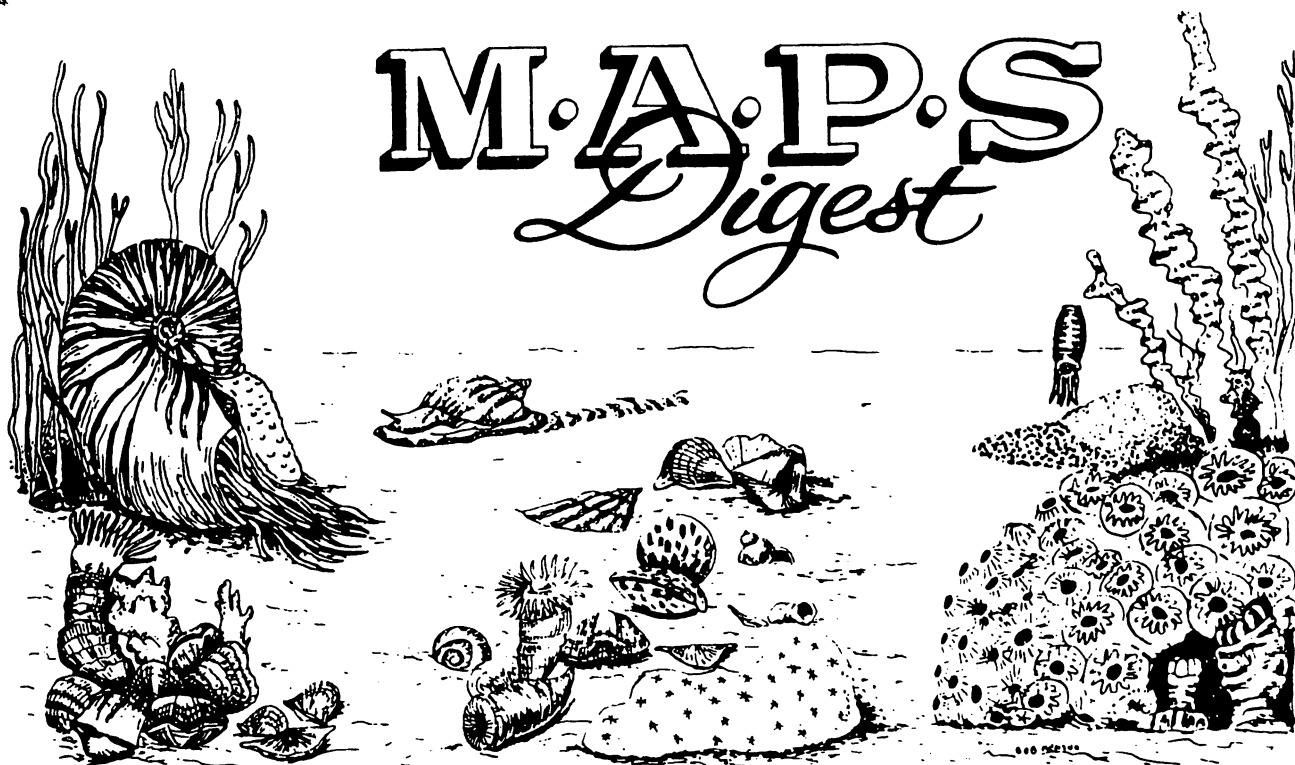


M.A.P.S. *Digest*



Official Publication of
Mid-America Paleontology Society

November, 1983

OPEN LETTER TO MAPS

For me the finding of a good fossil is a very exciting moment, especially after laboring through rock and soil to get to it.

But suddenly I find that my favorite collecting site has been closed, opened, leased, and sub-leased and if I wish to collect it will cost me five dollars with the stipulation that I cannot dig! When was the last time you found good fossils at surface layer?

But the best area has been staked and claimed by someone who has brought out a back hoe and is litterly raping the area of all the good fossils.

It's not a hobby to them, it's not even fun anymore. It's Big Business Fossils! It's all for the almighty dollar of the ten dollar trilobite!

The formation I am speaking of is the Laurel, Waldron Shale Formation of Waldron, Indiana.

I will never stop collecting, but I will never buy a fossil either. After all, isn't the fun of collecting the effort it takes to get to them?

Submitted by Tim Osborne
Indianapolis, Indiana 46229

INDIANAPOLIS PALEONTOLOGICAL SOCIETY/MAPS

A new Paleo Society is born. The statement by Franklin Hadley in the October *Digest*, p. 4 . . . "there is no Paleontological Society in Indianapolis or in Indiana of which I am aware . . ." can now be amended. This will no doubt be an exciting group.

Margaret Kahrs, Seymour, Indiana, is the first President of this new Society. Let us hear from you. Congratulations to all of you. Ah, the Good Ship MAPS serves as a catylist.

MARK YOUR CALENDARS

12 Nov -- MAPS MEETING -- Augustana College
Rock Island, Illinois. Film presentation from Betty Speirs,
Alberta, Canada

11 Nov -- South Central Federation
12 Dallas, TX

13 Apr -- EXPO VI -- Western Illinois University,
14 Macomb, Illinois
15 GET YOUR FOSSILS READY

The last of summer is delight.
Deterred by retrospect.

--Emily Dickinson

TAX FREE CERTIFICATION

In our quest to obtain a tax free certificate from the Federal Government, some of the following changes in the Constitution and By-Laws are necessary to comply with Section 501 (c) (3) of the Internal Revenue Code. Other changes we feel are needed to up date the Constitution and By-Laws.

Changes in the Constitution.**Article 3 -- MEMBERSHIP**

Section 1 -- Membership shall fall into three classes, Family, Jr., and Honorary.
Change to -- Membership shall fall into one class, Family.

Section 3 -- Family members are active members of the immediate family sixteen years of age or over who are interested in the purposes of the Society.

Change to -- Each family member sixteen years of age or older in the same household are entitled to cast one vote per person.

Section 4 -- Jr. members are members age 8 to 16, non-voting.
Delete entire Section 4.

Section 5 -- Honorary members are any individuals deemed worthy of such consideration. Such membership status requires a majority vote at a regular scheduled meeting
Delete entire Section 5.

Article 9 -- AMENDMENTS

Section 1 -- A motion to amend the Constitution may be made by any active member.

Section 2 -- A member shall present the amendment at a regular meeting, at which time the President shall appoint a committee of three members to consider the amendment. The special committee shall make their recommendation to the membership of the Society at the next regular meeting at which time the Society may take action on the amendment.

Section 3 -- Any article or provision hereof may be altered, amended, supplemented or repealed by the affirmative vote of two-thirds of the active members present at any regular meeting, providing the requirements of Section 1 and Section 2 have been complied with.

Delete entire Article 9, Section 1, 2 and 3.

Article 10 -- AFFILIATION

Section 1 -- This Society shall be affiliated with and maintain an active membership in the Midwest Federation of Mineralogical and Geological Societies, and in the American Federation of Mineralogical Societies.

