M·A·P·S Digest

Volume 4 Number 11 December, 1981 Official Publication of Mid-America Paleontology Society

MAY THIS SEASON BE FILLED WITH LOVE AND PEACE MAY THIS SEASON BE FILLED WITH LOVE AND PEACE MAY THIS SEASON BE FILLED WITH LOVE AND PEACE LOVE YOU

to know one another cannot mean to know everything about each other; it means to feel mutual affection and confidence, and to believe in one another.

--Albert Schweitzer

GENERAL NATURE OF THE SEA FLOOR

Until recent years, most geologists assumed that the crust beneath ocean basins was very old, topographically featureless, structurally tranquil, and essentially permanent as to position. All these assumptions appear to be incorrect, for nowhere in deep oceanic sediments have fossils older than Late Jurassic or Early Cretaceous as yet been definitely established. To our utter amazement the continents turn out to be much the older. Moreover, the total thickness of sediments on the deep-sea floor is small. Even modest assumed rates of deposition suggest that much of the present deep sea may have received significant sediment for only the past 100 to 200 million years. In the northwestern Pacific Ocean, 200 meters of unconsolidated sediments underlie a zone of known Lower

(continued page 6)

MARK YOUR CALENDARS

5 Dec MAPS Meeting -- Augustana College
1:00 p.m. Board Meeting, usual place
2:00 p.m. Program -- Chris Agren, "Close-up Photography" -- John Deere Planetarium Lecture Hall, Augustana College. Slide and demonstration program of how to get a picture of your special treasures from ancient seas. (See page 3 for more information.)

9 Jan MAPS Meeting -- Augustana College
Dr. Holmes Semken, University of Iowa
"Pleistocene Vertebrates of the Upper Midwest"
(Second Saturday in January due to holidays)

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"A LOVE OF FOSSILS BRINGS US TOGETHER"

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D U E S A R E D U E - - $ 7 . 0 0

The Board is happy to announce no increase in dues for 1982. MAPS fiscal years runs with the calendar year--December 31 - December 31. Make checks payable to: MAPS
Mail to: Mrs. Alberta Cray
1125 J Avenue, NW
Cedar Rapids, IA 52405

Give a MAPS membership for an extra special holiday gift.

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MINUTES -- MAPS MEETING, November 7

The November 7, 1981 MAPS Meeting was brought to order by President Paul Caponera. It was brought to our attention that someone will be needed to help with the Expo IV Auction. Do I hear a volunteer? It was also decided that tables at Expo IV will be $8 for the whole weekend.

Alberta Cray, Treasurer reported a balance in the treasury of $~~4~~097.39.

Madelynne alerted us that soon we will have a new banner head for the bulletin thanks to the generosity of Bob Kenyon.

Three new books were brought to our attention as being available now. They are: Ohio Fossils (reprint), Crawfordsville Crinoid Studies, and a University of Kansas publication on Blastoids. (More information on page 3 .)

The new officers for 1982 were voted in and are as follows: Cheryl DeRosear, President; Don Good, 1st Vice Present; Doug Johnson, 2nd Vice President; Peggy Wallace, Secretary; Alberta Cray, Treasurer; and Tom Walsh, Director.

Meeting adjourned. There was a general discussion on the field trips and what was found this summer by our group. THE END!

Respectfully submitted
Doug Johnson
Secretary, pro tem

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Answers to "test on page 5. (1) inadunate; (2) dicyclic; (3) tall and conical; (4) up-flared; prominent; (5) pinnulate, uniserial, medium; (6) ten arms indicated, branching on primibrachs 1 where visible; (7) three; (8) yes; (9) appears to be round.

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WHAT IT'S ALL ABOUT

It was October 22, 12:00 noon and the doorbell rang. Upon opening the door, I was greeted by our mailman, holding out 2 packages for me. Looking down at the return labels, I knew immediately what their contents would be, because "Luxembourg" and "West Germany" was visible on the outside of the packages. They were each from a man with whom I had agreed to exchange fossils.

After opening the packages and marveling at their contents, mostly ammonites and sea urchins, my mind retreated in time to a Saturday in February 1978.

It was 2:00 o'clock that cold Saturday afternoon as I stood before 18 people from 3 states who had joined me at the Augustana Geology building. I had difficulty believing that there were that many people in the area seriously interested in the study of fossils. After some discussion, the motion was made and passed that a strictly fossil club be organized.

One month later we would have a formal constitution and vote on the name MAPS (Mid-America Paleontology Society).

We developed a newsletter that would be of interest to anyone, even if they couldn't get to a meeting. Our membership mushroomed and we are approaching our600th member. It was like a forest fire: spreading out, but also leaping to another area. (For example, within a 3 month period we had 5 families from near Rock Springs, Wyoming join). We are now represented in 40 states and a dozen foreign countries on 4 continents.

