MARK YOUR CALENDARS

2 FEB MAPS MEETING --Geology Department
Monmouth College, Monmouth, IL

1:00 Board & General Meeting
combined.

2:00 Program: Bahamian Paleo
(A Little Bit Older Than Road Kill).

Larry Wiedman, Prof. Geology,
Geology Dept., Monmouth
College, Monmouth, IL, will be
in charge of the program:

*** 91/02 DUES ARE DUE ***

Are your dues due? You can tell by checking your
mailing label. The top line gives the expiration
date in the form of year followed by month—91/02
means 1991/February. Dues cover the issue of the
Digest for the month in which they expire.

We do not send notices but will let you know if you
are overdue by highlighting your mailing label on
your Digest. We carry overdues for two months
before dropping them from our mailing list.

Please include your due date and your name exactly
as it appears on your mailing label (or just include
a label).

Dues are $15 per U.S./Canadian household per year.
Overseas members may choose the $15 fee to receive
the Digest by surface mail or a $25 fee to receive
it by air mail. Library/Institution fee is $25.

Make checks payable to MAPS and mail to:
Sharon Sonnelleter, Treas.
4800 Sunset Dr. SW
Cedar Rapids, IA 52404

19 APR 1991 MAPS National Fossil Expo-
sition XIII--Lagerstatten

The theme for EXPO XIII is
Lagerstatten, which means very
special locations of fossils
world-wide.

Fri., Apr. 20: 10am - 6pm
(Dr. Desmond Collins, Royal
Ontario Museum, will give the
keynote address at 7:45 on
"The Burgess Shale Fossil
Fauna--The Type Lagerstatte"—
the title was incorrectly
stated in last month's issue)
Sat., Apr. 21: 8am - 5pm
(Business meeting and auction
following)
Sun., Apr. 22: 8am - 3pm
(Seminar by Dr. Merril
Foster: 9 - ?)

ABOUT THE COVER

This month's cover was drawn by MAPS member
Randy Wheeler, Port Byron, IL. The focal
point is the trilobite Ditomopyge from the
Pennsylvanian Oak Grove limestone formation
in Atkinson, Illinois. The artist found
the specimen and says the site is a great
place to hunt for nicely preserved snails
and other mollusks. Trilobites are less
plentiful.

This is an original work of art contributed
to the Digest. Randy says "If you have an
article coming up in the Digest or you
would like to see your fossil come to life
on the cover, send a picture of it and, if
possible, information about how it looked
alive" to him and he will work up a
drawing.
EXPO XIII—LAGERSTATTEN

Table reservations are coming in and all the Union rooms have been taken, so plans for EXPO XIII are well underway.

Maggie Kahrs is editing the EXPO Digest, so all correspondence regarding that edition should be directed to her. She says she has several articles in hand and lots more promised, so you should be expecting another fine publication.

Tony Verdi once again has designed a special postal cancel in keeping with our EXPO theme. The design features the Tully Monster, a strange-looking critter found in the Illinois Pit 11 Brainard Formation. The Post Office will again set up at EXPO so mail can be sent directly from there with the special cancel.

MAPS EXPO XIII STA
TULLY MONSTER
MAZON CREEK
LAGERSTATTEN
EXTRAORDINARILY PRESERVED FAUNA

MAPS BADGES AVAILABLE

MAPS name badges are available once again. The badge has a blue background with a white logo and your name, city, and state.

To order a badge send the NAME, CITY, and STATE that you want to appear on your badge along with your complete address and a check for $5.25 (includes postage) to:
R.V. Printery
1320 5 Ave.
Moline, IL 61265

FOSSIL STAMPS CAMPAIGN

Tony Verdi has been campaigning for several years for an issue of 4 stamps depicting fossils. Although the Post Office did issue a set of 4 prehistoric animal stamps in 1989, Tony would like to see an issue featuring earlier fossils, which more fossil collectors are likely to be able to collect. If you would like to help in the campaign, send a letter encouraging the Post Office to issue a set of stamps of earlier, more common fossils to:
U.S. Postal Service
Citizens Stamp Advisory Committee
Room 5670
475 L'Enfant Plaza West, SW
Washington, DC 20260-6753

SAMPLE LETTER:
Sirs:

Over the years, the U.S. has issued more than 260 stamps depicting animals and plants and only ten stamps featuring minerals, fossils, and prehistoric animals. These numbers indicate that we are too heavy on the living world and almost nil on the non-living world.

