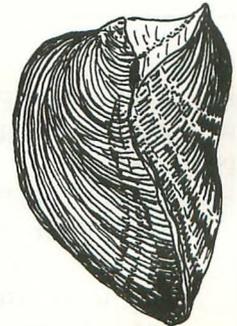
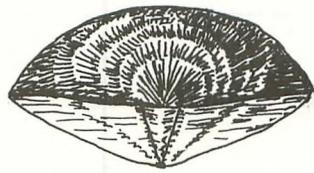
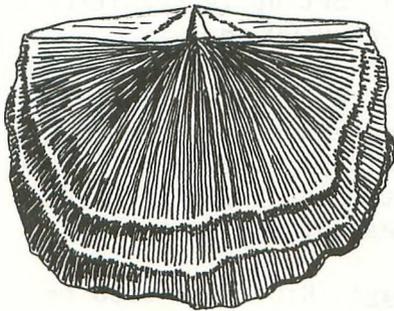


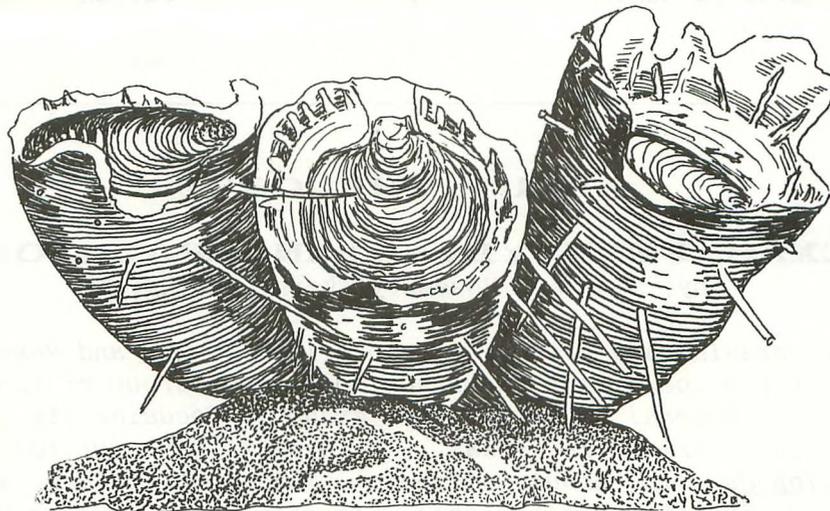
# M.A.P.S. Digest

Official Publication of  
Mid-America Paleontology Society

Volume 12 Number 3  
March, 1989



Derbyia ciscoensis  
Dunbar and Condra  
X 1



Teguliferina armata  
(Girty)  
X 2.5

## Two Texas Pennsylvanian Brachiopods

**MARK YOUR CALENDARS**

<p>18 MAR MAPS MEETING at IBEW Hall 1211 Wiley Blvd. S.W. Cedar Rapids, IA</p> <p>1:00 Board Meeting 2:00 MAPS Meeting Cedar Valley Rocks &amp; Minerals Society Show</p>	<p>14 APR NATIONAL FOSSIL EXPOSITION XI- 15 MAMMALS 16</p> <p>Grand Ballroom, Student Union Western Illinois University Macomb, IL</p> <p>The simplest way to the Union is to turn off IL Hwy 67 west on University Drive, then go south to the Union. (Follow the signs.) Set-up is permitted on Friday at 8:00 am</p>
<p>31 MAR TAMPA BAY FOSSIL CLUB 2ND ANNUAL 1 APR FOSSIL FAIR. 2 APR</p> <p>MUSEUM OF SCIENCE &amp; INDUSTRY 4801 East Fowler Ave, Tampa, FL</p> <p>Set-up Friday, open to public Sat. &amp; Sun.</p> <p>10:00 am to 6:00 pm Sat. 10:00 am to 5:00 pm Sun.</p>	<p><u>Friday:</u> 8:00 am - 7:00 pm Keynote Speaker: Peter Larson President of Black Hills Institute of Geological Research, Inc., at 7:30</p> <p><u>Saturday:</u> 8:00 am - 5:00 pm Live Auction Saturday evening, following a short business meeting and awards presen- tation</p> <p><u>Sunday:</u> 8:00 am - 3:00 pm</p>

