-preserved after more than 40-thousand years in a natural deep freeze.

(Submitted by Dr F M Fryxell)

NATIONAL FOSSIL EXPOSITION I

Our show/swap/sell/fossil exposition number one was a big success!

The two-day event was held at Western Illinois University, Macomb, Illinois March 31st and April 1st. About three hundred persons each traveled an average of almost 300 miles one way to attend. Forty families from ten states filled one hundred 6-foot tables with fossils. The quality, variety, and quantity of fossils shown exceeded anything like it attempted anywhere. Three people flew in from California and one drove up from Dallas. Nineteen new members were added to our widespread membership.

We had eighty persons at the banquet where it was unanimously decided to meet again at Macomb in March of 1980 for National Fossil Exposition II. Larry Osterberger gave us an excellent program on Mazon Creek area materials.

With a successful live auction on Sunday afternoon, the hope of making the event a financial success was also realized. It appears that the income will exceed expenses by about \$150.00. Due to the generosity of the many avid fossil collectors present, the auction netted \$350.00.

Although the statistics given above are interesting, it was the comraderie of the many people present that produced the real highlight of the week-end. All of us are anticipating EXPO II on March 22nd and 23rd, 1980, when we can all be together again. It is expected that the size of the group then will be at least double from this year.

To realize this increase each of us should do our job in spreading the word, telling other fossil enthusiasts that this week-end is great!

Finally, a sincere thanks to everyone who attended; to the Western Illinois personnel, and the rest of the committee for a job well-done. (They were the ones that did all the work).

Don Good / chairman

SOME ECHINODERMS OF THE PELLA FORMATION IN IOWA

by Doug DeRosear, MAPS member

The fossils of the Mississippian Pella Formation have been studied for over a century (Hall, 1858). Though certain groups of invertebrates have been studied extensively, other groups have been neglected. Also, some specimens have just recently come to light that may require certain studies to be accelerated. Amateurs and professionals alike continue to find specimens in the Pella Formation that are new to science.

Precise age relationships of the Pella Formation are still uncertain. Based on the conodont fauna, Rexroad and Furnish (1964) correlate it with the Ste. Genevieve Limestone, the type section of which is exposed in south-east Missouri. However, assignment of the Ste. Genevieve Limestone to Series has been somewhat difficult. Once again, based on the conodont fauna, Rexroad and Furnish (op. cit.) have given the Ste. Genevieve a Chesterian age. Based on the echinoderm fauna, Frest and Strimple (1977) have assigned a Late Meremecan or Early Chesterian age for the top of the Pella. Therefore, based on all species present, it would seem logical that the Pella Formation be assigned an Early Chesterian age.

Echinoids found in the Pella include blastoids, crinoids, starfishy, edriasteroids and echinoids. This fauna is represented by specimens somewhat diminutive in size. Most of the echinoderms (nearly all the crinoids) are found in a very thin layer near the top of the formation.

Blastoids are represented by two species, Pentremites conoideus and Diploblastus glaber. Specimens of P. conoideus are fairly common in certain areas. Nice ontogenetic collections of this blastoid may be assembled with relative ease using the specimens found in the Pella Formation.

Of particular interest to the author are the abnormalities of P. conoideus which may be observed. Of the 7572 specimens of this blastoid studied by the author, 54 specimens or 0.7% were abnormal with respect to the number of ambulacra developed. Of these 52 had 4 ambulacra developed (a reduction of one) while 2 had only 3 ambulacra developed, (a reduction of two). This

percentage of abnormalities has been confirmed as normal by other people studying these blastoids.

Collectors are continually surprised by the excellent preservation of P. conoideus as found in the Pella. Excellent specimens retaining brachioles and/or spiracle covers are not exceptionally rare.

D. glaber, a blastoid commonly smaller than P. conoideus, is also present in the Pella. Specimens of this blastoid, however, are somewhat more scarce. No abnormalities have been found by the author, probably because of a lack of sufficient specimens for study. Likewise, no specimens of this blastoid have been observed by the author which display the brachioles. However, it should not be assumed that specimens of D. glaber with abnormalities, or specimens with brachioles do not exist.

