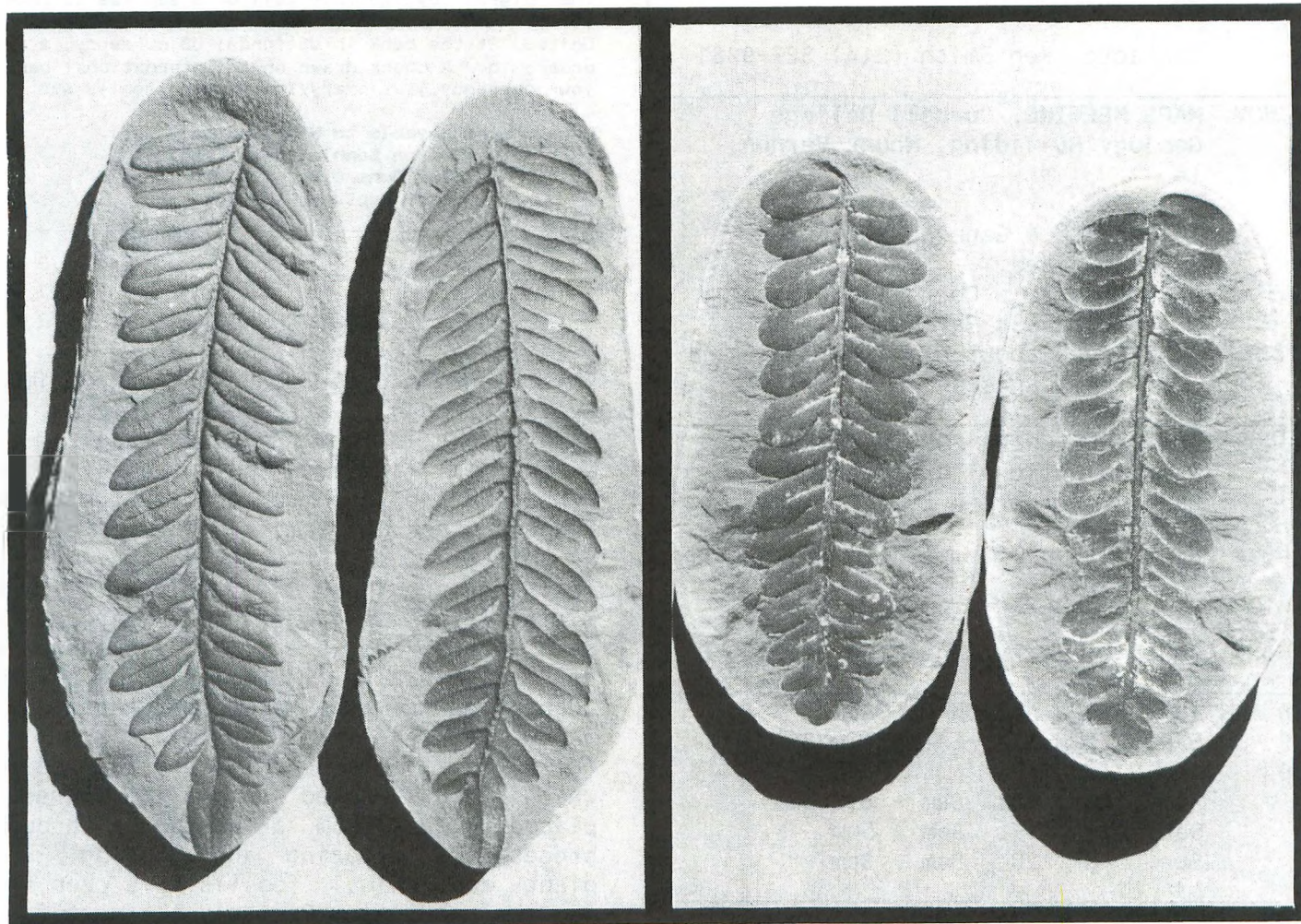


# M.A.P.S. *Digest*

Official Publication of  
Mid-America Paleontology Society

Volume 19 Number 7  
October, 1996



## MARK YOUR CALENDARS

12 OCT	<p><b>MAPS MEETING.</b> Trowbridge Hall, University of Iowa, 123 N. Capital St., Iowa City, IA. Main Lecture Room, #125.</p> <p>1:00 Board &amp; General Meeting combined.</p> <p>2:00 Program: Tour the Repository under the guidance of Julia Golden, Curator.</p>
25 OCT 26 27	<p><b>FOSSILMANIA XIV, Somervell County Expo Center, Highway 67 in Glen Rose, TX</b></p> <p>Fri. &amp; Sat. 9-6 Sun. 9-2</p> <p>Contact: Ken Smith (214) 327-9281</p>
9 NOV	<p><b>MAPS MEETING.</b> Cornell College Geology Building, Mount Vernon, IA</p> <p>1:00 Board &amp; General Meeting combined.</p> <p>2:00 Program: Cornell Geology Professor Ray Rogers will speak about his experiences in Madagascar.</p>
