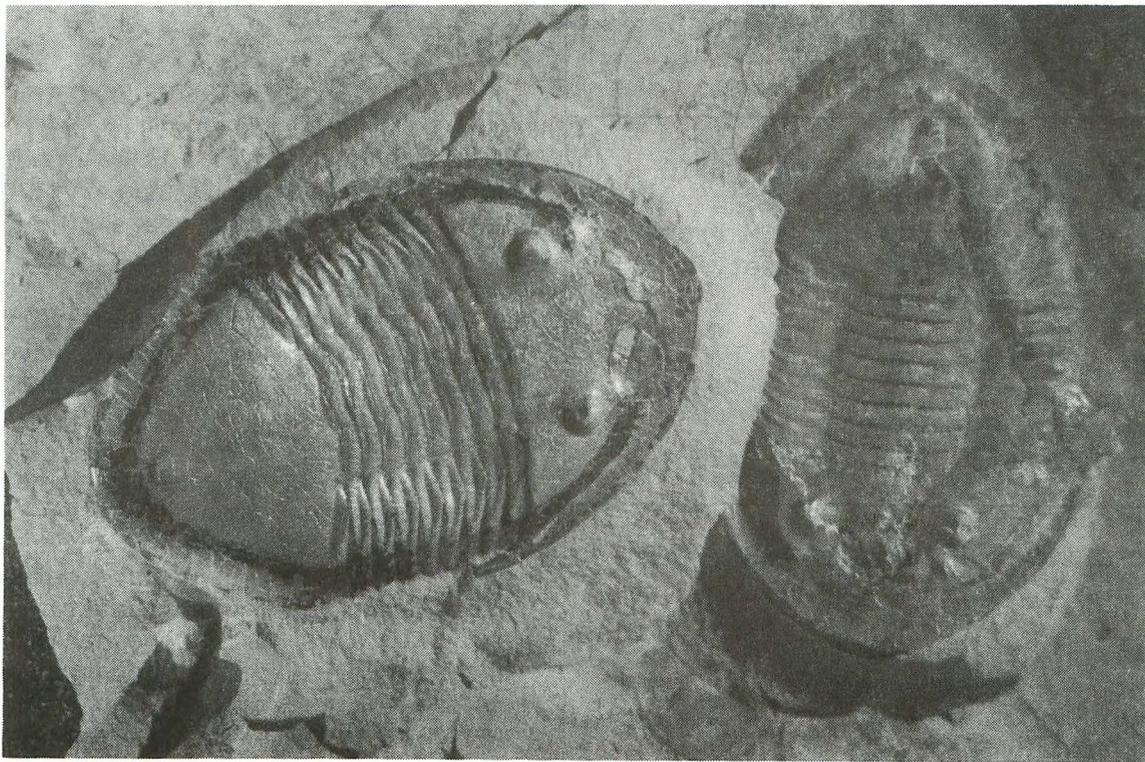


M.A.P.S. *Digest*

Official Publication of
Mid-America Paleontology Society

Volume 17 Number 5
May, 1994



MARK YOUR CALENDARS

16 JUN DINO '94, 1994 WYOMING GEOLOGIC
17 ASSN. FIELD CONFERENCE
18 Casper, WY, and nearby sites.
19 Field trips, illustrated lec-
20 tures, displays

Contact: Dino-'94 Registration,
Tate Geologic Museum, Casper
College, 125 College Drive,
Casper, WY 82601
307-268-2447; fax: 307-268-2514

14 AUG MAPS SUMMER PICNIC, & MEETING
Doug DeRosear Residence, 103 S.
Oak St., Donnellson, IA.
(1 block east of four-way stop)
(319) 835-5521.

11:30 to ?. Eat at 12:30.
Potluck--bring a covered dish,
table service and drink.

22 OCT 11TH ANNUAL BVFS FLORIDA FOSSIL
23 FAIR--YEAR OF THE REPTILES
Lake Mirror Center, Lake Mirror
Drive, 800 East Main Street,
Lakeland, Florida

Sat., Oct. 22: 9-7
Sun., Oct. 23: 9-5
Contact: 813-665-3426
407-282-5676, or 813-644-2486

4 NOV FOSSILMANIA X, OAKDALE PARK, GLEN
5 ROSE, TX
6

Fri.--10 am to 6 pm
Sat.-- 9 am to 6 pm
Sun.-- 9 am to 2 pm
Contact: William W. Morgan, 113
Shavano Drive, San Antonio, TX
78231

7 APR 1995 MAPS NATIONAL FOSSIL
8 EXPOSITION XVII--CRINOIDS
9

Fri., Apr. 7: 8am - 6pm
Sat., Apr. 8: 8am - 5pm
Sun., Apr. 9: 8am - 3pm

PLEASE NOTE: THE DATES ARE INCORRECT IN
THE 1994 DIRECTORY

*** 94/04 & 94/05 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--94/05 means 1994/May. 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 \$15 per U.S./Canadian household per year. Overseas members may choose the \$15 fee to receive the *Digest* by surface mail or a \$25 fee to receive it by air mail. (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 Sonneleitner, Treas.
4800 Sunset Dr. SW
Cedar Rapids, IA 52404

ABOUT THE COVER

This month's cover is a photo taken by George L.H. Stone, Carterville, Illinois. Over the last eight years of collecting, he and his wife have found in excess of 300 complete *Isotelus iowensis*, some as large as 11" outstretched, and parts of some that, if complete, would have been 18" long. The specimens pictured are each 4 1/2" x 2 1/2".

