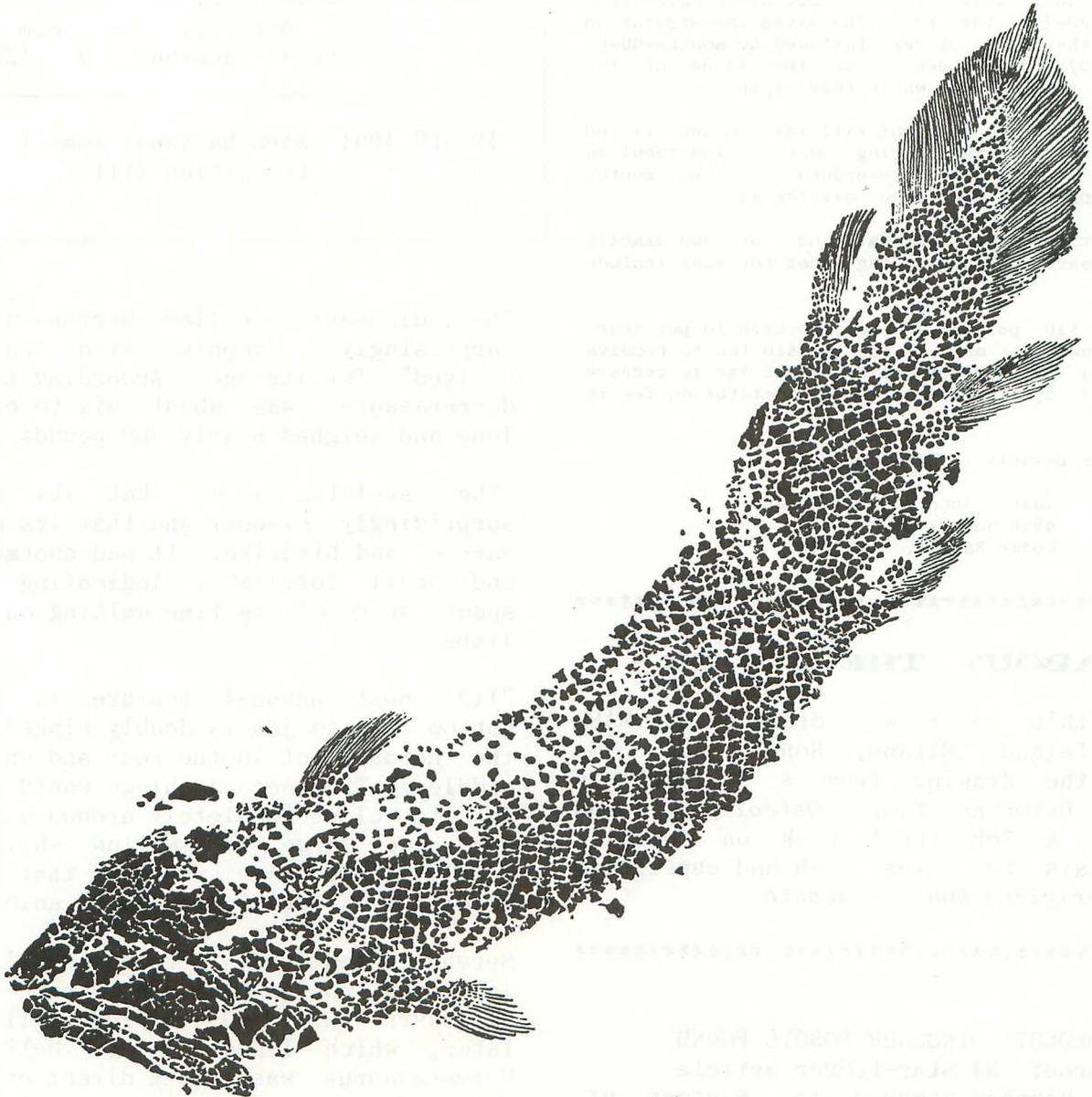


M.A.P.S. *Digest*

Official Publication of
Mid-America Paleontology Society

Volume 13 Number 3
March, 1990



MARK YOUR CALENDARS

23 MAR MAPS MEETING at the Cedar Valley Rocks & Minerals Society Show, IBEW Hall, 1211 Wiley Blvd. S.W., Cedar Rapids, IA.