16 NOV 17	<p><b>CENTRAL FLORIDA FOSSIL FAIR Florida National Guard Armory 2890 S. Ferncreek Ave, Orlando</b></p> <p>Sat. 9-6 Sun. 9-4</p> <p>Contact: Terry Angell 407-277-8978</p>
18 APR 19 20	<p><b>1997 MAPS NATIONAL FOSSIL EXPOSITION XIX—EXTINCTIONS</b></p> <p>Fri., Apr. 18: 8am - 5:30pm Sat., Apr. 19: 8am - 5pm Sun., Apr. 20: 8am - 3pm</p>

### \*\*\* 96/10 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--96/10 means 1996/Oct. 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.

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### ABOUT THE COVER

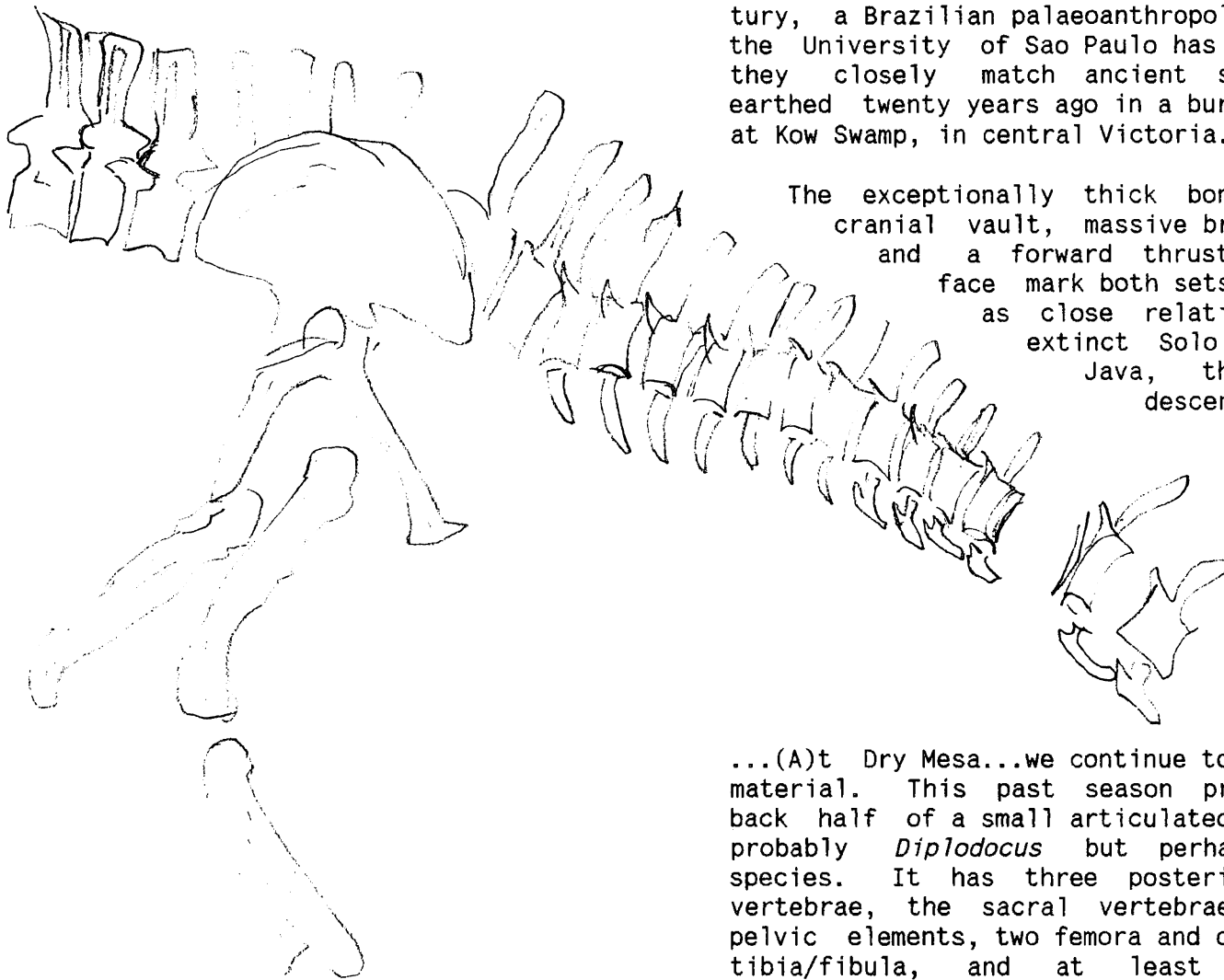
This month's cover photos, sent by Jim and Sylvia Konecny, Prescott, Arizona, are plant fossils from the Mazon Creek Area of Northern Illinois. They are of middle Pennsylvanian age from the Carbondale Fm., Francis Creek Sh. Mem.