These *Isotelus iowensis* were recently found at a location around Pilsen Co, 70. They come from the Maquoketa Shale--Upper Ordovician and represent a "smothered bottom" assemblage of opportunistic trilobites. The *Isotelus* are monospecific, as they represent 99% of all fauna at that horizon and are the only macro fauna found there.

TRACKS PREDATE DINOSAURS

from: The Dispatch and the Rock Island Argus
May 18, 1994
sent by: Tom Walsh, Coal Valley, Illinois

Reptile and amphibian tracks dating back 285 million years are the oldest and most extensive in the world, a team of
CONTINUED ON PAGE 7

MAPS EXPO XVI—DINOSAURS

EXPO just keeps getting better and better. This year's was the biggest, overflowing the main ballroom to the foyer and another room. Many of the "old" members were in attendance, but there were also lots of new faces. Meeting friends is half of what EXPO is all about. Unfortunately, some of the people we usually see at the show were unable to make it this year.

If you weren't there, you missed some great presentations by Don Wolberg and Don Miku-lic. Marv Houg, Randy Faerber, and Maggie Kahrs acted as the auctioneers for the live auction in the absence of Jim Konecny, who was home recovering from eye surgery.

Several awards were presented at the Business Meeting. Gil Norris read a note of thanks from Jim Konecny, who had received the President's Award by mail that day, and Alberta Cray was presented with the Don Good Award. Also, David Jones donated a dinosaur replica, which was presented to Western Illinois University through two of its faculty, Jack Bailey and Bob Johnson.

The themes for the next two years were decided upon: crinoids for '95 and brachiopods for '96. If you can contribute something on crinoids, let Maggie Kahrs know so she can begin planning the '95 EXPO *Digest*. (Wasn't this year's great!)

Also at the meeting, after some discussion of the budget and rising costs, the motion was made, seconded and approved to raise dues to \$20 effective January 1, 1995. The EXPO *Digest* and *Directory* are major expenses and cost more as they get bigger and better. Also postage is expected to rise again. Those in attendance felt that MAPS provides members with a lot for the money.

Changes to the By-laws that were published in the March issue were voted on and passed.

EXPO could not exist without the help of many people, both the "locals" and those from farther away who help throughout the show. Thanks to all of you.

RICHARD L. CASANOVA PASSES AWAY

obituary sent by: William Ray

MAPS member Richard L. Casanova, 75, died March 31. A native of Buenos Aires, he retired as an Air Force captain, having earned a Purple Heart, Distinguished Service Cross and Bronze Star.

He was a paleontologist with Ward's Natural Science Establishment in Rochester from 1948-1949 and served as director of the Paleontological Research Laboratory in Statesville, North Carolina, from 1950 to 1961. In Charlotte he was director of Geo-Tech Archives, editor of *Fossils Quarterly* and a consultant to the Schiele Museum in Gastonia. He also wrote "An illustrated Guide to Fossil Collecting."

Our sincere condolences to his family.

MISSOURI LOCALITY DESTROYED
by Rick Poropat, Kirkwood, MO

A well-known collecting locality near St. Louis, Missouri, was destroyed in early April by highway crews preparing for new construction. The site, located in a low-lying area near the I-44/I-270 interchange, was a classic for more than 25 years. It yielded hundreds of crinoids as well as edrioasteroids, brittle stars, conularia, fish teeth, brachiopods and large *Archimedes*. It now lies buried under tons of dirt and rock.

The loss of this site was expected. In the weeks prior to destruction, salvage operations were conducted by members of the Eastern Missouri Society for Paleontology, as well as other groups and individuals who saved many crinoids and other fossils from destruction. The highlight of this effort was a Society field trip in which more than 60 members participated. It is not anticipated that new highway construction will reveal any new exposures.

NEXT DIGEST

The next Digest is the summer issue which should be out in late August.

WAS TYRANNOSAURUS REX REALLY TERRIBLE?

by Alan Goldstein

Naturalist, Falls of the Ohio State Park
201 W. Riverside Dr., Clarksville, IN 47129

John (Jack) Horner, the paleontologist at the Museum of the Rockies in Bozeman, Montana, presented a talk at Dino Fest in Indianapolis in late March. How late? Friday night at 10:30 PM! He started his presentation by stating that it was so late, and everyone was so exhausted, no one would argue about his theory. (Jack was right.)

Evidence of the predatory nature of *Tyrannosaurus rex* has been established as fact since its description by Osborne in 1905. Its six inch serrated teeth in a four foot jaw are legendary. But is that sufficient to prove that it could chase down and kill prey?

Jack Horner was not the first person to theorize that large bipedal carnivorous dinosaurs were scavengers. Lawrence Lambe speculated that Gorgosaurus (*Albertosaurus*) was a scavenger. Lambe thought it to be so slothful that it laid on the ground, only moving when very hungry (Norman, 1991).

Horner's evidence is pretty strong. Let's start with its legs. The fast-moving carnivorous dinosaurs like *Deinonychus* and *Velociraptor* have a slightly longer fibula (lower leg bone) than femur (upper leg bone). *Tyrannosaurus'* leg bones are closer to equi-length like ours. Humans are not fast runners in the animal kingdom.