Although I am pleased with the 1989 issue of four stamps featuring prehistoric animals, I believe that we are due for a block of four stamps showing more common representative U.S. fossils. We have a rich fossil heritage.

Fossils tell us about the plants and animals that once covered the earth. I suggest that common fossils such as ferns, trilobites, fish, crinoids, ammonites and brachiopods be considered.

Thank you,
(Your signature)

TABLE RESERVATIONS CORRECTION

An incorrect telephone number was given in last month's Digest for Doug DeRosear, the contact person for EXPO table reservations. The correct number is: 319-835-5521. Please make note of the correct number in case you have to contact Doug by phone about table reservations.
Considering the extent of geologic time and the wealth and diversity of the fossil record, it is only logical that there should be some fossils which represent entire body plans of life forms which today are extinct. A group of organisms with the same body plan is called a phylum and, except for a kingdom, represents the highest level of classification in the animal kingdom.

Most extinct life forms found as fossils represent extinct species, but extinct body plans (phyla) are another matter. One might take as an example the trilobite: trilobites are extinct life forms, but they are not problematic fossils since their basic body plan is that of the arthropod, the phylum to which they belong. A problematic fossil organism is one which cannot be placed into any living phylum of animals or plants. With a problematic fossil there is no "slot" among living organisms into which the fossil might be filed, and no relationship of the fossil to any modern life forms can be determined.

In one sense the modern view on dinosaurs places them as vertebrate problematica and represents the concept of problematica. This viewpoint, which considers dinosaurs as endotherms (warm blooded) vertebrates, removes them from the reptiles, and thus there is no "slot" into which to place them in terms of modern animals. Dinosaurs are not mammals; birds are a closer living group, but they have distinctive features such as feathers and flight which the dinosaurs lacked. Yet dinosaurs are not true problematica either, since they are obviously vertebrates and hence have a "home" in that phylum of animals with backbones, the chordata. True paleontological problematica such as those found in the early Paleozoic represent, without any question, no living phyla!

A sampling of "classic" problematic fossils includes:

1. The archeocyathids. These peculiar organisms were once considered sponges, which they superficially resemble. Archeocyathids, however, are definitely not sponges since, among other things, they have no spicules, and the archeocyathid organism consisted of three distinct cell layers; a sponge, by contrast, consisted of only one. Archeocyathids also have been considered a type of coral, but here again they lack the basic "hard part" anatomy characteristic of the corals, such as septa, tabulae and such. Lacking these structures, they cannot be representatives of the Cnidara, the phylum to which corals belong. Archeocyathids, then, just don't fit into any other living phylum; hence they are problematic life forms: they had a body plan distinct from all other invertebrates, and they became extinct in the middle Cambrian, over 500 million years ago.

2. Receptaculites is another problematic fossil organism. They are well represented in Middle and Late Ordovician limestones of the central Midwest and upper Midwest respectively. Sometimes called a sponge (as is the case with archeocyathids) or a sunflower coral, receptaculitids are neither of these. Also like archeocyathids, receptaculitids were dominant life forms in the early part of the Paleozoic era when a lot of animals with peculiar and obsolete body plans lived. A number of different types of receptaculitids occur, and some of these, like Iscadites, are smaller than the 8-10 inch diameter discs of Receptaculites. One of the relatives of Receptaculites in earlier fossil literature was thought to be the calyx (head) of a crinoid and was given a name, Cyclocrinites, indicative of its erroneously assumed place as a crinoid.

Problematic fossils are still being found, and many fossils which in older paleontologic literature were "shoehorned" into modern living groups of organisms are being re-evaluated and, in many cases, are being reconsidered as problematic organisms which have no living representatives. A
few of the organisms which fall into this category, besides those mentioned above, are:

- **Conularia**—Not a Coelenterate
- **Hyolithes**—Not a pteropod gastropod
- Many cystoids, such as **Selenocystites**—Have been removed from cystoids and are placed in extinct echinoderm classes.
- **Stromatoporoids**—Do not belong to the corals but seem to be related to a peculiar group of sponges.
- **Conodonts**—Are not the teeth of worms but are tooth-like structures of some type of extinct vertebrate.