The two specimens, *Alethopteris serli* and *Alethopteris sullivanti* (Lesquereux) are seed ferns and are probably the showiest of all--twelve species have been identified from the Mazon Creek Area.

These fossils are collected as nodules, which are cracked open with carefully placed blows from a hammer or through a process of freezing and thawing. Both plant and animal fossils have been found in the nodules. Probably the most famous fossil found inside is the Tully monster.

## OCTOBER MEETING

We hope some of you who live "near" Iowa City will be able to take advantage of the opportunity to tour the University of Iowa's Repository and look at some of their collections in conjunction with our October 12 meeting. Julia Golden, Curator of the Repository, will be our guide. This has always proven to be a most interesting program.



**NOTES ON '95 EXCAVATION AT DRY MESA, CO**  
by Kenneth Stadtman, Curator  
Brigham Young U. Earth Science Museum  
Provo, Utah  
(Personal Communication to David Jones)

*Dry Mesa Dinosaur Quarry*  
(south of Grand Junction, and west of  
Montrose, in southwestern Colorado).

**ABORIGINES: 1ST NATIVE AMERICANS**  
source: *The Fossil Collector*  
May 1996, No. 48, Paul Tierney, ed.  
sent by David Cassel, Aptos, CA

According to a new study of fossil skulls from Brazil and Columbia, an Australoid race, related to Australia's Aborigines, lived in the Americas at least 20,000 years before the ancestors of the American Indians.

After analyzing the physical features of the skulls, collected earlier in this century, a Brazilian palaeoanthropologist from the University of Sao Paulo has found that they closely match ancient skulls unearthed twenty years ago in a burial ground at Kow Swamp, in central Victoria.

The exceptionally thick bones in the cranial vault, massive brow ridges, and a forward thrusting lower face mark both sets of people as close relatives of the extinct Solo people of Java, the direct descendants of Java Man.