The arms of the *Tyrannosaurus* are very small, to the point of being close to useless. Jack's vivid analogy was to imagine chasing and killing a chicken with your hands tied behind your back. You would likely die of exhaustion before capturing your prey! Other carnivorous dinosaurs, like those mentioned in the preceding paragraph, have longer arms with

good gripping hands, enabling them to hold on to their prey. Remains of a *Velociraptor* was found in Bain Dzak, Mongolia, with a death grip on a *Protoceratops*, proving it, at least, used its hands to hold its prey. All living mammalian or avian predators can grip their prey with limbs.

The brain casts of *Tyrannosaurus* indicate a large olfactory center. This is typical for scavengers which chiefly use the sense of smell to find food.

The eyes of *T. rex* are small. Many predators (birds and many mammals) have large eyes and acute vision. Those that do not (like dogs) are pack animals and hunt in groups. No evidence has been found to indicate a pack instinct for this dinosaur.

The large head and teeth of this beast may, in part, be an evolutionary result of the diminished use of arms. Strong jaw muscles and knife-like teeth would bite through tissue and bone with relative ease, since the arms could not be used to hold the food in place.

Paleontologist James Farlow presented a talk at Dino Fest on wear patterns of the teeth of *Tyrannosaurus*. While important tooth wear was shown to be evident (particularly on the inside of the mouth), the mechanism behind such wear is currently unknown. If tooth wear patterns can be understood, it might provide insight into how and what the "Tyrant Lizard King" actually ate.

(I would like to thank my wife, Debbie, for proofreading the first draft and helping me remember what Jack Horner said, so late in the evening.)

References

- Norman, David, 1991, *Dinosaur!*, Prentice Hall, 192 p.
Spalding, Davids A. E., 1993, *Dinosaur Hunters*, Prima Publishing, Rocklin, CA, 310 p.

FOSSIL LEGISLATION

by John Boland, MAPS member

Pending fossil legislation was discussed at MAPS EXPO in Macomb, Illinois, on April 15-16 by Dr. Don Wolberg and John Boland. The proposed 36 CFR 261 & 262 rules change indicated that they would not permit collection of invertebrate fossils and minerals in limited quantities for personal use or educational purposes on Forest Service lands. A petition against this proposal was signed by 185 people at EXPO and sent to Dale Robinson, Chief at the Forest Service. Many people across the country wrote or called to express their disapproval of the proposed change. Now we hear by the Washington grapevine that the changes may not be implemented because of the people's response.

The latest draft of the Baucus bill was discussed also. Sec 3(5) patronizingly states that the bill "will provide and maximize opportunities and access for amateurs and other paleontologists including children and young adults to collect vertebrate paleontological resources... to reduce losses resulting from erosion, theft," etc., yet Sec 2(10)(A) states "reasonable access to vertebrate paleontological resources on Federal lands should be provided to professional and amateur vertebrate paleontologists for scientific, educational, and recreational purposes."

Sec B under Surface Collecting, states that "Amateur Collectors who remove a vertebrate paleontological resource located on Federal lands shall, prior to removal, obtain from the Federal land manager, a short-term permit to carry out the removal and activities associated with the removal. An amateur collector may not excavate a vertebrate paleontological resource located on Federal lands."

Sec 10 under Custody of Resources states that "in the case of an amateur collector who removes a vertebrate paleontological resource located on Federal lands, the Federal land manager may permit the collector to retain the possession of the resource if the resource (A) is identified and evaluated as to the scientific value of the resource and (B) remains accessible for

study. Any resource retained by an amateur collector in accordance with this subsection shall be held in trust for the people of the United States and may not be sold or bartered." Resources of scientific value held by repositories and museums are also to be held in trust.

In general, the changes made to improve the capability of the amateur to surface collect vertebrate fossils has not been improved in the revised Baucus Bill. Restricting collecting to qualified collectors, requiring permits, putting nonscientific vertebrate resources in trust, does not foster a partnership between the amateur collector and vertebrate paleontologists.

VOTE

NO Send your no vote on the Revised Baucus bill to Jan Campbell-Miller, c/o Senator Max Baucus, 511 Hart Building, Washington, DC 20510 and your legislators. Remember the fate of the 1992 version and the Forest Service proposal above.

YES Send your yes vote to indicate your support for the Paleontological Resources Preservation Act (House bill) that does not include the restrictions listed above to Sara Dahlin, c/o Rep. Tim Johnson, 2438 Rayburn, House Office Bldg., Washington, DC 20515 and your legislators. This bill is based on the 10 recommendations written in the Paleontological Collecting report by the National Academy of Science.

SCIENTISTS FIND FOSSIL OF WALKING WHALE
by Bob Guenther, Shelby, Ohio

Fossil remains uncovered in Pakistan give new insight into how an evolutionary ancestor of the whale could walk on land. "This critter is a missing link between land animals and modern whales." said J.G.M. Thewissen, a paleobiologist at Northeastern Ohio Universities College of Medicine in Rootstown, near Akron, Ohio. "It is a very complete specimen and has enough of the anatomy to teach us something

about how the animal moved on land. A report on the discovery is published in the journal *Science*.