**ABOUT THE COVER****TEXAS PENNSYLVANIAN BRACHIOPODS**

by: Tom and Rosemary Akers, Spring, TX

*This month's cover drawing and article were provided by Tom and Rosemary Akers. Rosemary wrote that the "article comes from the Brachiopod Study Group of the Paleontology Section of the Houston Gen & Mineral Society. This group is focusing its efforts on brachiopods from the Pennsylvanian Period in Texas. We hope to have our fourth publication, Texas Pennsylvanian Brachiopods, in about a year. This publication will cover all of such brachiopods mentioned in the professional literature. To date we have found about 65 genera and over 150 species."*

The Phylum BRACHIOPODA or brachiopods are bivalves with bilateral symmetry which usually live attached to the sea floor by either a stalk (pedicle) or cementation to an object. The phylum is partially characterized by the presence of a lophophore which is a special organ for both breathing and eating. Brachiopods are divided into two classes commonly called

inarticulates and articulates. In the Pennsylvanian period in Texas we have about 65 different genera and over 150 different species, and they represent a remarkable diversity of form. Like sea and land animals, the brachiopods have adapted to a variety of situations in the shallow sea by such changes in form.

cont. on p. 4

**EXPO XI - MAMMALS**

EXPO XI is just about a month away now, and we hope lots of you will have the opportunity to attend.

Karl Stuekerjuergen, Show Chairman, reports that there are only about a dozen tables left. People are coming from 24 states, Canada, Italy, and Germany, so we should have a good variety at the show.

Madelynne Lillybeck, editor of the EXPO edition of the *Digest*, reports that articles are rolling in, coming from all sections of the country; there will be something from the North, South, East, and West. She says there is always a time of panic when she wonders if it will all come together, but then it does, and it looks like this year's EXPO edition will be as enticing as ever, thanks to the generosity of the members of MAPS! Madelynne says she'll see you at EXPO.

Toni Verdi is planning to be at EXPO again this year with another one-time postal cancellation depicting a mammal--in keeping with the theme of this year's show. So look for the Postal Station set-up and get your souvenir cancellation, available only at EXPO!

Get your fossils ready and/or bring only as much money as you can afford to spend. Gear up for seeing old friends and meeting new ones. Plan to take in Pete Larson's presentation Friday night and the Live Auction Saturday. (Don't forget your donation). We'll see you at EXPO XI April 14, 15 and 16!.

**A REQUEST FROM HAROLD TICHENOR**

To the woman who made a point of bringing me a lot of Spergen Hill Salem Limestone at EXPO X: Please get in touch with me at my MAPS Directory address; I lost my note of your name. I plan to offer most of that material at EXPO XI (as freebie), if there are any aspiring microfossileers, and I want them to know where this wonderful stuff came from.

\*\*\*\*\*  
**NOTE:** The next *Digest* will be the EXPO edition. May issue will arrive about mid-May.

**TAPE PROGRAMS AVAILABLE**

Gil Norris has put together four VHS tape programs which were first released at EXPO X and are still available by mail order. Each program comes with a study guide. The programs available are:

Arthropods & Crustaceans.....34 min  
 Brachiopods, Bryozoans, Sponges..44 min  
 Cephalopods & Mollusks.....55 min  
 Echinoids.....48 min

The programs may be ordered as stated on separate tapes; or any combination of programs up to a total of 2 hours long may be ordered on one tape. The price is \$20 per program for each program ordered on a separate tape. If you want more than one program on one tape, the price is \$20 for the first program and \$15 for each additional program on that tape. Add \$2 per tape for postage. Make checks payable to **MAPS** and send to:

Gil Norris  
 2623 34th Avenue Ct.  
 Rock Island, IL 61201

**PLEASE USE THE ORDER FORM (or a reasonable facsimile of it) FOUND ON PAGE 8.**

**PALEONTOLOGICAL SOCIETY PUBLICATIONS**

THE EVOLUTION-CREATION CONTROVERSY, Perspectives on Religion, Philosophy, Science and Education (Proceedings of a Symposium Convened by Robert A. Gastaldo and William Tanner), The Paleontological Society Special Publication No. 1, Kenneth R. Walker, ed., 1984, 160p., \$7.50