...(A)t Dry Mesa...we continue to get great material. This past season produced the back half of a small articulated sauropod, probably *Diplodocus* but perhaps a new species. It has three posterior dorsal vertebrae, the sacral vertebrae and other pelvic elements, two femora and one pair of tibia/fibula, and at least 16 caudal vertebrae from the pelvis back. We left one in the bank so the caudals may continue for several more. This is the first time that so much of an articulated individual has been found at Dry Mesa. We are also learning more about the Dry Mesa sauropods due to the studies of a couple of graduate students here at this time. One is studying the caudal vertebrae; the other is looking at limb material.



**PACIFIC COAST TERTIARY INVERTEBRATES AND THE ADVANTAGES OF AMATEURISM**  
by Joe Small, Dash Point, Washington

The Pacific Northwest is characterized by its diverse geography, the result of its traumatic geological history. predictably, the fossils of the region represent many paleoenvironments and a wide range of types.

The lands to the west of the Rocky Mountains were contributed to the North American Continent in post Cretaceous events. Typically, large land masses in the Pacific Ocean are accumulated along the front of the North American continent as it sweeps over (subducts) the ocean plate. Whenever islands are encountered, they accumulate against the front of the advancing plate like so many abandoned-autos-at-railroad-crossings (AARC's) against the front of a locomotive. The folding, distortion and breakage of the AARC's are analogous to the trauma inflicted on former Pacific island land masses by the overwhelming advance of North America.

Meanwhile, (as we are learning from advanced tectonic plate mechanics) the ocean floor continues its incessant subduction; a process we now believe to be the fuel for coastal mountain range building. As the descending ocean floor is compressed by the weight of continental crust, it is superheated, bubbling up through fractures in the stressed rocks overhead. Volcanoes, lava flow, massive ash deposits, and lifted oceanic floor sediments are mixed into a chaotic landscape. If that were not depressing enough to fossil collectors used to an orderly layering of sediments, mountain glaciers and the cordilleran ice sheet munched and crunched, leaving layers of gravel over the surface of the land.

There are two principal results which are of immediate interest to fossil enthusiasts: 1) Nearly all pre-Tertiary fossils have been destroyed or seriously distorted, and 2) much of what remains is that of a changing marine or coastal environment. Consequently, the remains of marine animals are the most abundant and accessible fossils in the region.

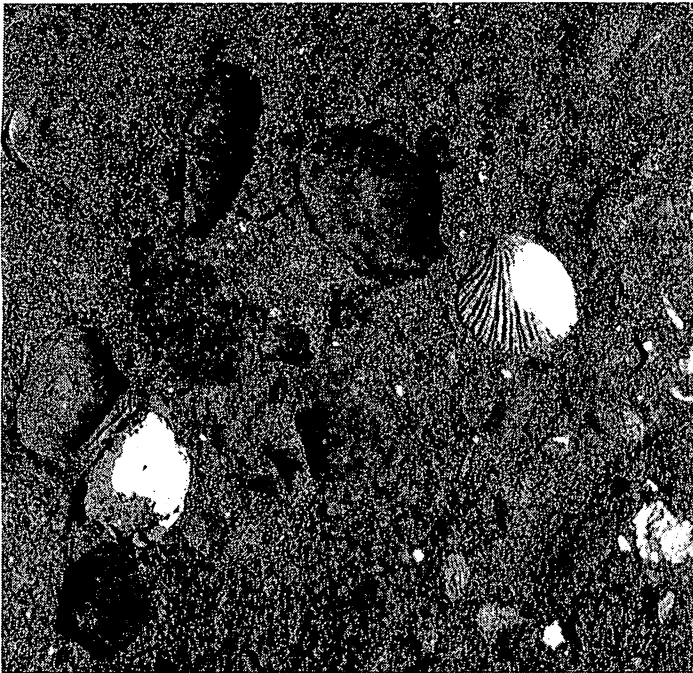
The average amateur paleontologist tends to have only a passing interest in recent (geo-

logically speaking) fossils, yet an amazing history of a changing planet is revealed by careful, and systematic study. While the fossils themselves may not be as exciting as those found in your neighborhood Burgess Shale, they may nevertheless be intrinsically beautiful. More importantly, in total, they reveal a history of tropical delights in a region that now contends for the "Rain and Fog and Generally Suicidal Weather" capital of the world.