1:00 Board Meeting

20 APR MAPS National Fossil Exposition
21 XII - Leaves and Grasses
22 Student Union, Grand Ballroom, Western Illinois University, Macomb, IL

Fri., Apr. 20: 8am - 7pm
(Dr. Francis Hueber, from the Smithsonian, will give the keynote speech on paleobotany)
Sat., Apr. 21: 8am - 5pm
(Business meeting and auction following)
Sun., Apr. 22: 8am - 3pm
(Plant Seminar: 9 - 12:30)

***** 90/03 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--90/03 means 1990/March. Dues cover the issue of the *Digest* for the month in which they expire.

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

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

Dues are \$10 per U.S./Canadian household per year. Overseas members may choose the \$10 fee to receive the *Digest* by surface mail or a \$25 fee to receive the *Digest* by air mail. Library/Institution fee is \$25.

Make checks payable to MAPS and mail to:

Sharon Sonnleitner, Treas.
4800 Sunset Dr. SW
Cedar Rapids, IA 52404

ABOUT THE COVER

This month's cover was drawn by new MAPS member Leland Miyano, Honolulu, HI. He adapted the drawing from a 5 inch long Scottish Devonian fish, *Osteolepis*, found in Simon & Schusters' book on fossils. Leland says he loves fish and especially *Crossopterigians* and *Coelacanth*s.

'OLDEST' DINOSAUR FOSSIL FOUND

source: NJ Star-Ledger article sent by Stephen Tomchek, Jr., Neptune, NJ

University of Chicago paleontologist Paul Sereno has found the oldest known dinosaur in the foothills of the Andes Mountains near San Juan, Argentina.

19 APR 1991 MAPS National Fossil
20 Exposition XIII
21

The dinosaur, called *Herrerasaurus*, is surprisingly "sophisticated and well-evolved" for its age. According to Sereno, *Herrerasaurus* was about six to eight feet long and weighed nearly 300 pounds.

"The skeleton shows that its neck was surprisingly slender and that its skull was narrow and birdlike. It had enormous claws and small forelimbs, indicating that it spent much of its time walking on its hind limbs.

"Its most unusual feature is that the bottom of its jaw is doubly hinged--once at the normal spot in the rear and once in the middle. The second hinge would allow the jaw to close completely around a prey that was too large to swallow whole." The doubly hinged jaw suggests that it preyed upon live, struggling types of animals.

Sereno noted that *Herrerasaurus*' type of jaw did not appear in other types of dinosaurs until 50 to 100 million years later, which leads him to believe that *Herrerasaurus* was not a direct ancestor of later dinosaurs, but rather a little branch off the direct line.

Included in the find were "little, tiny ear bones and even little plates in the iris of the eyes," according to Sereno.

EXPO XII--LEAVES AND GRASSES

This is the last *Digest* before EXPO. The next issue will be the EXPO issue, which comes out at EXPO and will be mailed from there to all members not in attendance. Maggie Kahrs, EXPO *Digest* editor, reports that the EXPO issue is just about ready to go to press and already has over 100 pages. The next regular issue of the *Digest* will go out around June 1.

Tom Walsh reports that the Sunday morning plant seminar is full and a waiting list has been established. Most of the tables have been taken, but there is still display space available. All Union rooms have been taken.

Word comes from Gerry Norris of additional housing available. There is another motel in Macomb near the Time Out motel (she thinks the name is Super 8). Double occupancy in one bed is \$35.00. Phone: (309) 836-8888. There are also rooms available in Olson Hall (about 3-4 blocks from the Union). They are dorm rooms with baths on the same floor; towels and bedding are supplied. Single occupancy is \$13.10; double (twin beds) occupancy is \$22.50. Phone: (309) 298-3500.

Another note about a new Illinois law. This one requires that all persons **driving** in the state carry proof of auto insurance. If you are stopped for any reason and cannot show proof of insurance, you may be fined up to \$500. Consult your local insurance agent for the proper paperwork if you plan to drive to EXPO.

April 20-22 is really just a short time away now. We look forward to seeing many of you at another great EXPO!

ANY ARCHEOCYATHIDEA OUT THERE?

Larry Wiedman, a professor at Monmouth College in Monmouth, IL, hosted the February MAPS meeting and gave a presentation on his work with trace fossils (see related article starting on page 3). He also mentioned that he is looking for Archeocyathidea (Cambrian only) specimens for the College's collection. If anyone can help him out, contact Larry. He's in the Directory.