We host the National Fossil Exposition at Western Illinois University each spring. Over half our membership attends this annual get together. The reservations from California to Maine, also Canada and Portugal came in, nearly 1000 feet of tables were filled for swapping and displays. The excitement of the people is like a bunch of diabetics in a candy store. Some are beginners, others have advanced degrees in the subject and are museum curators and college professors.

Yes, if it hadn't been for MAPS, my new European friends and I would never have known about each other and these new treasures would not be becoming a part of my collection.

submitted by Don Good, Aledo, IL

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February MAPS Meeting -- Dr. Glenister, University of Iowa. Topic to be announced.

DECEMBER MAPS MEETING

The topic for the December 5, MAPS program will be "Close-up Photography". The program will start at 2:00 P. M. at the John Deere Planetarium Lecture Hall, Augustana College. There will be plenty of room for everyone.

Chris Agren, Manager of F-Stop, Davenport, Iowa, and two nationally recognized authorities of major camer companies will present a two hour slide and demonstration program on close-up photography.

This should be an excellent presentation on a subject of interest to just about everyone.

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FOUR PUBLICATIONS

Bulletin 54, OHIO FOSSILS, Aurele LaRocque and Mildred Fisher Marple. State of Ohio, Dept. of Natural Resources, Division of Geological Survey, Columbus, Ohio, Tenth Printing, 1977. Cost $2.00

Paleontological Institute, The University of Kansas, ECHINODERMATA, Crawfordsville (Indiana) Crinoid Studies, Van Sant & Lane, August 14, 1964, Lawrence, Kansas. Cost $3.75.

Paleontological Publications, The University of Kansas, ECHINODERMATA, Article 3, Blastoid Studies, Robert O. Fay, October 30, 1961, Lawrence, Kansas. Cost $6.00

DELAWARE FOSSILS, Lauginiger and Hartstein, Published by Delaware Mineralogical Society, 1981. Edward Lauginiger, 11W Holly Oak Rd., Wilmington, DE 19809. Cost$3.00

This book was written for students, amateurs and general collectors. Checks should be made payable to Delaware Mineralogical Society. Authors of this text are both MAPS members.

The book includes Geologic Maps, time chart, stratigraphic column, plates of fossils peculiar to Delaware.

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DUES ARE DUE -- $7.00

Checks payable to: MAPS
Mail checks to: Alberta Cray
1125 J Avenue, NW
Cedar Rapids, IA 52405

RECOMMENDED READING

Smithsonian, November, 1981 -- 2 articles:

1. "Thick Layers of Life Blanket Lake Bottom in Antarctica Valley" by Patrick Young. A fascinating article on growth of green algae (a misnomer because it is many colors). Also algae growth in rocks. It's hard to put this article down.

2. Stalking the world of Nature with BBC's superguide David Attenborough dramatizes evolution with a bounding enthusiasm and a unique cast of his TV series Life on Earth starting January 12. (Not only is this an alert to the TV program on PBS January 12, but also another fascinating article.)

First program, The Infinite Variety, Courtesy Mobil Corporation. U.S. Book Series has just published Life on Earth, Little Brown & Co. A call to the book dealer lists the publication at $23.95

The TV program is "History of nature, it tells the story of evolution from the first primeval slime on the face of the Earth, 3.5 billion years ago to the advent of Homo sapiens."

Thanks to Nancy Hood for an alert to this program.

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HAVE YOU PLACED YOUR ADVERTISEMENTS?

The January issue of the DIGEST begins a new MAPS service--THE ADVERTISEMENT PAGE.

Ads are $3.50 per column inch--minimum $3.50
A column inch is 6 lines of 45 characters. Characters include letters, punctuation and/or spaces. Payment must be included with your ad. Make checks payable to MAPS. Send your ads and your check to: Mrs. Gerry Norris
2623 - 34th Avenue Court
Rock Island, IL 61201

Ads may be run as long as desired during a MAPS year. Each month the rate to be $3.50 per column inch.

Mail your ads immediately to be included in the January issue of MAPS Digest.

Ads may be for anything so long as it is related to paleontology--fossils, books, equipment, services, to name a few. Remember, it is a MAPS service, but the contract is between the buyer and seller.

Good Luck and have fun!!

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THE PROFESSIONAL'S CORNER --

MOSTLY ABOUT INVERTEBRATE FOSSILS

Section 4 -- Recommended Steps In Identification of a Crinoid

H. L. Strimple
904 Bowery
Iowa City, IA 52240

A. First phase

I. Is the crinoid an inadunate, camerate or flexible?

a. Most camerate (Camerata) crinoids have a rigid theca (calyx plus tegmen). The cup is usually joined with fixed brachials (arm segments and/or interbrachials to form a calyx. Unfortunately there are camerate crinoids which mimic inadunate crinoids (e.g. Dichocrinus) and you have to learn how to distinguish them.