Aggregations of fossils, those which can be associated in time and place, have been the cornerstone of inquiry into our geologic past. There is clearly a difference between knowing a *T-rex* skeleton and having a understanding of the environment in which it lived: the other animals, the climate, the collective habitat. Similarly, there is an entire universe of inquiry open to the study of ancient life-form aggregations, even lowly invertebrates.

A single fossil, for example the *Nuculana washingtonensis*(?) illustrated here, may yield some limited information about a paleoenvironment. In this case, for example, we can make a general assumption that it was an inhabitant of a moderately-deep, offshore sea bottom. Modern *Nuculana* live under the surface of the mud or sand, feeding through an in/out pair of tubes. This assumption (of ancient environment) is based on the known habitat of surviving, similar species, but to base this and other conclusions on the occurrence of a single specimen is very risky. If, however, we are able to positively associate our *Nuculana washingtonensis*(?) with other animals, plants, sedimentological circumstance, etc., we may be able to make more important conclusions and to make them with a much higher degree of certainty.

We are delighted to report a truly serendipitous find of just such an assemblage. The glacial gravels, which are often the curse of Northwest investigators, contain a random sampling of all the various rocks and rock types which exist in the region. As we have already established, they are hugely diverse. Sometimes these gravels (the term "gravel," in this context, consists of rocks in the range of 1/10th inch



**Assemblage of invertebrates** including clams, a brachiopod, and multiple calcareous worm casings. The photograph covers an area approximately 1½ x 1½ inch. Surely one can safely conclude that these animals coexisted.

up to huge boulders) and are of rock types ranging from granite, to slates, to limestones and sandstones.

Despite the frequent and tiresome admonition of institutional paleontologists, fossils which have been removed from their place of origin (in this case by glacial action) often have substantive scientific value. We may never know the precise origin of this boulder (where it was scraped from its hillside exposure by passing ice, rounded and smoothed), but its potential to positively correlate the animals fossilized in each of its horizons is clear.

Interestingly, there are four clearly defined horizons within our boulder. Each has a different distribution of fossils, some indicating deep water habitats and others appearing to represent shallow water fauna. Our work will focus on a precise cataloging of species with particular attention to evidence of previously undocumented coexistences.

Like all fossils and fossil assemblages, there is a limit to what we can learn from a specific instance. The value of our



**Probable *Nuculana washingtonensis***. Although this may appear to be a dark-colored shell, it is actually an external mold of the animal in the surrounding matrix, its shell having been leached away over time.



**Typical glacial gravels** now exposed on a Puget Sound beach. Some of these rocks are of sedimentary origin. Occasionally they contain fossils. Geology pick leaning against rock in right-foreground provides scale, while the rocks provide substrate for living barnacles, limpets, periwinkles and others.

boulder benefits from the extraordinary amount of previous study (and publications) of others. In total, our best opportunity for a comprehensive, collective understanding of our place in the universe is through actively seeking and sharing information about our natural history.

We believe all fossils embody the truth; uncomplicated and undistorted. Each of us brings a different basis to our inquiry, and our interpretations are therefore biased. In order that each of us may have

the opportunity to discover the truth for ourselves, fossils must remain available to the amateur paleontologist and fossil enthusiast. (Readers are encouraged to support pending federal legislation, HR-2943, in order to preserve our right to access this truth.) Amateur paleontologists, as manifest by M.A.P.S. Digest and other sources, have an excellent history of openly sharing the paleontological experience, while others prefer to distribute *conclusions* while sequestering the evidence in basement collections. We urge your support for HR-2943.