Thewissen said the fossil, found in deposits on the floor of an ancient sea, is from a whale ancestor that died about 50 million years ago. He said it was about the size of a male sea lion and weighed 600 to 700 pounds. Many fossils of the land-dwelling ancestors of the modern whale have been found, but Thewissen said this is the first one that is complete enough to show how the animal was able to move on land and in the water.

The animal, which Thewissen calls *Ambulocetus natans*, had large rear feet with fully developed legs. In front, the feet are short, stubby, and joined almost to the shoulder.

As a result, the walking whale actually moved on land by bumping along on its chest and abdomen, just lifting itself enough to lurch forward. In the water, this ancient whale probably swam with thrusts from its hind feet and legs, he said. The animal's tail was long and probably lacked the distinct fluke used by modern whales for swimming.

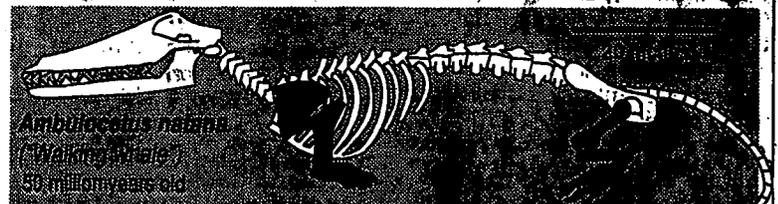
Ambulocetus natans had the teeth of a meat-eater and probably ate fish or other marine life.

Modern whales are thought to have developed from animals that lived on land and slowly, over thousands of generations, evolved to the seabound mammal known today. "The oldest skeleton that is a marine whale is about 40 million years old," said Thewissen. That skeleton is 40 to 50 feet long and had tiny hind feet. "Given the size of that animal, it is clear that it couldn't move on the land."

Ambulocetus natans lived about 10 million years before that. Thewissen said that there are a number of missing links in the evolutionary chain that became the modern whale. "The first true whale was probably

about the size of a big wolf." In the *MAPS Digest* October/November issue, was an article, "Whale's Ancestor a Dog?," which described 50 million year old fossils that led Duke University paleontologists to believe that the ancestor of the whale is a doglike creature called *Pakicetus*. The animal's fossilized ear and jaws indicate it had a type of hearing adapted for use on land and in water. Hans Thewissen, in a report in the British journal *Nature*, says that suggests the creature was evolving into a marine mammal. So could these two ancient animals that lived in approximately the same time frame in history 50 million years ago, be parts of the missing links in the evolution of a land animal--back into the variety of whales that now live in seas around the world???

Modern whales are mammals that are thought to have evolved from land-dwelling animals. Scientists have found a fossil that shows how ancient whales moved on land and in the water.



In the ancient whale, the rear feet are large and attached to fully developed legs. This animal moved on land by bumping along on its chest and abdomen. In the water, it probably swam with thrusts from its legs.



Modern whales have lost their hind legs, although some baleen whales like this bowhead still have tiny bones where the legs used to be.

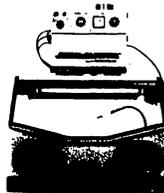
Source: Northeastern Ohio Universities College of Medicine

AP/Karl Tate

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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.

INDEX FOSSILS OF NORTH AMERICA by Shimer & Shrock. List \$95.00. Our Price: \$75.00 postpaid (while they last). We buy/sell out-of-print fossil books. **PALEO BOOKS & PREP SUPPLIES**, PO Box 542MD, Hot Springs, SD 57745. Tel. 605/745-5446. (No Credit cards please.)

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Trilobites. Come collect Devonian trilobites from the Haragan and Bois d' Arc Formations. The quarry near Clarita, Oklahoma is one of the largest and most active in the area and is open to the public one Saturday per month from August through December in 1994. For complete information please contact Scott Taylor, 9744 Forest Lane #1714, Dallas TX, 75243-5749.

CANADIAN TRADER. Thanks to all the collectors we have met at MAPS exhibition. We have enjoyed this experience very much, and hope to repeat it in the future. If any information is needed for the fossils traded at our table, don't hesitate to contact us. We will gladly answer your request.
Jean-Guy Pellerin and Therese Seguin

AUSTRALIAN FOSSILS: EXPORT CONTROL by Frank Holmes, Secretary Fossil Collectors' Assoc. of Australasia

On the 3rd August, 1993, an amendment to the Australian **PROTECTION OF MOVABLE CULTURAL HERITAGE ACT 1986**, removed the AUS\$1,000 valuation limit on palaeontological objects which can be exported without a permit. Consequently, all Australian fossils irrespective of value are now subject to the above regulations and require the issue of an export permit from the Heritage Protection Section, Department of Arts and Administrative Services, GPO B 1920, Canberra, ACT 2601.

Persons wishing to export fossils from Australia for whatever reason (loan, gift, exchange or sale, etc.) are now required to complete an "Application for an Export Permit" giving, as well as normal applicant details, information as to what the fossil is; its size and age; when, where and by whom it was found; its current market value in AUS\$; its rarity and importance (if known); and details of any publication in which it has been listed or photographed.

in addition, applicants re required to provide photographs of specimens or, if requested, make available the material for inspection before issue of a permit is considered.

Collectors visiting Australia who wish to personally take fossils out of the country must have an export permit. Anyone convicted of an offense under the Act risks confiscation of the material and possibly a fine and/or imprisonment (not more than AUS\$100,000 and/or 5 years for an individual!).

