

M.A.P.S. *Digest*

Official Publication of
Mid-America Paleontology Society

Volume 20, Number 6
July-September 1997



MARK YOUR CALENDARS

Oct 11 MAPS MEETING. Trobridge Hall, University of Iowa,
123 N. Capital St., Iowa City, IA. Main Lecture Room, #125.

1:00 Board & General Meeting Combined
2:00 Program

Sep 20-21 FALLS OF THE OHIO THIRD FOSSIL FESTIVAL
Falls of the Ohio State Park, 201 W. Riverside Dr., Clarksville,
IN

Highlights earth science as a hobby, vocation and source of never-ending wonder. Features vendors, hikes, children's activities, identification, collecting, field trips, displays, teacher in-service workshops, fossil prep workshop.

Sep 20: 9 am - 7 pm, Sep 21: 9 am - 5 pm
For more information, contact:
Alan Goldstein between 1-4:30 pm, Mon. - Fri.
812-280-9970, ext. 403

Oct 4-5 14TH ANNUAL FLORIDA FOSSIL FAIR
Lake Mirror Center, 800 E. Main St., Lakeland, FL

Featuring programs by Dave Letase, Terry Sellari, Tony Estevez, dealers, displays, dinosaur exhibit.

Sat., Oct. 4: 9 am - 5 pm, Sun., Oct 5: 9 am - 4 pm

For more information contact:
Ed Holman at 941-665-3426
Lou Harvey at 407-282-5676

Oct 20-23 GSA ANNUAL MEETING
Salt Lake City, Utah

EXPLORING LIFE IN THE SOLAR SYSTEM

Contact: Loren E. Babcock
Department of Geological Sciences
155 South Oval Mall,
The Ohio State University
Columbus, OH 43210-1398

614-292-0358; fx. 292-1496; <lbabcock@orton.mps.ohio-state.edu>

Oct 24-26 FOSSILMANIA XV

Somervell County Expo Center, Glen Rose, TX

Annual sale and trade show for fossils and fossil-related items.

Fri: 9-6, Sat: 9-6, Sun: 9-2
Contact: William W. Morgan,
113 Shavano Dr.
San Antonio, TX 78231

**Nov 15-16 ORLANDO, FL, FLORIDA FOSSIL HUNTERS
SIXTH ANNUAL CENTRAL FLORIDA FOSSIL FAIR**

Florida National Guard Armory, 2809 S. Ferncreek Ave.

Nov 15: 9-6, Nov 16: 9-4

Contact: Terry R. Angell, 226 Palmyra Dr., Orlando, FL 32804.
407-277-8978. E-mail FOSSILFAIR@aol.com

**Feb 11-13, 1998 VI NATIONAL CONVENTION OF THE
MEXICAN PALEONTOLOGICAL SOCIETY**
Sciences School, National Autonomous University of Mexico

For more information, contact:

Marisol Montellano
Departamento de Paleontologia
Instituto de Geologia, UNAM
Ciudad Universitaria, Coyoacan
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Fax: (52-5) 550-8432
e-mail: marmont@servidor.unam.mx

**Apr 17, 18, & 19, 1998 MAPS NATIONAL FOSSIL
EXPOSITION XX--CORALS**

Western Illinois University, Macomb, IL

Fri., Apr. 17: 8 am - 5 pm
Sat., Apr. 18: 8 am - 5 pm
Sun., Apr. 19: 8 am - 3 pm

97/09 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--97/09 means 1997/Sept. 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 name exactly as it appears on your mailing label--or include a label.

Dues are \$20 per U.S./Canadian household per year. Overseas members may choose the \$20 fee to receive the Digest by surface mail or a \$30 fee to receive it by air mail. (Please send a check drawn on a United States bank in US funds; US currency; a money order; or a check drawn on an International bank in your currency.) Library/Institution fee is \$25.

