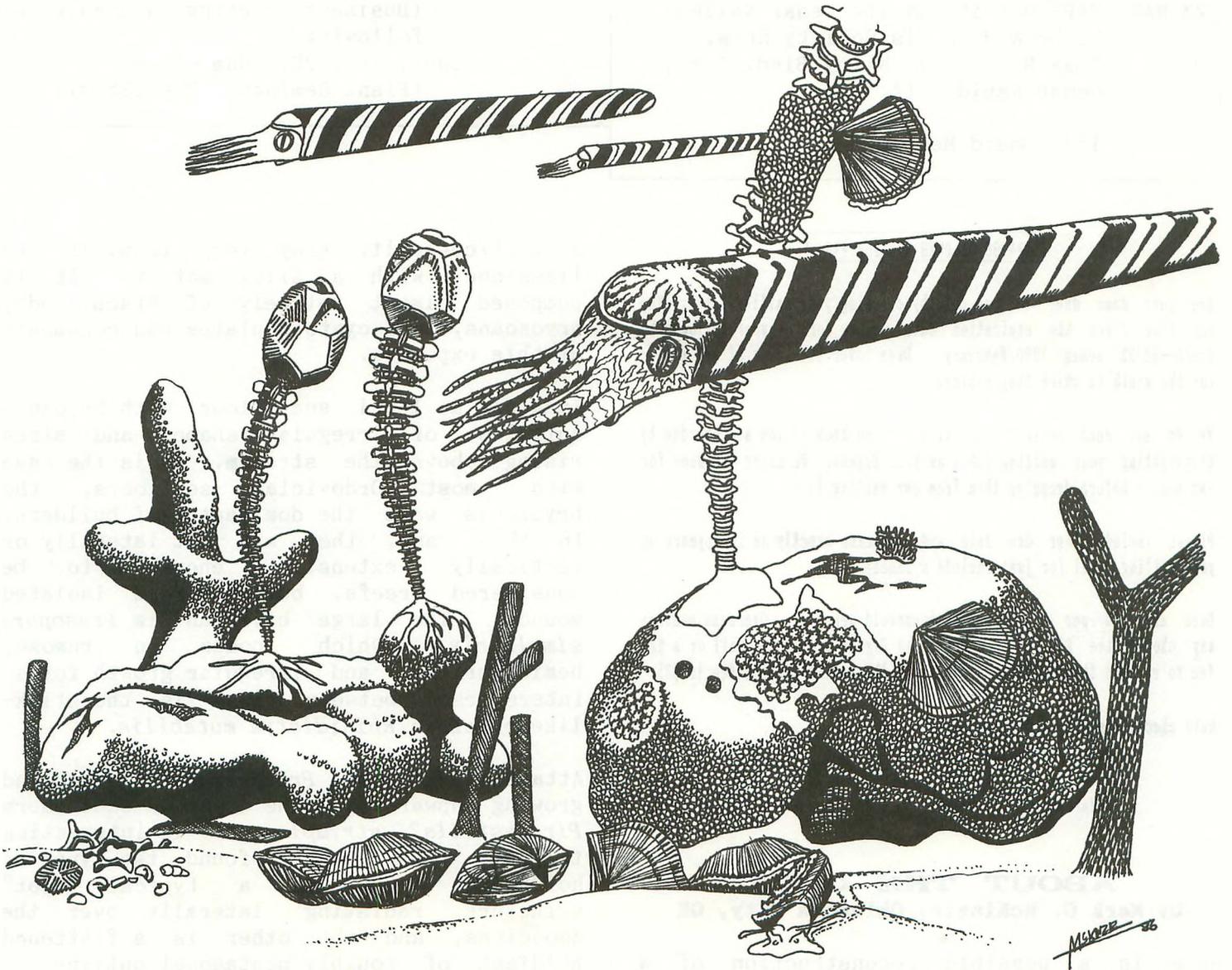


M.A.P.S. *Digest*

Official Publication of
Mid-America Paleontology Society

Volume 13 Number 2
February, 1990



MARK YOUR CALENDARS

<p>10 FEB MAPS MEETING --Geology Department Monmouth College, Monmouth, IL</p> <p>1:00 Board Meeting 2:00 MAPS Meeting Larry Wiedman, Prof. Geology, Geology Dept., Monmouth College, Monmouth, IL, will be in charge of the program.</p>	<p>20 APR MAPS National Fossil Exposition 21 XII - Leaves and Grasses 22 Student Union, Grand Ballroom, Western Illinois University, Macomb, IL</p> <p>Fri., Apr. 20: 8am - 7pm (Dr. Francis Huber, from the Simthsonian, will give the keynote speech on paleobotany) Sat., Apr. 21: 8am - 5pm (Business meeting and auction following) Sun., Apr. 22: 8am - 3pm (Plant Seminar: 9 - 12:30)</p>
<p>23 MAR MAPS MEETING at the Cedar Valley Rocks & Minerals Society Show, IBEW Hall, 1211 Wiley Blvd. S.W., Cedar Rapids, IA.</p> <p>1:00 Board Meeting</p>	

*** 90/02 DUES ARE DUE ***

Are your dues due? You can tell by checking your mailing label. The top line gives the expiration date in the form of year followed by month--90/02 means 1990/February. Dues cover the issue of the *Digest* for the month in which they expire.

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

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

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

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

ABOUT THE COVER

by Mark G. McKinzie, Oklahoma City, OK

Here is a possible reconstruction of a middle Ordovician sea floor, based on fossils collected from 2 miles west and 1/2 mile north of Bromide, in Johnston Co., Oklahoma. The formation is a member of the Bromide, Simpson Group, middle Ord. It is

a buff/cream/lt. gray very fossiliferous limestone with a silty matrix. It is composed almost entirely of brachiopods, bryozoans, and cystoid plates and columnals at this exposure.

Imagine a level sea floor with bryozoan colonies of irregular shapes and sizes rising above the stratum. As is the case with most Ordovician seafloors, the bryozoans were the dominant reef builders. In this case, they are not laterally or vertically extensive enough to be considered reefs, but do form isolated mounds. The large bryozoan is *Prasopora simulatrix*, which comes in ramose, hemispherical, and irregular growth forms. Interspersed between these is the stick-like bryozoan *Rhinidictya mutabilis*.