Delete entire Article.

Article 12 -- DISOLUTION

Section 1 -- In the event of the dissolution of this Society, all funds and property of the Society shall be turned over to the Scholarship Fund of the American Federation of Mineralogical Societies.

Change to -- In the event of dissolution of this Society, All funds and property of the Society shall be distributed as provided in the Articles of Incorporation.

Changes in the By-Laws.**Article 1 -- MEMBERSHIP DUES AND FEES**

Section 1 -- Yearly dues shall be as follows: Family \$7.00, Jr. \$5.00, Honorary no-charge.
Change to -- Dues will be assessed by the Executive Board on a yearly basis.

Article 6 -- AMENDMENTS

Section 1 -- Amendments to these By-Laws may be proposed by any active member. The amendment shall be presented in writing to the Executive Board for its consideration before being presented to the Society for approval or rejection.

Such an amendment shall be published in the Bulletin ten days prior to voting.
Change to -- include the words "and the Constitution" after the word By-Laws.

Article 7 -- FISCAL YEAR (new Article)

Section 1 -- The fiscal year for the Corporation shall begin annually on January 1.

These changes will be presented to the membership for approval or disapproval at the next regular meeting at Augustana College, November 12, 1983.

Executive Board

A D V E R T I S I N G S E C T I O N

Ads may be placed in the Digest for \$3.50 per inch (6 lines). Send information and checks made payable to MAPS to: Mrs. Gerry Norris, 2623 - 34th Avenue Ct., Rock Island, IL 61201 Phone 309-786-6505

WANTED: Geological Society of America Memoir 93; Silurian & Devonian Corals of the Falls of the Ohio. E. C. Stumm.

Jim & Sylvia Konecny
3036 Geronimo Road
Prescott, AZ 86301

|||

MAPS trace fossil enthusiast is looking for a copy of Trace Fossils edited by Grimes & Harper -- Geological Journal Special Issue No. 3, 1970. Will pay top price. Contact:

Steve Brown
2909 Vail Avenue
Charlotte, NC 28207

FOR YOUR READING PLEASURE

J. Andrew Mitchell, Detroit, Michigan, sent a copy of an article concerning the extinction of ammonites--see Scientific American 249, pp 136-47, October, 1983, "The Extinction of the Ammonites", by Peter Ward.

In that same issue is an article concerning fossil water. "The Dead Sea", by Ilana Steinhorn and Joel R. Gat, pp 102-09.

Helen Asher, Peoria, Illinois, used National Geographic, January, 1976, for scientific information about Nautiloids. See pp 38-41 for "The Chambered Nautilus" with undersea photography by Douglas Faulkner. Many thanks to both of you.

UNIVERSAL FOSSILS

New List -- 106

Trilobites, Crinoids, Shark Teeth, more
Fair Prices, Top Quality--\$1 (\$2 overseas)
23871 Moritz, Oak Park, MI 48237

|||

WANTED: Textbook-quality brachiopods. Stratigraphic and collecting locality data required.

Steve Tuftin
P. O. Box 8233
Denver, CO 80201

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* * * * *
* DUES ARE DUE DECEMBER 31 *
* Give yourself an early Christmas gift *
* * * * *
* * * * *

The Southern California Paleontological Society publication TRILOBITES--CREATURE OF THE PALEOZOIC SEAS -- \$11 -- is a very readable text book. Referred to as Special Publication Number 3 (indicates there were 2 before this one), it illustrates trilobites of the strangest shapes imaginable.

This publication deals with stratigraphy, continental drift, extinction, Permian reefs and interesting art work by Editor, June Maxwell. All the articles are written and referenced by Society members. An added bonus--derivations of those Greek and Latin names.

Order yours: June Maxwell, 3510 E. Hillhaven Dr., West Covina, CA 91791.

From The Matrix

EOCRINOIDS

submitted by
Lloyd and Val Gunther
Brigham City, Utah

Eocrinoids are very primitive echinoderms belonging to the subphylum Blastozoa. The name "iocrinoid" would seem to suggest ancestry or close relationship to the Crinoids. This name is somewhat of a misnomer as this relationship with the Crinoids is more distant. Eocrinoids, for instance, possess small food gathering appendages called brachioles rather than arms. There are other important differences from the Crinoids including such features as the calyx, ambulacra, respiratory structures, and the holdfast or attachment appendages. Eocrinoids are much more closely related to the Blastoids and Rhombiferal Cystoids and may possibly be ancestral to them.

There are approximately 25 known genera represented in this class Eocrinoidea and they have near world-wide distribution. However many localities are represented only by plates. Their present known range is from early Cambrian to middle Ordovician when they apparently became extinct.

The most common genus, Gogia, now has at least 12 species described and several more that remain undescribed. Additional species will undoubtedly be found in new discovery sites. All known Gogia species are from the middle Cambrian in the Cordillera of western North America. Walcott was the one to describe this genus and apparently named it after Gog Lake in British Columbia. Near there, one of his new species, G. prolifica was found. Gogia, is now the most abundant, diverse, widest ranging, and longest-lived of the known Cambrian eocrinoids.

The many different species of Gogias apparently lived in large, gregarious colonies and are often referred to as "gardens". We have found shale slabs with more than a hundred individuals on them. At localities where two or more species occur, each seem to occur at different stratigraphic intervals with no overlapping. Most were believed to be attached to or on objects resting on the sea floor. They stood in an upright position and were filter feeders. They lived in a low energy environment and were often preserved

intact or articulated condition.

For those wishing a detailed account of this most interesting group of primitive echinoderms, we refer you to an excellent treatise on this subject entitled MORPHOLOGY AND EVOLUTION OF BLASTOZOAN ECHINODERMS. This is a 284 page book, a special publication of the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts 02138. It is authored by Dr. James Sprinkle, Dept. of Geological Sciences, University of Texas, Austin, Texas 78712.

A few representative species of Gogia from Utah are shown in the following sketches: Note the varied types of brachioles, two of which (G. spiralis and G. granulosa) are twisted or spiraled. G. guntheri has straight brachioles half way then becoming spiraled. Gogia n. sp. has all straight brachioles. Note also the different forms of the holdfast and how these differ, for instance, from those of Crinoids.

(Lloyd adds in a note "we do have a few specimens for trade from time to time for those who may be interested".

One of the collecting sites of the Gunthers is the desert in the House Range. Recently they report Metta found an Eocrinoid with 18 brachioles. Imagine!)