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**OLDEST KNOWN MAMMAL FOUND IN TEXAS**

(source: *Insight*, Sept. 24, 1990

sent by John Stade, Ferguson, MO)

It has always been believed that the oldest fossil mammals are buried in Europe, but scientists in the Southwest have recently disproved the assumption. What is believed to be the skull of the oldest mammal ever discovered was unearthed in the rugged Texas terrain.

The new specimen, probably the fossil remains of a 5-inch rodent-like animal, is 220 million years old. That is at least 10 million years older than the morganucodon found in Great Britain and now considered the second-oldest mammal ever discovered. The Texas find is of a more primitive, reptilian nature than the British fossil, but the two creatures are quite similar in size and characteristics despite the difference in their age, according to Spencer Lucas, curator of paleontology at the New Mexico Museum of Natural History. Lucas led the team that found the fossil near Lubbock, Texas, which is the site of a few other major archaeological finds over the years.

The 1-inch diameter skull—the only part of the animal recovered—shows a particular arrangement of the bones housing the muscles in the inner ear. It is that arrangement, which differentiates mammals from reptiles, that convinces the Texas scientists they have found the oldest known mammal.

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**COMPLETE FOSSIL HALKIERIIDS FOUND IN GREENLAND**

(source: *The Daily Dispatch*, Moline, IL

July 3, 1990

sent by: Gil & Gerry Norris)

The first complete fossils of a complex, armored, worm-like animal known as a halkieriid were been found in Greenland last year. Before the find, paleontologists were only able to guess at the structure of the 550-million-year-old creature, and the extinct animal looks much as expected: slug-like and about two inches long, with tiny dorsal scales that resemble chain-mail armor. However, the presence of a large oval shell at each end of the animal came as a complete surprise. Although similar fossil shells had been found previously, they had never been connected with the halkieriids.

The find is considered an “extraordinary discovery.” Although halkieriids were unlike any living animal, they were similar in size to another odd extinct creature, the *Wiwaxia corrugata*. The slightly younger *wixwaxia* was thought to be a descendant of the halkieriid, and the new discovery confirms that relationship: the halkieriid’s many scales are proportionately smaller, and the shells are unique, but the two seem to be from the same group.

According to S. Conway Morris of the University of Cambridge, a co-discoverer of the fossils, they “should help bring order to our understanding of how early skeletons were built and organized, and perhaps help us make sense of why skeletons and animals evolved so quickly.”
WYOMING HILL ROADCUT
By Robert Wolf, Midwest Rockhound Services, 3521 10th Ave North, Fort Dodge, IA 50501

About four miles east of Muscatine, or a mile west of Fairport (Muscataine County, Iowa), along the north side of Highway 22, is about a half mile long roadcut known as Wyoming Hill. To the south is a very scenic view of the Mississippi River.

At the top of the eastern end of the cut is about twenty feet of brown sandstone with cross-bedding and occasional plant fossils. A maximum of forty feet of this unit is exposed in the middle and western parts of the cut. This is known as the "Spoon" Formation (Pennsylvanian Period, Desmoinesian Series, Cherokee Group) and is believed to be equivalent in age to the Floris Formation of southern and central Iowa.

Below that is a thin coal seam, the Wyoming Hill Coal. This marks the top of the Caseyville Formation (Pennsylvanian Period, Morrowan Series). Below the thin coal is approximately ten feet of gray, bedded, sandy shale with abundant plant fossils. Digging is usually required to find the best specimens. Below that is a thick coal bed (1.5'), which is also the Wyoming Hill Coal Member. It occurs at road level in the middle section of the roadcut. Below that is a foot of brown sandstone that is not well exposed. Less than a foot of coal occurs below this sandstone (Wyoming Hill Coal). Below this coal bed is roughly twelve feet of light gray, sandy siltstone with abundant plant fragments in places. Another coal bed occurs below the siltstone (the Wildcat Den Coal). It is about half a foot thick but is highly eroded and is exposed in the eastern part of the cut. Below the Wildcat Den Coal is another ten feet of gray siltstone with plant fossils. The base of the cut exposes forty feet of brown to reddish sandstone. The upper part of which is exposed above the highway on the north side and forms low bluffs along the highway east of the main cut. It has well-preserved seed ferns and other plant fossils in places. The lower portion is exposed below the highway to the south in the slope overlooking the river.