Over a dozen different species of crinoids have been collected in the Pella Formation. H. L. Strimple, curator and research associate at the University of Iowa, is now in the process of describing this crinoid fauna.

Most of the species of crinoids are inadunates: (Abrotocrinus, Phacelocrinus, Ampelocrinus). However, the flexible crinoid Taxocrinus shumardianus far outnumbers all crinoids in number of specimens collected. A few simple camerates (Dichocrinus, Taleroocrinus, Camptocrinus) are also present. Many-plated camerates (Batocrinus) are somewhat rare.

The crinoids seem to be randomly dispersed thru the thin layer near the top of the formation. One exception to this was when 115

ECHINODERMS OF THE PELLA (cont'd)

specimens of Taxocrinus shumardianus were found in one pocket. (Strimple, personal communication.)

Very few specimens which could be designated as "very young" or "adult" were ever found. Frest and Strimple comment that "the fauna seems to represent an opportunistic assemblage that was able to populate a small area of the Pella age sea-bottom for an extremely short period of time, perhaps an interval of slightly decreased sedimentation but that was abruptly wiped out by an influx of mud". (P.98)

The only starfish remains that have been found so far are a few partial specimens. Perhaps a complete specimen will be found in the near future. At present this starfish is undescribed.

Excellent specimens of Lepidodiscus laudoni, an edrioasteroid, may be found in the Pella. The specimens are relatively small, usually about the diameter of a pencil eraser up to the size of a dime. One interesting item about this edrioasteroid is the shape of the ambulacra. On young edrio's of this species the ambulacra are straight, but as the animal reached maturity the ambulacra become curved. Most often, one finds the edrioasteroids attached to a piece of shell or other substrate, as they are extremely fragile.

Only one species of echinoid has been described from the Pella. Over 30 specimens of Praepholidocidaris pellaensis Frest and Strimple, have been found.....nearly all partials. The largest found to date would indicate a diameter of a little over one inch. In most specimens the plates have shifted or been disrupted during compaction of enclosing sediment. Several specimens show articulated spines, in spite of this disruption. One would normally assume the echinoids would be found in a "nest" or "colony". However this has not been the case. Most specimens have been found randomly dispersed thruout the echinoderm-

bearing layer. Isolated plates and spines have also been found in other levels of the Pella Formation.

This formation is exposed in various outcrops and quarries along the watersheds of the Skunk and Des Moines Rivers, from Keokuk to Fort Dodge. As the Pella shale or marl is unfit for commercial purposes, it is usually hauled to one side and dumped in spoil piles during the quarrying operation. Consequently not all quarries have the same fossils in the same abundance. It depends to a certain extent, on what level of the Pella was last deposited on the spoil piles. Altho various echinoderms may be found in different levels, an echinoderm collector will naturally have better success if he hunts those quarries in which the thin upper echinoderm-bearing layer was the last one deposited on the spoil piles.

The abandoned county quarry north of Oskaloosa, Iowa (near the center of N line, Sec. 30, T67N, R15W) affords excellent echinoderm collecting. THIS QUARRY IS NOW PRIVATE PROPERTY. PLEASE BE SURE TO SECURE PERMISSION TO ENTER. Ask for permission at the house at the top of the hill east of the quarry. Ket's keep this wonderful collecting spot open for others.

Collecting is best accomplished by traversing the light grey or bluish-grey spoil piles on your hands and knees, examining the surface very closely. The fossils usually weather out free of matrix, and all that is needed is a sharp eye and a small awl with which to extract the specimen from the clay. A small cotton-filled container should be included in your list of collecting necessities; knee-pads are optional equipment for this quarry.

The author has had much greater success by choosing a small spot and covering it extensively rather than jumping around from spot to spot and covering each spot somewhat haphazardly.

HAPPY HUNTING !