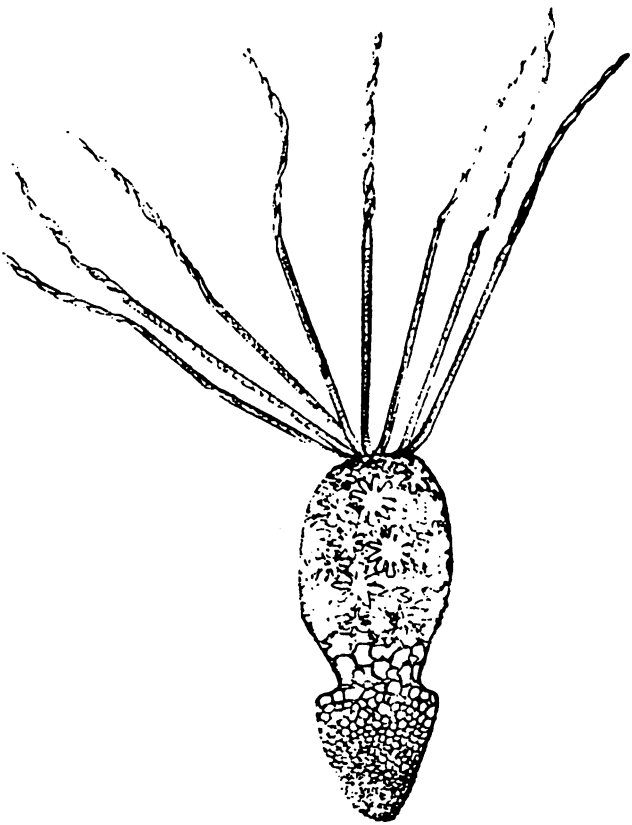
Lloyd also reports word from Dr. Robison, University of Kansas, on the TREATISE publications. The next volume to be completed will be one entitled TREATISE ON INVERTEBRATE PALEONTOLOGY, PART R., HEXAPODA (Insects). It is scheduled to be published next year and should be available in late 1984 from Geological Society of America, 3300 Penrose Place, Boulder, Colorado 80301.

Because there are so many insects, it will be published in 2 volumes.

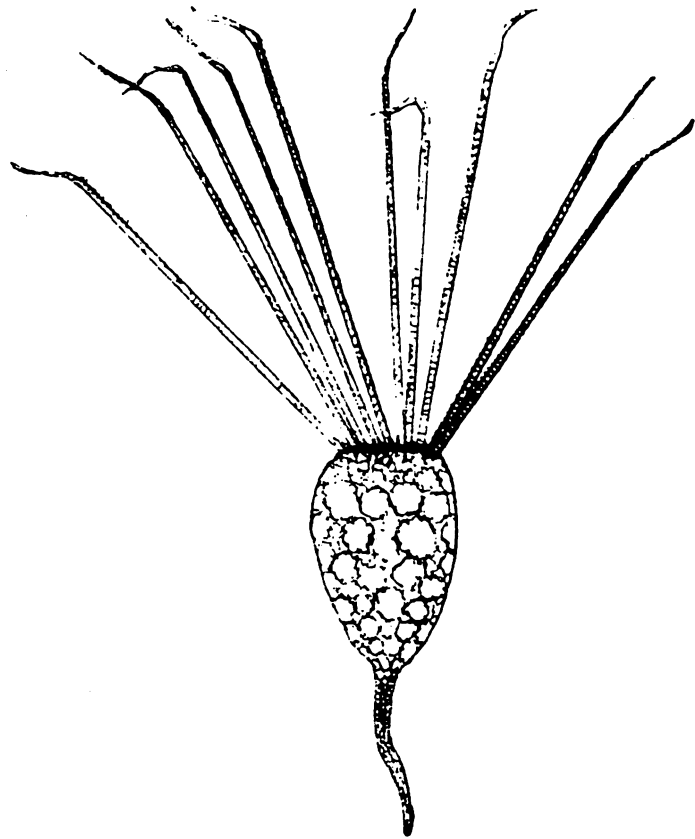
From The Matrix -- December -- DIFFERENTIATING THE DEVONIAN TABULATE CORALS EMMONSIA AND FAVOSITES by Alan Goldstein

January -- CONODONTS by Jim Garrison

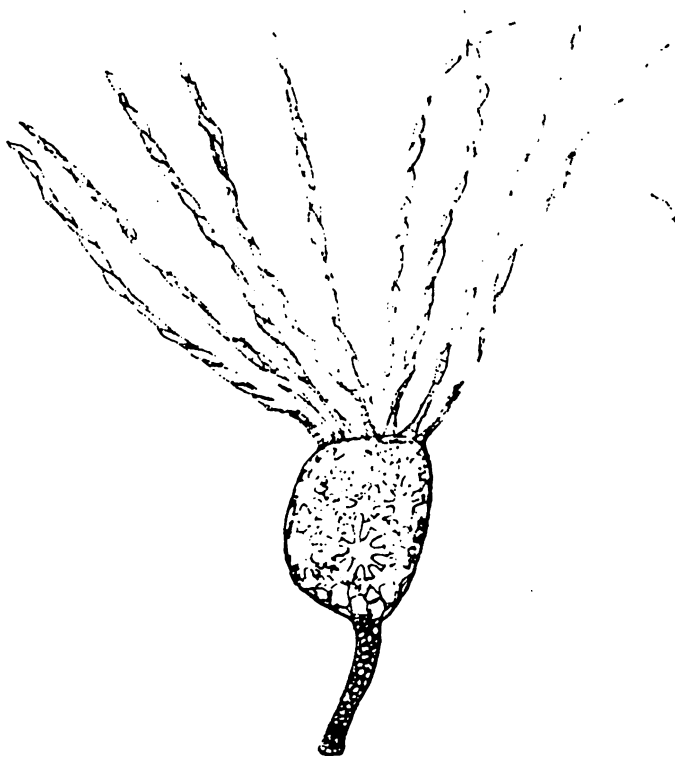
Fossils represent only a hundredth of one percent of all organisms that have ever existed. SCIENCE DIGEST, October, 1983



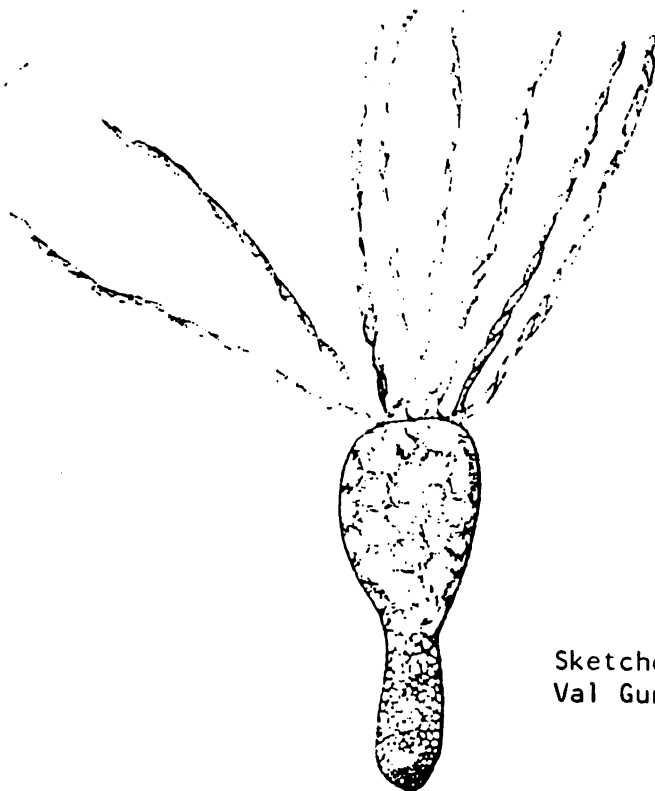
Gogia guntheri Sprinkle



Gogia n. sp.
(undescribed)