Attached to the *Prasopora* colonies and growing upward is the cystoid echinoderm *Pirocystella? strimplei*. It is interesting to note that I have found two types of holdfasts. One is a typical "root" structure radiating laterally over the zoeciums, and the other is a flattened holdfast of roughly pentagonal outline. I don't know if these represent different species or not. I purposely left off arms or brachioles from the cystoid cups because I don't know what they look like (or if they had any).

(continued on page 8)

EXPO XII - LEAVES AND GRASSES

According to Tom Walsh, lots of table, room and seminar reservations have come in for EXPO XII. Tables are filling up fast and all Union rooms are taken. Tom wrote, "Boy! you would think the show was Feb. 20-22 rather than April. All the excitement and activity already!"

Dr. Francis Hueber, from the Smithsonian, will be the keynote speaker Friday night at 7:30. He will give a presentation on paleobotany.

Gil Norris has a video tape of Ernie Hammons accepting the Strimple Award, and he will be showing it at EXPO. (He says it's very entertaining.) The Hammonses are the first award recipients to receive a standing ovation at the end of their acceptance speech.

With the inclusion of a seminar at this year's EXPO in addition to the usual meeting of friends, sale, exchange, and display of fossils, keynote speaker, live auction, and commemorative postal cancel, EXPO XII promises to be even more exciting than ever before. We hope you can be there!

DENNY SUTHERLAND PASSES AWAY

Madelynne Lillybeck, Moline, IL, received a note from Marty Sutherland, Lancaster, CA, telling her of Denny's passing away Christmas afternoon. Denny had been very ill since fall. We'll miss Denny at EXPO, but Marty plans to be there. Our condolences to Marty and the rest of Denny's family.

MAPS SUMMER PICNIC

The annual MAPS picnic held in August has been changed to the fourth weekend in July and will be held this year at Doug DeRosear's in Donnellson, IA. The change was made because it was felt that the board needs to touch bases during the summer.