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

PROCEEDINGS OF THE BOARD

July 27 MAPS Meeting

Several items were acted upon at the July meeting following a field trip and pot luck at Karl & Lee Stuekerjuergen's home, West Point, Iowa. Our thanks to them for opening their home for the summer meeting.

A motion to send \$2000 to the Paleo Society Scholarship fund carried. We will try to have a MAPS representative present it at the October 20-23 GSA annual meeting in Utah.

Approval was granted to install a separate phone line and pick up expenses for Sharon Sonnleitner to be on internet with a MAPS address.

Copies of the paper Chris Cozart will present as a MAPS representative at the "Paleontology in the 21st Century" workshop to be held August 24-29 in Germany were passed out.

The Society of Vertebrate Paleontology has invited MAPS to set up an exhibit table at its annual meeting to showcase what we offer on education in vertebrate paleontology. We will find a representative to be at the meeting in Chicago October 8-11.

The board has been considering ways to change the legal structure of MAPS so members can take tax deductions for donations. After much discussion, it was decided to further study the benefits and problems before deciding on the issue.

Joseph Emiely has been nominated as the first recipient of our Eugene Richardson Award to honor a professional who has been an outstanding supporter of amateurs. We are asking for more support letters from amateurs he helped so we can act on the nomination. We are also open to other nominations. We expect to make a decision on the matter by January.

The speaker for EXPO (Corals) will be James E. Soroul. Department of Geology, Binghamton University, Binghamton, New York. By January of 1998, the Paleo Research Institute will have published his book on Iowa corals.

It was decided to start the meetings at EXPO at 7:00 p.m. on Friday and Saturday. The silent auctions will be shortened to 15 minutes. It was suggested that when one auction is running, material for the next one be available for viewing. Suggestions for the 1999 theme are "Classifications & Collections" and "Microfossils." Doug DeRosear and Randy Faeber will chair the Table committee.

ABOUT THE COVER

Collected by and from the personal collection of
Danny Harlow, Austin, Texas

Trilobite: *Ditomapyge Scitula*
From San Salsa County, Texas
Lower Pennsylvania
Bend Series

Lower Marble Falls Limestone Formation

This specimen comes from the Lower Pennsylvanian of Texas approximately 10 feet from the base (Pennsylvanian/Mississippian contact).

BURTON J. "BUD" CRAY PASSES AWAY

Burton J. "Bud" Cray died suddenly August 12 in Cedar Rapids. His health had necessitated his being in a care center since October. He and his wife, Alberta, were charter members of MAPS and have contributed much to the Society over the years. Alberta is currently secretary of MAPS. Our deepest sympathy to her and her family.

A NOTE ABOUT "BEWARE!!!"

A. Allen Graffham, President, Geological Enterprises

Regarding your warning (BEWARE!!!) on page 2 of MAPS Digest, May-June, 1997: since we are probably the largest dealer in Oklahoma Trilobites, this notice is a bit alarming to us. We are a bit afraid that your readers might think this was a problem from us. We would like to assure our customers that it is not Geological Enterprises you are talking about.

(Ed. Note: A member at EXPO asked that a notice be placed in the Digest to warn of someone calling with an offer of Oklahoma trilobites and then not delivering them after they were paid for. I am assuming it was an individual, although he did not name names.)

EXPO THEME—CORALS

This is a reminder that the theme for the 1998 EXPO is corals. Maggie Kahrs is the editor of the EXPO edition of the Digest. If you promised her an article, please be sure she gets it in a timely manner. If you can contribute an article, please contact Maggie to let her know. Her address is: 9145W US Hwy 50 East, Seymour, IN 47274, phone 312-522-6093.

MAPS HAS E-MAIL ADDRESS

MAPS now has an e-mail address for the treasurer/editor (Sharon Sonnleitner). It can be used to send articles, request application forms, etc. Please limit your use of this address to important communications since I don't want to get bogged down in mail. E-mails sent to this address can also be forwarded to Marv Houg or Dale Stout at this time. Send to <MAPSSonn@aol.com>.