Gogia granulosa Robison



Gogia spiralis Robison

Sketches by
Val Gunther

SHARPEN YOUR PENCILS -- PALEONTOLOGICAL RESOURCES CONSERVATION ACT OF 1983 (S.1569)

This bill is the public response to the Bureau of Land Management "Geologic and Hobby Mineral Materials-Collecting Rules of Conduct" (43 CFR 3630 et al).

The following section of the Digest will be devoted to: 1) a professional's point of view concerning S.1569, 2) an amateur's point of view from the committee responsible for drawing up this bill, 3) a supplier's point of view and 4) a MAPS member point of view.

Each of us needs to read this piece of legislation introduced by Senator Pressler, SD, and then each of needs to write. It is impossible to include S.1569 in this publication, but officers of all the hobby organizations will have copies. Avail yourself of this document and take time to respond.

From B. L. Stinchcomb, Geology Department, St. Louis Community College, 3400 Pershall Road, St. Louis, Missouri 63135

..."promulgated by the recently enacted legislation on fossil collecting in Utah, I feel it has some things to say on what is becoming more and more of an obstacle to even professional paleontologists. Along this same line is some information and comment on a bill (S. 1569) introduced in the U.S. Senate June 29. The bill is basically a good one but somewhat favors commercial collecting. Perhaps amateur groups should have had more input. I don't think the bill has been acted upon, perhaps more involvement by groups such as MAPS will be forthcoming. I particularly think the material entered in the Congressional Record is noteworthy, some parts of this nicely state the problem...

Anyway do read the article. It contains some revealing material and I might add the problems stated here are not only vertebrate fossils. (Ed note S.1569 deals largely with vertebrate fossils, but everyone needs to read it.) A few years ago I was told a class group could not collect Cambrian fossils from a road cut in Missouri as some of the rock was coming from federal land of the Ozark National Scenic Waterways. Ironically the fossils were primitive mollusks on which I am the recognized authority in the Missouri Cambrian and the chunks which fall from the cut are periodically picked up and dumped. It was okay to destroy or bury the fossiliferous rock but not to collect it! . . ."

Current science and scientific investigations are today usually associated with megabucks! A field of science where the non-professional or amateur can make a contribution is almost unheard of today; there are however, a few fields of science where this is still the case. One of these is paleontology the other astronomy, some parts of geology and archeology.

The fossil record is immense and paleontologists of a given region cannot usually begin to investigate all potential outcrops and localities. Fossil-loving individuals with suitable background and motivation can and do investigate more potential fossiliferous "nooks and crannies" than can professional paleontologists who sometimes have less opportunity for field work than many MAPS members. The literature of paleontology is replete with specimens, localities and areas which were discovered by non-professionals. One can look at random through the Journal of Paleontology or other major journals in the subject and find in the acknowledgements non-professional workers who assisted in

paleontological research of various ways, one of the most frequent being donation of specimens or finding fossil localities. With this rather impressive record of contribution spanning well over a century, why is there an attitude toward non-professional paleontological collecting which attempts to discourage such activity, such as Utah's recently passed legislation which makes it illegal to collect fossils from federal, state or private land without a formal permit or proposed BLM rules which would prohibit most non-professional collecting of geologic materials from much of the public domain. Support for such restrictive legislation can stem from any of the following:

1. The amateur collecting and hoarding paleontological material and not cooperating with professionals, or the destruction of scientifically valuable specimens as a result of lack of expertise in removal of a fossil from their matrix or in just plain carelessness. Unfortunately the above does

happen, but how frequent is it compared with the specimens amateur collectors have saved from the rock crusher, the freeze-thaw cycle or burial or dispersal by next month's flood.

2. Unnecessary regulation of geologic collecting can come from well meaning persons as an extension of the environmental movement where fossils are "seen in the light" of being a rare and limited non-renewable resource which must be protected. This view either ignores or more likely is unaware of the fact that many sedimentary rocks are made up of fossils, and that in many outcrops one cannot pick up a rock without collecting a fossil. (The recent Utah legislation is ludicrous in light of this fact in that it includes all fossils.) This category can also include the environmental activist who sees the absence of regulations on paleontological activity as an opportunity to capitalize on and make a name in the environmental movement, by his or her involvement in passage of such regulations. This approach also has the advantage in that there is not going to be any strong opposition by powerful interest groups as do have many real environmental concerns, also the promulgation of restrictive legislation on paleontological activities seems reasonable to many uninformed persons and passage of such legislation might act as a relatively easy vehicle by which to get into the environmental movement. A further variation on the above might be to use paleontological legislation as an opportunity for a bureaucrat or potential bureaucrat to construct through such legislation, a neat governmental niche with all the privileges and advantages which can accompany such a position. Utah's position of state paleontologist may well be a good "case in point".

3. Excessive and often counterproductive decisions on geologic materials on public lands are usually promulgated under a managerial conceptual framework rather than a scientifically oriented one. Also many administrative decisions are "borrowed" from archeology, a field perhaps to the unknowing, superficially similar to paleontology but in actuality one quite different with archeology's emphasis on cultural phenomena.

With this concern for preservation and protection of paleontological resources, ironically the most important paleontological resource is the motivated individual, professional or non-professional. The enactment of legislation

like that recently passed in Utah effectively discourages the serious but law abiding amateur and will ultimately drive a wedge between the professional and the amateur even though such legislation was not a product of the mainstream of the paleontological community. The end result will be to the detriment of paleontology with the loss of talented and motivated persons into other fields of science. Perhaps this lack of support for the relatively powerless and unorganized amateur is symptomatic of a continuous broad trend toward stronger governmental centralization and its commensurate loss of individual freedom and importance of the individual; not an optimistic viewpoint but one which a person with a serious interest in paleontology has seen directed toward him by governmental fiat whether intentionally or unintentionally.

B. L. Stinchcomb
Department of Geology
St. Louis Community College at
Florissant Valley

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From the amateur on the committee which drew up the legislation for S. 1569.

...The Paleontological Resources Conservation Act of 1983 (S.1569) . . . was written by professional paleontologists who were just as appalled as we all were last fall by the proposed BLM regulations about collecting fossils, rocks and minerals on public lands. There has never been any Congressional action about such collecting, so all regulations have been roughly based on the long outdated Antiquities Law of 1906, which was about Archeology.

