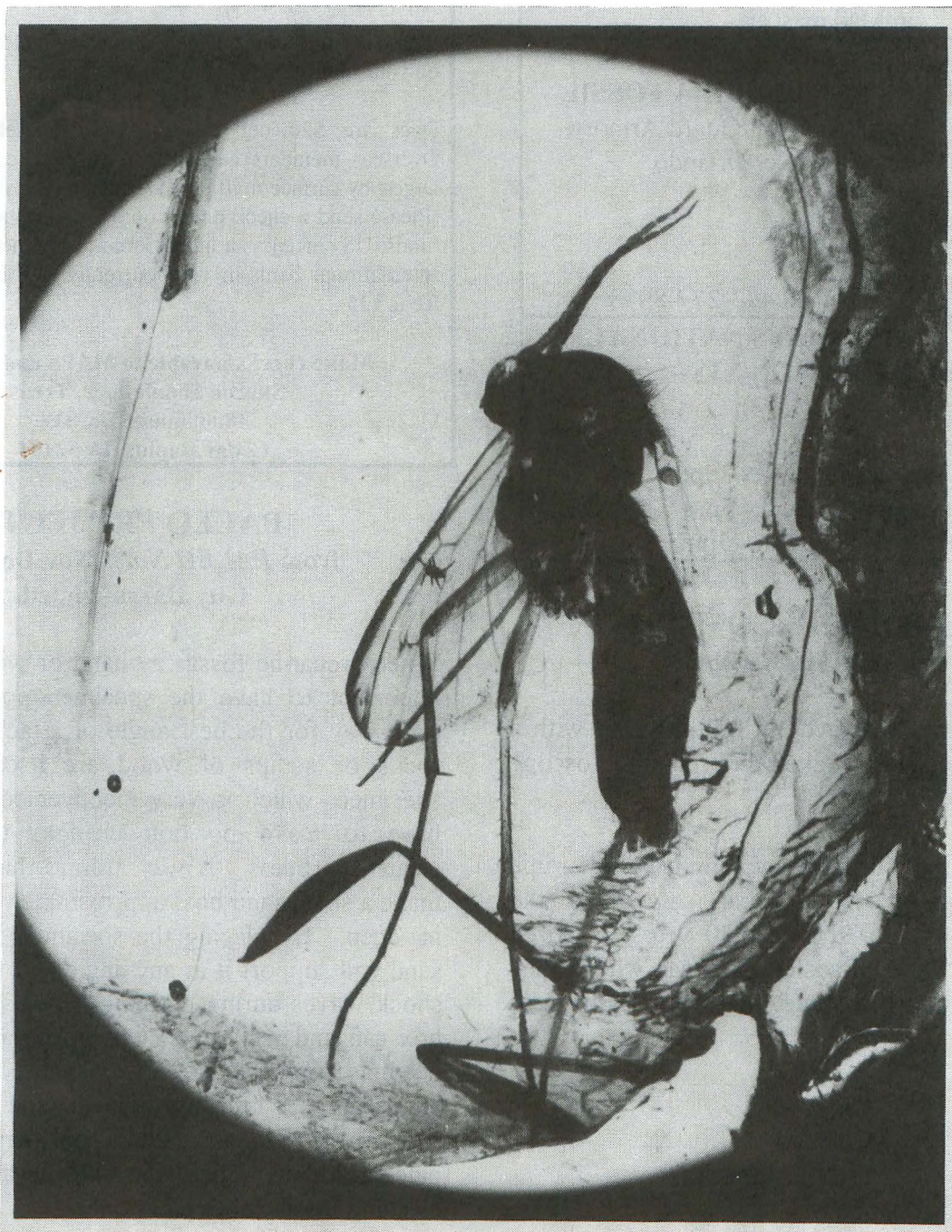


M.A.P.S *Digest*

Official Publication of
Mid-America Paleontology Society

Volume 19 Number 8
November, 1996



A LOVE OF FOSSILS BRINGS US TOGETHER

MARK YOUR CALENDARS

Nov 9 MAPS MEETING. Cornell College
Geology Building, Mount Vernon, IA

1:00 Board & General Meeting combined
2:00 Program: Cornell Geology Professor Ray
Rogers will speak about his experiences
in Madagascar.

