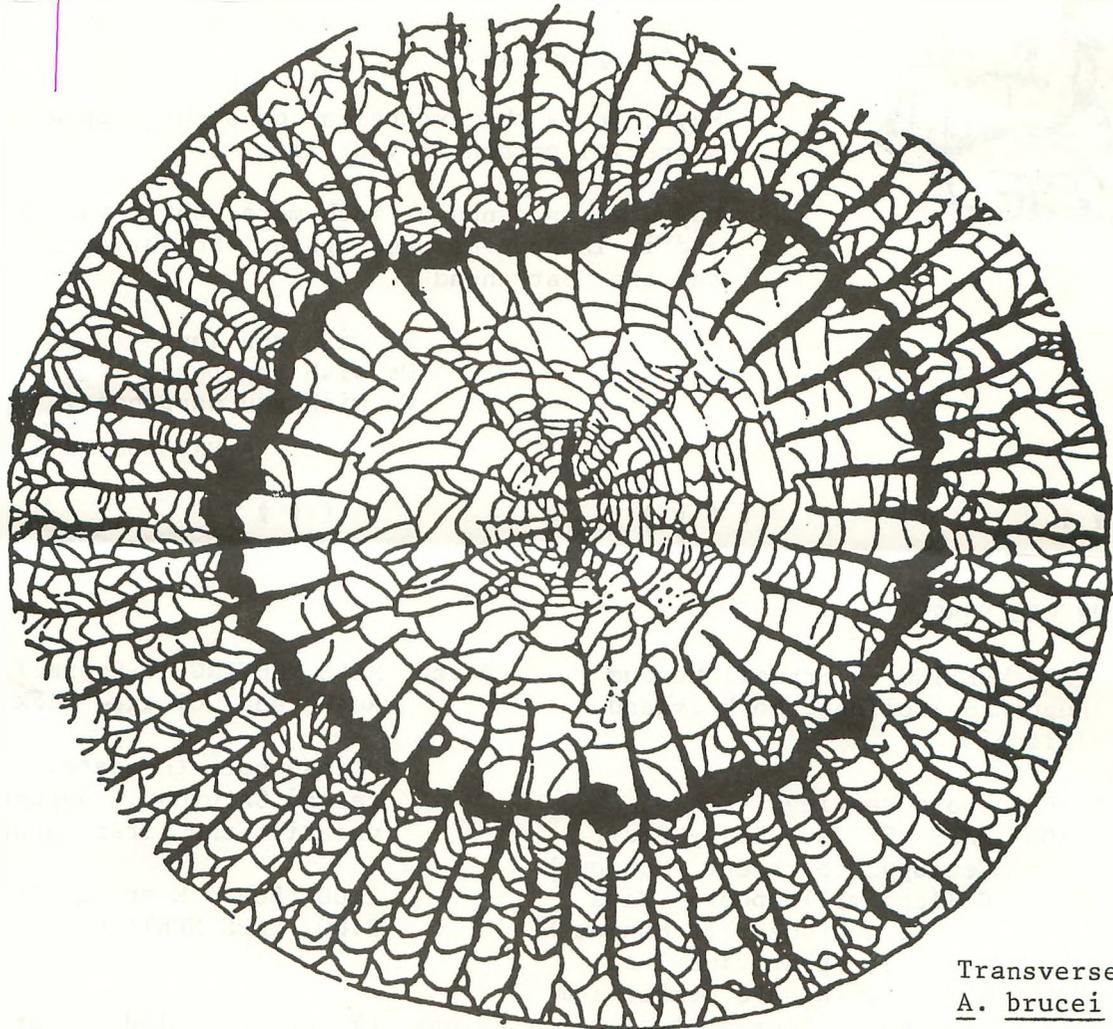


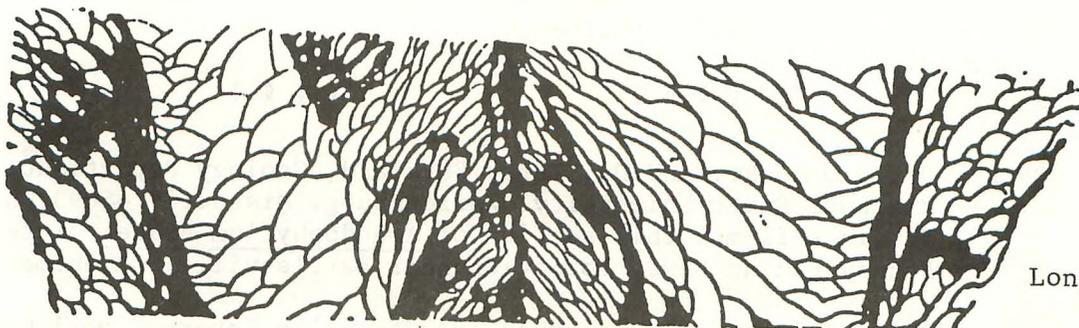
# M.A.P.S *Digest*

Official Publication of  
Mid-America Paleontology Society

Volume 10 Number 8  
December, 1987



Transverse section  
A. brucei



Longitudinal  
section  
A. brucei



It is that special time of year again. Maybe it begins with Thanksgiving when families gather and there is time to talk with loved ones and bask in the camaraderie of those who share this precious day.

