

M.A.P.S. *Digest*

Official Publication of
Mid-America Paleontology Society

Volume 22, Nos. 3 & 5
March & May-June 1999



MARK YOUR CALENDARS

Jul 10 MAPS FIELD TRIP, PICNIC & MEETING

Karl & Lee Stuekerjuergen's, West Point, IA
319-837-6690 karstuek@interl.net

Meet at Karl & Lee's at 9:45. Leave at 10:00 for field trip to Barb Creek to collect crinoids (calyxes). Tools: hammer and chisel. Return to Stuekerjuergens' for pot luck at 1:00, followed by meeting.

Sep 18-19 FALLS FOSSIL FESTIVAL

Hosted by the Falls of the Ohio State Park & Clarksville Riverfront Foundations

Sat: 9:00 am - 7:00 pm.
Sun: 9:00 am - 5:00 pm.

Features *Fossil Art* exhibit on its North American tour, Outdoor fossil & mineral swap & sales, Professional scientific speakers, Fossil & mineral collecting workshops, Identification, Guided hikes on the fossil beds, Free educational materials, Outdoor food booths.

Outdoor activities are free. Regular admission applies for Interpretive Center, indoor activities and exhibits.

Contact: Alan Goldstein, Falls of the Ohio State Park, P.O. Box 741, Jeffersonville, IN 47131-1372 (812) 280-9970.

Web Site: <http://www.cismall.com/fallsoftheohio/festival.html>

Oct 29-31 FOSSILMANIA XVII, SPONSORED BY AUSTIN AND DALLAS PALEO SOCIETIES

Somervell County Expo Center, Hwy 67 in Glen Rose, TX

Fri: 9 a.m. - 6 p.m.
Sat: 9 a.m. - 6 p.m. (Auction and Raffle Drawing at night)
Sun: 9 a.m. - 12 p.m.

Contact Bill Morgan (after 8:00 p.m.: 210-492-9163)

Nov 13-14 FLORIDA FOSSIL HUNTERS 8TH ANNUAL FLORIDA FOSSIL, MINERAL AND GEM FAIR.

National Guard Armory, 2809 S. Ferncreek Ave., Orlando, FL

Sat: 9 a.m. - 6 p.m.
Sun: 9 a.m. - 4 p.m.

Contact: Terry R. Angell, 226 Palmyra Dr., Orlando, FL 32807
407-277-8978; FOSSILFAIR@aol.com

Apr 14, 15, & 16 MAPS NATIONAL FOSSIL EXPOSITION XXII—TEETH

Western Illinois University, Macomb, IL

Fri., Apr. 14 8 am - 5 pm
Sat., Apr. 15 8 am - 5 pm
Sun., Apr. 16 8 am - 3 pm

Full information in December-January Digest. Request copies from Dale Stout. (Address on back page).

99/06 DUES ARE DUE

Are your dues due? You can tell by checking your mailing label. It reflects dues received by June 23rd. The top line gives the expiration date in the form of year followed by month--99/06 means 1999/June. 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 and stamping 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 check payable to MAPS and mail to:
Sharon Sonneleitner, Treas.
4800 Sunset Dr. SW
Cedar Rapids, IA 52404

ABOUT THE COVER

by Bob Guenther

I was field tripping in the stream bed of the Black River near the town of Homerville, Ohio, when I spotted a pyritized crown of a crinoid in a large rock and started beating on the side of the rock to try to split off a piece of rock with the crinoid crown in it. The rock was a large piece of what looked like a fine sandstone mixed with limestone; this was a Mississippian Period, Cuyahoga Formation.

After I beat on the rock for about five minutes, it collapsed, and in the center of the rubble was a fossil that made the hammering worthwhile. A very unusual cephalopod was lying there and was complete, and it really made my day!!!. My next problem was trying to find out the identification of this very unusual looking surprise, for there was no portion of this fossil showing on the outside of the rock.

When I arrived home I headed right for my bookcase where the *Index Fossils of North America* was waiting with the information that I wanted. There on page 223 was a picture of a half of a cephalopod that looked like the one that I had split out of the rock. The name was *Triboloceras digonum*. The book gave the Formation in the Mississippian Period, but the partial fossil came from the Kinderhook Formation in Indiana and could be found in the (Rockford) Illinois, Missouri Formations.

There was nothing about them being found in the Cuyahoga Formation in the Ohio Mississippian period, but this is where this one came from, along with two other partials of this same fossil.

PROCEEDINGS OF GENERAL MEETING

A general meeting of MAPS was held in conjunction with EXPO on April 17.

Discussion on upcoming show themes resulted in Teeth for 2000 and Trilobites for 2001. The 2000 show is scheduled for April 14-16. The 2001 show will be held March 30-April 1, the only dates available at Macomb.

The summer field trip/picnic will be scheduled on a Saturday to allow distant members to attend more easily.

Motions were carried to donate at least \$2500 to the Paleo Society and \$500 to the Paleontological Research Institute.

An appeal was made for nominations for MAPS's Richardson Award, created to recognize professionals who have significantly helped and encouraged amateurs in their study of fossils. Joseph Emielity was our first honoree in 1998. Anyone may submit a name along with documentation to support the nomination, including letters from those the individual assisted.

A moment of silence was observed in honor of members who passed away during the year, including Ken Smith, Bill White, George Rae, Charlie Gaus, Alan Horowitz, and Emmette Wallace.

MAIL LABEL—DUE DATE FOR 2000+

Some members have already paid dues for the year 2000 or later, and the method I am using to code due dates on the labels may not be apparent to all. Therefore, please note this explanation.

So that the computer will pick out and print address labels for members with expiration dates past 1999 as well as those in '99, I am using the form "99 / ___" for due dates starting in 2000. If your due date is in 2000, your label will start with 990/__. Similarly, 992/___ indicates a due date in 2002, etc. With the system I now have the database on, I probably could revise the method, but I have not yet had time to experiment with it. And since I know this method works, I probably will be using it for quite a while.