SPECIMENS WANTED FOR STUDY

Paleontologist Michael Henderson is seeking specimens of *Palaeocampa anthrax*, a Pennsylvanian age Annelid or Myriapod from the Mazon Creek area of Illinois. Any collectors who believe they may have a specimen which they would be willing to loan please contact:

Michael Henderson
 Burpee Museum of Natural History
 737 N. Main St.
 Rockford, IL 61103
 (815) 965-3132

SEDIMENTARY NOTES

Leslie Harris, Sarnia, Ontario, Canada, writes: I have only missed a couple of EXPOS since they were started, but this year I am going to England to attend a reunion for the forty-fifth anniversary of our release from a German prison camp. It is being held on the same date as EXPO 90. I am going to miss meeting old friends and making new ones and bringing home more good fossils than I take down to trade and sell.

ADVERTISING SECTION

Ads are \$3.50 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 \$3.50 size.

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A GEOLOGIC MYSTERY

Trace fossils in Antarctic rocks help paleontologists understand, and interpret for others, Earth's history

by Rodney M. Feldman and Lawrence A. Wiedman

This article originally appeared in the winter 1985 edition of Earth science and is republished here with the permission of Larry Wiedman, MAPS member and geology professor at Monmouth College, Monmouth, IL

In a good detective story, clues are observed facts that can be linked together to unravel a mystery and reconstruct surrounding events. In the classic "whodunit" the solution is not revealed until the very end. In like fashion, fossils are clues that can be used to solve geological mysteries. There were no eyewitnesses millions of years ago when the preservation of fossils occurred, so these paleontological clues are valuable tools for reconstructing Earth history.

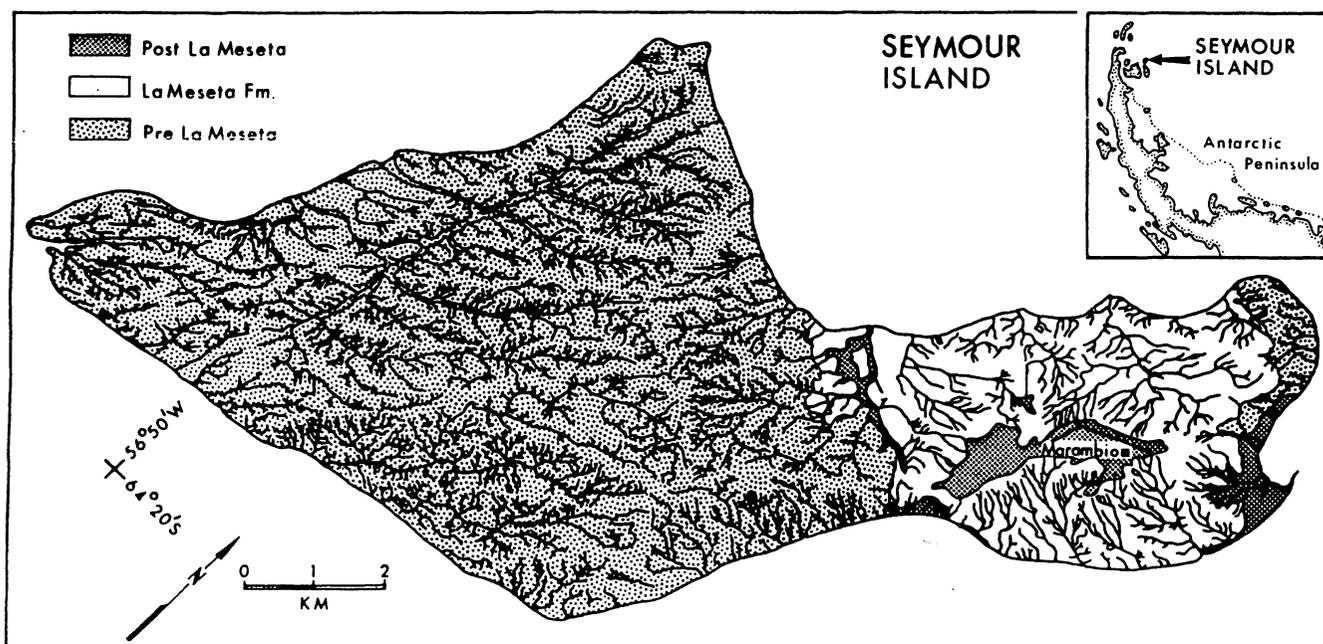
Fossils provide direct, indirect, and sometimes misleading information. In all cases, the description of Earth history depends on our ability to identify and interpret fossil evidence. Ultimate conclusions must be based on the majority of evidence. Evidence may even point to rejecting or reinterpreting some clues.