Maybe it begins with the music, or the lights which pop up unexpectedly when you turn a corner and the bright but muted colors appear.

Maybe it is a tree in a window with a star or an angel at the pinnacle.

Maybe it is the excitement of a child or a smile from a special person in your life.

Maybe it is a nuance much more subtle than any of these-- and it is upon us once again. So during this season and the year ahead

We wish you love  
 We wish you peace  
 We wish you happiness.

--MAPS Board Of Directors

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MARK YOUR CALENDARS

5 Dec MAPS MEETING -- Fryxell Museum  
 Augustana College, Rock Island  
 Illinois.

1:00 Board Meeting  
 2:00 MAPS MEETING--Kelly Emert,  
 Geology Department, Monmouth  
 College will speak. Miss  
 Emert, a student at Monmouth  
 College, spent time last  
 summer with MAPS member Tom  
 Johnson collecting trilobites.  
 We'll hear about collecting  
 Ceasar's Creek, Ohio, trilo-  
 bites.

\*9 Jan MAPS MEETING -- Fryxell Museum,  
 Augustana College, Rock Island, Illinois.

\*Please note the date. It's the  
 second Saturday. Augustana Christmas  
 vacation the first Saturday.

1:00 Board Meeting--It's EXPO time.  
 2:00 MAPS MEETING

22 Apr EXPO X -- FISH Our first vertebrate  
 23 - 24 EXPO.

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ABOUT THE COVER: Dr. Jim Cocke, and Dr. Terry Berkland, Geology Department, Central Missouri State University, Warrensburg, Missouri 64093, have selected drawings from a thin section of Amandophyllum brucei of the Upper Pennsylvanian Dewey Formation near Bartlesville, Oklahoma.

Dr. Cocke recently returned from the 11th International Congress of Carboniferous Stratigraphy and Paleontology, Biejing, CHINA (used to be Peking). Dr. Cocke works with undergraduate students on specific problems. He teaches techniques of research, of writing and publishing. Another friend of the late Harrell Strimple.

## A TYPICAL (and Beautiful) PENNSYLVANIAN HORN CORAL

Jim Cocke/Terry Berkland  
Geology Department  
Central Missouri State University  
Warrensburg, MO 64093

Fossil corals are rarely sought, if found are commonly not collected and if collected are almost invariably ignored. 'Tis a sad but certain fact! If beauty is skin deep then surely solitary corals must be cast aside. The beauty of the corals is not skin deep; it is "bone" deep. They are like fusulinids in being bland and uninteresting if viewed externally. They are marvelously complex when viewed in thin section or polished surface.

The corals of which we speak are the horn corals (normally called rugose or tetracorals) which arose in the Ordovician, proliferated in the Silurian and Devonian as a plexus of morphological types, gradually diminished in variety through the Mississippian and Pennsylvanian and finally expired in Late Permian or earliest Triassic. All were marine creatures that lived best in the shallow epicontinental seas. All of the ones that we have investigated are from the Upper Pennsylvanian limestones and included calcareous shales of Texas, Oklahoma, Kansas, Missouri, Illinois, and Iowa. We have selected drawings from a thin section of Amandophyllum brucei of the Upper Pennsylvanian Dewey Formation near Bartlesville, Oklahoma. This particular species is solitary; there are many colonial horn corals particularly of Devonian age in Iowa. Some colonial Devonian forms are called "Petoskey stones".

There are two traditional ways of studying solitary corals 1) transverse section cut perpendicular to the axis of these conical fossils; this section tells most of the story and 2) longitudinal section cut at right angles to the transverse section. The longitudinal section must be between two major septa (see discussion below) on each side and through the center of the coral. In the species shown here the section is cut perpendicular to the median lamella (see below).

In the following discussion we will show the transverse and longitudinal section of A. brucei and identify the various points of complexity shown in this coral. The lower figure is a longitudinal section and the upper figure is a transverse section. Numbers on the figures correspond to numbers behind the morphological parts.