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**PROPOSED ILLINOIS ARCHAEOLOGICAL  
AND PALEONTOLOGICAL PROTECTION ACT**  
excerpts sent by John Washburn  
Chief, Geological Assessment Unit  
Illinois Department of Transportation

These regulations implement the provisions and intent of the Archaeological and Paleontological Resources Protection Act [20 ILCS 3435]. The State reserves to itself the exclusive right to control archaeological and paleontological resources on public lands in order to protect and preserve scientific and cultural information, artifacts, and materials. As part of that process, these regulations mandate the maintenance of a State site file containing all known archaeological and paleontological resource locations and set standards for professional archaeologists and paleontologists working within the State of Illinois. Furthermore, it is the purpose of these regulations to encourage the preservation and protection of archaeological and paleontological resources on both private and public lands and to discourage their exploitation and destruction by vandalism, looting, commercial development, and construction...

Surface collecting of aerially exposed paleontological resources is not considered disturbance under this definition...

"Inventory" means the Illinois Inventory of Archaeological and Paleontological Sites as described in Subpart C of this Part...

"Paleontological resource" means any significant fossil or material remains of past life, other than human, on public lands

including traces or impressions of animals or plants that occur as part of the geological record that are known and are included in the files maintained by the Illinois State Museum under Section 10 of the Act...

"Primary rock body or sedimentary unit" means the rocks or sediments that occur in the location of their original deposition...

No permit shall be required under the auspices of this Part for any person collecting on private lands for private purposes any paleontological remains or any rock, coin, bullet, or mineral...

No permit is required where the work consists of surface collecting of aerially exposed paleontological resources that are not covered by the primary rock body or sedimentary unit that has preserved the paleontological resources...

In order to ensure that the scientific knowledge about both prehistoric, historic, and submerged archaeological sites and paleontological sites ... are not willfully or unnecessarily destroyed or lost, and to preserve information with respect to their location and condition, the Museum and the Agency shall maintain an Illinois Inventory of Archaeological and Paleontological Sites as required in Section 10 of the Act. ... The Inventory shall indicate the accurate location of each known archaeological or paleontological site...

#### John's Comments

It is important to note that at this time there are no listed paleontological sites on highway right-of-way or anywhere else. Since it is important to the hobby, as well as to the highway agency for which I work, that we maintain our abilities to disturb paleontological resources beyond that of mere surface collecting, I will be attempting to exclude properties owned and managed by highway authorities from these rules. However, if I fail in this endeavor, we can take some solace from the fact that surface collecting will always be allowed even at inventoried sites regardless of who owns and manages the property and that the highway agencies, as very strong political allies, will be resistant to having any paleontological sites inventoried on their properties.

**NORTH AMERICAN PALEONTOLOGICAL CONFERENCE  
1996**

**by Bob Cranston  
from *Paleo Newsletter*, Jul '96,  
Jean Wallace, ed.**

The North American Paleontological Conference was held in Washington, D.C. on June 10-12, 1996. The Conference was reportedly attended by over 600 paleontologists, geologists, some members of industry, museums, biologists, oceanographic professors and a host of others from: United States, Canada, Angola, England, Australia, Germany, Sweden, Cuba, New Zealand, Venezuela, Mexico, Denmark, Egypt, Spain, Hungary, Albania, Japan and China. There may have been other nations represented but not registered with credentials or abstracts. As we understand there were about 433 abstracts presented; however, some were those who presented posters.

The opening address was presented by Mr. John Pojeta, Jr., U.S. Geological Survey as follows:

"Almost all of us who collect fossils agree on two points:

- (1) In order to collect we need the permission of the person in charge of the locality, and
- (2) Over the past 20 years, collecting fossils has become increasingly complicated.