While this amendment will make the export of fossils from Australia an arduous and time-consuming process, it seems unlikely that applications for permits will be refused, provided the specimens to be exported are of taxa that have been fully described in a scientific publication, are not rare or of specific importance to Australia's heritage, and of course have not been illegally collected (e.g. from a National Park or a designated fossil reserve, etc.,).

HELP SAVE THE GREENE GEOLOGICAL MUSEUM: A NATIONAL HISTORIC LANDMARK

Following the recommendation of the National Park Service, Secretary of the Interior Bruce Babbitt designated the Thomas A. Greene Memorial Museum and Geologic Collection as a National Historic Landmark on November 4, 1993. This landmark honors the important role that amateur collectors have played, and continue to play, in the scientific investigation of our nation. It also recognizes the pioneering efforts in women's science education by Milwaukee-Downer College.

The museum and collection document the geologic activities of Thomas A. Greene, an amateur collector from Milwaukee, who built this outstanding and irreplaceable collection of 13,000 minerals and 75,000 midwestern fossils during the late 1800s. Because his heirs had the foresight to donate it to Milwaukee-Downer College and erect a museum to house it in 1913, Greene's collection, still accompanied by his handwritten labels and stored in his original cabinets, is the only intact late nineteenth-century amateur geological collection in the U.S. With the closing of Milwaukee-Downer, the collection and museum were purchased by the University of Wisconsin-Milwaukee, largely through the efforts of the late Prof. Katherine Nelson, her husband Frank Nelson and the Wisconsin Geological Society. Katherine Nelson, curator of the museum for nearly 40 years, was an active supporter of amateur geologists, receiving many awards from the Midwest Federation of Mineralogical and Geological Societies, the National Association of Geology Teachers and other organizations in recognition of her contributions to both amateur geology clubs and public science education.

Despite its historical importance and the recognition it gives to amateur collectors everywhere, this landmark is in imminent danger of destruction. The University of Wisconsin-Milwaukee has actively and persistently opposed the Park Service's designation efforts. Ignoring that landmark status was granted to both the museum and collection as a single entity and despite opposition from the Greene family, the university insists on hastily moving the collection into inadequate facilities without proper preparation. It claims the move is for the good of the collection, raising false issues about the security and accessibility of the collection and structural instability of the museum building. However, both the Park Service and independent museum collections experts have informed the university that moving the collection out of the museum building for any reason will destroy its historical importance and seriously jeopardize its safety and usefulness. Therefore, the university is fully aware that moving the collection will destroy the landmark designation and a unique part of our national heritage, but insists on moving it anyway.

Your help is urgently needed to save the Greene museum and collection. Don't let the poor decisions of a few unqualified and intractable university officials cheat Wisconsin, the nation, and especially amateur collectors out of this important honor. If you are a Wisconsin resident, please contact all of your state officials; non-Wisconsin residents contact only the governor (The Honorable Tommy Thompson, Office of the Governor, State Capitol, P.O. Box 7863, Madison, WI 53707). Tell them how important and unique this landmark is, and remind them that the

Greene collection and museum belong to the citizens of Wisconsin and are not the private property of a handful of irresponsible university officials to do with as they please.

Specifically urge them to:

1) immediately stop the university from moving the Greene collection out of the Greene museum building, which will destroy this landmark, and insist that any items already moved be returned; 2) establish an oversight board, consisting of experts in museum collections management and curation, in the history of science, and in the Greene collection itself, to develop long-term plans for operation, preservation and use of both the Greene museum and collection as a national historic landmark; and 3) allow an outside support group to raise funds for the museum, assist in its operation and participate in long-term planning. Act NOW before the university can carry out its goal to destroy this unique national landmark--every letter counts!

Friends of the Greene Museum
451 Beverly Place
Lake Forest, IL 60045
(708) 295-3844

CONTINUED FROM PAGE 1

paleontologists said Tuesday (May 17). The tracks at a site are spread over 6 square miles of rugged canyon rim in the Sierra Robledo Mountains west of Dona Ana and north of Las Cruces, New Mexico.

So far the team from the Smithsonian Institution, the New Mexico Museum of Natural History and Science in Albuquerque and the University of Denver have identified the tracks of 23 different animals and about the same number of insect in the 2000 slabs of rock they are studying. Spencer Lucas, curator of paleontology at the New Mexico Museum of Natural History, said, "This is big. It's world-class because of its scientific value and what we already are learning from it." Lucas said all of the animals represented in the tracks are from the Permian Period and predate the first dinosaurs by millions of years.

The site is about 100 million years older than the next-largest known track site and has far more animal tracks than most dinosaur track sites--which typically contain the tracks of three or four species.

Tom Walsh spent time digging at the site in the summer of 1990 and wrote about it in the January 1991 Digest.

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

Josephine "Jo" Alberring Retired. Has been interested in fossils since 1969.
 972 S. Lynn St.
 P.O. Box 605
 Seymour, IN 47274
 812-522-1450

Philip E. Arnold Chemical Research Technician. Will trade. Major
 P.O. Box 55514 interest Southeastern Coastal Plain. Has for trade
 Birmingham, AL 35255 mostly Ordovician, Mississippian fossils, some
 205-581-2851 others (Alabama fossils). Would like to learn more
 about North American stratigraphy & fossils—also
 willing to share knowledge and correspond.