**Nov 16 & 17 CENTRAL FLORIDA FOSSIL
FAIR.** Florida National Guard Armory,
2890 S. Ferncreek Ave, Orlando

Sat. 9-6

Sun. 9-4

Contact: Terry Angell 407-277-8978

**Apr 18, 19, & 20, 1997 MAPS NATIONAL
FOSSIL EXPOSITION XIX--
EXTINCTIONS**

Fri., Apr. 18: 8am - 5:30pm

Sat., Apr. 19: 8am - 5pm

Sun., Apr. 20: 8am - 3pm

ABOUT THE COVER

sent by Ruth Kirkby

The cover photo shows a fly in Baltic amber with a mite on the wing. It was taken through a microscope by Edwin Horne.

In 1964, Sam and Ruth Kirkby founded the Jurupa Mountains Cultural Center and served as the executive directors for the next 30 years. Retired now, they live in Scottsdale, Arizona, where they continue research on some of their fossils and writing.

96/11 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--96/11 means 1996/Nov. 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 currently.) Library/Institution fee is \$25.

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

PALEO PROJECTS

from *PALEO Notes* Nov/Dec 1992

Guy Darrough, ed.

When preparing fossils by hand or with air tools, it's important to have the specimen positioned in the right way for the best angle of attack. Many times rocks or scraps of wood are used to prop the specimen, which is very inconvenient, because you have to make position changes throughout the cleaning process. A way around this problem is to make a small sand box, approximately 1 ft. x 1 ft. x 4 in. deep. By placing the specimen in the box, the sand will support it at any angle and will also absorb shock waves during cleaning. The size of the sand box can and will vary. Obviously larger specimens need a larger box. Another method which works almost as well is to use a small sand bag or bags to support the specimen. These tools have been used by paleontologists since the 1700s and will make cleaning fossils more pleasurable.

FROM THE EDITOR

Plans are well underway for the 1997 MAPS EXPO, which will feature Extinctions as its theme. Maggie Kahrs is the EXPO *Digest* editor, so if you can contribute an article on the subject of extinctions and haven't already contacted her, please do so soon.

Warren Allmon, from the Paleontological Research Institute, will be the keynote speaker Friday night.

Some new ideas are being explored for the auction. Plans are to hold a silent auction on the floor Friday and Saturday in addition to the live auction on Saturday night. It is hoped this will give more people a chance to participate in the action and shorten the Saturday night auction.

All registration and housing information regarding EXPO will appear in the January issue of the *Digest*.

ARTICLES AND COVER ART OR PHOTOS WANTED!

As you take to the indoors with the onset of cooler weather, please take some time to pass on some of your knowledge with an article, drawing or photograph for the *Digest*. Any and all fossil subjects are welcome. If something is of interest to you, others are also interested.

You might write about collecting spots, unusual finds, preparation techniques, books of interest, cataloging and display hints, etc.

Drawings or clear photographs of some of your favorite fossils in black and white or color with good contrast make interesting covers for all to enjoy.

Send your contributions to the editor.

MAPS TO PARTICIPATE IN INTERNATIONAL WORKSHOP

MAPS has been invited to send a representative to an international symposium on the state of paleontology in the world. At a time when paleontology is undergoing a period of unprecedented progress, funding for academic and government research and staff positions continues to decline worldwide. The workshop, to be held in Frankfurt, Germany, in August 1997, is entitled "Paleontology in the 21st Century" and will address the future of paleontology. It is sponsored by SEMP, AASP, Paleobotany Society and provisionally so at present by the Paleontology Society.

MAPS member Chris Cozart will be the Topic Coordinator in the area of Independent Paleontologist (Amateur Paleontologist) and will select two additional people in the world to: attend the conference, assist him in representing the topic, and assist him in leading discussions at the workshop. He will also prepare a short document for publication on the state of the Independent Paleontologists, lead a discussion at the conference on that topic, and prepare any follow-up articles for publication after the conference. John Catalani will assist him in preparing the paper.

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WINTER MEETINGS

Due to a conflict for many of the officers in March, the two winter meetings will be held on the second Saturdays of January and February instead of January and March. The January meeting will be a lunch meeting at the Cove near West Branch, and the February meeting will feature a speaker from the University of Iowa.