MAPS SUMMER FIELD TRIP AND PICNIC TO BE JULY 10

In response to a request by distant members, this year's summer field trip & picnic will be held on a Saturday, July 10. Karl and Lee Stuekerjuergen will host the pot luck picnic. Those wishing to collect at Barb Creek near Denmark, Iowa, should meet at Karl's at 9:45 (or go directly to the creek if you know the way). The group will proceed to the creek at 10:00. The creek is usually very shallow, but that varies with the amount of rainfall we have.

The main find at the creek is crinoid calyxes. But there are also corals, brachs and occasionally blastoids. Bring tools for splitting rock and water. It is possible to dig in the shade, but some of the best spots are in full sun.

At 1:00 everyone will return to Karl's for a pot luck. Bring your own table service and a dish or two to pass. If you haven't yet seen Karl's collection, you will have a treat in store after the meal.

For directions, contact Karl.

THREE MAPS MEMBERS HAVE RECENTLY PASSED AWAY

During the past year, we have lost several of our members, three in the past few months. Gary Lane sent word that Alan Horowitz, a geology professor at Indiana University passed away in February, Maggie Kahrs called to say that Charlie Gaus was killed in a farm accident March 13, and we learned from Frank Crane at EXPO that Emmette Wallace passed away on March 14. Our sincere sympathy to their families.

ARTICLES & COVERS WANTED

Articles and covers are needed for the monthly *Digests*. Since we have a wide range of members, from beginners to professionals, I am looking for articles on all aspects of paleontology and at all levels. If you'd like to share your fossil interest, please contribute an article or book review, or photo or drawing for the cover, or ???. Mail or e-mail (<sonnb@aol.com>) to editor.

DOUBLE ISSUE OF DIGEST

Please note that this is a double issue of the *Digest*. It's publication was delayed to include information on a public meeting on fossil collecting regulations, held June 21 in Washington, DC.

**The next Issue of the *Digest*
Will Be the July-September Issue,
Which Will Be Published in September.**

LOOKING BACK AT EXPO

Our 21st show has come and gone, specimens have been bought, sold, and traded, but the memories are still with us. As usual there is the coming together of friends who see each other only once a year and the meeting of new people who will return for future shows.

Dr. Jere Lipps, Professor of Integrative Biology at the University of California, Berkeley, and immediate Past President of the Paleontology Society, gave the keynote address on microfossils. He also contributed an article to the EXPO *Digest*.

Preceding the address, James Sarauf, last year's keynote speaker, represented the Paleontological Research Institute (PRI) in presenting the Katherine Palmer Award to Bill Close, a non-professional from Noxen, Pennsylvania, who has spent 50 years collecting, studying, and donating fossils. He began collecting in 1950 and has been donating since 1976, contributing 40,000 specimens from all kingdoms, phyla, and ages to the PRI. Bill loves fossils and loves to share them with others.

Our silent and live auctions, along with donations, took in a record \$3453, almost \$1000 more than any other year.

A NOTE FROM JERE LIPPS

...I was very pleased and most happy to be the MAPS keynote speaker, and to have the chance to meet so many interesting paleontologists. Thanks for the wonderful hospitality.

Best regards, Jere

THANKS FROM THE PALEO SOC.

Dear Ms. Sonnleitner:

I am the chair of the Scholarship and Grants Committee for The Paleontological Society. At their mid-year meeting in April, the Paleontological Society Council formally approved the list of this year's recipients of student research grants. These grants are awarded to our student members to support paleontological research that is part of their degree program. We had an excellent group of applicants this year and made 24 awards. Our ability to make this number awards was possible, thanks to the support of the Mid-America Paleontology Society.

The top three proposals were awarded \$1,000 MAPS awards. These students will also receive a plaque for Outstanding Research Proposal at the Paleontological Society Luncheon held at the Geological Society of America meeting in Denver this October. The students receiving these awards are Ms. Donna D. Carlson, a Ph.D. candidate at the University of Cincinnati; Mr. Kevin Middleton, a Ph.D. candidate at Brown University; and Ms. Susan L. Barbour, an M.S. student at the University of Cincinnati. Donna's project will test the idea that some bivalves attract epibionts as an anti-predatory strategy. Kevin is examining the hallux (first toe) evolution in theropod dinosaurs and *Archaeopteryx* to address the origin of avian flight. Susan's project will document spatial and microstratigraphic resolution in type Cincinnati rocks.

I would like to thank MAPS for their support of student grants in aid of research. Our committee's job is not an easy one because we receive many high quality proposals. Funding by MAPS means that the Paleontological Society can support several additional students in their research.

Thanks again.

Sincerely, Laurie C. Anderson
Associate Professor, Louisiana State University

Dear Sharon:

By now you will have received a letter from Dr. Laurie Anderson, Chair of the Scholarship and Grants Committee for the Paleontological Society, giving you the information on this year's three MAPS awardees. All three students submitted excellent research proposals, and the monetary support from MAPS will make a big difference in helping them complete their research.

Please let the members of the Mid-America Paleontology Society know how important their support is to students who are just starting out in our field. Please also pass on how much the Paleontological Society appreciates their extraordinary generosity.

Thank you so much for your support.

Sincerely,
Peter R. Crane, FRS
President, The Paleontological Society.

**LONG-NECKED DINOSAURS
LIMITED TO GROUND-GRAZING?
source Famed dinosaur was a ground grazer.
Prescott Currier. 4/30/99**

Were the long-necked dinosaurs such as Diplodocus and Apatosaurus really ground grazers instead of the tree croppers they have always been considered? According to a study by Michael Parrish, a researcher at Northern Illinois University, the animals were not able to raise their heads much above the height of their backs.