Greenish shale is reportedly exposed below the Caseyville sandstone in a narrow ravine just west of the roadcut. This is the Upper Devonian Sweetland Creek Formation, but I have not yet examined this exposure. Macro fossils have not been reported. The formation is equivalent in age to the Lime Creek Formation of northern Iowa.

The photo shows the lower section of the roadcut at the eastern end. The "Spoon" Sandstone can be seen in the upper left. The slope just above the van rests on the 1.5' Wyoming Hill Coal bed and is the best level for plant fossils here.
We are rerunning last month's cover drawing by Randy Wheeler, Port Byron, IL., because the method used to reproduce the drawing did not do justice to the original work. Randy's work was a pencil drawing, which requires half-toning before printing to retain the original character of the work. I was unaware of that requirement and apologize to Randy for the quality of the print. For the drawing he used the reptile Dimetrodon to show the history represented in the Permian trackways dig in Las Cruces, New Mexico. A Related story ran in last month's issue.
ADVERTISING SECTION

Ads are $5.00 per inch (6 lines x 1 column—43 spaces). Send information and checks payable to MAPS to: Mrs. Gerry Norris, 2623 34th Avenue Ct., Rock Island, IL 61201. Phone: (309) 786-6505. This space is a $5.00 size.

To extend currently running ads, please send request and remittance to Editor by the 15th of the month. We do not bill. Ads do not run in the EXPO issue (April). Ads up to 8 lines by 54 spaces can be printed in smaller type to fit a 1" space.

The Earth Science Club of Northern Illinois is pleased to announce their latest publication,

**Keys to Identify Pennsylvanian Fossil Animals of the Mazon Creek Area.**

This large 8 1/2 by 11" 136 page book has line drawings of actual specimens as found in the field, reconstructions to illustrate how these animals looked in life, and detailed anatomical descriptions.

Uniquely illustrated with over 375 original line drawings, this is the first single volume work to focus solely on all the animal phyla from the famed Mazon Creek deposit.

This work is designed to aid the user in identifying major Mazon Creek animal fossils. Employing 43 shape-form keys, the book leads the user to 96 genus classifications, 56 species identifications, embracing 12 different phyla.

To ORDER: MAKE CHECKS TO:

MARTHA PREPP
5858 WOODWARD
DOWNERS GROVE, IL 60515

PLANT BOOK HAS BEEN REPRINTED, UPDATED AND HAS HAD ILLUSTRATIONS ADDED

$8.00 PLUS $1.00 POSTAGE

BOOKS WANTED


Wieland, G., American Fossil Cycads (two vols), Carnegie Inst. of Washington.

Alan J. Weiss
1095 Ponderosa Ave.
San Marcos, CA 92069 Ph. 619-471-6948

Rare Czechoslovakian SALAMANDERS:
Discosaurusculpuscherrimus & D. potamites from the Carbon./Perm. boundary. About $1500.00 ea. Other Czech fossils also available. D. Cassel, 7000 Soquel Dr. #351, Aptos, CA 95003. Tel. 408-429-9333.

NEW! complete fossil catalog. Lists most popular North American and European specimens. Send 1st class stamp for this new catalog. Bob Levin, P.O. Box 103, Smith Center, Kansas 66967.

NEW! The Cerro Gordo Fauna
The most complete guide to fossils of the Rockford-Bird Hill area of Iowa (Dev.) Dozens of illustrations. $4.00 Published by Midwest Rockhound Services 3521 10th Ave. N., Fort Dodge, IA 50501

FOSSIL REPRODUCTIONS UNLIMITED
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P.O. BOX 6650
ROCKFORD, ILLINOIS 61125


ROCKFORD BRICK & TILE QUARRY PURCHASED

Last year it was reported in the Digest that the Floyd County (IA) Conservation Board was attempting to purchase the abandoned Rockford (IA) Brick & Tile Quarry to preserve it as a collecting site and add camping facilities, etc. Members were asked to write in support of the project, and the enormous response enabled the Conservation Board to acquire the necessary funds to proceed with the project. Gil Norris recently received the following letter from Wayne C. Meyer, Director of the Floyd County Conservation Board:

The Floyd County Conservation Board would like to thank you for your support of the purchase of the Rockford Brick & Tile property. We have it all purchased now and were able to purchase 47 acres to the west that have about 25 acres of native prairie on them. The County Conservation had 30 acres to the west of the 47 acres of native prairie and the juniper area. This will give us a park now of about 185 acres. We will start working on the area next spring with walking trails, toilets, and a welcome center as money allows. The area will be open to the public next spring. Again, thank you for your support, and, if you would, pass it on to anyone who would have an interest in the area.
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 material; 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.