Carl W. Balling
 1643 N. Sayre
 Chicago, IL 60635

Seymour Benzer
 California Inst. of Tech.
 Div. of Biology 156-29
 Pasadena, CA 91125
 818-449-0756

Keith Berdak Illustrator. Major interest Paleo illustration.
 621 Twillman Member of Eastern Mo. Dinosaur Soc. Wants to make
 St. Charles, MO 63301 contacts, contribute art.
 314-946-3526

Michael R. Bleavins
 11905 Earl Street
 Pinckney, MI 48169

Ira Bloom, Pres. Retail/catalog sales. Will trade. Major interest
 IJB Marketing, Inc. fossils and amber.
 235 Seneca Way
 Bolingbrook, IL 60440
 708-759-9404

Jeff Bolinger Landscape architect. Will trade. Major interest
 805 Eaglewood Dr. vertebrate (Tertiary). Has for trade Miocene shells.
 Zionsville, IN 46077
 317-873-2908

Patrick E. Boyca
 18 Case Circle
 West Simsbury, CT 06092

Tim Brinker 5th grade teacher. Trade? Interested in all areas.
 421 Hillside Member of ESCONI. Beginning collecting, building
 Glen Ellyn, IL 60137 collection for his classroom.
 708-858-0652

Todd Campbell
 HHC 2-22 INF
 Fort Drum, NY 13602

John Cianfarani, Jr. Fossil Preparator and Dealer. Major interest dino-
 Conn. Valley Jurassic Fossils saur tracks, fossil fish and preparation and articula-
 264 Silver St. tion of vertebrate material. Has for trade dino-
 North Granby, CT 06080 saur tracks, fossil fish, plants, etc. Wants to meet
 203-853-7856 and correspond with other members.

Cristal Gifts
 Vitoria Square
 911- Milton Bolevar
 Newton Falls, OH 44444
 216-872-0184

Collector of fossils and minerals. Wants to participate in the shows.

Luis De Los Santos
 P.O. Box 2010
 La Puente, CA 91746
 909-391-3505

Mineral & fossil dealer. Will not trade. Major interest petrified pine cones and wood.

Joe Devera
 1500 Tina Dr.
 Murphysboro, IL 62966
 618-687-4505

Paleontologist. Major interest Ichnology. Has for trade trace fossils.

Dinosaur Store
 Henry Runge
 26664 Seagull Way, Suite B-117
 Malibu, CA 90265
 310-589-5988

Business owner. Major interest dinosaurs.

Cecilia Doell
 3730 Indianwood Dr.
 Columbus, IN 47203
 812-372-4572

Library Asst. Will trade. Major interest dinosaurs, trilobites, and crinoids. Not a lot for trade.

Jimmie DuFoe
 417 Grove St.
 Rockton, IL 61072
 815-624-7160

Sales. Will trade. Major Ordovician cephalopods. Fossils with crystals in or replaced by them. Has for trade misc. Ord. fossils.

Michael Fix
 1521 Knollway Dr.
 Ferguson, MO 63135

Geology Lecturer. Will trade. Major interest fossil molluscs especially gastropods and ammonites. Does not have much for trade. Wants to be more informed about Midwestern paleontological activities.

Tracy Ford
 PO Box 92074-1171
 Poway, CA 92064

Dewey L. Foulk, Jr.
 5208 Ververa Drive
 Knoxville, TN 37921-5211
 615-584-4310

Martin Marietta Energy Systems. Will trade. Major interest invertebrates. Has for trade various marine invert. fossils from TN, mostly Ordovician. Has a continuing fascination with the history of life on our planet.

David Galusha
 32059 Cheboygan Ct.
 Westland, MI 48185

Draftsman. Major interest invertebrates—brachiopods, corals, trilobites, cephalopods. Wants to learn more about fossils, to find further preparation techniques, new sites, to attend meetings when able.

Gregory Gartland
 World of Science, Inc.
 900 Jefferson Rd. Bldg. 4
 Rochester, NY 14623
 716-475-0100

Paleontologist. Will not trade. Interested in all vertebrate and invertebrate fossils. Mostly display material. Wants to keep in contact with friends and obtain much-needed fossils for retail operation.

Charles Gaus
 16280 W. 80005 Rd.
 Buckingham, IL 60917

Interested in Ordovician-Silurian trilobites from Ill.-Wisconsin, also Miss-Penn flora & fauna from Midwest—especially Ill., Ind., and Kentucky.

Gary Gutzman
9012 Olden
Overland, MO 63114
314-428-0408

Engineering Technician. Will trade. Major interest Paleozoic invertebrates; all fossils in general. Has for trade Ord. mollusc, Penn. mollusc. Member of Eastern Missouri Soc. for Paleo., St. Louis. Wants to meet and exchange information and specimens with other collectors; visit new sites.

Betty Hansel
3634 Windward Way
Louisville, KY 40220
502-451-6953

Elementary School Teacher. New interest (94) & her class is also fascinated by the materials.

Thomas G. Harrigan
328 Passage Way
Osprey, FL 34229
813-966-5145

Retired. Will trade. Started with an interest in horse evolution, but now has a wide range of interest. Has for trade shark teeth and equus horse teeth. Member Southwest Florida Fossil Club. Wants to receive the Digest and to make contacts in other areas of the country where he frequently travels.