(literature citations following page)

LOOKING BACKWARDS AND FORWARD

Don't seem possible but MAPS is a year old already. Little did we dream, back on February 2nd of last year, that the desire for a strictly fossil club was an idea whose time had come.

Eighteen collectors from six clubs in three states showed up on that cold, snowy day. One family drove 150 miles each way to be there. The following month exactly twice eighteen were on hand at Augustana College to officially bring MAPS into being. And we've been growing like the proverbial weed ever since.

As I write this (in mid-March) we are one hundred forty sincere fossil enthusiasts banded together to pursue our chosen hobby. We live in sixteen states, stretching from New Jersey, Maryland and Georgia on the east, to California on the west, and from Wisconsin south to Texas and Arizona. Many of our overseas friends and trading partners have joined us too, so that we now have nine collectors whose homes and favorite collecting locations can be found in Italy, Germany, England, the Netherlands, Belgium, and Japan.

Let me say here that I have personally been very happy to have had a part in the "birthing" of our society and its newsletter. Your willing cooperation with me while I was your first president made our first hesitant steps much steadier, and your support now of the DIGEST with articles and letters has made my work for you as editor and publisher a joy.

I feel sure that this interest and support will continue for "Maddy" (Madelynn Lillybeck) when she takes over as editor/publisher of the DIGEST in the fall. I hope that many of you will get a chance to meet her in Macomb. Like so many others, she is comparatively new at this business of fossil collecting, but she sure has the interest and enthusiasm to enjoy our hobby.

In case you are wondering why I am giving up as editor of the DIGEST, a whole new way of life is opening up for me, starting with a new wife and going on to a long European honeymoon, and then new responsibilities at Augustana College. But I intend to be there (when possible) as each MAPS meeting date rolls around. And I plan to pursue some study and do some writing. So you'll still know that I am around and interested in MAPS.

Dick Johannesen

Echinoderms of the Pella Formation - literature cited

- BELL, B.M. 1976. A study of North American Edrioasteroidea. N. Y. State Museum and Science Series., Mem. 21, 447 p., 64 pls.
- FREST, T.J. & H. L. STRIMPLE, 1977 Praeopholidocidaris, a new Echinoid from the Pella Formation (Miss.) of Iowa. Iowa Academy of Science Proc. 84: 98-105.
- HALL, J. 1858. Geology of Iowa, v.1, pt. 2, Paleontology, pp. 473-724 29 plates
- PRIEST, A. 1970; Pella Beds of Iowa Earth Science, v. 23, no. 1, pp 13-16
- REXROAD, C.B. & W. M FURNISH, 1964 Conodonts from the Pella Formation (Miss.) of South-central Iowa. Journal of Paleontology, 38 (4): 667-675, pl 111
- STRIMPLE, H.L. 1968. A New Edrioasteroid. Iowa Academy of Science, Proc. 73: 260-262

CHIBA FOSSIL INTRIGUES
PALEONTOLOGISTS

Chiba (Kyodo) Japan

Paleontologists have identified a marine mollusc excavated about a year ago in Chiba Prefecture as a member of the paper nautilus genus dating back about 8-million years. They suspect that this may be a member of an as yet unknown, extinct species belonging to the paper nautilus genus.

So far, in Japan, paper nautilus fossils have been found in only two places, both on the Sea of Japan coast in Shimane and Toyama Prefectures. Living paper nautili can be found in the Sea of Japan and many other places in the world. The paper nautilus belongs to the cephalopod class, as to the octopus, cuttlefish, and squid. It flourished on Earth some 40 to 50 million years ago.

Early last year a worker found the fossil in a quarry on the 329-meter-high Mt. Nokogiri, in Kyonan, Awa-gun, Chiba Prefecture. Paleontologist Yoshio Fukuda, 37, of Yotsukai do, Inba-gun, and other scientists studied the fossil and decided that it was a paper nautilus.