CORRECTION

by Tom Noe, Editor, *The Rockfinder*

Dear Sharon:

Reading through your excellent newsletter today, I notice the article by Paul Godollei on page 4 (20:5). Evidently this is one of those cases where a reprint has been passed around so often that its original source becomes lost. The complete article appeared first in *The Rockfinder*, the newsletter of the Michiana Gem & Mineral Society, in the issue of October, 1993. Paul, who passed away a couple of years ago, was a prolific author, a prodigious fossil collector and a beloved member of our club for many, many years.

PALEONTOLOGY IN THE TWENTY-FIRST CENTURY— A NONPROFESSIONAL PERSPECTIVE

by Chris Cozart

(This paper was presented at the "Paleontology in the 21st Century" workshop in Germany in August)

Introduction

The purpose of this paper is to provide a context for discussion of issues and opportunities regarding the future of paleontology in the twenty-first century from a nonprofessional point of view. The issues facing nonprofessional paleontologists can be grouped into four categories: access to collecting localities, ownership of collected specimens, custody and curatorship of collections, and access to and the advancement of knowledge. After a discussion of each of these areas of issue, the paper will present some opportunities and approaches for addressing these issues as we move into the next century.

Issue One: Access to Localities

Access to collecting localities has generally become more difficult over the past twenty years. In the case of private land, factors influencing access have included pressures from governmental regulation, liability, and increased numbers of people seeking access to private land for recreational purposes.

Governmental regulation of private activity has had both direct and indirect effects on landowners' willingness to grant access to their property to fossil collectors. Safety regulations have had a direct impact by placing landowners at risk for violations of regulations occurring on their property whether the actual violator is in their employ or engaged in a commercial activity. Given a choice between extra training and monitoring expense or risking a shut down, it is not surprising that many owners choose the simple solution of denying access.

Anti-pollution and wetlands regulations curtail access by limiting the life of localities. Pollution regulations either require restoration of mined areas or increase the cost of operations so much that commercial activity becomes uneconomical. Wetlands regulations generally prohibit any development of land resources. Endangered species regulation also prohibit land uses that expose fossil-bearing sediments. In some places, landowners deny access to their property for fear that someone might find an endangered plant or animal that would limit their land use options or property values if reported.

Liability and the risk of suit is a major factor in many landowners' decisions to deny access to their property. Publicity over the ever-increasing awards and expanding interpretation of liability has convinced many landowners that the risks outweigh any altruistic reasons that there might be for granting access privileges.

A related factor is the sheer volume of people seeking access. The increased wealth of the public and the increased proportion of the public that find outdoor activities desirable have dramatically increased the number of people seeking access to private land for recreational purposes of all types. Many landowners have found it necessary to deny access in self defense

Pressures for recreational and commercial use of public lands have also greatly increased. At the same time special interest groups seeking to protect or preserve natural areas have sought legislation and regulatory change to limit use of public lands for commercial or recreational purposes. Governmental agencies have generally responded to these factors by increasing regulation and penalties for violations. Access to potential collecting localities is impacted by prohibition of activities, such as quarrying, that would expose fossil-bearing sediments, loss of right of way, and road closures. Some private organizations and wealthy individuals have also sought to reduce public access to public land by buying up strategic land parcels and closing traditional rights of way.

Lastly, pressures have been brought to bear on public agencies because of concerns over the uses and ownership of specimens collected on public lands. Rights to specimens and their use are the second issue facing independent paleontologists.

Issue Two: Rights to Specimens

Concern over the rights to specimens comes from two sources. Some professional paleontologists are concerned over the potential loss of scientifically significant specimens due to commercial exploitation or to the ignorance of hobby collectors. These scientists have lobbied governmental agencies to implement regulations to limit access to localities and explicitly limit the collection of specimens to selected professional paleontologists.