Parrish and a colleagues used a computer model to test how well the beasts were able to move. According to the model, when the head is raised just above the back height, the vertebrae run into each other and the back locks up. So Parrish believes the head was held straight out or down, which would limit the animal to grazing on the ground instead of from the trees unless it stood on its hind legs. That possibility has not been ruled out, but Parrish said if they rose up on their hind legs there would be a blood pressure problem.

The study was published in April in *Science*.

**FALLS FOSSIL FESTIVAL AT
FALLS OF THE OHIO STATE PARK
by Alan Goldstein**

The Falls of the Ohio State Park's fifth "Falls Fossil Festival" will be held September 18 (9 a.m. - 7 p.m.) and 19 (9 a.m. - 5 p.m.). This event, sponsored by the Clarksville Riverfront Foundation, will feature:

- Daily non-technical programs and workshops for hobbyists, educators and the curious on fossils, minerals, and collecting, this year featuring Dr. Don Mikulic (History of Trilobite Collecting), Dr. Colin Sumrall (History of Echinoderms) and Dr. Bill Zinsmeister (Fossil Collecting in Antarctica), Dr. Henry Barwood (Arkansas Quartz) and others!
- More than 15 vendors selling fossils, minerals, educational material, crafts and food
- Children's Activity Tent with fossil art and other activities scheduled
- Resource Tent with material from many other fossil parks as well as information and free literature from the Indiana and Kentucky Geological Surveys and the Paleontological Society
- Fossil and mineral identification (Bring in your mystery rocks!)
- Hikes on the fossil beds
- Collecting Silurian and Devonian fossils from special rock piles (30 tons) donated by Litter's Quarry of Indiana

Special for 1999 - Fossil Art, is an spectacular exhibit of over 30 large panels with precise casts from fossil beds around the world ranging from Precambrian to Cenozoic. This exhibit, in the park interpretive center from September through November, was created by German paleontologist Adolf Seilacher. This is the only current midwest U.S. stop on its North American tour.

A web site with a detailed schedule for the Festival is at: <http://www.cismall.com/fallsoftheohio/festival.html>
For more information contact Alan Goldstein at 280-9970 ext. 403.

SEND COMMENTS ON FEDERAL POLICIES ON PALEONTOLOGY BY JULY 15

from information sent by John Pojeta

Publication of this issue of the Digest was delayed to include the following information on policies regarding paleontology being considered by the Department of Interior.

PUBLIC INVITATION TO MEETING

The following letter was directed to citizens interested in having their input considered in formulating a unified policy on all public lands.

United States Department of the Interior
OFFICE OF THE SECRETARY
May 17, 1999

The U.S. Geological Survey is located at 12201 Sunrise Valley Drive, ...

We look forward to your participation in the June 21 meeting.

Sincerely,
William Y. Brown, Science Advisor to the Secretary

Dear Interested Citizen:

At the direction of Congress, the Secretary of the Interior, in consultation with appropriate scientific, educational, and commercial entities, is preparing a report assessing the need for a unified federal policy on the collection, storage, and preservation of fossils. The enclosed background document, "Collection, Storage, Preservation and Scientific Study of Fossils from Federal and Indian Lands," provides some information on current federal policies on paleontology.

The Department of the Interior will hold a one day public meeting to receive input on federal policies on paleontology on Monday, June 21, 1999, in the U.S. Geological Survey (USGS) auditorium in Reston, Virginia, beginning at 8:30 a.m. We encourage you to participate in the public meeting. If you wish, you may make a presentation of up to 5 minutes in length. You may also submit written comments, either at the meeting or to Sara Pena, Bureau of Land Management, 1849 C Street, NW, Washington, D.C. 20240. Written comments must be received by July 15, 1999, to ensure that they can be considered in preparing the report. (Emphasis added)

Further information about the meeting is available through a notice in the *Federal Register*, available on the web, at <http://www.access.gpo.gov/nara/#fr>. An electronic copy of the enclosed background document is available on the Interior Department website at <http://www.doi.gov>.

A SUMMARY OF THE BACKGROUND DOCUMENT

Introduction

"Senate Report 105-227 on the Fiscal Year 1999 Interior and Related Agencies Appropriations Act states that the 'Secretary of the interior, in consultation with appropriate scientific, educational and commercial entities, should develop a report assessing the need for a unified Federal policy on the collection, storage, and preservation of...fossils.' Agencies to be consulted in preparation of the report to Congress are to include, but not be limited to, the Bureau of Land Management [BLM], the Forest Service [FS], the National Park Service [NPS], the Fish and Wildlife Service [FWS], the Bureau of Reclamation [BOR], the Bureau of Indian Affairs [BIA] and the Smithsonian Institution [SI]. While not a regulatory or land managing agency, the U.S. Geological Survey [USGS] has been among the Interior Department agencies consulting on the report to Congress ('Consulting Agencies') because of its special expertise in the earth sciences. Senate Report 105-227 also encourages the Secretary of the Interior to assess the need for standards that would '...maximize the availability of fossils for scientific study...' and 'evaluate the effectiveness of current methods for storing and preserving fossils collected on public lands....'"

The Value of Fossils—"...In the broadest definition a

fossil is any indication of ancient life preserved in the earth's crust. (Human remains and the things made by human beings, are considered anthropological or historical materials and are not discussed in this background paper.)...

"The information about the history of life and the earth that can be obtained from fossils is irreplaceable. This information is also increasingly valuable to our society....(T)he fossil record is a testing ground for our ideas about how the world works.

"Fossils also have a unique role to play in education....Fossils are a means for teaching both adults and children how science works....Many people enjoy searching for fossils because of what they reveal about the world, or simply for the challenge of finding something rare, old and beautiful.

"Some fossils also have commercial value....Some commercially valuable fossils also are valuable scientifically....Fossils of vertebrates...frequently have both high scientific and commercial value."