MEET YOUR NEW OFFICERS

At the January MAPS meeting the following officers were elected to serve for 1990:

- President: Gil Norris
- 1st VP: Allyn Adams
- 2nd VP: Karl Stuekerjuergen
- Secretary: Jo Ann Good
- Treasurer: Sharon Sonnleitner
- Membership: Tom Walsh
- 1st Yr. Director: Doug DeRosear

Our thanks to outgoing President Peggy Wallace and the other 1989 officers for so generously giving of their time and talents to serve the MAPS membership.

ROCKFORD BRICK & TILE TO BECOME PARK?

Marv Houg, Cedar Rapids, IA, recently received a call from the Director of the Floyd County, IA, Conservation Department asking for help in their attempt to procure State money to buy the Rockford Brick & Tile quarry near Rockford, IA. The Conservation Department plans to turn the site into a county park open to the public for collecting of fossils. Those of you who have collected there know the quarry is unique in Iowa and will understand the Conservation Department's desire to preserve the area.

Allied Construction, which owns the abandoned quarry wants to sell the quarry to the Conservation Department, but the sale cannot be completed without State money. The Department is asking anyone who has collected at the site or studied fossils from it to write a letter in support of the Conservation Department's efforts to purchase and preserve the area as a county park open as a collecting site. The Department has already received letters of support from many Universities and individuals, but the more it has, the greater the chances of obtaining the necessary funds from the state of Iowa.

Send letters **BY FEBRUARY 15** to:

Floyd County Conservation Department
 P.O. Box 113
 Charles City, IA 50616
 Attn: Wayne Meyer

"NEW" FOSSIL FINDS

by B. L. STINCHCOMB

4236 Ringer Rd., Mehlville, MO 63129

"New" fossil finds are always exciting, particularly fossils which document a life form which is new to science and which may even document a body plan of an organism previously unknown. A recent MAPS *Digest* article on the Burgess shale fossils pointed out some of the strange and exciting life forms which can turn up. These and others of great antiquity can give a big "quantum jump" in the understanding of life in the distant geologic past. This article also mentioned the fact that fossils of scientific rarity and significance aren't always, at least superficially, very spectacular looking. This applies to most of the Burgess shale specimens, with the exception of the trilobites, which are the least unique forms of the fauna (except in the fact that some preserve the soft appendages). Other instances of significant fossil faunas, which have enable major steps to be made in documenting and understanding just how different Paleozoic life was from that of the Mesozoic and later time, are the Essex fauna of Northern Illinois, the Bundensbach slates of Germany and some of the Lower Cambrian faunas of the Appalachian and Cordillerian areas of North America.

Discovery of new types of fossils and fossil faunas in various parts of the world is an exciting form of planetary exploration still going strong and one which can potentially add significant new information about life of Earth's geologic past. Sometimes these discoveries are made by utilizing a new technique of cleaning previously collected material; the application of the air abrasive machine is a case in point. Sometimes extracting information on previously known fossils through data processing, use of X-rays, radiography or other applications of technology can lead to new information. Still other ways new information about previously unknown life forms can be garnered is through examination of newly exposed rocks such as those which led to the discovery of the Essex material.

Another case where "new" fossil material and also new information about life of the geologic past can be gathered is in the

finding of fossil faunas in formations or areas which were previously not investigated. One such area which has been a "sleeper" for possible new paleontological finds is the Ozark Uplift of Missouri and Arkansas. Although it contains one of the largest areas of Cambrian and lowermost Ordovician outcrops in the world, it wasn't until the 1920's that even the most rudimentary paleontological work was carried out over most of the Ozarks.

Much of the Ozark area is covered with large amounts of flinty rock (chert) which will now and then exhibit a poor-looking fossil on the surface; however, in general the area has usually been written off as an area with "poor pickins" for paleontologists. When one, accustomed to collecting in limestones or shales of "normal" Paleozoic strata, is confronted with the hard, often drusy and flinty rocks of the Ozarks, he usually takes one look and then forgets about fossils. If he's a bit more persistent and continues to look, the seemingly apparent continued absence of fossils in most of the rocks (except for occasional poorly preserved forms), usually reinforces the initial impression with correspondingly diminishing interest. So it is that most geologists, amateur collectors and others with an interest in fossils or with an interest in the geology of the Ozarks, usually write off its rocks as not favorable for yielding paleontological "treasures."