The fossil, which was found almost complete, is 13.5 cm in diameter and 5 cm thick. It is larger than a living paper nautilus. While this animal today has wrinkles on its back the fossil has rows of dotted wart-like projections resembling the other two paper nautilus previously found. But the projections of this fossil from Chiba Prefecture are greater in number, and longer, than those of the other two. It is also larger than the others in size and width of the opening in the shell.

Ikuo Obata, Director of the Paleontology Section of the National Science Museum, said "There is a strong possibility that the fossil represents an as yet unknown, extinct species. If so, it will provide an important clue in studying the evolution of cephalopods".

This fossil is also expected to supply interesting information as to the topography and sea currents of ancient Japan, because it was found on a mountain facing the Pacific Ocean, in contrast to the other two paper nautili found in the Sea of Japan coastal areas.

From Crystal Lines

A M B E R

The first major deposit of amber even found in the U. S., consisting of pieces more than 60-million years old, has been donated to the Museum of Comparative Geology. The gift, a translucent fossil resin, was found in deposits of mixed sand, clay, and lignite in the pits of the Acme Brick Company in Malvern, Arkansas. The pieces contain specimens of both plant and insect life.

This is the first time that insects have been found in Arkansas amber; by studying the pollen in the amber the geologists have arrived at an estimated age of the amber, and of the spiders, ants, and flies trapped within this resin. The color varies from pale yellow to dark orange, and although scientifically valuable, the specimens are not considered to be of gem quality because of the impurities and fractures.

The flora and fauna trapped within the amber specimens are of enormous scientific interest. The insects are small. And this small size suggests the possibility of an adverse environment, such as a cold one. But this supposition is not supported by the plant material, as represented by the pollen which can be seen.

From The Pebble Pusher, March 1978

In addition to jacket patches, MAPS name badges are now available. 2 1/4" in diameter, black on light blue, with your name. Cost \$1 each. Write to JoAnn Good, 410 NW 3rd St, Aledo, IL 61231 if you want one of these.

Please add the following to your list of members:

Robert Russell Clair
7197 Dudley
Tayler, Michigan 48180
-292-5721

Collecting 15 years. Engineering Technician. Will trade. Major interest invertebrates, also to become more involved in collecting, learning and labeling.

Daniel F. Damrow
2202 76th Avenue No.
Wausau, WI 54401
715-675-6452

Collecting 25 years. Student. Will trade. Interested in Mazon Creek fossils and Green River shale. Would like to meet more fossil enthusiasts.

Jim & Mary Edwards
306 Somonauk
Park Forest, IL 60466
312-747-8438

Collecting 15 years. Engineer and housewife. Interested in Pit 11 and would like to learn more about other fossils and help others with Pit 11 types. Will trade.

Richard Heimlich
23871 Moritz
Oak Park, Michigan 48237
-LI2-2298

Collecting 10 years. Teacher. Interested in most good quality fossils especially trilobites, cephalopods, echinoderms and to increase knowledge of fossils. Trade.

Robert M. & Sue E. Howell
Rte. #2, Box 98
Roachdale, Indiana 46172
-596-5204

Collecting 25 years. Electronic specialist/fossil dealer. Interested in museum specimens of crinoids, starfish, echinoids blastoids, trilobites-edrios. Will trade.

Susan Jones
4712 W. Placita de Suerte
Tucson, AZ 85705
602-622-7824

Collecting 10 years. Geologist. Will trade. Collects arthropod fossils and field fossils.

Florence Kelso
1914 W. Indian Ridge Dr.
McHenry, IL 60050

Collecting 8 years. Homemaker. Will trade. Interested in collecting, identifying and studying plant and animal fossils.

Roxanne Kremer
1761 N. Sedgwick
Chicago, IL 60614
312-787-6077

Collecting 15 years. Mineral and fossil business. Interested in all fossils. Will trade.

Judy Owyang
1914 Sawtelle Blvd.
West Los Angeles, CA 90025
213-477-3166

Collecting 3 years. Fossil dealer. Major interest trilobites. Will trade. Likes the midwest and interested in all fossils.