Policy Goals—"The principal existing federal goals for fossils from federal lands are to safeguard the intellectual and educational values ...and to promote public benefit from them. Inexpert collecting, or the failure to maintain precise information on the original location, rock type, or other conditions of a fossil occurrence, can damage fossils, or cause them to lose their context and therefore much of their value as objects of study. (*This is why it is important to document your fossils. Ed.*) This is the primary reason why collecting fossils on federal lands is regulated by federal agencies. Proper storage and care of fossils once they have been collected is also a key objective. (*We've all heard the stories of how Sue was mishandled and stored by federal authorities upon her seizure. Ed.*) This is why fossils from federal lands are placed in museums where they are safe, where their physical condition and information about them can be maintained, and where they are available for scientific study and public display. (*Many of us know of instances where specimens donated to schools and/or museums have been dumped when the establishment took a new direction under new leadership. Ed.*)

"All fossils are relatively rare, but some types are much rarer than others. (*Emphasis added. An interesting statement which, if taken out of context, circumvents the truth as stated in the next sentence. Ed.*) Many kinds of shell and leaf fossils are extremely abundant locally; literally millions of fossils may be present in a small area. Museums and universities usually have collections from such sites, and the sites themselves may be well documented. In contrast, vertebrate fossils (bones) are rare, and articulated vertebrate skeletons are particularly rare and difficult to collect. The goals of management are not met when rare and scientifically valuable fossils are lost to study through destruction, loss of information, or sale to private collectors. However, even amateur collectors may participate in research on vertebrate fossils by working with professional paleontologists and donating specimens to museums."

Federal Land Fossil Management

The document goes on to state the current policies for managing fossils on the various federal lands. It includes:

Collecting Requirements—"Hobbyists, educators, and others interested in fossils are allowed to collect some kinds of specimens for noncommercial use...." Some agencies allow collecting with a permit. Others require a graduate degree in a related field for a permit. The BLM allows up to 25 lbs. per day and 1 piece, not to exceed 250 lbs, per year of wood and reasonable amounts of other plants and invertebrates for personal use. Vertebrates require a permit. The BOR, FWS and NPS all require a permit for any collecting, the latter two stipulating scientific or educational purposes only.

Storage and Preservation—"Land managing agencies work through the permitting process to ensure that fossils from federal lands are available for display, study, and enjoyment. Permittees must meet high standards for education and experience so that their work will contribute to preservation efforts, and will not damage or destroy fragile specimens. The fossils they collect under permits issued by the various agencies remain the property of the federal government, and as such are the property of all Americans. Every

permit must specify an appropriate repository....”

Field Inventory, Monitoring and Protection—The various agencies monitor their lands for important fossil deposits and keep inventories of the information for use in road building, etc. “The loss of parts of the fossil record means the loss of important scientific and educational information about the history of the earth. Both natural events, such as erosion, and human-caused events contribute to this loss. Land managing agencies...investigate and prosecute incidents of resource theft and vandalism....”

“In order to maximize the scientific and educational value of fossils on federal lands, managers must also take into account natural processes of erosion. Fossils are damaged and eventually destroyed by erosion, although how quickly varies dramatically according to rock type, climate, topography, and the composition of the fossils, among other factors. Permittees, volunteers, and trained amateurs play an important role in these situations by helping to collect fossils and information for preservation in repositories....However no comprehensive study of how much erosion contributes to the loss of the fossil record, how rates of loss may vary, and how best to deal with this loss, has been done.”

Information Management—The agencies use information from permittees and other sources in areas where road building or other surface disturbance is planned. “Information about fossils from federal lands is available to the general public through museum displays and interpretive materials, and in materials developed by federal agencies, including websites....More detailed information is available to researchers....”

Indian Policies

The document next deals with collecting on Indian lands, noting that federal jurisdiction on Indian lands is limited, since Indian lands are not public lands. “The government’s role in managing Indian lands is that of a trustee....Fossils that have commercial value have been found to be trust resources.... In managing trust resources, the BIA is limited to approving either leases of Indian lands or contractual agreements between

Indian landowners and third parties for the extraction of such fossils....

“Since Indian lands are not public lands, the Indian tribe or individual Indian landowner may use fossil trust resources for their economic benefit. The BIA’s role in these transactions is to ensure that the transaction benefits the Indian landowner....

“If individuals or scientists are interested in access to fossils on Indian lands, they must contact the tribe or individual landowner and request permission...”

Appendices

The remainder of the 19 page document contains appendices of “Authorities Relating to Fossils on Federal Lands,” “Agency Definitions of ‘Fossil,’” “Standards for Paleontological Collections at the Smithsonian Institute,” and “Web Pages and Electronic Databases.”

SUMMARY OF PUBLIC MEETING HELD JUNE 21

John Pojeta, who is with the U.S Geological Survey at the Smithsonian Institute and was the keynote speaker at a recent EXPO, attended the public meeting, but did not speak. Following is a summary of the notes he sent.

The Department of the Interior Panel was chaired by Bill Brown, who is Secretary Babbitt’s Science Advisor and has degrees in Biology and Law. Other panelists represented the various Interior agencies: Fish & Wildlife, Bureau of Reclamation, Bureau of Indian Affairs, BLM, NPS, and USGS. The remaining panelists were from the Smithsonian and the Forest Service (Department of Agriculture). The audience members outnumbered the panelists by at least 2-1.

Eleven people signed up to address the panel, each for a maximum of five minutes:

- 1) Curator of the New Jersey State Museum
- 2) A Patent attorney representing the AFMS

- 3) The Legislation Coordinator of ALAA, who also represented the AAPS
- 4) President of the Society for the Preservation of Natural History Collections
- 5) President of SAFE (Save America's Fossils for Everyone).
- 6) SVP Co-chair of their Government Liaison Committee
- 7) A concerned former employee of the FS
- 8) Another representative of SAFE
- 9) Curator of Paleontology at South Dakota School of Mines
- 10) Representative of the Association of Systematic Collections
- 11) An amateur collector from the Department of Defense

The major concerns expressed by the speakers varied according to their interests:

- 1) Most scientists who spoke were particularly concerned about vertebrate fossils.
- 2) Two speakers stressed the unlikelihood that there could be a uniform policy for multiuse lands like BLM and FS lands and nonmultiuse lands such as NPS.