Since many of the organisms now preserved as fossils lived before the evolution of man, we will never know if our interpretations are correct in every

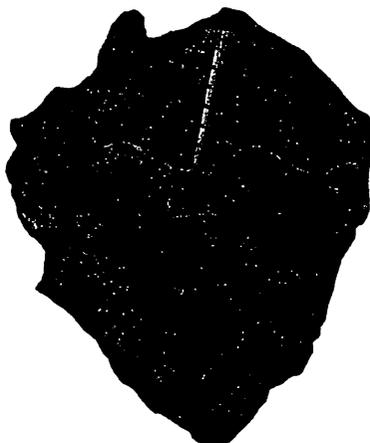
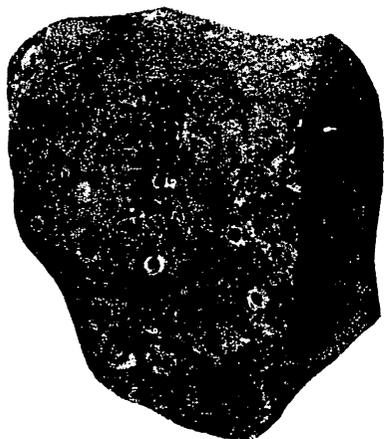
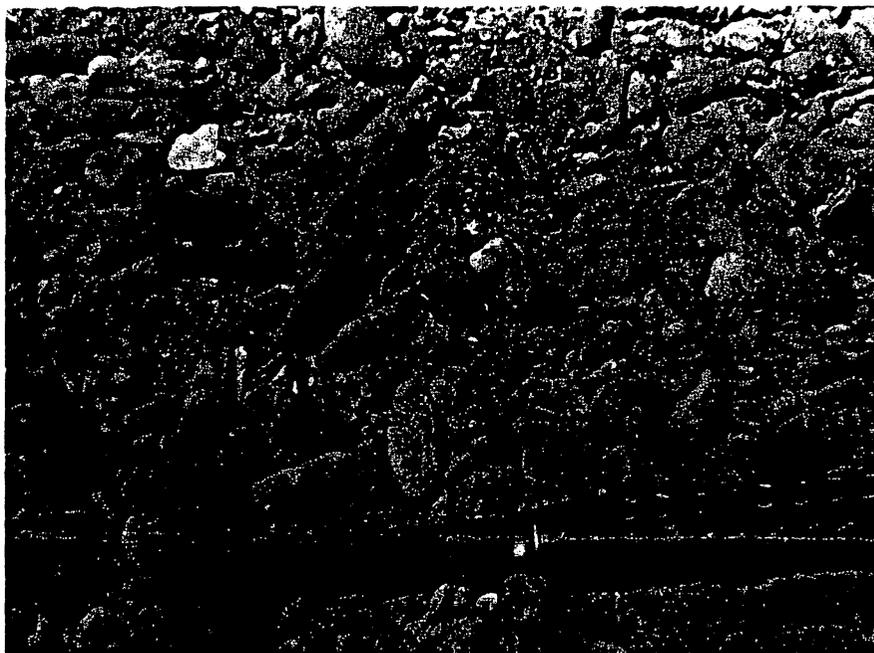
detail. Instead, we might view the paleontologist's interpretations as a series of guesses or approximations--approximations that are revised when new information is found. When more fossils are collected or there is new information about the ecology or geographic distribution of fossils, interpretations may change.

Trace fossils are one type of remains that have been used to interpret paleoenvironments and history. They include a wide variety of tracks, trails, burrows, footprints and marks that show the activity and movement of organisms and differ from the more familiar body fossils in many ways.