Robert E. Henn
11412 Broadway
Evansville, IN 47712
812-985-2623

Retired school teacher. Major interest Crawfordsville Indiana crinoids. Has nothing for trade at present. Member Indiana Paleo. Soc., Indianapolis. Wants to further his knowledge of paleontology.

Dale A. Hocevar
5691 Crown Ct.
Willoughby, OH 44094
216-944-8397

Self-employed. May trade. Major interest crinoids (esp. fine Waldron, Ind., specimens), trilobites, starfish, brachs, gastropods. Wants to meet with other fossil collectors.

Donald S. Johnson
109 W. 96 Terr
Kansas City MO 64114
816-942-3037

Rock & fossil hound. Will trade. Major interest collecting, preparation, repairs. Has for trade MO, KS plants and invert. of Penn. age, sometimes Cretaceous and other. Wants to meet people with interest in fossils, learn, share info.

Marcia & Skip Kincaid
& Family
711 North Main St.
Eureka, IL 61530
309-467-4969

May trade. Interested in all fossils. Want to meet meet other people with fossil interests as they travel.

Paul K. Kintner III
782 Shearer St.
North Wales PA 19454
215-699-9588
fax: 215-699-9588

Fossil & Mineral Collecting/Sales/Trade. Will trade Major interest PA, NY fossils, Western U.S. fossils. Has for trade PA tree ferns, some trilobites, petrified wood, various others. Member of Delaware Valley Paleo. Soc., Philadelphia. Interested in networking with other collectors. Also travel across country collecting. Would like to learn more about prep.

Mike Kolodzyk
1011 S. 63rd Street
West Allis, WI 53214
414-453-3904

Biology Teacher. Major interest Pit 11 Mazon Creek. Wants to be a member of MAPS because of a love of fossils.

Peter L. Larson
P.O. Box 643
217 Main
Hill City, SD 57745
605-574-4289
605-574-2518

Steven Marhut & Tina Marhut
1576 King Edward Ct. #301
Palatine, IL 60067
708-934-0338

Messenger/novice dealer. Will trade. Major interest trilobites & crinoids—selling, trading, and displaying. Member of ESCONI, Chicago. Wants to learn more about fossils.

Jim McCoy Consultant.
1761 Tenth St.
Manhattan Beach, CA 90266-6205
213-356-6224

Interested in acquiring and displaying fossils.

Trevor Meyer
P.O. Box 201
Ames, IA 50010
515-292-3043

Student (1994). May trade. Major interest Penn., Cret., Pleis. fossils; crustaceans, Plio-Pleistocene molluscs. Nothing for trade currently. Wants to have contact with other fossil collectors.

Donald Mikuic
Joanne Kluessendorf
116 W. McHenry St.
Urbana, IL 61801
217-367-5916

Paleontologists. Will trade. Major interest trilobites, trace fossils.

Katherine Miletich
2229 W. Iowa
Chicago, IL 60622
312-278-1490

Marketing Director. Likes fossils.

Catherine C. Neie
1116 Jackson Ave.
Wauconoa, IL 60084
708-526-5641

Data Processing. Member of ESCONI. Wants to increase knowledge.

Jack Neuman
7603 Forsyth, Suite 111
Clayton, MO 63105
314-863-8521

Real Estate Broker. Semi-retired and in need of hobby which stimulates his mind and encourages outdoor activity.

Laurence M. Nuelle
P.O. Box 1770
Rolla, MO 65401
314-364-3799

Geologist. Will trade. Major interest Paleozoic ammonoids. Has for trade misc. from time to time.

Jack Null
61 Watson Blvd.
Colorado Springs, CO 80911
719-392-1307

College professor. Will trade. Major interest Mazon Creek material. Has for trade Douglas Pass - Eocene insects, trilobites, & dinosaur bone. Member of Western Interior Paleo. Soc, Denver.

Gary A. Nusbaum
3401 Windy Harbor Dr.
Austin, TX 78734
512-266-1877

Melissa Perucca
1307 Mystic Seaport
Fenton, MO 63026
314-225-3984

Cartographer. Will trade. Major interest invertebrates of all ages. Has for trade Paleozoic invertebrates. Has been interested in fossils since childhood.

John Paul Pope
921 E. Washington
Winterset, IA 50273
515-462-3828

Student (94). Will trade. Major interest Penn. productid brachiopods, bryozoa, foraminifera, & conodonts. Has for trade Midcontinent Penn., Dev., & Miss. fossils. Interested in research in Penn. fossils.

John R. Repass
10346 Indian Lk. Blvd. S. Dr.
Indianapolis, IN 46236
317-823-6008

Retired free lance nature photographer. Interested in the various processes which preserved fossils and the connected relationships which caused the formation. Has for trade crinoids, trilobites, soft-bodied fossils.

Thomas P. Welch
Thalden Enterprises
800 University Building
Syracuse, NY 13202
315-475-2149

Kevin E. Davy
6 Banksia Place
Wagga Wagga 2650
N.S.W. AUSTRALIA
069-262007

Mineralogist. Will not trade. Major interest crinoids. Member of Australian Fossil Assoc. (Melbourne). Wants to meet other collectors.