T. Jefferson Shanks
R.R. 22, Box 550
Terre Haute, IN 47802
812-299-4474

Collecting 13 years. Hydrologist. Will trade. Interested in all minerals, fossils, rocks, artifacts. Enjoys people hopes the club will be an ed. experience.

Kenneth & Mary Stark
Rte. 2, Box 123
Riceville, IA 50466
515-985-2863

Collecting 14 years. Farmer. Collects all kinds of fossils, will trade. Wants to learn more about fossils.

Margaret (Peggy) Wallace
290 So. Grandview Ave.
Dubuque, IA 52001
319-582-0381

New to the Hobby. Cannot trade yet. Teacher. Interested in all plants and invertebrates.

Paul D. Wiley
9008 E. 25th St.
Indianapolis, IN 46229
317-898-0416

Phillip Zink
7590 E. 52nd Street
Lawrence, IN 46226
317-546-2507

Alvin & Fern Zweifel
232 Westmorland Blvd.
Madison, WI 53705
-233-5068

Collecting 10 years. Materials Control Engineer. Will Trade. Major interest invertebrates. Interested in associating with people interested in fossils.

Collecting 16 years. Geologist, manager Jox Rox (rock shop). Interested in fossils rocks, minerals. Will trade.

Collecting 8 years. Retired. Interested in fern fossils (Morris, IL). Wants to learn more.

THE DINOSAUR'S DOWNFALL

The newest theory advanced by Virginia Polytechnic Institute concerning the downfall of the dinosaur revolves around the combination of a warming trend in the Mesozoic and a receding of the oceans. The resulting gain of CO₂ (carbon dioxide) caused the disruptions in the reproductive systems of the mammoth beasts, so the eggs they laid were thin-shelled or never fertilized at all. More than 75% of all animal species alive at time became extinct at about the same time.

EARTH SCIENCE NEWS

EARTHLY LIFE GOT OFF TO A RUNNING START

The more scientists look for signs of Earth's earliest life, the further they are led back in time. However organic life arose on this planet, it now looks as tho it got off to a remarkably fast start, geologically speaking.

Last fall scientists from the Univ. of Australia and Australia's Bureau of Mineral Resources reported finding fossil microbes 3.5 billion years old. Now C. Ponnampereuma of the Univ. of Maryland has announced that 3.9 billion-year-old rocks from greenland contain what appears to be microfossils.

biologists consider highly evolved biological systems, arose within the first half-billion years of our planet's geological history.

However, biochemists such as Ponnampereuma have to be cautious. What they see thru the microscope are spheroidal forms that look like the remains of bacteria or algae. They have no direct proof that these are actually fossil microbes. They have to rely on such things as statistical analysis of the distribution of sizes to infer that the microspheres are biological, and not some product of rock chemistry.

Scientists would like to find unambiguous evidence of biochemical activity associated with microfossils. But the oldest known remnant of a biologically produced chemical is only 2.7 billion years old.....

Nevertheless, taking the microfossils at face value, they do offer biologists a new challenge. As Ponnampereuma notes "the universe is awash with the sorts of chemicals we can make in our primordial experiments, yet these are not signs of life. They are only organic life's raw materials.

How, biologists now wonder, can such materials evolve living organisms as complicated as cells in a mere 500 million years?

From the Christian Science Monitor

This implies that living cells which.

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; 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 in the aims of the Society.

Family membership \$6.00; individual membership \$5.00; junior membership \$3.00 (between ages of 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 2PM in the Science Building, Augustana College, Rock Island, Illinois.

President: Gilbert Norris, 2623 34th Ave Court, Rock Island, Illinois 61201

Vice President: Douglas De Rosear, P O Box 125, Donnellson, Iowa 52625

Secretary: Alberta Cray, 1126 J Avenue, NW, Cedar Rapids, Iowa 52405

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FIRST CLASS MAIL

Dated material - meeting notice

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