NEW FIND OF EARLY SILURIAN EURYPTERID IN NEW YORK**by Samuel J. Cieurca, Jr., Rochester, New York*****Early Silurian Eurypterids, Whirlpool Formation (Ridgelea Bed), of the Niagara Falls Region.***

Early Silurian rocks of western New York consist primarily of siliciclastic sediments that originated from a generally southeast source during the Taconic Orogeny. The Whirlpool Formation forms the base of the Silurian and consists of fine-grained white quartz sandstone with interbeds of flatpebble (shale) conglomerates. Thin units of greenish-grey shale, varying from seams to thin beds up to 15 cm thick, occur within the upper half of the Whirlpool Formation. The entire formation reaches a maximum thickness of 8 m. *Lingula* is the most important macrofossil found in the Whirlpool Formation, though the abundance of trace fossils indicates the presence of many marine forms.

In one interbedded shale bed, termed the Ridgelea Bed (Cieurca, 1994 RAS Abstracts) for a nearby locality, remains of a small eurypterid were encountered. These consist of isolated, but very well preserved, carapaces, tergites and sternites tentatively identified as belonging to a hughmilleriid. The new occurrence is actually not unusual since a

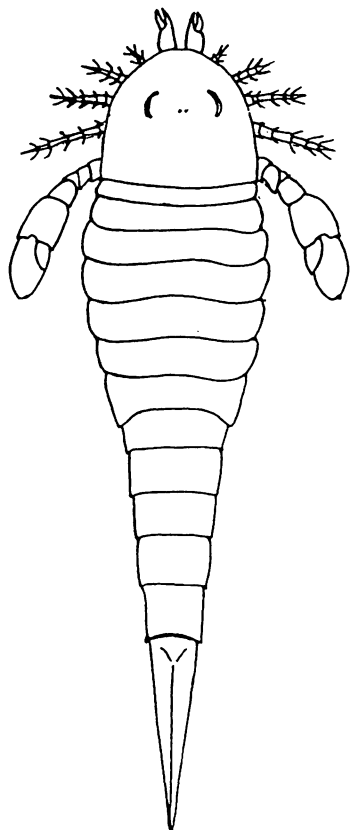
diverse fauna has been known for many years in shales intercalated within the Sawangunk Formation sandstones and conglomerates in southeastern New York (see Clarke and Ruedemann, 1912). The new occurrence is very important, however, because we may finally be able to begin to correlate some of the Early Silurian eurypterid occurrences when details of the new fauna are fully known.

While eurypterids have rarely been reported from rocks low in the Silurian section, eurypterid remains have long been recognized in a dolomitic unit at the Ordovician-Silurian boundary in Ontario, Canada. Recently, eurypterid remains have also been reported from the Maplewood Shale, Clinton Group at Rochester, New York (Cieurca, 1989 RAS Abstracts), and higher in the section at Niagara Falls (Cieurca, 1989 RAS Abstracts p. 2). Undoubtedly, new eurypterid horizons will be found in Early Silurian rocks. The very thick arenaceous Early Silurian sequences of Pennsylvania will undoubtedly yield a close relative of the new find described herein.

(See illustration on page 4.)

REFERENCES

- Cieurca, Samuel J., Jr., 1989 A Silurian Fauna from the Maplewood Shale, Clinton Group, Genesee River Gorge Rochester, New York, Rochester Academy of Science Abstracts, Sixteenth Annual Fall Scientific Paper Session, State University College at Brockport, N.Y. p.3.
- Cieurca, Samuel J. Jr., 1989 Discovery of an Eurypterid at Niagara Falls: Silurian Lockport Group, Niagara River, New York, Rochester Academy of Science Abstracts, Sixteenth Annual Fall Scientific Paper Session, State University College at Brockport, N.Y. p. 2.
- Cieurca, Samuel J. Jr., 1994 Eurypterids from the Early Silurian Whirlpool Formation (Ridgelea Bed), Western New York State, Rochester Academy of Science Abstracts, Twenty-first Annual Fall Scientific Paper Session, Nazareth College, Rochester, N.Y. p. 7.
- Clarke and Ruedemann, 1912 The Eurypterida of New York, New York State Museum Memoir, 2 volumes.



*Whirlpool Hughmilleriid Ridgelea Bed Whirlpool
Formation, Niagara Falls Region
(preliminary reconstruction, S. J. Czurca*

THE EYES HAVE IT

by Marc Behrendt

(previously printed in *Trilobite Times*)

On a recent trip to several Ontario quarries, I had the pleasure to meet six other collectors. Each had his own individual style of looking for trilobites. All were successful. Always looking for ways to improve my own collecting skills, I observed their collecting styles. The bottom line is--is the brain receiving what the eyes are seeing?