- 3) AAPS did not want access to NPS, Wilderness or Cave lands—only to multiuse lands.
- 4) Two speakers expressed the joy of collecting and that amateurs are part of the American public that should have access to public lands.
- 5) One speaker stressed electronic digital imaging as a way of giving everyone access to what is in museums.

Written comments need to be in by July 15, 1999. The Department of Interior is to have its report to the Senate by February 1, 2000.

The entire public meeting lasted about two hours, after which there were various one-on-one contacts between panelists and nonpanelists. Various staffers stayed around much of the day in case someone arrived late.

Now is the time to add your voice to the discussion of regulating fossil collecting on public lands and influence federal policy that affects your ability to pursue your hobby. Of particular note is the great difference in collecting regulations between the BLM and other federal agencies (p. 6). If all policies were aligned, the BLM rules would probably be much more restrictive than they are now. Ed.

AN INTERESTING AND SCARY STORY

by Richard Dayvault

from *Bulletin Board*. Uncompahgre Plateau Paleo Soc. 2/99

I had an interesting experience on Sunday, Jan. 9. Several friends were collecting wood in the middle of nowhere, northwest of Hanksville, UT. We were slowly climbing up a Salt Wash slope looking for wood when we spotted a figure climbing up the slope toward us. As he got closer, we saw a sidearm and a green uniform. Most of the group was scattered, so I turned around and met him. He wore a National Forest uniform and said they were helping the BLM patrol their lands. He was very young, polite, and asked what we were doing, who we were, where we were from, etc., and I told him. Finally, he said we seemed fine but could he see our permit to collect petrified wood. I responded that we did not have a permit and that I was not aware of any permit to personally collect wood. He asked if I know the rules of collecting wood and I did. (Everybody should know these rules....) Then he said that was fine and began to leave. I asked if we were in violation for not having a permit and he

said "NO." His buddy was back at our vehicles and looked into the front seat where we had a beer flat of wood from the previous day's collecting. They apparently did not search our vehicles and left. We did not see them again.

I sent this off to a friend in the National Forest service and this was his response:

The fellow that approached you wearing a Forest Service uniform and a sidearm was probably a LEO—Law Enforcement Officer (District Rangers for the FS don't wear guns; however, DR's for the BLM do.). These people are full-fledged cops. I am not aware of any memorandum of understanding between the FS & BLM for law enforcement, but Utah is Region 4 and Colorado is Region 2. The LEOs in Region 2 are stretched so thin that I wouldn't expect them to be patrolling BLM land; especially so far from the nearest National Forest land (Hanksville, UT). Each region has a different philosophy. You might talk to Harley Armstrong the next time you see him. He covers the paleontology of Utah for the BLM.

A FEW NOTES ON AMATEUR PALEONTOLOGY

by Bruce, L. Stinchcomb

“Amateur” in its original meaning refers to someone who does something for the love of it rather than doing it for a profit. Amateur paleontology is just that: doing something fossil related (often collecting) for the love of it rather than for a profit. Amateur paleontology also has a rich and long history in its contribution to geology and the consequent documentation of the fossil record. For 200 years amateur paleontologists have located and obtained a sizeable part of the fossil record. Most of these fossils ultimately find their way into academia (museums, geology departments and other scientific collections). Lately, however, amateur paleontology has been getting some “bad press.” Terms like hoarding and pillaging of the fossil record are heard being applied to the “non-professional.” Amateur collecting is thus being cast in a negative light by a vocal minority with a possible hidden agenda. Such epithets are being leveled even though the same cooperation exists today with the scientific community as existed during the last century.

What has happened? Enter political activities and dinosaurs. Until the dinosaur craze, ala *Jurassic Park*, paleontology received a minimum of public attention, and what went on in the field was of little interest except to its small coterie of aficionados. Things today, however, are different. Paleontology today in some ways is in the “lime light.” Showy fossils currently can bring in “big bucks” as designer items for persons who twenty or more years ago wouldn’t even have looked at a fossil.

Movement of fossils and paleontology into the marketplace has both its good and bad consequences. A good outcome, which has unfortunately so far failed to materialize, would be more support for the science of paleontology. A good side that has materialized is that a lot of fossils which otherwise would be destroyed by weathering and/or mining are being saved. Unfortunate but true, the fact remains that unless a fossil is readily convertible into cash, quarry workers and owners usually don’t care if what they uncover goes into the crusher or not. But now fossils can be a sort of profitable by-product of these activities. With a cash value, some scientifically valuable and fantastic

specimens are being saved which would otherwise be destroyed. Look at the sharks teeth, fossil turtles and crocodiles from phosphate mines in Morocco. The plethora of trilobites, early ammonites and other Paleozoic fossils also coming from Morocco would also be unavailable and would remain in the rocks to weather away if they were not collected.

The down side of this market-place attitude is that specimens become expensive for science, and available funds for science are limited. Also, landowners become less inclined to allow scientific collection of fossils without some sort of financial reward. Dealers in fossils also may become less inclined to donate scientifically valuable specimens to science if their monetary value is jacked up.