1. Another major division is based on whether the cup is monocyclic (composed of basals and radials) or dicyclic (composed of infrabasals, basals and radials).

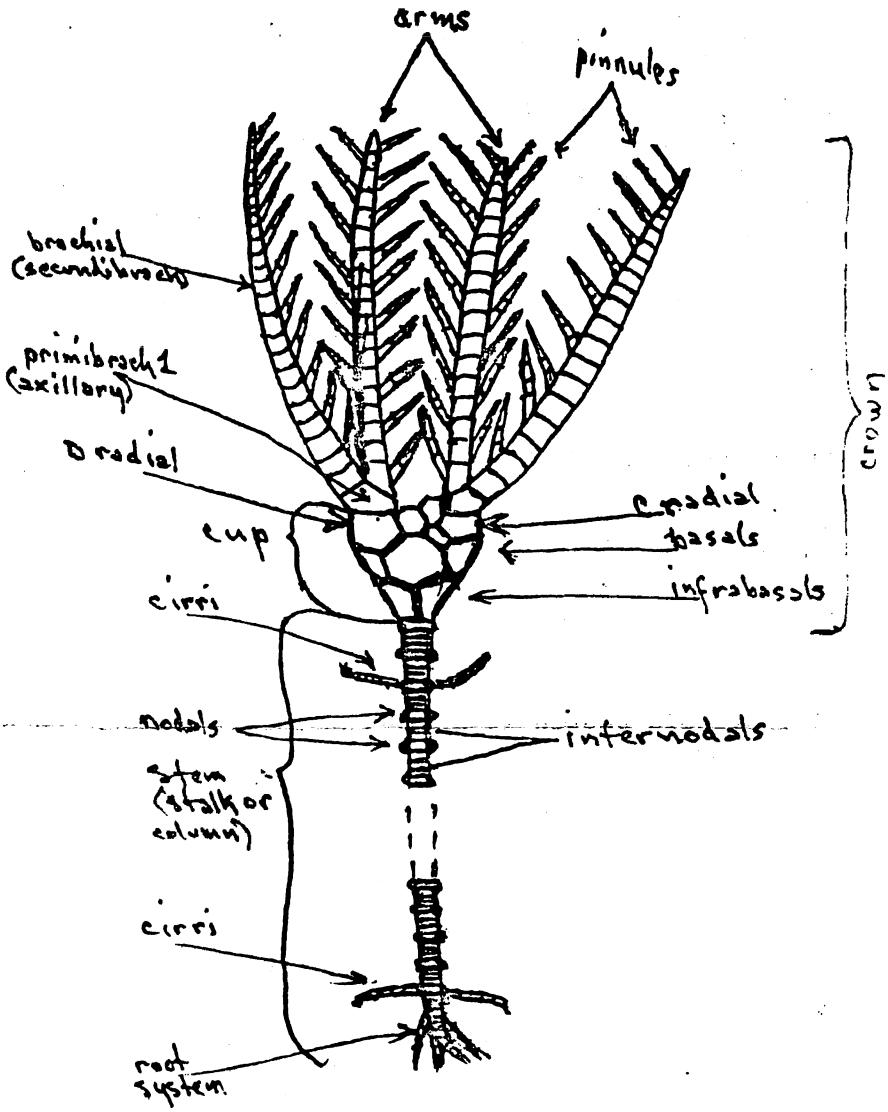

Figure 1. Rough drawing of a dicyclic inadunate crinoid illustrating various parts.

b. Flexible (Flexibilia) crinoids are usually most readily identified as such by the uneven suture between brachials (arm segments), sort of like a tongue and groove called a "patelloid process." There are other criteria but rather complicated. It is relatively easy to develop a "feel" for the group as a whole. But some groups mimic inadunate crinoids in some respects.

c. Inadunates (Inadunata) commonly have a more simplified structure than the other two major groups but their simplicity only makes it more difficult to properly classify them.

1. A major division is made on whether the cup is monocylic or dicyclic. A new problem has arisen in this regard in that it has been found some dicyclic crinoids have lost or discarded their infrabasal circlet and have thus become pseudomonocyclic. This was first reported by Warn* (1975) and it is difficult to judge at this time how much effect it will eventually have on existing schemes of classification.