The majority of collectors work among the blast piles bent over or on hands and knees, searching for intact trilobites. Some look only at exposed

rocks, some examine side and flip sides as well. These methods are successful, especially if the blast was recent and the material has not been collected thoroughly. If previously collected, the hidden sides should be checked out or rocks split, if possible.

Usually a large amount of dust settles over freshly dynamited material. Unless a hard rain or favorable wind washed the dust away, vision is hampered by the coating. Many collectors carry a scrub brush to brush off each rock. A jug of water poured over a suspicious rock and brushed will improve visibility even better.

A collector who found easily twice as many complete trilobites as anyone else one day showed me the key to his success. He used a scrub brush, and was suspicious of any variations within the rock. He then showed me an *Isotelus pygidium* about an inch wide. I was not impressed, and began to think he was collecting only pieces parts. He saw my skepticism, pulled out a dental pick, and proceeded to expose several thoracic pleurae and part of the cephalon. I was stunned! He then found a *Ceraurus* cephalon, and told me it was a complete specimen. I asked him how he can tell, and he answered the rock just didn't conform to its typical pattern. There were no elevated clues showing the entire shell was there, just a subtle unconformity. He stated about a third of all the "suspicious" pygidia and cephalons turn out to be complete.

It was late the last day when I saw this demonstration, so I have yet to attempt this skill. But I now realize that I must look closer at specimens that appear to be incomplete. How many complete trilobites have I passed over assuming they were debris? I'm not sure I want to know.

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CONSOLIDANTS

by Russ McCarty

from Florida Paleontological Society Newsletter, Spring Quarter 1996, via
Paleo Newsletter, 9/96

Consolidants or hardeners are often the collector's first line of defense against deterioration of the specimens in their collection, especially those composed of poorly mineralized sub-fossil bone often found in Pleistocene deposits. By definition, a consolidant is a resin which has been dissolved in a solvent. Common solvents are water, acetone, alcohol, and toluene. Consolidants are purchased in two forms: 1) pure resin, 2) emulsions.

Pure resin consolidants are resins dissolved in a solvent, such as Butvar (polyvinyl butyryl) granules dissolved in acetone. These consolidants should only be used on dry specimens, since even a small amount of moisture in the specimen can react adversely with the consolidant, destroying its desired properties.

Museums in the U.S. and Europe stick with a few tried and true consolidants which are known to have a low tendency for cross linking and

which do not lose their consolidant properties over time. Chief among these is polyvinyl butyryl (Butvar), a thermoplastic resin, and Acryloid B-72, and acrylic resin. PVA (polyvinyl acetate), used as a pure resin is still available, but most users have switched to Acryloid B72, which is harder, more durable, and exhibits less flexibility. Pure resins are mixed with their solvents to form a very thin, watery solution which is then applied to the specimen (or the specimen is immersed in the solution). I stress **thin and watery**. The idea is to get the resin where it's needed, and in order to penetrate the specimen's surface and carry resin down into the interior of the fossil bone, the consolidant must be thin or else it will be deposited on the surface of the bone only, like shellac or varnish used in the past. Those treatments may have protected the surface, but did little to strengthen the whole bone.

The second class of CONSOLIDANTS, the emulsions, are mainly used to treat wet or moist

specimens. Emulsions are suspensions, in water, of a resin and solvent solution, and like Elmer's Glue, a popular polyvinyl acetate emulsion, are generally white, milky mixtures. As consolidants go, emulsions are not as desirable as pure resins. It is hard to reverse emulsions once they have dried, and virtually impossible once they have cross-linked with exposure to UV light from sun or fluorescent bulbs. Emulsions also have a tendency to turn yellow with age and cross-linking. But, these negative aspects aside, there is no better treatment for soft, wet bone. Brand names such as Rhoplex AC33, CM Bond M3, and Union Carbide's AYAF, are all good general purpose PVA emulsions. They are normally mixed with water in a ration of 15 to 20 parts emulsion to 85 to 80 parts water. This mixture can be brushed on the bone, or the specimen can be immersed in the consolidant mixture. As I mentioned, Elmer's Glue, is a type of polyvinyl acetate emulsion, and could be used on wet specimens.

Because proprietary (commercial) brands such as Elmer's generally keep their formulas secret, and even periodically change their formulas, museum

conservators do not like to use these commercial PVA emulsions. However, Rhoplex, CM Bond M3 and Union Carbide AYAF PVA emulsions are specifically designed and sold for conservation purposes and should be used when possible.