#### Transverse Section and Longitudinal Section

EPITHECA (1). This skin is the outer wall of the coral, it may have transverse growth line and wrinkles neither of which are shown on transverse section, but can be seen quite well in longitudinal sections. Some corals have longitudinal ridges and grooves; the grooves show the location of major and minor septa. The coral illustrated here (Amandophyllum) does not have longitudinal elements.

MAJOR SEPTUM. (2). (septa-plural of septum). Long vertical walls running from outer wall (or nearly so on some specimens) toward center in transverse sections. We a oid showing them in longitudinal section.

MINOR SEPTUM. (3). Vertical wall like major septa except shorter and found only between major septa.

DISSEPIMENTS. (4). These are skeletal "bubbles" at the outer part of the coral; usually the dissepiments lean outwardly as shown in the longitudinal section. The zone of dissepiments is referred to as the dissepimentarium.

INNER WALL. (5). Dense calcitic deposits on the innermost dissepiments form a wall between the dissepiments and the tabulae.

TABULAE. (6). Widely spaced "bubbles" or plates that lean inwardly; this zone of tabulae is commonly called the tabularium.

COLUMELLA---The central part of the coral that include 7, 8, and 9 below.

MEDIAN LAMELLA. (7). A long continuous vertical plate in middle of the columella that runs through middle of specimens. In longitudinal section, the median lamella shows up as a straight to crooked line.

RADIATING LAMELLAE. (8). Vertical wall is similar to the major septa and are commonly extensions of them. The radiating lamellae commonly abutt against the median lamella. The dark areas in the columella shown in longitudinal section are radiating lamellae that were intersected accidentally.

TABELLAE. (9). Dissepiment-like "bubbles" that lean inwardly toward the median lamella.

We hope this rather brief exposition will cause you to appreciate these creatures a bit more than you have in the past. If any of you are interested in learning about some more genera such as Caninia, Lophophyllidium, Oryomophyllum, et cetera, please contact us at the address below

If any MAPS member should wander past Warrensburg give us a call and bring coral specimens by. If they are not silicified, we will help you section them with our equipment. Give us a call or write us so that we can arrange to be here or can tell you if we cannot be. Write Jim Cocks and Terry Berklund, Geology Department, Central Missouri State University, Warrensburg, MO 64093. Call 816-429-4936.

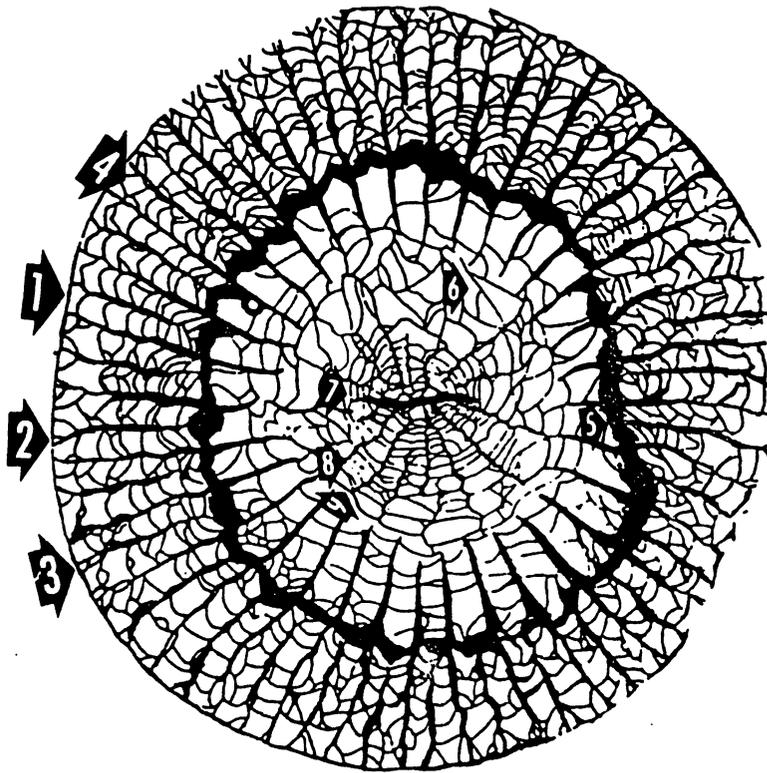
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Then a letter came from Jim Cocks--