PALEOECOLOGY AND TAPHONOMY OF RECENT TO PLEISTOCENE INTERTIDAL DEPOSITS GULF OF CALIFORNIA (Prepared for Field Trip Number 5 Sponsored by The Geological Society of America and The Paleontological Society), The Paleontological Society Special Publication No. 2, Karl W. Flessa, Ed., Kenneth R. Walker, series ed., 1987, 237 p., \$12.50.

Make checks to PALEONTOLOGICAL SOCIETY

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 University of Tennessee  
 Knoxville, TN 37916

## AN UNUSUAL NEW FOSSIL FROM THE ORDOVICIAN OF UTAH

by John McLeod

703 Pearl St., Boise, ID 83705

One of the greatest unappreciated enigmas of the fossil record is the origin of the major groups of Paleozoic reefbuilding fossils. Bryozoans, corals and stromatoporoids are all well-developed and diverse in Middle Ordovician time, but fossil remains of ancestral forms are frequently rare, poorly preserved and/or of doubtful affinities.

Several years ago while searching Lower Ordovician carbonates of the Ibex Range in Utah, I discovered a new fossil of unknown affinities in a large block of "float". It is approximately an inch and a half long, and is shaped like a horn or tusk. It is clearly a colony, consisting of polygonal tubes which appear to lack internal partitions, or tabulae. And, although partially exfoliated by weathering, it appears to lack an epitheca, or outer skin, such as that found on solitary horn corals and some primitive bryozoans.

While the limestone block was found well below the Lower-Middle Ordovician contact, the exact age is unknown. Dr. John Repetski of the U.S. Geological Survey is currently assisting me, analyzing the age of conodont microfossils from the matrix in order to make an accurate age determination.

An early guess as to its affinities? Lichenarid tabulate corals, which may lack tabulae are known from rare specimens from Lower Ordovician rocks; and the size of the



*A new fossil, possibly related to Lichenarid tabulate corals, being studied by John McLeod.*

tubes is quite comparable to these earliest tabulate corals. But the tusk-shaped colony is unknown from other tabulates. It is hoped that further investigation with longitudinal and transverse thin sections may elucidate the true affinities of this enigmatic fossil. If any MAPS members have seen similar fossils from the Great Basin or elsewhere, I would most welcome any information.

## BOOK REVIEW

by S.J. Cieurca, Jr., Rochester, NY

*SOURCEBOOK TO THE NEW YORK STATE GEOLOGICAL ASSOCIATION GUIDEBOOKS 1956-1986.* 1987. R. D. Hamell. Stratagraphics, 63 Knoll Top Drive, Rochester, New Yor, 14610, 236p. \$20.00.

For over fifty years, the New York State Geological Association has met at various colleges throughout New York State. From these colleges numerous field trips have been conducted to important geological

sites including many classic fossil sites of interest to paleontologists, stratigraphers, and fossil collectors.

Richard Hamell's *Sourcebook to the NYSGA Guidebooks* provides easy access to over 300 field trips that cover the geology of most of New York State. The Guidebook lists all authors and institutions involved in the field trips and contains over 4,000 references to the literature used by the authors of the field trips.

All serious fossil collectors need this Sourcebook.

cont. from p. 1 ABOUT THE COVER

### Genus *Derbyia*

*Derbyias* belong to Superfamily DAVIDSONIACEA and are found world-wide in the Carboniferous and Permian Periods. They are medium- to large-sized fossils with a roughly semicircular shape. They have narrow costellae which increase by division as they go from posterior to anterior. The space between these radial costellae is flat. Concentric growth lines in close order are evident in varying prominence on the shell surface. The brachial valve is more convex than the pedicle valve, and the latter has a large interarea almost perpendicular to the hinge. In the center of the interarea is the pseudodethyrium. Internally, the pedicle valve teeth and the brachial valve sockets interlock and stabilize the hinge. A median ridge or septum is also found in the pedicle valve and serves as an important identification feature. The lobed cardinal process of the brachial valve provides another means for identification.