A few "pioneer" geologists of the not so distant past had a somewhat different view. One of these was the paleontologically and stratigraphically prolific E. O. Ulrich, who in the late teens and early twenties, using model T Fords for initial access, diligently searched Ozark hills for fossils and came up with a surprising wealth and variety of specimens. These, along with material collected by J. Bridge of the Mo. School of Mines and later with the U.S. Geological Society, formed the basis of a series of proposed publications about Ozark fossils, some of which were never completed. The most extensive work which was completed was

a three volume one on the cephalopods. One who has access to a fairly extensive geology library might like to take a look at *Ozarkian and Canadian Cephalopds*, Geol. Soc. Amer. Special papers Vols. 37, 49, and 58.

These and other Ozark fossils formed the basis for a proposal by Ulrich to establish a new geologic period between the Cambrian and Ordovician periods; this was to be called the Ozarkian period. The proposal died a premature death in the 1930's. Among various reasons for its demise might have been a somewhat haughty attitude which Ulrich apparently conveyed to his colleagues. At any rate, the pioneer work by Ulrich and Bridge established that a considerable variety of distinctive and often well preserved fossils did indeed occur in the ancient rocks of the Ozarks, although it takes a trained eye to locate them. The diversity and variety of fossils collected was considerable, and only a portion of that variety has been described. Ulrich's and Bridge's specimens reside in the U.S. National Museum and need additional work.

Ulrich sometime in the 1920's made up a series of sets of glass negatives of photographs of Ozark fossils which he planned to describe and enter into the literature of paleontology. A series of monographic works was contemplated; only the one on the cephalopods was completed. The fossils which were to be monographed were brachiopods, trilobites, gastropods, cephalopods and a variety of cornucopia-shaped, horn- or spoon-shaped shells which were then thought to be primitive gastropods. Copies of these glass negatives were sent to various geology departments around the country where persons interested in Cambrian faunas were located.

One of these institutions was the Missouri School of Mines in Rolla, Missouri, where as a freshman geology student working as a student employee in the early 1960's, I ran into the negatives. I had a few years earlier, on a scout troop camping trip, encountered some highly fossiliferous cherts containing some of the same fossils illustrated in the glass negatives and found all of them quite different from the Mississippian and Pennsylvanian fossils with which I was familiar.

The cone- and spoon-shaped fossils were not gastropods at all, but something quite different--representatives of a new class of molluska, the monoplacophora. This information, substantiating a completely new major category of such a well known phylum as the mollusks, came both from peculiar patterns of symmetrical pits (muscle scars) on internal molds of the fossil shells, and from living monoplacophorans discovered in deep sea dredging in the southeast Pacific. The fossil monoplacophorans, along with the strange cephalopods, gastropods and other Ozark fossils I encountered, convinced me that here was something well worth putting additional effort into. I fell in love with Ozark fossils!

During the 1940's and 50's other works on Ozark fossils, in addition to those of Ulrich and Bridge, were published. One of these documented the Lower Ordovician Jefferson City and Cotter formations, formations which even though of Ordovician age have many faunal aspects still reminiscent of the Cambrian. The other publication is the *Paleontology of the Roubicoux Formation*, by Robert Heller. The Roubidoux formation contains the red sandstone beds which can be seen outcropping abundantly in many places when crossing the Ozark uplift. This publication about the Roubidoux is still in print; it has beautiful high quality plates of Ozark fossils and is available for \$2.00 from the Missouri Geological Survey, Buehler Part, Rolla, MO 65401.

What new finds may yet turn up? Who knows? With large areas of cherts and dolomites in the Ozarks having never even been looked at by a paleontologist, the chances are good for additional new and probably exciting finds. The diversity of monoplacophorans in Ozark rocks seems to be particularly great, and other peculiar mollusks occur in local concentrations.

With some degree of certainty I can say that a new species or genus of monoplacophoran or other shelled "funny mollusk" will usually turn up with one or two hours of looking in suitable fossiliferous beds. The "trick" is in finding and recognizing these fossil-bearing rocks; it takes a real knack and perseverance, which I cultivated at an

early age. Still the fact that a form new to science can be found with relative ease in a part of the world where the general geologic outline has been known for over 50 years makes one wonder just how much of the fossil record, not only in the Ozarks, but in other parts of the world is still waiting there to be discovered.