Membership in MAPS is open to anyone, anywhere who is sincerely interested in fossils and the aims of the Society.

Membership fee: One year from month of payment is $15.00 per household. Institution or Library fee is $25.00. Overseas fee is $15.00 with Surface Mailing of DIGESTS OR $25.00 with Air Mailing of DIGESTS.

MAPS meetings are held on the 1st Saturday of each month (2nd Saturday if inclement weather). October & May meetings are scheduled field trips. The June meeting is in conjunction with the Bloomington, IN, Gem, Mineral, Fossil Show & Swap. A picnic is held the fourth weekend in July. November through April meetings are scheduled for 2 p.m. in the Science Building, Augustana College, Rock Island, Illinois. One annual International Fossil Exposition is held in the Spring.

MAPS official publication, MAPS DIGEST, is published 9 months of the year—October through June.

President: Gil Norris, 2623 34th Avenue Ct., Rock Island, IL 61202
1st Vice President: Marvin Houg, 3330 44th St. N.E., Cedar Rapids, IA 52402
2nd Vice President: Allyn Adams, 612 W. 51st Street, Davenport, IA 52806
Secretary: Jo Ann Good, 404 So. West 11th St., Aledo, IL 61231
Treasurer: Sharon Sonnleitner, 4800 Sunset Dr. SW, Cedar Rapids, IA 52404
Membership: Tom Walsh, 501 East 19th Avenue, Coal Valley, IL 61240
Please ADD the Following NEW OR REJOINING MEMBERS to Your Directory:

James H. Baker
2011 Singleton
Houston, TX 77008
713-862-5123

Deborah G. Koch
47 Avery Dr.
Coldwater, MI 49036
517-279-8677

Susan M. Underbrink
6138 Yorkshire
Dallas, TX 75230

Mr. Sandy Porter
RD 4
Saegertown, PA 16433
814-724-6164

WAS B & D ENTERPRISES

Travel Agent. Will trade. Major interest Cretaceous invertebrates. Working on material for trade. Member Dallas Paleo. Soc. Wants to learn more and meet other interested people.

State Policeman. Collecting several years. Interested in field collecting. Likes microfossils, vertebrates, and invertebrate fossils, coprolites, etc. Will trade on occasion.

Please Note the Following CHANGES OF ADDRESS and CORRECTIONS.

Randy & Darlene Faerbber
7854 Darnell
Lenexa, KS 66216
913-268-6786

Darlene: Receptionist at eye clinic. Other main interest is fossil shells.

(Darlene--nee McDonald--has been a member. She & Randy were married in August. Her mother, Louisa, also a member, was killed in an auto accident in May.)

Ray Hintlian
2020 N. 70th Drive
Phoenix, AZ 85035
602-849-3416

Jane D. Hualsmeyer
#26 Hook II Quarter
Fowler, IL 62338

Joseph G. & Florence G. Koss
26 East 700 North
Valparaiso, IN 46383
219-462-3685

OMIT WILL TRADE CRAB NODULES

Pamella M. Long
P.O. Box 213
Valencia, PA 16059

Major interest trilobites. Collects whenever she can. Would like to hear from members in PA, OH, NV, NV interested in weekend collecting. Trying to accumulate world-wide display of fossils. Will trade, particularly non-U.S. for Eocene, Ordovician, and Devonian.

ADD: Welcomes correspondence.

Leland Miyano
619 Hakaka Street
Honolulu, HI 96816

George L. Stone
3 Cottonwood Ln
Carterville, IL 62918-1394

Dean Tyler
3301 S. Gibson Ave.
Sioux Falls, SD 57106

Hans Wurzbacher
Ehlvershof 277
D-3000 Hannover 21
W. GERMANY

NAME & ADDRESS are jumbled in Directory
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