#### *Derbyia ciscoensis*

Dunbar and Condra

Upper Pennsylvanian Period

Virgilian Series (Cisco in Texas)

Thrifty Group

Medium-sized, *Derbyia ciscoensis* measures about 4 cm long, 4.5 cm wide and 2.7 cm thick. The biconvex shape, sometimes distorted, is ornamented with angular, radial costellae, and the space between them is equal to costellae width. The pedicle valve deltidium bears a median depressed line. Dunbar and Condra

described this fossil in 1932 from specimens found between 7 and 15 miles northeast of Cisco, Texas.

### Genus *Teguliferina*

These rather bizarre brachiopods belong to Superfamily STROPHALOSIACEA and have a geological range from the Pennsylvanian through the Permian Periods. They have the typical convex pedicle valve and flat brachial valve of the suborder but the pedicle valve has evolved in a cone-like shape. The brachial valve is extended posteriorly into a tongue which articulates in a notch near the apex of the pedicle valve. There is no cardinal area. Ornamentation of the pedicle valve is tubular spines open at the outer end and used for attachment.

#### *Teguliferina armata*

(Girty)

Upper Pennsylvanian Period

Missourian Series (Canyon in Texas)

Gaptank Formation

I like to think of this genus as the brachiopods' answer to the rudists, the reef-building clams. They are small, cone-shaped shells measuring 1.5 cm wide and 2.5 cm high. The brachial valve is nearly flat and serves like a trap door. The edge or brim of the cone-shaped valve had a row of tooth-like spines. Shells were cemented to the substratum by the initial point of the shell growth or by a tangle of spines. These remarkable shells are found in West Texas near the Glass Mountains, an area famous for silicified Permian brachiopods.

### REFERENCES:

1. Dunbar, C. D. and Condra, G. E. 1932. Brachiopods of the Pennsylvanian System in Nebraska: Nebr. Geo. Sur. Bull. 5, 475 pgs.
2. King, P. B. 1930. The Geology of the Glass Mountains, Part 1, Descriptive Geology: Univ. Tex. Bull. No. 3038, 167 pgs, 6 pls.
3. Moore, R. C. (Ed.) 1965. Treatise of Invertebrate Paleontology, Part H - Brachiopoda, v. 1 and 2, 927 pgs, illus.
4. Plummer, F. B. 1943 (1950). The Carboniferous Rocks of the Llano Region of Central Texas: Univ. Tex. Pub. No. 4329, 170 pgs.
5. Plummer, F.B. and Moore, R. C. 1921. Stratigraphy of the Pennsylvanian Formations of North Central Texas: Univ. Tex. Bull. No. 2132, 237 pgs.

## PALEONTOLOGICAL COLLECTING IN KANSAS

source: *Paleontological Collecting in Kansas*, by Rex Buchanan and Chris Maples, Kansas Geological Survey, Open-file Report 89-5, January 18, 1989. [*The following are excerpts.*]

For the past few years, commercial fossil collecting has been a subject of growing interest and concern, both nationally and locally. In 1987, the National Academy of Sciences (NAS) produced a major report recommending policies for paleontological collecting... In general, the report recommends that uniform policies be developed toward fossil collecting on state and federal lands, and that commercial collecting on public lands be regulated.

In Kansas, concern has been focused primarily in the western part of the state, where large vertebrate fossils...are regularly removed from...the Niobrara formation. Fossils have been removed from the Niobrara for more than 100 years; many have gone to museums throughout Kansas and the world. However, prices for fossils have apparently begun escalating, bringing more commercial fossil collectors (some from Kansas, some from out-of-state) to western Kansas. According to some reports, an increasing number of those fossils now go into private collections.

With increasing interest in commercial fossil collecting came a concomitant increase in concern among local landowners and Kansas residents about commercial collecting, the prices being paid for fossils and the ultimate disposition of the fossils... It should be made clear that none of the concern expressed about collecting was related to casual collectors, such as rockhounds and students, or professional paleontologists...