As a venerable "fossil hound" not only of Ozark fossils but of many other types, I get the "feeling" that a considerable variety and number of unknown life forms are yet remaining to be discovered as fossils (new species, genera and even higher taxa). It takes enthusiasm, effort, sometimes a certain amount of intestinal fortitude and the proverbial element of luck to accomplish this. Unearthing and documenting the fossil record is, in some respects, a type of academic, world wide "treasure hunt;" it can be quite exciting and if motivation is great enough, almost anyone can play in one form or another.

That is partially what a group like MAPS is about; for here for all intents and purposes is a group of individuals who really love fossils, and some are going to "go that extra mile" to get "new" fossil material, some of which may just possibly be new to paleontology.

BOOK REVIEW

by N. Gary Lane

Department of Geology

Indiana University, Bloomington 47405

The Encyclopedia of Prehistoric Life.
1989. R. Steel & A. P. Harvey, Editors.
Gramercy Publ. Comp., New York. 218 p.
\$24.95.

This oversize, coffee-table type book was originally published in England in 1979 but has been re-issued. All of the contributors, a total of 23, are British paleontologists, a majority of them from the British Museum (Natural History). They include many of the very top names in British paleontological circles. This is a true encyclopedia, beginning with *Academica Sinica* and ending with Zittel. The book is illustrated with many black-and-white line drawings. In addition there is a series of 14 colored evolutionary charts that cover

IOWA FOSSIL BOOK STILL AVAILABLE; SPRING AND FALL FIELD TRIPS IN IOWA

Robert Wolf, Fort Dodge, IA, reports that his book, *Fossils of Iowa*, is not out of print, contrary to what he has heard recently. His publisher has informed him that there are still about forty copies of the book left, but when they are sold, there will not be a reprinting. They are available for \$9.95 plus 4% sales tax and \$1.00 for postage and handling from the Iowa State University Press, 2121 South State Avenue, Ames, IA 50010. He's also working on another book, *State Parks of Iowa*, which is a guide to the parks, including geology.

Robert also reported information about two field trips that MAPS members might be interested in. John Pope, Winterset, IA, Arsen Chantooni, Des Moines, and Robert are planning to lead a Geological Society of Iowa field trip on April 22 (Sunday) [Unfortunately, that's the last day of EXPO.] They will be collecting plant and invertebrate fossils in the Van Meter and Booneville area southwest of Des Moines (Pennsylvanian Period, Marmston Group).

In the fall the Tri-State field trip will be to Keokuk County, IA. One of the stops will be to the famous Mississippian Amphibian site. This is a tightly regulated site; only geologists doing research are permitted in. This will be one of the rare exceptions. The site was opened for a similar trip in 1987, and we were permitted limited collecting of specimens that were not scientifically important.

For more information on these trips, contact:
Ray Anderson
Geological Survey Bureau
123 North Capitol Street
Iowa City, IA 52242

invertebrates through primates. There is at least one illustration for every entry and each entry occupies at least a page of text. In addition to groups of fossils, different ages of life are covered; important historical figures in paleontology are treated; and general concepts are discussed.

THE JURASSIC SOLNHOFEN BEDS OF GERMANY

by John H. Hunter II, Colorado Springs, CO

The limestone quarries around Solnhofen and Eichstatt in southern Germany have long been known for yielding exquisitely preserved fossils. Marine crustaceans, fish, cephalopods, echinoderms, and even terrestrial insects, plants, and animals are found there. The fine and even texture of the limestones has preserved the most delicate of fossil structures--legs and antennae of crustaceans, vein structures in dragonfly wings, and even feathers. Perhaps the best known fossil from Solnhofen is *Archaeopteryx*. This land-dwelling animal had the skeleton of a reptile, but it was also covered with feathers like a bird. *Archaeopteryx* is thus thought to be one of the early ancestors of modern-day birds.

Archaeopteryx and all the other fossils found in the Solnhofen quarries are of Late Jurassic age. The beds which produce the fossils are usually buff to light grayish in color and are composed of calcium carbonate with impurities of clay and silt. The very flat and even bedding of these limestones allows them to be split and shaped into smooth plates. These plates have been used as building materials for hundreds of years, commonly being fashioned into floors, walls, and window sills. The rock has even been used extensively in lithography. Pictures were easily carved in the flat plates, which were then inked and used in printing. In fact, these rocks have been named the Solnhofen lithographic limestones.