The most obvious difference is that trace fossils do not include the actual physical remains of the organism that made the trace. Instead, they might be thought of as "fossilized behavior" because they are marks that record the animal's walking, resting or feeding activity. Another



Seymour Island, located near the tip of the Antarctic Peninsula, has rocks that vary in age from Late Cretaceous to Pleistocene. The La Meseta Formation is Eocene in age and contains many fossils, including a variety of trace fossils. (Map by Rodney M. Feldmann from original by Peter M. Sadler, University of California, Riverside)



Top, at some sites in the La Meseta Formation the ground surface is littered with segments of the trace-fossil tubes *Ophiomorpha* and *Thalassinoides*. The crab *Lyreidus* (left) is found in great numbers in the same area and may have made the tubes. (Photos by Rodney M. Feldmann)

Bottom left, *Skolithos*, seen here in oblique view, are slender tubes that penetrate the rocks perpendicular to bedding planes. (Photo by Rodney M. Feldmann & Lawrence A. Wiedman)

Bottom right, *Helminthopsis*, typically associated with quiet deep-water settings, is found with shallow-water remains in the La Meseta Formation. (Photo by Rodney M. Feldmann & Lawrence A. Wiedman)

important difference is that, unlike body fossils, it is impossible to move tracks, trails or burrows. In many cases the trace fossils are simply impressions in soft sediment that were buried and preserved on bedding surfaces in sedimentary rocks.

Although many trace fossils do not give us direct evidence about the animal that made the trace, they do document the precise location and environmental setting in which the animal lived. For that reason and because an increasing number of paleontologists have become interested in the origin and implications of trace fossils, they have become important clues.

For example, trace fossils are now being used to interpret details of paleoenvironments in rocks of Eocene age in Antarctica. Body fossils, including clams, snails, crabs, barnacles, sea urchins and brittle stars, have been collected from

rocks on Seymour Island near the northern end of the Antarctic Peninsula (see *Earth science*, spring 1984). The expedition took place in December 1983 and January 1984 (Antarctic summer) and trace fossils were also gathered that will help interpret details of the environment in the Antarctic Peninsula region some 40 million years ago. It will take years to analyze all the material.

Results to date suggest some fascinating and remarkable fossil associations. Many of the body fossils of clams, snails, and crabs are remains of organisms that probably lived in shallow-water nearshore marine environments. Other clams, crabs, and brittle stars are closely related to living organisms that inhabit deep-water environments in today's oceans. As a result, the paleoenvironmental clues of different body fossils give conflicting information.

The data can be interpreted many ways. Fossil assemblages might represent a variety of environments where some fossils have been moved from their living sites to their final site of deposition. Another, and more reasonable suggestion, is that organisms lived together in a shallow-water environment during the Eocene, but their descendants were adapted to different, deep-water environments. Examination of body fossils makes that interpretation more likely, because of the large number and wide variety of organisms that would have had to have been moved from one environment to another to produce the assemblage on Seymour Island. More important, many of the deep-water animals are preserved as entire, unbroken, and unabraded specimens. That would not be the case if they had been moved.

Where body-fossil evidence seems to give conflicting information, trace fossils can help solve problems. They are valuable as an independent test of interpretations.

We have identified 17 kinds of tracks, trails and burrows and are now working on their descriptions and interpretations. A look at a set of contrasting fossil types from our data shows how that data can be used to interpret environmental conditions. The fossils are mostly oriented perpendicular to bedding. The generalization has been made that in shallow-water habitats characterized by high wave energy and shifting, unstable sea-floor conditions, animals tend to burrow into the sea floor for shelter. In quieter and deeper water, animals may excavate shallow dwelling burrows, but the dominant trace types are parallel to bedding. No single trace can be used to interpret environmental conditions conclusively, but the sum of information is a powerful interpretive tool.

Two of the most common fossil types, *Ophiomorpha* and *Thalassinoides*, best show how trace fossils are used. The 2 forms occur abundantly throughout the middle part of the Eocene rock unit on Seymour Island. Both are tubular structures, up to a few centimeters in diameter, and both occur as broken segments as much as 20 centimeters long. *Ophiomorpha* has a knobby surface; each knob or node is 3 to 4 millimeters in diameter. *Thalassinoides* has an

irregularly ornamented surface.

Trace fossils assigned to these 2 genera have been identified in rocks from all geologic periods and have been thought to represent everything from fossil seaweed (the original interpretation) to arthropod burrows. In a classic paper in 1964, Robert Weimer and John Hoyt showed that the modern ghost shrimp, *Callinassa major*, made burrows identical to those of *Ophiomorpha* in today's intertidal and shallow subtidal environments. Vertical burrows with knobby or irregularly ornamented surfaces are typical of shallow-water conditions and are often produced by some kind of marine arthropod.