When considering the possibility of using consolidants on a specimen, the collector should remember that not all specimens need consolidation. One of the axioms of conservation is: Minimal intervention is best; in other words, do as little as possible to a specimen that will change its nature. And when dealing with **sturdy** wet specimens, the best approach may be to place the specimen in a slow drying chamber, rather than treating the specimen with a water based emulsion resin like Rhoplex or CM Bond M3.

All of the products mentioned above are available from Conservation Materials, Ltd., 240 Freepoint Blvd., Sparks, NV 89431.

**Minimal intervention is best...
do as little as possible to a specimen
that will change its nature.**

BOOK REVIEWby **Bob Sinibaldi, Ph.D.**From *Tampa Bay Fossil Chronicles*, 10/96

Frank Kocsis, Jr., ed.

Ever Since Darwin: Reflections in Natural History, 1997, Stephen Jay Gould, 285 pages, ISBN 0-393-30818-9, \$9.95 retail (paperback).

If you've never read a Stephen Jay Gould book, treat yourself and do it. *Ever Since Darwin* is the first in a continuous series of books. Each book is a collection of monthly essays that first appeared in *Natural History Magazine*. Gould has re-arranged the essays in each book around central topics such as Darwinia, Human Evolution, Theories of the Earth, etc. Each chapter then has between three to five essays about the subject. The regrouping of the essays into topics adds to each book's continuity, rather than publishing them in the chronological order they first appeared in *Natural History*.

There are seven of these books so far: *Ever Since Darwin*, *The Panda's Thumb*, *Hen's Teeth and Horse's Toes*, *The Flamingoes Smile*, *Bully for Brontosaurus*, *Eight Little Piggies*, and *Dinosaur in a Haystack*. Every one of these books is a treasure. Each essay, although loosely collected within a chapter under a heading, is a complete story unto itself. Usually between five and ten pages each, the essays make great reading that can be completed in a single sitting and then reflected upon. Gould is a master at making evolutionary science accessible to the layman.

Gould is a professor of Biology, Geology, and the History of Science at Harvard University. His theory of punctuated equilibria published with Niles Eldridge has helped redefine what was once thought as gaps in the fossil record and how we view the pace of evolution. Gould's own pride lies in that he has not missed a monthly essay deadline since 1974 (including continued work through a serious bout with cancer).

Of the many topics usually covered in these essay collections, I can't help but favor those on antiquated theories and their dethroned originators (scientists and theorists of the past). With a diplomatic style that many history and science books should take note of, Gould places past theorists and scientists in the political and religious contexts they worked in. These contexts often show the inevitability of their conclusions and explain scientific theories we now think of as foolish as truly break-thoughts for their times. Furthermore, these de-bunked theories and theorists are often important stepping stones toward the truth.

Gould's essays are fast paced, informative, truthful, often humorous, and always contain the latest information on evolution. Essay by essay, example by example, you will gain a better understanding of evolutionary theories through Gould's writings. If I see a Gould book I don't have, I buy it and read it. I recommend you do the same.

♦ ♦ ♦ ♦ ♦

SETTING AN EXAMPLEfrom *Paleo Newsletter* 10/96

Jean Wallace, ed.

(Information by: John Carson, Program Director, Information Systems, School of Business and Public Management, The George Washington University, Washington, DC)

On Wednesday, July 10, 1996, (MAPS member) George W. Powell, Jr., a devoted amateur, donated to the Smithsonian Museum of Natural History the find of a lifetime: an associated dentition of 114 teeth of the *Parotodus benedeni* (4.4 myo). George is a retired deputy fire chief and currently a letter carrier with the US Postal Service.

Upon recognizing the value of his find, George immediately contacted an expert in this field. Professor Brett Kent of the University of Maryland who has now thoroughly studied the find and is publishing his findings (with George as co-author).

As word of his find spread, George was offered large sums of money by "private collectors." George is not

a wealthy man and the money offered would have surely been put to good use. However, George, from the time he found the specimen several years ago, insisted that it belonged in a museum.

In George's acceptance speech, he stated: *While many people refer to the Smithsonian as the nation's attic, I believe it is the nation's schoolhouse, and today's achievements are the foundation of our future. I hope my donation adds to this educational institution.*

The following is the acceptance speech given by David L. Pawson, Associate Director of the museum, which explains, quite clearly and accurately, the value of amateur collectors to the field of paleontology. George has set an example for us all to follow and also has dispelled many of the myths about most amateur collectors whose greatest wish is to make a contribution to the field.