Mr. George Rae
Garrieston
Dunscore, Dumfriesshire
DG2 0UY, SCOTLAND
UK

PLEASE NOTE THE FOLLOWING CHANGES OF ADDRESS OR CORRECTIONS:

John Ashburn, Jr.
Nature's Treasure
95 Quail Hollow
Naperville, IL 60540
312-983-5503

Gerald J. Kloc
1407 Genesee St.
Rochester, NY 14611
716-436-4889

Geological Tech. Will trade. Prepares fossils; interested in brachiopods, ammonoids, trilobites, and corals. Wants to meet and trade with other collectors. Has been collecting since 1971.

Charles Myers
588 West View Drive
Edwardsville, IL 62025

Dr. Allan P. Russell
Mechanic Street
Barre, MA 01005
508-355-2021

Connie & Neil Snapp
1325 Orlando
Haslett, MI 48840
517-339-2863

Kevin Brett
228 Livingston Rd.
West Hill, Ontario
CANADA M1E 1L7
416-267-9627

Graduate student (94)/trilobite worker. Interested in trilobites & echinoderms. Will trade or sell same, especially Ontario material.

Allan Johnston
7 Rich Hill Crescent, Knock
BELFAST BT5 6HF. N. IRELAND
UNITED KINGDOM
657829

unemployed at present (94). Will not trade. Major interest Cambrian, Carboniferous, Palaeobotany, Jurassic. Member of the Palaeo. Assn. London, Eng. Wants to keep in touch with the current Palaeo. discoveries in America and in contact with other collectors. Correspondence welcome.

Dan Ryder
10112 Hidden Meadow
Austin, TX 78750
512-310-0131

Paleontologist. Will trade. Major interest echinoids, trilobites. Has for trade TX fossils. Member of Central Texas Paleo Soc. Wants to find new people to trade with.

James Scott
14548 E. 500 St.
Orion, IL 61273
309-526-3295

Supervisor. Will trade. Interested in all types of fossils. Wants to further his knowledge and interest.

Sharon Shea
P.O. Box 79226
Waverley, MA 02179

Jack Shirley
6292 Castle Hill Dr.
Middletown, OH 45044
513-777-0800 or 513-779-3931

Electronics Engineer. Major interest trilobites, museum quality edrioasteroids. Has for trade various items from Cincinnati area.

Mark Shurilla
11821 West Florist Ave.
Milwaukee, WI 53225
414-358-3290

Journalist. Will trade. Major interest vertebrates, insects in amber, arthropods, etc. Has for trade Silurian of Wis.

Christine M. Smith
14743 Plumas
Chesterfield, MO 63017
314-530-7607

Dentist. Will trade. Major interest invertebrates. Has for trade crinoids. Member of Eastern Mo. State Paleo Society.

Jayne M. Steen
8416 San Carlos Way
Buena Park, CA 90620
714-220-0756

School teacher—5th grade. Will trade. Major interest things children can use to learn science. Has for trade all sorts of stuff; her husband does it for a living so he always has extras from everywhere. Wants to learn more about fossils.

Larry Swann
218 Eastern Dr.
Chesterfield, IN 56017
317-378-0473

Art dealer. Major interest fossils mammals. Member of Tampa Bay Fossil Club.

Scott L. Thompson
104 N. Englewood Dr.
Crawfordsville, IN 47933

Mineral & fossil collector. Will trade. Major interest display fossils of all types. Has for trade California crabs, dino eggs, echinoids, etc. Wants to liason with collectors in other parts of the U.S.

WARD'S Natural Science
P.O. Box 92912
5100 W. Henrietta Rd.
Rochester, NY 14692-9012
716-359-2502

Nancy and Pat Watkins
P.O. Box 2565
Gulfport, MS 39505-2565
601-832-2719

Retired. Will not trade yet. Major interest paleobotony, vertebrate fossils, but interested in all fossils, teeth and leaves favorites of all. Nothing to trade at present. Want to contact other fossil collectors to learn more about fossils and the preparation and display. Would like to hear from other collectors—also dealers.

The Mid-America Paleontology Society (MAPS) was formed to promote popular interest in the subject of paleontology; to encourage the proper collecting, study, preparation, and display of fossil material; and to assist other individuals, groups, and institutions interested in the various aspects of paleontology. It is a non-profit society incorporated under the laws of the State of Iowa.

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

Membership fee: One year from month of payment is \$15.00 per household. Institution or Library fee is \$25.00. Overseas fee is \$15.00 with Surface Mailing of DIGESTS OR \$25.00 with Air Mailing of DIGESTS. (Payments other than those stated will be pro-rated.)

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

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

President: Gilbert Norris, 2623 34th Avenue Ct., Rock Island, IL 61201
1st Vice President: Lyle Kugler, 612 8 E. 3rd St., Aledo, IL 61231
2nd Vice President: Allyn Adams, 612 W. 51st Street, Davenport, IA 52806
Secretary: Alberta Cray, 1125 J Avenue NW, Cedar Rapids, IA 52405
Treasurer: Sharon Sonnleitner, 4800 Sunset Dr. SW, Cedar Rapids, IA 52404
Membership: Tom Walsh, 501 East 19th Avenue, Coal Valley, IL 61240



CYATHOCRINITES

MID-AMERICA PALEONTOLOGY SOCIETY

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

Dated Material - Meeting Notice

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