Some members of the paleontological community, particularly in vertebrate paleontology, have bemoaned this trend and have proposed legislative solutions for it. The Baucus Bill and proposals of SAFE (Save America’s Fossils for Everyone) are recent examples. To someone unfamiliar with geology, these legislative solutions seem appropriate and reasonable. “After all, shouldn’t something millions of years old be treasured and legislatively protected?” From this mindset has crept various state and provincial anti-collecting legislation, the goal of which is to prohibit collecting by amateurs on public land, but which has also aided in the increasing difficulty of access to private lands. This driving of a “wedge” between amateurs and academics by legislative proposals is hurting paleontology. Proponents for “paleontological regulation” envision federal legislation similar to the 1979 Archaeological Resource Protection Act. This act in itself has also contributed to reduction of paleontological access, as many landowners are unclear as to the distinction between archaeology and paleontology.

Nature has emplaced enough hurdles and barriers for acquisition of her fossils without manmade ones! The enthusiastic person will sometimes transcend nature’s barriers and discover scientifically new and interesting specimens. This should continue into the future if unimpeded, since there are vast numbers of fossils in

the rocks of the earth's crust, and vast numbers of fossils of organisms in the rocks are still unknown to science. What is really the most valuable commodity in the acquisition of scientifically new material in paleontology is the enthusiastic person (amateur or academic) who as a consequence of this enthusiasm transcends those barriers nature has placed on the acquisition of her fossils. When additional manmade barriers are the consequence is that much less is collected! — and more is destroyed. Thus the potential available paleontological data base thus thins. With manmade barriers, wedges are also often driven between the "professional" and amateur effectively limiting or even destroying communication between these two groups; it is science that in the long run suffers. This sorry state has happened in many instances in archaeology and its embryonic stages are beginning to be felt in paleontology.

If activist groups such as SAFE want to constructively assist paleontology, focusing upon the amateur in a positive rather than negative way will be more fruitful. The organization and encouragement of amateur paleontologists of the Chicago area by Eugene Richardson of the Field Museum for combing the Braidwood and Essex spoil piles might be alluded to. Here members of ESCONI and other geohobbyist groups scoured these areas for their unique fossils which consequently enabled the Essex and Braidwood faunas to become one of the world's "paleontologic windows." The bus loads of amateurs who also comb

the Lee Creek phosphate mines of North Carolina and the St. Louis, Missouri, Eastern Missouri Society for Paleontology's salvaging Mississippian echinoderms from the Hannibal cement quarries are current examples of this working relationship. A coalition between amateur and academic paleontology would be a much more positive undertaking than is the confrontational atmosphere which seems to be in the process of developing.

A few examples of localities which have the potential of producing scientifically valuable fossils by amateurs but which have become almost inaccessible because of manmade barriers are as follows:

1. Silurian Dolomites and waterlimes quarried near Kokomo, Indiana—Giant eurypterids and Silurian land plants. Current quarry operators have been uncooperative for years.
2. Mudstone layer in late Chesterian strata exposed in the working Goreville, Illinois, Quarry. Could produce articulated Mississippian amphibians and lungfish.
3. Dimension stone quarries in late Precambrian? and Cambrian blanket sandstones in the southern part of the Canadian Shield of Wisconsin and Minnesota. Could produce "new" vendozoan fauna.
4. Slabby layers in St. Louis and Salem Formations of the St. Louis, Missouri, area. Unusual echinoderms and unique land plants.

**FOSSIL IMPRESSIONS
AT MISTAKEN POINT REVISITED**
corrections by B. L. Stinchcomb

Bruce Stinchcomb wrote to correct some of the information in the February article "Fossil Impressions at Mistaken Point" as follows:

The multicelled fossil impressions discovered in 1967 are from the bodies of jelly-fish, sea anemones, sea-fans, and sea-pens,...

Bruce said "maybe" about this statement and underlined *from the bodies of jelly-fish* with the comment that "Ediacarian life forms are very problematic as to their taxonomic position—New Kingdom?" He also

questioned the statement *The closest animals today are the jellyfish and sea anemones.*

He added England to Russia and Australia as places where similar impressions are found. He would also like to know the names of the sources.

Bruce corrected the spelling of the names of the fossils sketched as follows: *Dichonsonia* is Dickasonia, *Mawsorites* is Mawsonites, *Cyclomeduson* is Cyclomedusa, *Charniodisims* is Charnodiscus, and *Ptendinium* was questioned. He also comments that the sketch labeled "Dichonsonia" is incorrectly identified: "It's called 'spindle shaped organism.'" According to Bruce "This biota has not been described so that these generic names are really not valid!

HOW TO LEARN MORE ABOUT PALEONTOLOGY S.J. GOULD WRONG? WHAT'S UP WITH THAT?

by Jack Kallmeyer

from *Dry Dredgers*, 1/99. Greg Hand, Ed.

How can this be? How could someone question the writings of one of my favorite authors, Stephen Jay Gould? Noted paleontologist Simon Conway Morris of Burgess Shale fame has done just that in a new book from Oxford University Press entitled: *The Crucible of Creation, the Burgess Shale and the Rise of Animals*. *Crucible...* was published in 1998 at \$30.00 in hard cover. The 242 page book is illustrated with numerous black and white photographs of Burgess Shale fossils, line drawings, and color recreations of Burgess Shale animals and their environment.

I picked up this book initially because of the subject matter an noted author (Conway Morris is Professor of Evolutionary Paleontology at the University of Cambridge and a Fellow of the Royal Society). *Crucible...* appeared at first sight to be yet another book with new information about this very famous locality and its fossils. The book came through in that regard as hoped. I was surprised to discover, however, that one of the reasons Conway Morris wrote *Crucible...* was to respectfully disagree with the theories expressed by Gould in his book *Wonderful Life*.

Gould's work was the first book to discuss evolutionary theory based upon recent findings and re-analysis of existing Burgess Shale fossils. He emphasized the contingency of evolutionary pathways pertaining to the history of life on earth. He had discussed the "what if" possibilities if the tape of life's history could be rewound to Burgess Shale time allowing life to rerun history. The end result would be very different after another 600 million years because, as Gould stated, evolution and life are influenced by contingencies.