These limestones are thought to have been deposited in quiet ocean waters. This is because quiet waters were needed to produce the very flat and even bedding. The area could not have been too close to shore; otherwise, wave action and currents would have produced ripples and related marks in the bedding. On the other hand, there are many beds which contain a fair amount of land-derived clays and other materials. So the area of deposition could not have been far away from land. In addition, land animals are occasionally found in the rocks, so there must have been land somewhere nearby. Finally, bottom dwelling marine organisms are seldom found in the limestones. Neither are burrows nor worm

trails found, although short tracks from two crustacean species have been observed. It therefore appears that the ocean floor in this area was unfit for animal life.

An overall picture of this environment emerges when all the facts are put together. It seems the lithographic limestone beds were laid down in the quiet waters of an enormous lagoon, within 10 or 20 miles from land. The land itself could have been a continent, a very large island, or a number of smaller islands. Extensive algal, sponge, and coral reefs protected the lagoon from the currents of the open ocean. Inside this huge body of calm water were tiny islands and small reefs, which further suppressed currents and wave action. The climate was warm and tropical, so water evaporation from the area must have been great. This would have made the water very salty. Since huge reefs blocked the open ocean from the lagoonal waters, this dense and salty water was not diluted or mixed by the ocean currents. The water should therefore sink to the bottom and stay there. The maximum water depth in the lagoon was thought to be between 100 and 200 feet, so surface agitation and wave action would not have reached these deep bottom areas. Without currents or mixing to bring oxygen, this stagnant bottom water would soon become oxygen-deficient. Bottom-dwelling sea organisms, normally abundant, would be unable to survive in such an environment. But the surface waters in the lagoon were probably rich in life. Occasionally, animals near the surface would drift down into the deeper waters and die. Storms washed starfish, crinoids, and crustaceans from the reefs into the lagoon. Storms sometimes would also wash in large fish, sharks, cephalopods, and other open-ocean creatures. On rare occasions, terrestrial animals and plants from the nearby land would end up in the quiet waters. Because no scavengers or oxygen-using bacteria could live in the bottom waters, anything which drifted to the lagoon floor would decompose very slowly. It would then be covered by calcium carbonate, clay, and silt which settled out of the water.

As mentioned earlier, the tracks of two species of crustaceans have been found in the Solnhofen beds. *Mechochirus longimanus*, a long-armed lobster, is known to have left short sections of tracks. Longer trails were left by the horseshoe crab *Mesolimulus walchi*. Sometimes the fossilized animals are found at the ends of these trails. It is noteworthy that the modern-day horseshoe crab is able to tolerate extremes of water salinity, temperature, and low oxygen content. It's reasonable to think that its Jurassic ancestors were equally tolerant of such conditions. Even so, some of the crabs drifted into the ancient Solnhofen lagoon and became trapped. They crawled about on the bottom and eventually succumbed.

It's certainly true that a very diverse assemblage of fossil material has come from the lithographic limestones. But few people realize just how seldom these fossils actually are found. There are several quarries which mine this stone, and the mining has been going on for hundreds of years. Enormous quantities of rock are split and examined every year, yet many Solnhofen fossil species remain a rarity (after centuries of quarrying, less than a dozen specimens of *Archaeopteryx* have ever been found). The only truly common fossil at Solnhofen is *Saccocoma pectinata*, a small free-floating crinoid.

Organisms which have been found in the Solnhofen beds include:

PLANTS: including seaweeds and land-dwelling plants such as conifers and ginkgo

SPONGES

JELLYFISH

CORALS

MOLLUSKS: gastropods, bivalves, belemnites, squids, and ammonites

BRACHIOPODS

SEGMENTED WORMS

ARTHROPODS: great varieties of shrimps, lobsters, horseshoe crabs, and terrestrial insects (including dragonflies, water striders, grasshoppers, and moths)

ECHINODERMS: crinoids, brittle starfish, and sea urchins (such as *Tetragramma*)

MARINE CHORDATES: sharks and many kinds of fish

REPTILES: marine crocodiles, a small dinosaur (*Compsognathus*, and flying reptiles (notably *Pterodactylus*, *Rhamphorhynchus*, *Gnathosaurus*, and others)

Some of my favorite fossils from these beds are the crustaceans. *Eryma* is a small crustacean which looks very much like a miniature lobster. The *Aeger* shrimp is an eye-catching fossil which has long antennae and many long legs. *Antrimpos* is a generally larger shrimp than *Aeger* and has shorter, stumpier legs. *Dusa*, *Drobna*, and *Bylgia* are among the rarer shrimps.