If it is passed, this law will guarantee our rights of collecting non vertebrate fossils and non fossil geological material, such as rocks and minerals, on public lands without permits or fees, and without fear of penalties. In addition, the bill spells out how we may even collect vertebrate fossils legally for the first time ever.

Carefully written by members of the Society of Vertebrate Paleontology, with the help of the Paleontological Society, the American Association of Paleontological Suppliers, and amateur of long experience, this legislation will help science and the three groups most concerned with collecting on public lands.

Since the professionals have recognized pub-

licly the enormous contributions of the amateurs in the earth sciences, they have asked for our continued cooperation. Dr. Farish Jenkins of Harvard University, chairman of the group which wrote this legislation, has included the amateur every step of the way. As a result we should no longer be subjected to the capricious rulings of BLM,--which recently took away our rights to pool or to trade petrified wood specimens, and granted local authorities the right to cancel such collecting altogether. As opposed to the BLM proposed hobby rulings which would result in waste and destruction, this bill would help science, education and museums.

The professional scientists know about our code of ethics, our scholarship funds, our volunteer work for schools and museums, our generous donations, and our important discoveries, so they have given us the right to have an amateur on the National Advisory Committee, to see that our position will always be sought.

Besides spelling out our rights, this legislation should raise our status, and make collecting easier and pleasanter for amateurs in the future. A set of restrictive, ill-advised rules like those of last fall, cannot jump suddenly upon us again, threatening the very basis of our hobby.

If passed, this bill will be the only basis for regulating the collecting and removal of fossils, rocks and minerals on public lands.

This bill will need lots of support from all who are interested in field trips. There are many people who equate collecting with destruction or hoarding, people who are ignorant of science. We must work with the professional scientists to see that this bill is passed. We need lots of letters to Senators and Representatives, and to the committees of the Senate and House, which will hold hearings. Please do your part

June Zeitner
- - - - -

Black Hills Institute of Geological Research, Inc.

"We are pleased to announce the introduction of a bill in the United States Senate. The bill is titled the "Paleontological Resources Conservation Act of 1983" (S.1569). This bill is the public response to the Bureau of Land Management "Geologic and Hobby Mineral Materials--Collecting Rules of Conduct"(43 CFR 3630 et al).

The "Paleontological Resources Conservation Act of 1983" will insure for future generations the freedom to collect rocks, minerals and invertebrate fossils which we have enjoyed in the past. In addition, this law will simplify and clarify the regulations governing the collection of vertebrate fossils.

We urge that you support the efforts of the members of the Society of Vertebrate Paleontology, the Paleontological Society, the American Association of Paleontological Suppliers and the Hobbyists responsible for the construction of this bill. We ask that you send letters of support to your Senators and Congressmen. . .

If we are to succeed in the passage of this bill we need the help of both professionals and amateurs. Your letters are vital. We also urge you to contact your friends and colleagues to ask for their assistance."

Peter L. Larson, President
American Association of Paleo. Sup.
- - - - -

Philip Marcus, Wheaton, MD has read S.1569 and submitted a lengthy letter in opposition to specific sections of this bill. Listed is the summation of his letter.

We would recommend:

1. That museums and educational institutions be allowed to have title to what they collect.
2. That institutions and museums be allowed to exchange public land fossils with dealers and others.
3. The use of professional paleontologists should not be required for dealers and hobbyists.
4. Consideration should be given as to some limitation on the amount of vertebrate material a dealer or hobbyist or group of hobbyists may collect from public lands during a year or the number of times a year they may so collect or both
5. Permits should not be required of hobbyists or individuals unless they plan to excavate to a substantial extent. . . .
6. The Advisory Committee should have as a member at least one representative from one of the organizations we have named. (Ed. comment Phil mentioned MAPS, Fossils for Fun, The Paleo. Research Institute a professional organization with an appreciable number of

amateurs. Phil recommended MAPS--a nice vote of confidence.)

7. The Department of the Interior and its Bureau of Land Management should have the opportunity to issue proposed revised regulations with the right of the public to comment on them before action is taken on S. 1596. . .

- - - - -

You are urged to write letters concerning the "Paleontological Resources Conservation Act of 1983" to each of the Senators and Congressmen. The addresses are as follows:

Senate:

The Honorable _____
United States Senate
Washington, D. C. 20510

House:

The Honorable _____
U. S. House of Representatives
Washington, D. C. 20515

***** ***** ***** ***** ***** *****

T H E P R O F E S S I O N A L ' S C O R N E R -- Dr. N. Gary Lane -- Copyright, 1983

ILLUSTRATING FOSSILS -- No. 6

Geology Department
Indiana University
Bloomington, IN 47405

In the last article we got up through development of the negative on film. The next step is printing. If you are using 35 mm film you will have to use an enlarger to get a print of suitable size. Generally speaking the smallest publishable size for a print is about the size of a nickel or dime. Quarter or half-dollar size prints are better. Most prints for publication are ultimately mounted on a white background. There are three ways to achieve this.

First, when you were initially taking the picture you could have used what is called a background burn-out light. This is a light box with a frosted glass top and 2 or 3 100 watt bulbs inside. You put the fossil on top of the box and get the correct exposure with the light box off. Then you turn on the light box and take the picture. This will burn out all background and shadows around the fossil but will not affect the exposure of light on the fossil itself--light travels in a straight line around the fossil and into the camera lense.

Secondly, you can make the print as the negative stands and then try to carefully cut out around the fossil outline. This is the least satisfactory method as it is virtually impossible to avoid cutting off bits of the fossil picture or to leaving in some of the background. If you do try this try to use a small pair of sharp-pointed surgical scissors and a small Exacto blade.

The third method is to buy a small jar of Kodak

Send copies of your letter to:
Sen. Pressler (R. SD) who introduced the bill.
Sen Paul Tsongas (D. MA) co-sponsor.

HOUSE -- Interior and Insular Affairs
Morris K. Udall, AZ, Chairman, Phillip Burton, CA
John F. Seiberling, OH (all Democrats)

Manuel Lujan, Jr. NM, Don Young, AL, Dick Cheney, WY (all Republicans)

SENATE -- Energy and Natural Resources
James McClure ID, Chairman; Malcolm Wallop, WY;
Chic Hecht, NV (all Republicans)

J. Bennett Johnston LA, ranking; Henry Jackson, WA, John Melcher, MT (all Democrats)

The Senators and Representatives listed above are all key committee members.

red or black opaque for negatives. Dilute a small amount with water and apply it to the non-emulsion side of the negative (shiny side) with a very small camel's hair brush (00 or 000). Then when you print the negative you will have a white border around the picture of the fossil. It helps a lot to do this under a low power microscope or even with a hand lense. If you don't dilute the opaque it is sometimes slow to dry. I find that the red dries better than the black opaque. But don't get it too runny. If you do a boo-boo the opaque can be easily washed off with water--that's why you don't do it on the emulsion side.