"Beyond these truths, almost every collector has her/his perspectives on the proper do's and don't's of the process. These points of view range from (1) Only professional paleontologists should be allowed to collect fossils to, (2) Everyone should be allowed to collect fossils.

"In the 16 years that I have been involved in discussions about "Land Access Issues in Paleontology," we have repeatedly discussed the following items:

- (1) What is a professional paleontologist?
- (2) Is Federal legislation needed?
- (3) Is a permit system needed?
- (4) To whom do fossils belong?
- (5) What are commerce fossils?
- (6) Are vertebrate fossils special?
- (7) How do we eliminate public confusion of paleontology with archaeology?
- (8) How does one determine the scientific value of a fos-

sil? (9) Who should be allowed to collect? (10) Should people be fined and/or jailed for collecting fossils? (11) What are the problems of land managers?

"In my opinion, we need to give all those interested in fossils--professionals, amateurs, suppliers, and miners and quarrypersons a process by which they can pursue their interests.

"These and other issues in collecting fossils have been discussed by relatively small committees, panels and the like. They have not been discussed by a broad spectrum of paleontologists. This symposium should provide such a forum for paleontology and all attendees should leave with new perspectives and knowledge to discuss the issues. Fossil collecting is a subset of the larger issues of natural history collecting and scientific studies on the public lands in general.

"For some time, entomologists and malacologists have expressed considerable concern about restrictions on collecting insects and mollusks. In May 1995, the National Research Council (NRC) held a planning meeting on these larger issues. Those who attended the meeting study ecology, oceanography, volcanology, paleontology, geophysics, political science, rural sociology, forestry, and land policy. Among other things, we discussed drilling into a volcano in Katmai National Park, seismic reflection studies at Lake Mead, and the Mount Graham telescope. All these non-paleontological studies involved the difficulties with land access or the endangered species act. To date, the NRC has not been able to find funding to convene a panel to recommend guidelines to land managers.

"As an interest group, scientists must become far more active in addressing the issue of land access for all kinds of studies. Do scientists have a vehicle or method for providing information to land managers, elected officials, and other decision makers? Can the disparate and often fractious scientific organizations speak with a unified voice so that we do not confuse decision makers? We must organize ourselves to protect the right to collect natural history objects, including fossils, for our studies."

## 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.

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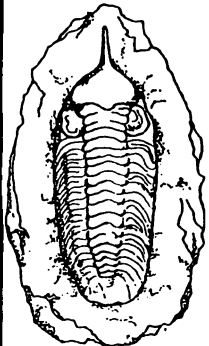
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## NATIONAL FORESTS ASSESSMENT BEGINNING by William F. Jud, Fredericktown, MO

US Forest Service is beginning an **OZARK/OUACHITA HIGHLANDS ASSESSMENT** on National Forests in Oklahoma, Arkansas and Missouri. The Assessment will "provide a solid foundation for revising the LAND AND RESOURCE MANAGEMENT PLANS of the Ouachita, Ozark-St. Francis and Mark Twain National Forests between the years 1998 and 2001."

It is extremely important that rockhounds, fossil collectors and others who use mid-western National Forests for livelihood or recreation become involved in this program early-on and remain involved to guide USFS policy. Otherwise, militant Green groups will flood hearings with demands to establish land withdrawals for Heritage Areas, Critical Habitat for the Endangered \_\_\_\_\_ (fill in the blank), prohibition of collecting fossils and minerals, and myriad other land closures and restrictions.

Forest land management plans revision target completion date is the year 2001.

For information, and to put your name on the mailing list, contact:

US FOREST SERVICE  
OZARK/OUACHITA HIGHLANDS ASSESSMENT  
PO BOX 1270  
HOT SPRINGS, AR 71902  
501-321-5202  
FX 510-321-5353

### HELPFUL HINTS FOR FOSSIL EXTRACTION excerpt from *Paleo Notes*, Jan-Feb 95 Guy Darrough, Ed.

Removing fossils from hard limestone with a hammer and chisel is a time-consuming task, but sometimes necessary. Before you begin to use the chisel, check the specimen for cracks or loose pieces. If the specimen looks unstable or brittle, it will most likely break during removal. One method to help avoid losing important fragments is to mix Elmers glue with tissue paper and form a gooey mash. Now coat the specimen with the mixture, and allow it to dry. The coating will protect the specimen from vibrations during removal and can be easily removed by soaking in warm water. ...