Conway Morris de-emphasizes the role of contingency as logical but not the main influence on evolutionary pathways. His analysis and studies indicate that evolution is limited in possibilities by constraints and that these provide a reduction in the number of paths evolution can follow. Proof of this lies in the myriad

cases of convergent evolution according to Conway Morris. Familiar examples exist: ichthyosaurs vs. Modern dolphins, placental mammals vs. Their marsupial counterparts, etc. *Crucible...* is an argument refuting the claims made by Gould an a proposal of a logical alternative.

I can imagine that the above description probably won't make many of you seek out this work. But wait! Don't discount it too soon. The organization of *Crucible...* should change your mine—it is not 200 plus pages of rhetorical chat. The first chapter presents Conway Morris's views as I have briefly described above. The second chapter deals with the organization of life, evidence of the first forms of life, and the first multicellular life forms of Ediacara. Chapter three is a discourse on the discovery and history of the Burgess Shale. "Journey to the Burgess Shale," chapter four, takes the reader on an imaginary time machine voyage back 600 million years. The following chapter explores and documents the searches and discoveries of "Burgess Shale-type" fauna in other areas: Greenland, China, the U.S.A., Canada, Poland, and South Africa. Chapter six deals with the significance of the Burgess Shale including subjects such as the sudden "explosion" of life and the architecture of animals. "Animal Architecture and the Origin of Body Plans," the title of chapter seven, is descriptive of the contents. Also included in this chapter is cladistical analysis which, by the way, is very well explained in understandable language. The last two chapters provide summary and conclusions of Conway Morris's ideas and final parting shots at Gould's *Wonderful Life* proposals.

Crucible... is very well organized and presented with information flowing logically and building upon itself throughout the book. An eleven page glossary is presented at the beginning of *Crucible...*, which should tip you off to the copious use of technical terms. The text provides references to literature used with complete citations at the end of each chapter. The first appendix provides a seven page list for further reading, of which only three items are popular books (the rest

being scientific papers). Appendix two lists places which have Burgess Shale fossils on public display. One is in the U.S., one in England, and three in Canada. The last appendix lists three worldwide localities where Burgess Shale fossils can be found (don't pack your bags; they are all restricted to legitimate researchers).

Crucible... was yet another learning experience for me.

142-MILLION-YEAR OLD FLOWERING PLANT DISCOVERED IN CHINA

source: Recer, Paul. Flowering fossil: 142 million-year old plant found in China: *Wisconsin State Journal*. 10/27/98

The discovery of a flowering plant fossil in China pushes back the date of the earliest known flower to 142 million years ago. The three-inch-long specimen was found IN 1997 in a formation of limestone and volcanic ash layers near the town of Beipiao, about 250 miles northeast of Beijing.

It consists of two parts that appear to be joined branches. Along the branches are what appear to be sets of paired leaves. According to David Dilcher, a University of Florida biology professor who has analyzed it, the whole thing, branches and leaves is really a flower. His conclusion is based on the fact that some of the "leaves" are closed like peapods and contain seeds.



Chinese scientists age-dated the flower at 142 million years and asked Dilcher to analyze it. His study was published in the *Science* edition that went out November 27, 1998.

It is a bit technical in parts, and you will find that Conway Morris is well versed in the English language. I never look at these two items as problems. Much more, they provide us with another opportunity to learn. As to the disagreement with Stephen Jay Gould, that's the way science is supposed to work. At some point in the future these varying opinions may evolve into a universal theory accepted by all.