When making the prints you should make several of each negative. When you think you have exactly the right exposure then make one or two prints that are slightly lighter and one or two that are slightly darker. This way you can match up tone and intensity of all figures when you assemble them into a plate. The next step is actually making up a plate of fossil figures for publication.

THE PROFESSIONAL'S CORNER, Continued -- H. L. Strimple

ENROLLED TRILOBITES FROM THE LATE CAMBRIAN

In the January, 1983, issue of the Journal of Paleontology (v. 57, no. 1) there is a report on "Enrolled Late Cambrian Trilobites From the Davis Formation, Southeast Missouri" by James H. Stitt, a professor in the Department of Geology, University of Missouri, Columbia. Normal preservation of Late Cambrian trilobites is as disarticulated parts so that the discovery of specimens of five species as complete enrolled specimens is of more than passing interest.

As noted in the introduction of the study the trilobites are the by-product of a difficult search for primitive echinoderms in the Davis Formation by HARRELL and CHRIS TINA STRIMPLE originating some 10-11 years ago when MAPS member BRUCE STINCHCOMB kindly led us to the shale exposure near Elvins, Missouri. I wanted to see what could be recovered from insoluble residue and Bruce helped us clear off a small area and take out the lower zone (about 10 cm) just above the limestone at the base of the shale. This was fortunate because the upper layers of the shale were not fossiliferous enough to warrant the long hours needed to process and pick the residues, as we subsequently discovered. Over the period of several years we excavated, carried out, and processed some 1,500 lbs. of the shale. It is a very sticky clay and difficult to break down even with the aid of the Stoddard Solvent process.

Early on the presence of enrolled trilobites was noted and although small they were mature. On the occasion of a regional Geological Society of America - Paleontological Society meeting in Columbia, Missouri, we showed about six specimens to James Stitt and V. E. Kurtz, both of whom are specialists on primitive trilobites, and they decided that 4 or 5 species were represented, which came as a surprise. An official field trip for the meeting included the exposure we were working which turned out to be the type section for the Davis Formation. (A type section is designated when a formation is established). We took the occasion to obtain another load of the shale to be processed. MAPS member JAMES SPRINKLE, University of Texas, was present and we had already arranged to jointly study the echinoderms (which is still in process).

After a suitable collection of trilobites had been made we asked Dr. Stitt to do a study of them. About 80 specimens were provided. Later on I purchased a Wild-Heerburg bino-

cular microscope to replace the old Spencer microscope I had at home and with the better optics Christina recovered swarms of embryonic trilobites down to the "anaprotaspic stage". An ontogenetic study with so much material representing so many different species boggles the mind and was not attempted by Stitt. His study is most comprehensive and includes three sets of exceptionally good photographs. Trilobites from the locality include: Buttsia drabensis Wilson, Bynumia lirae Kurtz, Cliffia lataegenae Wilson, Cliffia wilsoni Lochman, Dellea suada (Walcott), Drabia acroccipita Wilson, Elvinia roemer (Shumard), Elyaspis missouriensis Kurtz, Pterocephalia sanetisabae Roemer, and Sulcocalhalus candidus Resser.

We preserved specimens of the brachiopod Ocnorthis monticola Bell are available for surface collecting and provide an attraction for collectors. The inarticulate brachiopod Linnarsonella girtyi Walcott is rather prolific in the smaller residues.

To my knowledge no completely articulated specimens of the edrioasteroids or carpoids have been found to date. The carpoid has been particularly difficult to restore. Christina picked hundreds, perhaps thousands of disarticulated frame plates and other parts of the carpoid so she has been able to help in the process even though Sprinkle has almost all of the specimens. The edrioasteroids are much better in preservation and eventually complete specimens should be found.

The shale exposure is on the north side of Flat River along a railroad track about one quarter of a mile from the railroad siding of "Derby Doe Run" on the edge of Elvins, Missouri. The shale is just above the limestone beds from which Kurtz (1975) made his collection no. 967-6. The assemblage of fossils is representative of the Elvinia Zone, Franconian Stage, Late Cambrian. There is some chance the exposure is covered with vegetation by now.

Mike Olson
P. O. Box 2171
Springfield, IL 62705
217-787-6149

Collecting 7 years. Student. Will trade. Dealer
Interested in trilobites, crinoids, ammonites, and fossil
teeth. Wants to trade and meet new people.
(This young man became a dealer when he travelled with
his father to area shows. He began to buy fossils and
then to sell them and has now established himself as
perhaps the youngest fossil dealer--that possible, Mike?)

* * * * *

Please make the following address changes:

Craig Bunting from Bradley University, Williams Hall to: c/o Dr. Merrill Foster, 1114 N.
Maplewood, Peoria, IL 61604

Joseph Carpinello 34w1 Pape Avenue, Apt. #4, Cincinnati, OH 45209

Frank C. Hyne, 800 E. 5th Street, Washington, NC 27889 Phone 919-946-7792

Roxanne Kremer, Collectors, 3302 N. Burton Avenue, Rosemead, CA 91770

Roy Kohl, 1124 B Street, Eureka, CA 95501

Larry D. Osterberger, 6840 River Ridge Drive, Nashville, TN 37221 Phone 615-646-5296

Gilbert D. Parker, 15505 E. 44 Ter., Independence, MO 64055 Phone 816-252-8460

* * * * *

TRILOBITES OF THE CHICAGO REGION--\$6.00 in-
cludes cost of handling. Send checks payable
to MAPS, to: Allyn Adams, Treasurer, 612
W. 51st Street, Davenport, IA 52806

WHALELIKE SHARK FOUND: CALLED CLUE TO EVOLUTION

San Francisco, CA (AP)--A sluggish shark with a
4-foot-wide mouth, rubbery lips and tiny, non-
menacing teeth is an important clue in under-
standing evolution, say some of the country's
leading experts on sharks.

Unlike most sharks, which use speed, aggres-
sion and sharp teeth to feed, this one--dubbed
megamouth--filters its food from the water,
similar to the way many whales get their food.

John McCosker, director of the Steinhart Aquar-
ium and an expert on sharks, calls the chance
capture of newly classified Megachasma pela-
gios near Hawaii one of the oddest finds in
any of the oceans.

The first scientists who saw the bease called
it megamouth because of its huge, blubbery lips
covering 236 rows of tiny teeth.

An account of the discovery and probably liv-
ing habits of the fish was published in the
journal of the California Academy of Sciences.
The report was written by Leighton Taylor of

the Waikiki Aquarium, Leonard Compagno of San
Francisco State University and Paul Struhsaker,
a Hawaii shark specialist.

Megamouth offers insights into the evolution of
modern sharks, a group that emerged some 150
million years ago, McCosker said. . .

It collects its food--small shrimp and plankton--
with sievelike protrusions on its gills. "What
it uses its teeth for is not clear." "They're
probably used sort of like a wire brush to keep
the tiny animals from exiting forward.