These professional paleontologists have received support from special interest groups who object to the principal of private individuals taking ownership (expropriating) of public goods (fossil specimens). The special interest groups take the position that fossils occurring on public lands belong to society as a whole and that it is immoral to allow private citizens to benefit at the expense of their fellow citizens by allowing them to take ownership of materials collected on public land. An extension of this position is that society as a whole has rights to naturally occurring resources that supersede private property interests. In this view, the landowner has done nothing to create fossil resources that may occur on their property, so has no claim on them. On the contrary, the landowner's role is stewardship of the public good. Depending on the position taken, collecting by nonprofessional paleontologists would be prohibited on either public or private land. Unfortunately, many specimens occur on lands subject to weathering and erosion (e.g. much of the western United States) and if left uncollected will deteriorate into obscurity, which benefits no one.

Another tactic proposed by proponents of restricting private collecting rights is to propose provenance requirements on permitted collecting that are so burdensome that they effectively prohibit legal retention of specimens. Such regulation would require documentary proof of the date and locality of collection of every specimen.

Issue Three: Curatorship of Collections

One of the key contributions to science that the independent paleontologist makes to science is the long-term systematic collection of specific localities or formations. These long-term collections yield more information regarding the variety of taxa and relative frequency of species in a community than is possible in the short term study that the professional paleontologist is usually able to perform. Having sometimes spent a lifetime building such a collection, the independent paleontologist is naturally concerned that the integrity of the collection be maintained.

Unfortunately, many scientific institutions, whether museums or universities, no longer have the space or funding to accept or curate these collections. In fact, many repositories have shut down, or no longer maintain good standards of collection maintenance. Every serious nonprofessional is aware of instances of lost materials, removal of specimens from collection catalogs, and general deterioration of collection materials entrusted to institutions.

This situation leaves the independent paleontologist with a dilemma: how to identify suitable institutions for donation of specimens, and receiving assurance that the receiving institution will continue to operate as expected.

Issue Four: Access to and Advancement of Knowledge

Access to paleontological knowledge is important to nonprofessionals for a variety of reasons. Locality information is important to identifying and accessing new collecting sites and the building of collections. Systematic descriptions in professional journals, monographs, etc., make it possible to identify what is new. Paleo-environmental and behavioral studies help us understand the significance of what we find.

Unfortunately, this information is getting more difficult to find. Because of the increasing scarcity of funds, many libraries have reduced the scope of or eliminated their paleontological collections. Similarly, many institutions have cut back on their staffing. Loss of access to these expert resources greatly increases the difficulty of nonprofessionals' research and personal growth. Most paleontologists begin their interest with a fascination for fossils and field collecting. As their knowledge grows, interest shifts toward paleontologic study and developing a deeper understanding of the meaning of fossils.

The opportunity to interact face to face with professionals provides direction and an entry point to the resources of the professional community. Ideally, personal relationships lead to identification of new finds and opportunities for collaboration. One way to accomplish this is to advertise professional meetings and welcome the nonprofessional to such meetings. Another way is by offering the nonprofessional the opportunity to be the junior author of a paper, which has been the bridge into serious science for many nonprofessionals. Published materials, while of very high quality, are harder to find and becoming increasingly expensive. Building a personal library, while necessitated by the loss of public library collections, is prohibitively expensive for many.

Lastly, the changing emphasis of the design of public exhibits space in museums has made it harder to learn from viewing the exhibits. Large quantities of specimens and copious signage provide excellent opportunities for learning and research. Sadly, museum exhibits have been moving in the opposite direction.

Summary

The issues discussed above raise several questions. Who should have access to collecting localities and under what circumstances? Who should own/maintain custody of specimens? What mechanism should there be for identifying/reporting scientifically significant finds? How can the future study of paleontology be supported?

The key to ensuring the future of paleontology and maintaining paleontological resources such as collections, libraries, publications, and professional opportunities is increasing public awareness and support. Only with cooperation of all segments of the paleontological community can the science of paleontology experience growth and remain viable into the next century.

Acknowledgments

The author wishes to thank Marv Houg and the members of MAPS for the opportunity to attend the Senckenburg conference and present this paper. I also wish to Thank John Catalani for editorial assistance in the completion of this paper.