Problems with commercial collecting centered around the unauthorized collecting of large vertebrate fossils from private property; appropriate compensation for landowners with fossils on their property; the exportation of Kansas fossils outside of the country; and the alteration of fossils for use as art objects...

The consensus developed that regulation of private land would be difficult and perhaps counterproductive. However, participants felt that commercial collectors (not casual or scientific collectors) should be licensed by the appropriate state agency,

and that there should be appropriate fees for the license and appropriate penalties for unlicensed collectors. Such a licensing procedure might be helpful in discouraging unauthorized collecting on private land, and would provide additional penalties for unlicensed collectors...

The following recommendations were then made: 1) the recommendations made in the NAS report should be made state policy; 2) quarrying for fossils on state-owned land by commercial collectors should require a permit from the appropriate state agency. The decision on awarding such a permit should be made in consultation with the Kansas Geological Survey; 3) commercial fossil collectors should be licensed by an appropriate state agency, with fees for the license and penalties for unlicensed collectors; and 4) efforts should be made to take advantage of the educational and historical value of Kansas fossils. Efforts should be made to keep important Kansas fossils in state museums or universities...

*[The above recommendations resulted from a meeting involving primarily paleontologists paleontologists and educators from around Kansas; the following conclusion was drawn from that and a later public meeting. ed.]*

First, there is a problem with commercial collection in Kansas. Fossils are apparently removed without landowner knowledge, and sold with little or no recompense to landowners. Apparently, much of the problem is from out-of-state commercial collectors. Second, there is no problem with casual fossil collecting by students or rockhounds, or with research collecting by professional paleontologists and institutions. Third, the guidelines developed in the [NAS] report and in the meeting of Kansas paleontologists are generally useful and should be instituted. Fourth, as best we can determine, fossils currently have no special protection under the law. To help stem their unauthorized removal from private or public property, it might be advisable to develop statutory protection, and make their theft a felony or misdemeanor..

**PUBLICATION AVAILABLE FREE FOR ASKING**

Ed Lauginiger, a biology teacher in Sharon Hill, PA, sent me a copy of his latest publication with a note to let you know that it may be obtained **FREE** by writing and asking for the following:

Special Pub. #18  
Cret. Fossils from the C&D Canal  
by Ed Lauginiger

Send requests to:

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University of Delaware  
Newark, Del. 19716

Ed's *Cretaceous Fossils from the Chesapeake and Delaware Canal* is a comprehensive 57-page soft-bound guide for students and collectors. The book contains chapters on the requirements for and types of fossilization, the geology of the canal, the classification of fossils (with illustrations), and collecting localities in the area (including a chart of which fossils are found in the different formations). It also has an extensive Bibliography and nine plates of fossils. It would be a valuable guide for those collecting in the area and a source of information for other collectors not in the area.

**UNIVERSITY OF TENNESSEE STUDIES IN GEOLOGY AVAILABLE**

*University of Tennessee Studies in Geology publishes subjects of general geologic interest plus more detailed treatments and field guides relating to the geology of the Southern Appalachians. Short course notes for the annual Short Courses of the Paleontological Society are published as a part of this series.*

Professor Thomas W. Broadhead, The University of Tennessee, Knoxville, sent the following list of publications, which may be of interest to MAPS members:

3. **Echinoderms, notes for a short course.** T.W. Broadhead & J.A. Waters, co-editors, v. 3, 235 p., 1980. \$12.00. 17 contributions by 19 authors covering aspects of evolution, paleoecology, and taxonomy of living and fossil echinoderms.
  5. **Lophophorates, notes for a short course organized by J.T. Dutro & R.S. Boardman.** T.W. Broadhead, ed., v.5, 253 p., 1981. \$12.00. 13 contributions by 13 authors covering aspects of evolution and paleoecology of brachiopods and bryozoans.
  6. **Foraminifera, notes for a short course organized by M.A. Buzas & B.K. Sen Gupta.** T.W. Broadhead, ed., v. 6, 219 p. 1982. \$12.00. 10 contributions by 13 authors covering ecology, biogeography, evolution, and classification of foraminifers.
  7. **Sponges and Spongiomorphs, notes for a short course organized by J.K. Rigby & C.W. Stearn.** T.W. Broadhead, ed., v.7, 220 p., 1983. \$12.00. 16 contributions by 17 authors covering paleobiology, evolution, and classification of sponges, stromatoporoids, chaetetids, and archaeocyathids.
  8. **Mammals, notes for a short course organized by P.D. Gingerich & D.E. Badgley.** T.W. Broadhead, ed., v. 8, 234 p., 1984. \$12.00. 12 contributions by 12 authors covering evolution, functional morphology, and classification of mammals.
  13. **Mollusks, Notes for a Short Course Organized by D.J. Bottjer, C.S. Hickman & P.D. Ward.** T.W. Broadhead, ed., v. 13, 308 p., 1985. \$12.00. 16 contributions by 17 authors covering many aspects of molluscan paleobiology.
  15. **Land Plants, Notes for a Short Course Organized by R.A. Gastaldo.** T.W. Broadhead, ed., v. 15, 226 p., 1986. \$12.00. 12 contributions by 17 authors covering aspects of evolution, paleoecology, and biogeography of land plants.
  18. **Fossil Prokaryotes and Protists, Notes for a Short Course Organized by J.H. Lipps.** T.W. Broadhead, ed., v. 18, 303 p. \$12. 10 contributions by 11 authors concerning the evolutionary biology of the principal groups of calcareous, siliceous, and organic-walled forms.
- \*\*\*\*\*  
Prices are postpaid, 4th class domestic mail; overseas orders must add \$1.50 per copy for surface mail. Payment of institutional purchase order must accompany order and be made payable to Department of Geological Sciences, Univ. of Tennessee, Knoxville, TN 37996-1410.

## ADVERTISING SECTION

Ads are \$3.50 per inch (6 lines x 1 column--43 spaces). Send information and checks payable to MAPS to: Mrs. Gerry Norris, 2623 34th Avenue Ct., Rock Island, IL 61201. Phone: (309) 786-6505. This space is a \$3.50 size.

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### 1989 SHOW SCHEDULE

Lewiston, ID	April 1-2
Eugene, OR	May 6-7
Coeur d'Alene, ID	May 13-14
Cincinnati, OH	May 20-21
Portland, OR	June 8-11
Sheridan, WY	June 23-25
Cortez, CO	July 8-9
Durango, CO	July 14-16
Colorado Springs, CO	July 22-23
Buena Vista, CO	August 11-13
Grand Junction, CO	August 18-20
Canby, OR	September 2-4
Denver, CO	September 13-17
Walla Walla, WA	October 6-8

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### NEW PUBLICATION AVAILABLE

Memoir 44 -- *Contributions to paleozoic paleontology and stratigraphy in honor of Rousseau H. Flower*, compiled by D.L. Wolberg, 1988, 415 pp., 192 figs.

The volume contains 25 contributions by 37 authors from around the world. It covers a variety of Paleozoic invertebrates, stratigraphy, and paleogeography. The memoir contains 100 line drawings and 92 halftone illustrations, most of them full-page composites. Cost is \$30 plus \$3 to cover postage and handling. Orders are tax exempt. It is available from:

NM Bureau of Mines & Mineral Resources  
Campus Station  
Socorro, NM 87801

### "WELL, YOU SEE, I WAS BITTEN BY THIS CEPHALOPOD..."

from: Dry Dredgers *Bulletin*, Department of Geology, Univ. of Cincinnati, Cincinnati, OH, Greg Hand, ed.

Tetanus from a fossil: It's not impossible, according to a report making the rounds of mineralogical publications (lately in *Fort Hamilton Gems* via Hy Grader, *Stonebruisers*, *Scribe*, and *Chip & Lick*). Rocks can hold spores that become activated after years of dormancy once they come into contact with human or animal blood. Is your tetanus immunization up-to-date? Booster shots are now good for up to five years.



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

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

Membership fee: One year from month of payment is \$10.00 per household. Institution or Library fee is \$25.00. Overseas fee is \$10.00 with Surface Mailing of DIGESTS OR \$25.00 with Air Mailing of DIGESTS.

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