Eryon is a peculiar looking creature. It has many thick legs, a large body shell, and is similar in appearance to a modern-day crab. But it also has a tail made of segments, which looks like a lobster's tail. *Cycleryon* is similar in structure but is 50 times more rare than *Eryon*.

For centuries the Solnhofen Limestones have been quarried for rock products. Due to the scarcity of fossil material, working a quarry solely for the fossils could never be commercially profitable. The beautiful animals and plants are just a side-benefit of the ongoing quarry operations. And the quarrying is likely to continue for many, many years.

How fortunate for paleontologists and fossil collectors that this is so. Even people who hardly know what a fossil is can admire the superb detail and beauty of critters that lived and died so long ago.

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(continued from p.1)

The phylum Brachiopoda is represented by the orthid brachs *Diparelasma* (on the seafloor), and *Heterorthis* (attached to bryozoan and to cystoid). A lone gastropod *Orospira* wanders across the foreground.

A dominant element of the waters above the sea floor is the straight-shelled nautiloid *Orthoceras* sp. We can probably imagine them travelling in schools much like modern-day squid. Note the color banding on the shells. I found one large specimen in which this color pattern was preserved. I do not know if this is a sexual or species characteristic, or if it extended the length of the test.

Curiously, I found no identifiable trilobite remains, but I am sure they were there (and obviously rare).

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.

FOSSILS, FOSSIL CHARTS, T-SHIRTS, INDEX to NYS Guidebooks (1956-86: \$15.00) and many more items. Send \$1 for 26 page catalog. IDENTIFY with MAPS StrataGraphics, 63 Knoll Top Drive, Rochester, New York 14623. 12/90

OKLAHOMA TRILOBITES Ordovician, Silurian, Devonian); other trilobites also; superb **Shrimps and Crabs** from Solnhofen, Germany; crinoids (Oklahoma, Indiana). Send stamp for list. Photos on request. FOSSILWORKS, 8420 Freemantle, Colorado Springs, CO 80920

SEARCHING FOR TULLY

The Lincoln Orbit Earth Science Society of Springfield, IL, is looking for a Tully Monster specimen to purchase for the IL State Museum. They do not currently have a specimen, and since it is now the state fossil, it is appropriate that they should. If you have a specimen, or know where we can locate one - contact John Washburn, 107 Deer Creek Road, Rochester, IL. (217) 498-7713.

A NEW CLAIM TO FAME

from Equinox, Nov/Dec 88, via Earth Science News, Nov 89, Jean Reynolds, Ed. and paleo Newsletter, Jan 90, Jean Wallace, Ed.

Saskatchewan has a new claim to fame - the richest deposit of dinosaur dung in the world. The treasures range in size from pellets to juice-can sized coils, and were deposited 65 million years ago. The external shapes are perfectly preserved, but the insides have been replaced by iron, siderite and other minerals. Thus, they are truly fossilized.

By studying these coprolites, scientists may be able to learn more about the animals that lived on the prairies so long ago.

A fossil collector was proudly showing his flagstone walkway to some friends. Imprinted on the flagstones were dinosaur footprints. As he was explaining the significance of the fossil footprints, a woman in the group exclaimed, "I'm amazed they would come so close to the house!"

from G.I. Nugget via WG&MS Newsletter, NEWS & VIEWS, 1/90, M. Rasmussen, Ed., & PALEODISCOVERY, 1/90, B. Campbell, Ed.

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

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

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

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

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

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CYATHOCRINITES

MID-AMERICA PALEONTOLOGY SOCIETY

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EXPIRATION DATE..... 90/12
 Allyn & Dorris Adams
 612 W. 51st Street
 Davenport, IA 52806

Dated Material - Meeting Notice