WANTED: YOUR CONTRIBUTIONS TO THE DIGEST

Want to be famous? See your name in print? Or just share your knowledge with others?

The *Digest* is your opportunity to do all of the above. I am open to articles on any and all aspects of paleontology: discoveries, preparation techniques, collecting localities, books, anecdotes, collecting tools/techniques, display/storage ideas, cataloguing, news items of interest, theories, photos, drawings, to name a few. MAPS members represent various interests. Make your contribution to the study of paleontology through an article in the *Digest* now! You'll be glad you did.

EUGENE RICHARDSON AWARD

About a year ago MAPS established the Eugene Richardson Award to honor a professional who has provided significant assistance to amateurs. The award, which is recognition only, will be presented at EXPO (but not necessarily annually) when a nominated candidate is considered by the Board to be truly outstanding. We are looking for professionals who have worked with many amateurs and provided a variety of assistance. We will accept nominations from either professionals or amateurs. Nominations must be supported with information about the candidate's contributions and detailed support letters from those he/she has aided.

Joseph Emielty was nominated last fall, but too late for us to take any action. We are looking for letters of support from amateurs he worked with before we act on the nomination. Please send letters to Marvin Houg (see back page for address) by December 1.

The process of nomination and support is much like the process for the Strimple Award for amateurs. If you would like to nominate a professional for this award, please send a letter of nomination that includes 1) the full name, address, phone number, and e-mail (if available); 2) a detailed list of the contributions the nominee has made to amateurs; 3) any number of supporting letters and other documentation, which will verify the contributions and be presented to the award recipient. Nominees who are not recognized in the year they are submitted will be held for future consideration. Additional letters of support can be added to their files in succeeding years.

Thanks to Don Mikulic and his wife, Joanne Klusendorf, for suggesting that we establish this award. It's a great way to thank the professionals who assist amateurs in the pursuit of their hobby and to cement the bonds between the two.

POSSIBLE LINK BETWEEN DINOSAURS AND BIRDS FOUND IN ARGENTINA

source: Bowman, Lee. "Fossil find may link dinosaurs to birds," *The Arizona Republic*. 5-21-97
sent by Jim & Sylvia Konecny

The bones of a 90-million-year-old dinosaur found in Argentina in January 1996 appear to be from a relative of the oldest known birds. The bones are described by Fernando Novas in the May edition of *Nature*. Novas, a specialist on predatory dinosaurs at the Argentine Museum of Natural History in Buenos Aires, led the exploration.

"This is a late survivor from an age in which many dinosaurs were evolving toward becoming birds," Novas said of the find. "While it was a (evolutionary) dead end, it shows us how key structures of the forelimb evolved into wings."

The dinosaur had long legs and held its forelimbs like wings. The forelimbs were jointed in such a way as to be capable of flapping, but the creature could not fly. "It was able to move in a surprisingly different way than all other dinosaurs did," Novas said. "It's the most direct link yet between dinosaurs and birds." Besides its folded wing-like forearms, it also had pelvic bones and hind legs very similar to *Archaeopteryx*.

Archaeopteryx, the oldest known bird, lived about 145 million years ago, had feathered wings and could fly, but its head and tail resembled those of dinosaurs. It was about the size of a chicken.

The near-bird find, named *Unenlagia comahuensis*, or "half-bird from northwest Patagonia," lived alongside fully evolved early birds. It is estimated to have been nearly 4 feet tall at the hip and nearly 8 feet long nose to tail. Its long legs would have enabled it to run or hop at considerable speed. It is unknown whether it had feathers, but its wing-like arms were probably used for balance when it ran.

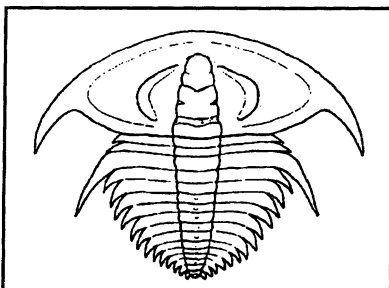
It is clearly a descendant of the non-avian theropod dinosaurs such as the velociraptors of *Jurassic Park* fame, considered the most likely ancestors of birds. This group lived about 125 million to 65 million years ago.