It is possible that the Eocene specimens or *Ophiomorpha* were produced by a callinassid shrimp, since a few specimens of the claws of ghost shrimp have been found in the formation. On the other hand, they do not occur in the same part of the rock unit as the trace fossils. Instead, another crab, *Lyreidus*, is found with *Ophiomorpha* and *Thalassinoides*. Furthermore, *Lyreidus* is about the right size to have produced the burrows and probably is a burrowing form today. The fascinating point is that *Lyreidus* now lives in water from 60 to several hundred meters deep. Geologists generally consider that depth to be a deep-water environment. This dilemma--finding the deep-water body fossil of a crab near shallow-water arthropod burrows--may be resolved by concluding that *Lyreidus* lived in shallow water and produced abundant vertical burrows during the Eocene and that it migrated later to deeper water habitats. Other possibilities exist, but there are no tangible clues to support them.

In the case of *Ophiomorpha* and *Thalassinoides*, we may have identified the organism that produced the traces. That identification would reinforce and strengthen the conclusion.

In many cases the trace maker is either unknown or not represented by recognizable hard-part remains. *Skolithos* is one such example. The relatively small, straight, lined, and vertical tubes have been identified in rock units ranging in age from Cambrian to Recent. The organisms thought to have produced *Skolithos* are

believed to be some kind of worm-like organism that lacked a skeleton and so would not have been preserved.

In modern marine environments a variety of worms and worm-like organisms produce small, lined, vertical burrows. Although all vertical burrows that fit this definition could not have been produced by the same or similar organisms, we can conclude by direct observation that the overwhelming majority of small, closely packed vertical tubes are produced by inhabitants of extremely shallow-water moderate- to high-energy environments. Thus, the presence of *Skolithos* in the Eocene rocks of Antarctica provides another clue to the argument that shallow-water conditions prevailed when the sediments were deposited.

Other trace fossils collected from the rocks reinforce that interpretation. The more clues or evidence scientists find to support a theory, the greater the probability that their theory is correct.

However, a single specimen of trace fossil collected from the rocks seems to give completely contradictory evidence. The form, called *Helminthopsis*, is a readily identifiable meandering trace fossil identified previously only from deep-water

deposits. *Helminthopsis* has been found worldwide in rocks ranging from Ordovician to Tertiary age. We could conclude that this specimen indicates a deep-water setting. However, in this case, that is probably not correct. Most evidence seems to point to shallow-water origin for the rocks and shallow-water environments for most of the body fossils and almost all of the trace fossils. Perhaps *Helminthopsis* represents a feeding trace in a protected, quiet water refuge in an otherwise wave-swept area.

The bulk of clues about the history of Eocene rocks on the island would seem to point to a shallow-water origin. Those clues were found by examining body fossils and interpreting the lifestyles of animals they represent. The clues are supported by trace-fossil evidence, the remains produced by the activity of organisms. The abundant trace fossils in the unit will help us unravel the geological mystery.

Support for this work was provided by a grant from the National Science Foundation to William J. Ainsmeister and by NSF grant. DPP8411842, to Rodney M. Feldmann

This article was prepared in cooperation with the Paleontological Society.

BOOK REVIEW

WONDERFUL LIFE--by STEPHEN JAY GOULD

by B. L. Stinchcomb, Mehlville, MO 63129

Like those of Mark Twain, that other superlative writer who occasionally dabbled in geologic topics, the writings of Stephen J. Gould can be read on multiple levels. Rarely does a book on paleontology other than the coffee-table, color picture book surface in the marketplace of bookstores. *Wonderful Life* is chock full not only of interesting and potent information dealing with fossils and evolution, but of such topics as the pecking order of science, history and a number of other goodies.

Fossil aficionados will find much of interest in *Wonderful Life*. Besides the fascinating Burgess Shale fauna itself, there are ventures into the pit 11 soft-bodied faunas, the Ediacarian and Tommotian and, of course, references to the fossil

record of ruling reptiles and man. Gould's ability to present complex and convoluted evolutionary arguments in simple terms shines boldly here. His expose of unconventional evolutionary patterns (his "tree" of evolution versus the "cone") as deduced from the fossil record, makes fascinating reading. Gould relays how the values and social attitudes of Charles Walcott (discoverer and first interpreter of the Burgess shale fossils) profoundly influenced how this fauna, so rich in extinct body plans, would be interpreted (as a collection of segmented worms). Gould relays how recent reinterpretation of the fossils has led to an entirely different, and much more fascinating scenario of the "progression" of life. For those with an interest in fossils, be it avid collector, connoisseur of fossils as natural objects-de-art or scientist, Gould's book is a must: \$19.95, W. W. Norton and Co.