Good afternoon, and welcome to the National Museum of Natural History. We are here today to acknowledge the wonderful gift of Mr. George Powell of Falls Church, Virginia. Mr. Powell is donating to the National Museum of Natural History a splendid assemblage of shark teeth, collected at the Lee Creek Mine in Aurora, North Carolina, the mine operated by the Phosphate Corporation of Saskatchewan. Amateur collectors have formed a long and distinguished line of benefactors of science.

The first dinosaurs were discovered in England by William Buckland, a clergyman, and Gideon Mantell, a physician. The beautiful and the rare specimens that have been donated by amateur collectors have helped to form the nucleus of the great collections that surround us in this museum. Our collections are available for study by future generations--a specimen donated to us today may stimulate a great scientific breakthrough--tomorrow, or 200 years from now.

When I was a college student in New Zealand, my major professor gave me a book, the sixth edition of Lyell's Elements of Geology, published in the 1860's, and a piece of rock containing fossil worm tubes.

This tattered and well-used book, and the worm tubes, had been given to my major professor in 1935 by Frank Hutchinson, a renowned amateur fossil collector. Hutchinson's important collections of fossils grace the holdings of the four major museums in New Zealand. Just a few years ago I was amazed to learn that Hutchinson's lifelong home was directly across the street from the house that I had lived in as a child. Early this year, when back in New Zealand, I trespassed on his property and wandered around in his garden, regretting that I knew so little about the life of this man who, as a dedicated amateur, had done so much for natural science in New Zealand.

Amateur collectors play an increasingly important role in science, most especially in these days of decreasing support of great museums. We who live in museums are greatly appreciative of the work of these talented collectors, and of the admirable activities of fossil clubs; several clubs in the national capitol area are represented here this afternoon. I don't know how these clubs operate, but I would urge them to consider collecting not only fossils, but also information about the lives of their members, thus forming archives that document the collecting in torrential rain, the accidental discovery of that special fossil in the rock that was just tripped over--such human experiences can enliven and enrich the often all-too-clinical documentation of collections.

Cooperation and collaboration between private and corporate property owners and collectors are absolutely vital to the advancement of natural science, by bringing to light specimens of great scientific value, such as we see before us today. Indeed, we are all winners in this situation. Mr. Powell is presenting us with the fossil shark equivalent of the Mona Lisa--something unique and beautiful, that will always be available for study. We in this museum, and the great constituency that we represent, are very grateful indeed to you, Mr. Powell. Thank you very much.

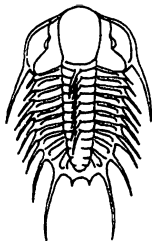
David L. Pawson, Assistant Director
National Museum of Natural History, July 10, 1996.

ADVERTISING SECTION

Ads are \$5.00 per inch. Send information and checks payable to MAPS to: Mrs. Gerry Norris, 2623 34th Avenue Ct., Rock Island, IL 61201. Phone: (309)786-6505. This space is a \$5.00 size.

To extend currently running ads, please send request and remittance to Editor by the 15th of the month. We do not bill. Ads do not run in the EXPO issue (April). Ads can be printed in different sizes of type to fit a 1" space.

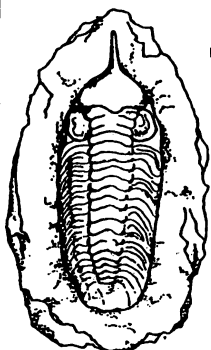
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Albert J. Ingram
 2508 Chandler Road
 Concord TN 37922
 423-539-6656
 423-539-1856

Purebred Cattle Breeder. Will trade later. Major interests field collecting, identification, learning to prepare, and displaying. Member of Ken. Paleo. Soc., Lexington. Wants to meet people who like to collect and share knowledge.

Richard Kirkland
 845 Kincaid Dr.
 Mt. Pleasant SC 29464
 803-884-8820

Retired. Will trade. Major interest collecting & I.D. Has small collection (96). Wants to learn from others.

Please note the following CHANGES OF ADDRESS or CORRECTIONS:

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Mark G. McKinzie
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Robert Rose
 101 Rainbow Drive, Apt. 7581
 Livingston TX 77351

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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