**Please ADD the Following NEW OR REJOINING MEMBERS to Your Directory:**

Michele Borgerhoff  
6207 N. Carrollton Avenue  
Indianapolis IN 46220  
317-253-0579  
mborgerh@parktudor.pvt.k12.in.us

Teacher. Has nothing to trade ('96). Member of Kentucky Paleo. Soc., Lexington. Wants to learn more about fossils to share with her students.

Donald S. & Laura M. Clauson  
1919 Straw Field  
Sugar Land TX 77478  
713-265-5911

Edward J. Hennessey  
2719 Tyler St.  
Long Beach, CA 90810  
310-835-3751

Will trade. Interested in ammonites, cephalopods and any fossils that vividly show parasitism, pathological signs, trauma, molting or symbiosis.

Nathan Wendland  
357 E. 7th St.  
Winona MN 55987-4061  
507-454-1780

Supplier Quality Tech for electronics contract manuf. Will trade. Major interest fish and brachiopods. Would consider trading parts of his collection for the right specimen. Loves fossils and greatly enjoyed '96 EXPO.

**PLEASE NOTE THE FOLLOWING CHANGES OF ADDRESS OR CORRECTIONS:**

Travis & Chuck Jordan  
5937 Sharon Lane NW  
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319-396-9240

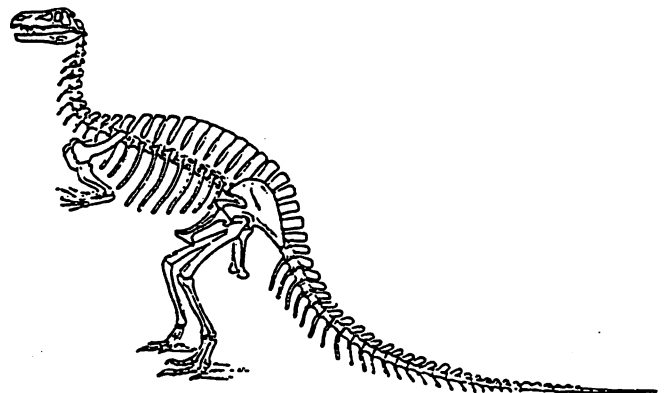
Mark D. Palatas  
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Louisville KY 40299-6601  
502-266-6760

Thomas C. Williams  
2830 7th St.  
Peru IL 61354  
815-223-9638

M.S. Geology-Geohydrology. Major interests all echinoderms, cephalopods, and gastropods. Enjoys meeting others interested in any area of geology.

---

Last night in the museum's hall  
the fossils gathered for a ball.  
There were no drums or saxophones,  
but just the clatter of their bones,  
a rolling, rattling carefree circus  
of mammoth polkas and mazurkas.  
Pterodactyls and brontosaurus  
sang ghostly prehistoric choruses.  
Amid the mastodonic wassail  
I caught the eye of one small fossil.  
Cheer up, sad world, he said, and winked--  
it's kind of fun to be extinct.



Ogden Nash, "Carnival of the Animals"  
via *Paleo Newsletter*, 7/96, Jean Wallace, ed.

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 \$20.00 per household. Institution or Library fee is \$25.00. Overseas fee is \$20.00 with Surface Mailing of DIGESTS OR \$30.00 with Air Mailing of DIGESTS. (Payments other than those stated will be pro-rated.

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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Dated Material - Meeting Notice

Mrs. Sharon Sonnleitner  
 MAPS DIGEST Editor  
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