HOW OLD ARE THE TRILOBITES:

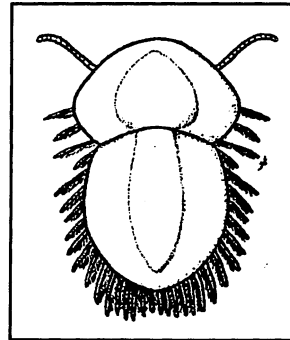
by J. S. Hollingsworth

from Uncompahgre Plateau Paleo. Soc. Newsletter. 5/97

The first trilobites appear shortly after the beginning of the Cambrian as complex arthropods with eyes and a segmented shell suggesting the presence of well-advanced nervous, muscular and digestive systems (Solomon, 1996). The oldest trilobites are found in Morocco, but they rapidly appeared in other continental areas. *Fallotaspis* is one of these widespread forms (about 530 m.y.). This sketch is a species found in western Nevada.

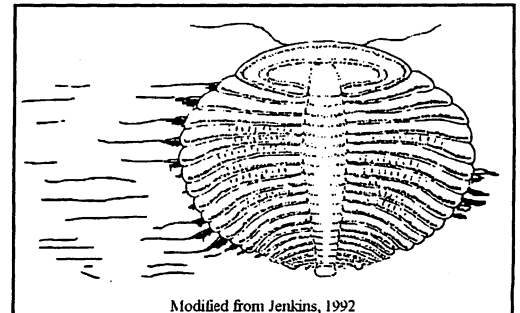


Trace fossils of trackways (*Cruziana*), resting and feeding places (*Rusophycus*), and scratch marks (*Diplichnites*, *Dimorphichnus*, and *Monomorphichnus*) are often found with trilobites and generally attributed to them. In Nevada, there are 3600 feet of sediments with such trilobites traces below the first common occurrence of *Fallotaspis*. The sudden appearance of completely developed trilobites and the occurrence of these trilobite tracks much before the hard-shelled forms appear suggest that there was a major period of development before the earliest trilobites. Such ancestors would have been soft-bodied.



The Burgess Shale (Middle Cambrian, about 510 m.y., British Columbia) fauna includes two very different trilobites with unmineralized shells (soft-bodies): *Naraoia* and *Tegopelte*. Whittington (1985, p. 59) suggests "It seems likely that there were more such soft-bodied trilobites living during the Paleozoic, only a relatively momentary glimpse of them being afforded by the Burgess Shale."

Several specimens of a segmented, trilobed fossil preserved as an impression in Precambrian fine-grained sandstone have been found in South Australia (Jenkins, 1992; Gehling, 1991).



Modified from Jenkins, 1992

This is part of the Ediacaran fauna of soft-bodied forms about 565 million years old. These fossils occur with scratch marks (*Diplichnites*) strongly suggestive of the trilobite scratches. They have a separate head (cephalon) with prominent eye ridges.

Some paleontologists have contended that the Ediacaran fauna represents an entirely different life-form, vendazoan, rather than the earliest form of our familiar metazoans. We can eagerly await further discoveries. It appears likely that the Cambrian Explosion was well presaged by the Ediacaran forms.

REFERENCES

- Gehling, J. G., 1991, The case for Ediacaran fossil roots to the Metazoan tree. In *The world of Martin G. Glaessner: Memoirs of Geological Society of India*. No. 20: 181-223.
- Jenkins, R. J. F., 1992, Functional and ecological aspects of Ediacaran assemblages. in Lipps, J. W. and Signor, P. W. (Eds) *Origins and early evolutionary history of the Metazoa*: Plenum, New York, p. 131-171.
- Solomon, L., 1996, Trilobites of Morocco: *Fossil News—Journal of Amateur Paleontology* 2(8): 2-9.
- Whittington, H. B., 1985, *The Burgess Shale*: Yale University Press, New Haven & London, 151 p.