It's a demonstration of the remarkable plasti-
city of evolution," he said. "A lot of differ-
ent animals in the ocean have learned how to
get a square meal when they need it."

Taylor and his colleagues said the shark is a
slow, weak swimmer, a flabby, loose-skinned
beast that swims slowly with its monstrous
mouth agape through schools of smaller fish.

The shark was discovered Nov. 15, 1976, when a
Navy research ship 25 miles off the Hawaiian
island of Oahu hauled up an adult male 15 feet
long and weighing 1,653 pounds. It had become
tangled in a sea anchor.

McCosker said one of the most remarkable aspects
of the shark's discovery is that it had been
unknown even though it is a large fish living
relatively close to shore in shallow water.

William Beaver
2125 Jerry Lane
Lodi, CA 95240
209-368-5516

Mechanic. Will trade. Interested in gastropods, pelecypods, all types of microfossils. Joined MAPS because of interest in fossils

Linda Lee Boothby
334- Ferry Road
Miles, IA 52064
-243-4065

Teacher. Major interest trilobites. Just starting this hobby. (Welcome--try to make one of the field trips or a MAPS meeting at Augustana. Good luck collecting.)

Arthur J. Boucot
Dept. of Geology
Oregon State University
Corvallis, OR 97331
503-754-2484

Paleontologist. Interested in MAPS organization. Will not trade. (Hope we hear from you. Welcome!)

Jack J. Burch
369 Big Horn Ridge NE
Albuquerque, NM 87125
505-294-0195

Owner Mineral & Fossil Business. Will trade. Major interest open. Has Green River fish and SD invertebrates. Wants to help promote interest in fossil collecting.

Marilyn Campbell & Family (3 Teenagers)
5111 - 78th Avenue #11
Milan, IL 61264
309-799-5046

Ex-teacher--homemaker. Reviving an old interest. Nothing to trade at present. Interested in plant remains, brachiopods. Like all fossils. Fossil hunting is a good family hobby.

Anne C. Dillon
797 Darby-Paoli Rd.
Bryn Mawr, PA 19010
Unlisted Phone

Civic Worker--housewife. Probably will not trade. Interested in vertebrates.

Robert Eaton
#14418 - 16th Avenue
Veradale, WA 99037

Michael P. Eldredge
509 Hanna St.
Gastonia, NC 28052
704-861-1252

Curator of Education, Schiele Museum of Natural History
Interested vertebrates, land/marine. Beginner in collecting, most time collects for museum. Mainly interested in correspondence, to meet people, gain knowledge, sites.

Russell Elphick
18 Cheviot Street. The Grange
Brisbane, Queensland 4051
AUSTRALIA

Leatherworker. Interested vertebrates (dinosaurs and mammals, etc.). Invertebrates (trilobites). Joined to obtain more information about the study of palaeontology.

Jack Garvin
6613 Hollywood B..
Hollywood, CA 90028
213-469-7409

Rare Book Dealer. Interested in books about paleontology, Mineralogy, geology--world wide. Also fine specimens of fossils. Will trade old and rare books about vertebrate and invertebrate paleontology. The idea of being able to communicate with others having a similar interest. . .fanned my interest. May be of some assistance to to MAPS.

Carol Gotway
42 Pinehurst Drive
Springfield, IL 62704
217-546-1565

Student. Will trade. Interested in all fossils and minerals. Has sponges, corals, some brachiopods for trade. Joined because of the interesting and exciting people in the organization.

Kurt Grimm
5014 N. Prospect
Peoria Hgts., IL 61614
309-688-2255

Julio C. Guzman
Casilla 2161
Cochabamba, BOLIVIA
SOUTH AMERICA

William D. Hawes, Jr.
416 W. McNeil
Phoenix, AZ 85041
602-276-4958

John Hearty
27 Branchfield Drive
Wishaw, Lanarkshire ML2 8ZB
SCOTLAND
0698-382543

Betty & George Haylock
145 Kemp Cres. Apt. #1
Stratford, Ontario N5a 5C2
CANADA
519-524-7271

William R. Heimbuch, Jr.
P. O. Box 6444 Orlando, FL 32803
Orlando, FL 32803
305-894-6875

Ray W. Lawrence
2536 Trares Rd.
Mogadore, OH 44260

Randy L. & Jane A. Hess
421 Lake Street
Troy, OH 45373
513-335-0542

Carl S. Hornfeldt
491 Laurel Avenue
St. Paul, MN 55102
612-227-3386

Charles E. Isbon
211 E. Pine Street
Arlington, TX 76011
817-465-3890

Student. Will trade. Interested Paleobiology of Cephalopods Mass Extinctions. Not much for trade yet--numerous *Pentremites*. Greatly enjoyed members met at recent MAPS EXPO at Western Illinois University.

Odd-Jobber. Will Trade. Display, sale/trade esthetic fossils. Would like to offer to buy unprepared fossils or provide a custom preparation/reconstruction service. Enjoys fellowship of other collectors and swapping fossil experiences.

Environmental Health Officer. Collecting 10 years. Will trade. Interested vertebrate palaeontology (Ordovician-Pleistocene. Has trilobites (Ord., Dev.); Sil. Graptolites Eocene Gastropods; Ammonites; Echinoids; Corals; Bivalves; Brachiopods; Vertebrate remains, etc. Wants to exchange with fellow enthusiasts in N. America to mutual benefit.

Retired from Meteorology. Wants to learn more about fossils.

Public School Teacher (Science). Will trade. Interested oceanic and land vertebrate fossils prime specimens (museum display quality). Will trade Florida shark teeth, camel teeth, woolly mammoth teeth, rhinoceros teeth and tusk, three toed horse hoof core and more. Wants to make contact with other collectors.

Machinist. Will trade. Interested in Trilobites. Joined because of interest in fossils.

Owner RJ'S Rock Shop. Will trade. Main interest trilobites, cephalopods, vertebrate fossils. Has for trade some trilobites, cephalopods, ferns, oredont jaw sections bone fragments. Would be an honor to be part of a group of people such as MAPS who enjoy collecting, preparing and studying fossils.

Pharmacist/toxicologist. Will trade. Interested in Vertebrates. Has Mid-Ordovician crinoids, brachiopods, bryozoans, horn corals for trade. Very interested in fossils have no one to associate/trade with in this area.

Geologist. Will trade. Interested Green River Fossils & Commanchean Fossils. Has for trade Green River Fossils & Commanchean fossils of Texas (ammonites, echinoids, etc.)

R. Jackson
PSC Box 556 APO
San Francisco 96328
or
131-3 Aoi Cho
Hananatsn Shi
Shizuoka Ken T433
JAPAN

English Teacher. Will trade. Interested early Cambrian Trilobites and Coelacanths. Has trilobites for trade. Wants to learn about additional sources of information.