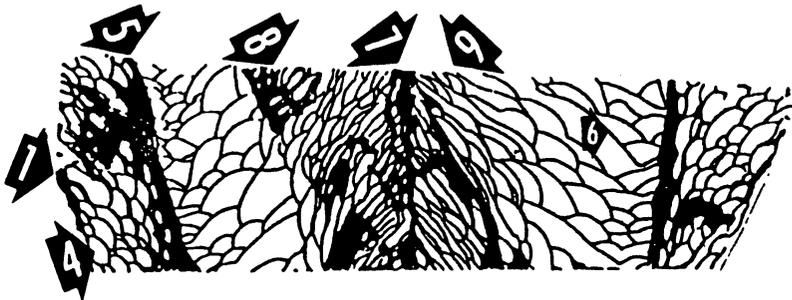
I am enclosing a proposal that may be of interest to some of the members of MAPS. We intend to keep the costs low, so that we break even or make a minimal profit. Normally we do neither! At any rate, all monies will be donated to the Fossil Coral Research Fund.

If there is any expense, please bill us. If there are questions, please let us hear from you.

MAPS Board of Directors agreed this might very well have appeal to MAPS members. (See next page).



Transverse Section



Longitudinal Section

CORAL WORKSHOP

Jim Cocke and Terry Berkland of Warrensburg, Missouri, will offer a workshop on preparing fossil corals, probably on May 20, 21, & 22, 1988; the exact date has not been finalized. A gift of at least \$30.00 per participant is encouraged. Make out your check to Fossil Coral Research Fund. This will be a tax deductible gift. The monies gained will be used to sponsor student research, to pay expenses for collecting fossil corals and page costs for publishing. The workshop will center around the making of coral thin sections, the identification of the genera involved, the recognition of critical morphological parts and a method for viewing these sections in a 35mm projector. The workshop will meet on Friday, Saturday, and Sunday and we believe that we can help you make at least 8 thin sections before the workshop is finished. If you were to purchase these thin sections, the price of each would normally range from \$4 - \$6.

CORAL WORKSHOP, Cont'd.

We will furnish glass slides, thin section epoxy, cover slips, and grinding powder. We will demonstrate use of all machinery, but will teach each participant to use the saws, grinders, ovens, et cetera. We will also furnish a specimen of each of the following genera for each participant: Caninia, Amandophyllum, Sestrophyllum, Oryomophyllum, Amplexizaphrentis, Bradyphyllum, Lophophyllidium, Favosites, and Syringopora. If you have unsilicified specimens, you can work on those if you prefer.

There are a number of motels and camping areas in the Warrensburg area. We will send a list of these on request.

If this workshop is successful, we may conduct others on fusulinids, sponges, or bryzoans. Send all enquiries, et cetera to Jim Cocke, Geology Department, Central Missouri State University, Warrensburg, Missouri 64093.

(Ed. Comment: Many thanks to this very busy man for taking time to teach. A call to and from Jim Cocke reveals the art work is his own. )

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D U E S A R E D U E - -

MAPS dues remain \$10.00 per household for 1988. Make checks payable to MAPS and send to:

Mr. Marvin Houg, Treasurer  
3330 44th St. N.E.  
Cedar Rapids, IA 52402



OVERSEAS MEMBERS PLEASE READ ON:

There seems to be considerable problem in overseas delivery in at least 2 places--West Germany, and sometimes Australia.

We have examined some solutions. We do not, of course, have any control once the DIGEST is delivered to the Post Office. There are 5 of us who work together one evening to put ALL the DIGESTS in mailable condition, and then ALL the DIGESTS are taken to the Post Office.

The best possible solution seems the option of an Airmail Delivery. To airmail a DIGEST would cost \$1.32 each monthly issue plus considerably more for the EXPO Edition. (No figure because the Expo Edition varies in size.) Presently overseas costs are 57¢ per issue, Surface Mail--in some places the time lag must be great, in others the DIGEST does not even seem to arrive.

If you prefer to have your DIGEST airmailed each month, please add \$15 to your \$10 dues cost--total \$25.00 and we will airmail your DIGEST.

NEW LIBRARY RATE -- \$25.00

Whatever your Choice-- Make all Checks payable to MAPS and send to Marvin Houg, Treasurer address above. Thank you very much.

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## AN EXPLANATION

There have been several requests for back issues of MAPS DIGEST.

Each year all back issues are taken to the EXPO and put on the table as handouts, or given to fossil shop owners to help spread the good news of MAPS. Therefore, NO back issues are available for sale. Once EXPO has ended, no more back issues.

There is a possibility here for a volunteer. There are several people who have complete sets of MAPS DIGESTS. If someone wanted to volunteer to reproduce extra copies and figure costs, the Board would be amenable to such a service. At this time, because of lack of storage space, and no such volunteer, back issues of the DIGEST are NOT available for sale.

A very sincere Sorry!

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YOU HAVE BEEN WAITING



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Royalties go to The Paleontological Society.