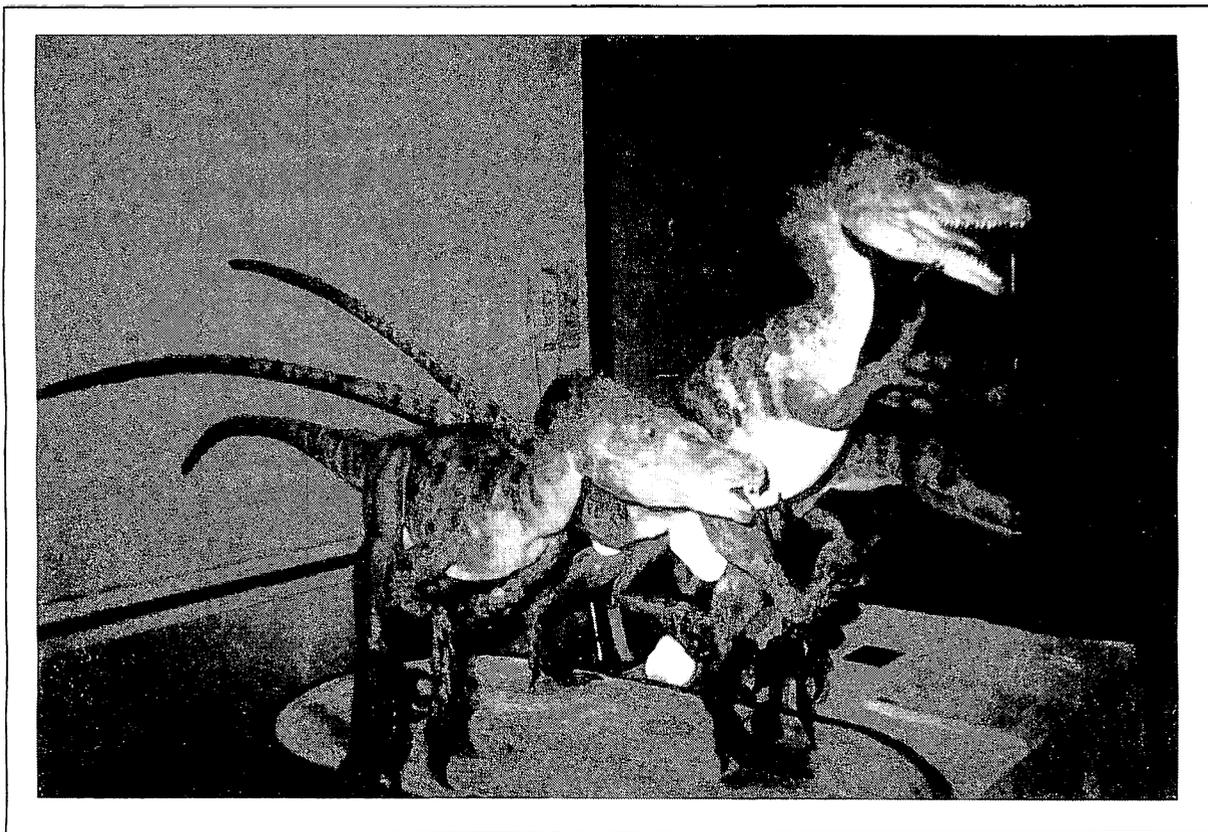
FOSSIL FIND INDICATES PLESIOSAURS ATE AMMONTIES

source: A bellyful of jaws: *Discover*. 11/98. p 36

Plesiosaurs have been long known from the fossil record. The fierce-looking marine reptiles with their long, sharp teeth, were clearly predators, but until recently scientist could only theorize about what they ate. The discovery of a fossil in northern Hokkaido, Japan, however, appears to have changed that.

Found in a riverside cliff, the 93-million-year-old plesiosaur was missing its skull, but where its stomach would have been were the jaws of about 30 ammonites. Although it is possible the jaws could have accumulated there by chance, geology graduate student Tamaki Sato of the University of Calgary, does not think that was the case because such a high concentration is unusual.

Why are there only the tiny jaws, each only a fraction of an inch long, and none of the hard outer shells? Sato theorizes this is a result of the action of stomach acid or preferential selection by the plesiosaur. Because the animal's teeth were slender and unsuited to crushing ammonite shells, Sato thinks it gulped its prey whole.



*Donald Phillips sent these two photographs of velociraptor models
Contrary to how they were depicted in Jurassic Park, the real creatures were only about 4 feet tall.*

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609-795-3598
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phossilphil@yahoo.com

Clinical Psychologist. Will trade. Major interest Paleozoic brachiopods and Cretaceous invertebrates. Not much to trade (99). Member of Delaware Valley Paleo Soc., Philadelphia. Wants to contact others in other states and learn more about their sites and knowledge.

Jim Butterbrodt
4824 22 Ave
Kenosha WI 53140
wk: 414-652-2090
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Craig R. Clement
248 Best St.
Berea OH 44017
440-243-5182
Scypho@aol.com

Member of North Coast Fossil Society. Wants exposure to more people.

Ray Garton
Paleo Clones
P.O. Box 200
Barrackville WV 26559
304-366-1810
304-366-8019
paleoclones@mammoth-geo.com

Geologist. Will trade. Major interest anything from West Virginia. Member SVP, WV Fossil Club, Clarksburg, WV.

L. Brian Haehl
4707 E. Michigan Road
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Bhaehl@tds.net

Director of Operations/Universal Music. Will trade. Major interest invertebrates, esp. from Midwest US. Has for trade cystoids, brachs, crinoid calyxes. Very interested in collecting and trading.

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941-698-1222
941-698-1660

Secretary. Major interest crinoids, amber. Wants to meet people who share her interest of digging fossils. Also wants more information and knowledge about fossils.

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Avon IN 46168
317-837-9998
317-837-9849
chunlin@aol.com

Dealer. Will trade. Major fossils of China.

Edward A. Munyer
900 Hill crest Road Rochester
IL 63563
217-498-7114
eammj@Springnet1.com

Retired. General interest

Marge Payton
2908 W. 99th
Park IL 60805
708-424-4867

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Retired homemaker. Will trade. Member GOLD Club (Greater Oak Lawn Diggers). Wants to share info with her club, learn more, and meet people of like interests.

Pat Saulsbury
3323 Cheyenne Blvd.
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saulvet@aol.com

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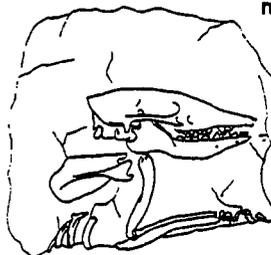


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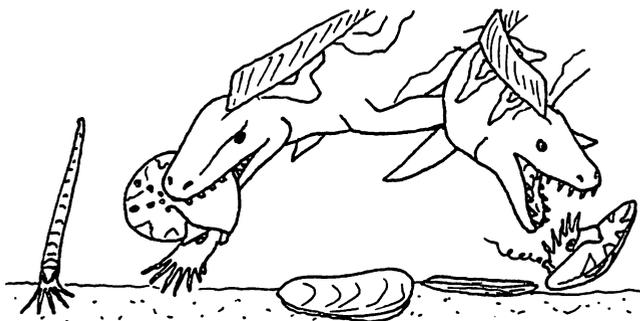
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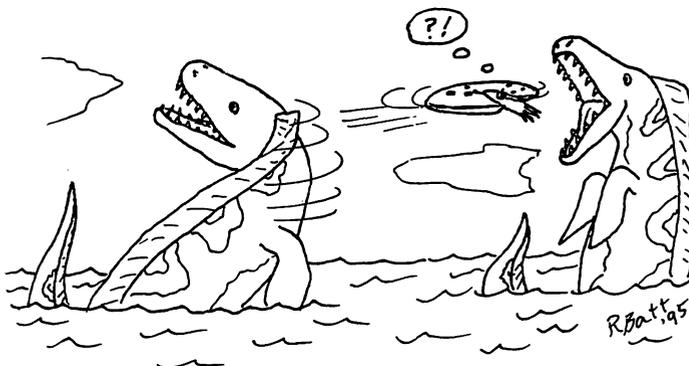
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