James & Laura Lloyd
611 South Primrose
Monrovia, CA 91016

Civil Engineer. Will trade. Interested collecting & identifying fossils. Has fossils from many areas in California and Utah but is unable to identify. Wants to learn about and to identify fossils, to learn about different collecting sites, to meet other people with the same interests.

Glenn Michaels
207 S. Elm St.
Aberdeen, SD 57401
605-226-2037

Field Engineer. Will trade. Interested in all fossils Has some plant fossils for trade. Interested in further study of fossils.

Ted Miller
84 Brenthill Dr. NE
Newark, OH 43055
614-345-2311

Computer Programmer. Will trade. Interested in trilobites ammonites & brachiopods. Just beginning but has a small amount of Ordovician material. Wants contacts for information, swapping and building collection.

Glen W. Murry
1511 N. Lockwood
Chicago, IL 60651
313-637-6769

Will trade. Professional Actor--Model. Interested in Mazon Creek and vertebrate and invertebrate paleontology of the West. Has nothing to trade at this time. Wants to get insights on fossils which MAPS will help to provide.

Glenn & Kathleen Myhre
5005 No. 12th
Tacoma, WA 98406
206-759-6039

Retired. Will trade. Interested in all types of fossils. Has local invertebrates and plants plus material gathered on trips. Wants to meet people interested in fossils in different parts of the country as we travel. To trade fossils and broaden our knowledge of our hobby.

Miss Cameron Newcomb
P. O. Box 4272
Greenwich, CT 06830
203-531-8121

Will probably trade. Interested dinosaurs and fish. Has fish and ferns for trade. Curatorial Assistant and graduate student.

Ted & Helen Plecko
5701 N. Northcott Avenue
Chicago, IL 60631
312-763-8540

Buyer in electronics. Will trade. Major interest Mazon Creek--large and small plants and animal fossils. Will trade for fish, crinoids and trilobites from other states and countries. Interested in collecting, trading and buying fossils.

Dona & John P. Pope
921 E. Washington
Winterset, IA 50273
515-462-3828

Art Teacher and TV sales & service. Will trade. Interested in all Pennsylvanian flora and fauna--mainly Missourian & DesMoinesian stages. Have Pennsylvanian, Upper Devonian, Upper Mississippian, Silurian coral for trade. Want to learn more about the stratigraphy, paleoecology & paleogeography of the Pennsylvanian in Iowa.

William J. Rieger
9400 Frankford Avenue
Philadelphia, PA ?
215-221-2875

Will trade. Dentist, Faculty Dental School. Major interest fish, insects in Amber, shark teeth. Have Eocene fish, insects in amber, shark teeth. Wish to know more about fossils and fossil preparation.

Mark E. Rogers
P. O. Box 1093
Yucaipa, CA 92399
714-797-8034

Full time dealer in minerals, fossils, books and mineral art items. Will purchase fine duplicate stocks. Wishes to increase own personal information, for economics, for finding people of similar interests.

William R. Shadish, MD
2625 Edith Avenue
Redding, CA 97--1
916-243-8123

Plastic and Reconstruction Surgeon. Maybe trade. Interested paleobotany. Has wood for trade. (???) Has had a long interest in fossils.

Dr. Carl W. Stock
Department of Geology
University of Alabama
Box 1945
University, AL 35486
205-348-5095

Geology Professor. Will not trade. Interested stromatoporoids; particularly interested in finding out about unpublished stromatoporoid localities.

J. A. (Denny) and Marty Sutherland
804 So. Barlow Ln.
Bishop, CA 93514
619-873-6693

Writer, Photographer (retired)/ Marty writer. Will trade. Interested Cenozoic/Mesozoic echinoidea, all trilobita particularly the Agnostida. Have some of the above from Western N. America for trade. Wants to find others of similar interests.

Daniel M. Troiani
2532 North Monitor Avenue
Chicago, IL 60639
312-637-2853

Motion picture printer and freelance photographer (16 & 35 mm). Will trade. Interested trilobites and ammonites but interested in all fields of paleontology. Has nothing for trade right now. Interested in going on a few field trips, collecting fossils, studying fossils.

Billy Trumbull
1638 Bristol
Westchester, IL 60153
312-865-8057

Student, Bradley University, Dept. of Geology. Will trade. Major interest plant fossils. Will trade but does not have much right now. Wants to meet more fossil people.

John R. Withey
RD #, Box 897
Sussex, NJ 07461
201-875-5438

Teacher high school earth science. Will trade. Interest all areas of fossil collection and preparation. Has local invertebrate, Devonian age ferns, Pennsylvania fossils. Wants to further own knowledge of fossils and pass this information on to my students.

Kerry Yellin
152 Spoonwood Road
Wilton, CN 06897
203-762-5021

Aquatic Biology Researcher. Will trade. Major interest cephalopods. Has New York and New Jersey fossils for trade. Wants to learn more about and share knowledge. Interested in writing articles for MAPS Digest (terrific). Wants to trade area fossils with hobbyists from other areas. Share collecting site information, help identify.

Betty & Gene Young
Box 350
Lumberton, NJ 08048
609-267-6917

Betty, clerk, Gene, auditor. Will trade. Interested in all aspects of amber. Does not have much to trade yet. Wants to expand amber collection.

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.

MAPS is affiliated with the Midwest Federation of Mineralogical and Geological Societies, and with the American Federation of Mineralogical Societies. Membership in MAPS is open to anyone, anywhere who is sincerely interested in fossils and the aims of the Society.

Family membership \$7.00; ~~individual membership \$7.00; junior membership \$5.00 (between ages 8 and 16)~~

MAPS meetings are held on the 1st Saturday of each month (2nd Saturday if inclement weather) October through May at 2p.m. in the Science Building, Augustana College, Rock Island, Illinois.

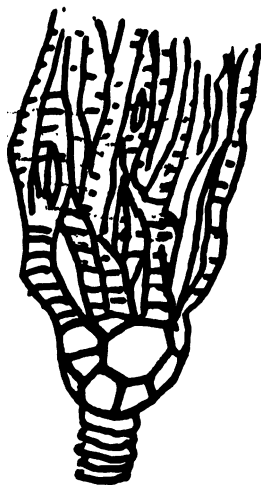
President: Doug Johnson, Box 184, Donnellson, IA 52405

1st Vice President:

2nd Vice President: Alberta Cray, 1125 J Avenue, NW, Cedar Rapids, IA 52405

Secretary: Peggy Wallace, 290 South Grandview, Dubuque, IA 52001

Treasurer: Allyn Adams, 612 W. 51st Street, Davenport, IA 52806



FIRST CLASS MAIL

CYATHOCRINITES

MID-AMERICA PALEONTOLOGY SOCIETY

Madelynne M. Lillybeck
MAPS DIGEST Editor
1039 - 33rd St. Ct.
Moline, IL 61265

Dated Material - Meeting Notice