Sincere thank you to Dr. R. A. Robison, Dept Geology University of Kansas, Lawrence, KS 66045 for information about this text.

What a super Christmas gift idea!!!

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## NOW IN PRINT

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This Society generously contributed two sections to MAPS EXPO IX EDITION--ECHINOIDS

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## EXPO X

This EXPO will have a theme of FISH. If any one would like to have an article included in this issue, please send information by March 15.

Dennis Kingery, Rock Springs, Wyoming, is helping to make contacts with contributors.

If you have information which will lead us to a contributor, please let us know as soon as possible. Many thanks to Jim Konecny, Prescott, Arizona, who has already done just that.

Tony Verdi, 1225 Ledge Rd., Hinckley, Ohio 44233, is busy with the fossil stamp project. He is speaking to local clubs and sending out letters to many states.

Tony is aiming for a cancell that will be two inches by four inches. Tony is working on a pictorial cancellation.

So the tingling and butterflies begin--it's coming up EXPO

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

Ads \$3.50 per inch (6 lines). Send information and checks payable to MAPS to: Mrs. Gerry Norris, 2623 - 34th Avenue Ct., Rock Island, IL 61201 phone 309-786-6505  
Cont'd next page.

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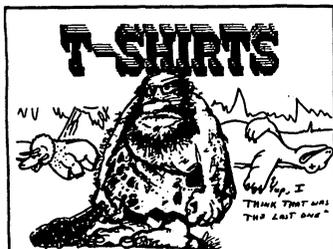
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\* \* \*

WANTED: Back issues of FOSSIL QUARTERLY: Vol 1, #1, 3, 4; Vol 2, #1, 2, 4; Vol 3, #2, 3, 4; Vol 4, #1. Will pay \$10 for each issue.

Also DIGESTS before Vol 10, #3.

Bob Gondek  
11164 Marsha Place  
Warren, MI 48089



Did you see our display at the MAPS EXPO or the Texas FOSSILMANIA? If you did, you know about the fantastic reproductions we make. Here we feature a few specimens from our Moroccan trilobite collection. Add \$3.00 each item for shipping, excess will be refunded. Satisfaction guaranteed.



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Mid-Land Scientific Service, P. O. Box 601, Stryker, OH 43557

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THE GEOLOGY CLUB OF SAN ANTONIO PRESENTS: The First Annual National Field Trip -- Custer State Park, South Dakota -- The Great Dinosaur Caper.

Fossil Trip -- July 31 - August 4. Possible locations Green River Formation (fish), Utah trilobites; Bonanza, Utah, leaves, insects.

Mineral Trip -- August 8 - August 12. You will have to write for more information.

The Field Trips are \$10.00 each. No final dollar cost for the three days at this time. Projected cost \$30.00 to \$40.00 per person, with children 12 and under at a lesser figure. This price includes catered supper on Saturday, August 6, and a hayride on August 5.

Do not send money at this time, but mail NAME, ADDRESS, ZIP CODE, & PHONE NUMBER.

Deadline for the money and application will be December 31, 1987.

For reservations: GEOLOGY OF SAN ANTONIO, 200 Atlas Street, San Antonio, TX 78223, or Gary Yantis, 2818 Sunnycrest, San Antonio, TX 78228 Phone 512-433-1247.

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'LIVING FOSSILS' DISPLAY UNUSUAL BEHAVIOR

They swim backwards, they drift upside down, they even perform an underwater version of a headstand. Such are the antics that West German scientists observed when they set out in a submersible to study a primitive fish that was once thought extinct.

Sometimes called "living fossils," these are the only remaining examples of cross-opterygians--an ancient line of fish that many scientists believe spawned the first tetrapods, or four-legged land animals. This is the first time scientists have observed them in their habitat, and there is hope that these fish, called coelacanths, will aid in understanding the vertebrate transition from water to land.

Paleontologists had believed that coelacanths died out around 60 million years ago, until a living specimen was discovered off the coast of Madagascar in 1938. Since then, scientists have studied the behavior of line-caught coelacanths by releasing them at the surface. But coelacanths normally live under great pressure at depths of 200 meters, and they die within several days of surface existence.

SCIENCE NEWS, October 3, 1987  
Thanks to JOHN FAGAN, Chicago, Illinois

\* \* \*



MERRY CHRISTMAS TO ALL



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: January 1 through December 31 is \$10.00 per household.

MAPS meetings are held on the 1st Saturday of each month (2nd Saturday if inclement weather). September, October, May, July, and August meetings are scheduled field trips. The June meeting is in conjunction with the Bedford, Indiana Swap. 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.

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