ADVERTISING SECTION

Ads are \$5.00 per inch. 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 can be printed in different sizes of type to fit a 1" space.

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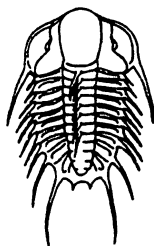
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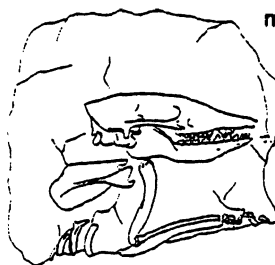
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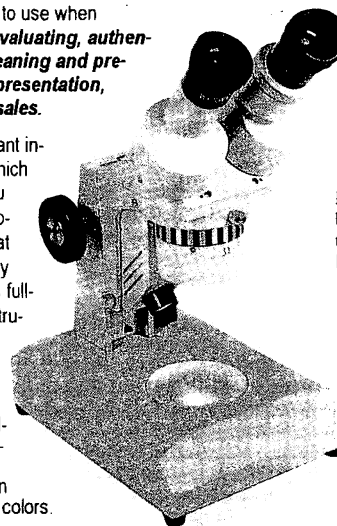
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Will trade. Major interest vertebrates. Has bison for trade.

Joe Gordon
3767 South 775 West
Russiaville IN 46979
317-883-5173
wk 317-867-0188
fx 317-867-0365
EARTHDOC22@aol.com

Project Geologist--Project Manager. Will trade. Has for trade
brachs, trilobites, crinoids, ammonoids, etc. Wants more variety
and locations to collect.

Shawn & Gail Seibold
529 Holt Valley Rd.
Nashville TN 37221
615-662-2540

Warehouse. Will trade. Major interest marine invertebrates,
Silurian, Ordovician. Plan their vacations around collecting. Have
for trade numerous brachiopods, coelenterates (all ID complete),
some Pegram Formation crinoid calyx sections Platystrophia NICE, etc. Want to broaden
their knowledge and collection.

PLEASE NOTE THE FOLLOWING CHANGES OF ADDRESS OR CORRECTIONS:

Jill Cohen
Justina Cotter
One Emerson Place
Apt 7A
Boston MA 02114
jcohen@med.unc.edu; jtc@admiss.duke.edu

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8546 Brae Ct.
Mooresville IN 46158
317-834-3370

John D'Orazio
95 Hill Street
Bloomfield NJ 07003
201-743-1930

Bob & Vivian Shaha
10616 E. 28th Ct.
Tulsa OK 74129
918-665-6940

Barbara Fite
P.O. Box 1766
Lutz FL 33548-1766

Martin & Linda Stetz
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216-944-2565
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410-956-8145

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4520 Southmore Drive
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PatrPaleo@aol.com

Albert P. Prandi
1 Lynnes Way
E. Bridgewater MA 02333
508-378-7081
1-508-378-7081

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.

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MAPS meetings are held on the 2nd Saturday of October, November, January, and March and at EXPO in April. A picnic is held during the summer. October through March meetings are scheduled for 1 p.m. in Trowbridge Hall, University of Iowa, Iowa City, Iowa. One annual International Fossil Exposition is held in April.

MAPS official publication, MAPS DIGEST, is published 9 months of the year--October through April, May/June, July/August/September.

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Secretary: Alberta Cray, 1125 J Avenue NW, Cedar Rapids, IA 52405
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Membership: Dale Stout, 2237 Meadowbrook Dr. SE, Cedar Rapids, IA 52403

Dated Material - Meeting Notice

CYATHOCRINITES



Mrs. Sharon Sonnleitner
MAPS DIGEST Editor
4800 Sunset Dr. SW
Cedar Rapids, IA 52404

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MID-AMERICA PALEONTOLOGY SOCIETY