BLM RULEMAKING FOR FOSSIL COLLECTING ON FEDERAL LANDS

by John Boland, MAPS member

A previous article outlined the ten National Academy of Science recommendations used by the negotiators at Boulder, CO, to draft an agreement for collecting fossils on federal lands. The final draft (except for #5 on commercial collecting) has obtained consensus agreement. Item #5 will be negotiated in the next several months. Once a regulation or regulations for BLM or USFS have been developed, the Federal Interagency Paleo Group will urge other Federal land management agencies (Corps of Engineers, Bureau of Reclamation, US Fish & Wildlife, National Park Service, etc.) to adopt (as far as possible) consistent regulations.

Before these recommendations become approved federal regulations, the final draft will be submitted to the Department of Interior (Secretary Manual Lujan), Office of Management and Budget, Legislative Council, other Federal Agency review (see above) (reviewed in 30 days by law), and **filed in the Federal Register for public comment. The BLM agrees to provide a 60-day comment period and USFS will provide 90 days to notify members and receive their comments.**

The BLM will provide the participants of the negotiating group with the date and content of regulations that will appear in the Federal Register. It is important that we NETWORK to inform all clubs so comments can be sent within the time limit. There are organizations that will be providing negative comments about amateur collecting particularly surface collecting of vertebrate fossils without a permit. Final draft rules on fossil collecting for scientific, recreational, and educational purposes (not for resale) will be discussed in detail next month. Collecting fossils for resale will be discussed when the final negotiated rules are completed.

The BLM will circulate to its State and District offices a memo which provides names, addresses, function, and expertise of various professional and regional amateur paleontological societies which may be useful to land managers. The basis of this list will be Appendices G and H of the NAS report *Paleontological Collecting*.

Added details on several of the 10 NAS recommendations approved:

ITEM #4. Fossils of **scientific significance** should be deposited in accredited institutions where there are established research and educational programs in paleontology. These repositories will ensure that specimens are accessioned, maintained and remain accessible/available for study and education. "Accredited institutions" refer to public or private organizations which have established fossil collections such as colleges, universities, state geological surveys, and museums (not required to be in state where found, i.e., in conflict with current state laws in UT, MT, WY, ND, and IL).

ITEM #7. In specific areas with known fossil resources and where there will be significant development or disturbance, the fossils should be inventoried at appropriate intervals. On the 270 million acres of BLM land, the establishment of quarries, mines, power lines, gas and oil lines, and roads requires identifying fossil resources. Areas containing fossils of significant scientific value that require special management attention will be designated "areas of critical environmental concern"--ACEC. Special rules will be developed, such as closing the area to collecting except under permit.

ITEM #10. The paleontological societies of the nation should develop permanent and broadly-based educational programs to inform landowners and commercial and amateur collectors of the research needs of professional paleontologists. The federal interagency working group will look into ways of educating the public and disseminating available materials. Possible means include short courses offered by federal agencies and professional societies, articles in amateur groups' newsletters, and programs in museums.

Please ADD the Following NEW MEMBERS to Your Directory:

Helen Marie Boley
1178 Nottingham
Grosse Pointe Park, MI 48230
313-824-2265

Elementary Science Teacher. Interested in fossil study.

Pearl Burden
R.R. 1, Box 100
Benton, KS 67017

Tom Cesario
P.O. Box 711
Sugar Grove, IL 60554
708-466-1526

Fire inspector. Will trade. Major interest early fossils--Cambrian to Pennsylvanian. Has for trade Mazon Creek flora. Member of CAPS, Lisle, IL. Wants to better pursue his interest in fossils.

John D'Orazio
95 Hill Street
Bloomfield, NJ 07003

Stock Clerk. Will trade. Major interest Cretaceous fossils from the state of New Jersey. Has for trade shark teeth and sea shells. Member of Delaware Valley Paleontological Soc., Philadelphia. Wants to correspond with other members of the Society.

John Doty
2910 Vermont Ave.
Evansville, IN 47710
812-424-2574

Retired from Bristol Myers. Will trade. Interested in all fossils. Member I.P.S. Wants to keep up on fossils.

Glenn S. Fawcett
P.O. Box 269
Hadley, MA 01035

Vance E. Harris
1812 Oceanview Drive
Bakersfield, CA 92207

Frederick H. C. Hotchkiss
26 Sherry Rd.
Harvard, MA 01451
508-456-8089

Engineer. Major interest echinoderms, especially Paleozoic ophiuroids and asteroids (Asterozoa, for research. Does not maintain a personal collection. Wants to share information about Paleozoic ophiuroids.

Tim Jankens
1850 Rochester Rd. 108
Royal Oak, MI 48098
313-544-3164

Letter Carrier. Will trade. Major interest trilobites, brachiopods. Has for trade trilobites, brachiopods, corals. Wants to expand knowledge and horizons in field collecting.

Jim Keefe
714 N. 9th St.
Monmouth, IL 61462
309-734-5749

School Psychologist. A beginner interested in all areas. Likes field trips & collecting.

Stephen Krispin
6910 Shawn Lane
Paducah, KY 42001

David D. Lauer
34 Tiffany Blvd.
Newark, NJ 07104

Donald V. Mahony M.D.
P.O. Box 159
Kelly, WY 83011
307-733-6075

Retired M.D. Just starting collecting. Wants to know where to hunt fossils, etc.

Nola Nelson
R.R. 1
Rose Hill, KS 67133

Randy R. Patrick
R. 2 Box 212A
Roachdale, IN 46172
317-522-1774

Geology Teacher. Will trade. Major interest Penn. ferns and soft bodied forms. Member Indiana Soc. of Paleontology. Wants to contact individuals with Phalangiotarbid Arachnids.

Mike Triebold
Rt. 2, Box 154
Gibbon, NE 68840
306-468-5274

Self-employed. Will trade. Major interest Cretaceous marine vertebrates--Niobrara. Has for trade fish & reptiles. Interested in fellowship.

James E. & Karen Tynsky
Tynsky's Fossil Shop
201 Beryl
Kemmerer, WY 83101
307-877-6885

Dig & sell fossil fish. No trades. Major interest fish, leaves, insects and mammals. Member A.A.P.S. Wants to keep in touch with others interested in fossils

Please Note the Following CHANGES OF ADDRESS and CORRECTIONS.

Stewart Ashby P.O. Box 186 Floyds Knobs, IN 812-949-1215	Ernest M. Dumas P.O. Box 4087 Tequesta, FL 33469-9087 407-746-4023	Bertie M. O'Connor P.O. Box 1164 Temple City, CA 91780-1164
Mary & John Boland N2047 Valley Road LaCrosse, WI 54601	Ronald W. Fabich 6800 Wolff Rd. Medina, OH 44256	Levi Stermer 307 Westbrook Lane Ames, IA 50010 515-296-2845
Steve Brown P.O. Box 2219 Zanesville, OH 43702	Stephen Farrington 234 S. 44th St. Philadelphia, PA 19104	David Swann 2023 Stein Way Carrollton, TX 75007
Richard P. Castor Glory "B" Fossils 4767 Glory "B" Lane St. Ignatius, MT 59865	Ruth M. Landry 1830 Idaho #4 Green River, WY 82935	Tom Witherspoon 402 Risner St. Crawfordsville, IN 47933-1436
Dan Chlipala 421 Spruce Dr. Schaumburg, IL 60193	Kevan G. Murphy 177 Melrose St. Auburndale, MA 02166-1107	Mr. Jean-Guy Pellerin 2288 De Lorimier Montreal, Quebec CANADA H2K-3X3 514-524-7836

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 \$10.00 per household. Institution or Library fee is \$25.00. Overseas fee is \$10.00 with Surface Mailing of DIGESTS OR \$25.00 with Air Mailing of DIGESTS.

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

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

President: Gil Norris, 2623 34th Avenue Ct., Rock Island, IL 61202
1st Vice President: Allyn Adams, 612 W. 51st Street, Davenport, IA 52806
2nd Vice President: Karl Stuekerjuergen, R.R. #1, Box 285, West Point, IA 52656
Secretary: Jo Ann Good, 404 So. West 11th St., Aledo, IL 61231
Treasurer: Sharon Sonnleitner, 4800 Sunset Dr. SW, Cedar Rapids, IA 52404
Membership: Tom Walsh, 501 East 19th Avenue, Coal Valley, IL 61240



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Cedar Rapids, IA 52404

Dated Material - Meeting Notice