The above represents the mental steps which I usually take when I see a crinoid for the first time. There is much more to come but most people are unable and/or unwilling to assimilate too much information at one time. Perhaps what has been written here will be helpful. It is suggested the reader look at specimens or whatever books they have at hand and see whether it makes sense to them. I don't know how effective this series of instruction will be but can make a suggestion for anyone who is seriously interested in crinoids. Both my wife and I are retired. Christina has an extensive collection of crinoids and most any crinoid lover is welcome to come see them and learn about them. She will even trade if you have a crinoid that she would like to add to her collection, but it will be her choice.

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*reference - Warn, M. J., 1975. Monocyclism vs Dicyclism: a primary schism in crinoid phylogeny? in Studies in Paleontology and Stratigraphy. Bull. Amer. Paleont., vol. 67 (287), pp. 421-441.

HOW GOOD IS YOUR ATTENTION SPAN? A "test" on how to interpret the crinoid shown in Figure 1. Answers are on page 2 .

1. Is the crinoid an inadunate, camerate or flexible?
2. Is the cup dicyclic or monocyclic?
3. Is the cup conical, globose, bowl-shaped?
4. Are the infrabasals upflared, subhorizontal or downflared?
5. Are the arms pinnulate or non-pinnulate, uniserial or biserial, short, medum or long?
6. How many arms, where do they branch?
7. How many extra plates (anal plates) in posterior (CD) interray?
8. Do primibrachs 1 fill upper surface of radials?
9. Is the stem round, pentagonal, quinquelobate?

The crinoid sketch is a figment of my imagination but if it were a specimem I would, by this point, judge it to perhaps belong to the genus Hypselocrinus Kirk and would start checking among species of about Keokuk age. Actually, the cup shape is much like that of Scytalocrinus sasabensis Moore & Plummer from the Atokan (Middle Pennsylvanian) of the Llano Uplift in north central Texas which, however, is probably not a bonafide Syctalocrinus and is a small form with more delicate somewhat shorter arms than found in my sketch.

Remember that no one has said this was going to be easy but, eventually, one builds up a "memory bank."

THE PALEONTOLOGICAL SOCIETY MEETS IN CINCINNATI --

N. Gary Lane
Geology Department
Indiana University
Bloomington, IN 47405

The 73rd annual meeting of the Paleontological Society was held November 2 to 5, in conjunction with the Geological Society of America, at Cincinnati, Ohio. A total of 4200 geologists and paleontologists attended.

The program began on Sunday, November1, with a day-long short course on lophophorates (bryozoans in the morning, brachiopods in the afternoon) at the Cincinnati Museum of Natural History. The notes for the course, edited by Tom Broadhead, University of Tennessee, sold out before the meeting ended. Approximately 12 "Friends of" meetings on fossil groups and stratigraphy were held during the convention. Specific fossil groups included Friends of the bivalves, gastropods, echinoderms, brachiopods, cephalopods, corals, and ostracodes.

Beginning on Monday, four half-day technical sessions on paleontology were held. In addition, there was a half-day symposium by the Cushman Foundation on Paleozoic foraminifers, a session on micropaleontology, and the Paleontological Society symposium on biotic interactions in recent and fossil bottom-dwelling communities. Several other sessions included topics of interest to paleontologists. These included a symposium on ancient geography and climate, Ordovician

(continued 6)

biostratigraphy, archeological geology (evidence of mastodon butchering in Michigan), and a symposium on the Mississippian-Pennsylvanian boundary in the eastern U.S. There were also poster sessions on fossils.

The Paleontological Society luncheon was concluded by an address by Arthur Boucot, Oregon State, the outgoing president of the society. The Schuchert Medal, to an outstanding paleontologist under age 40, was given to Philip Gingerich, University of Michigan, and the Society Medal, for major contributions to paleontology, to Harry Ladd, USGS, Washington, D.C. Earl Kauffman, University of Colorado, was installed as new president, and the president-elect is Allison (Pete) Palmer, SUNY-Stonybrook. About 140 attended the lunch.

Regional meetings of the Paleontological Society will be held in the Spring. These include: North-Central, Purdue University, April 29-30; South-Central, University of Oklahoma, March 29-30; a joint meeting of southeastern and northeastern sections, Washington, DC, March 25-27. Next year's annual meeting will be in New Orleans, October 18-21, 1982. Subsequent meetings will be in Indianapolis in 1983, Reno, Nevada in 1984 and Boston in 1985.

One does not have to be a member of any society to attend these meetings, but you must register either as a professional ($65 at Cincinnati) or a student ($32). Entrance to talks and exhibits is by name card only. Registration and housing forms are published by the Geological Society of America, 3300 Penrose Place, Boulder, Colorado 80301 (303/447-2020), and can be obtained from them if you are interested.

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SEA FLOOR, Continued. Cretaceous fossils, and from seismic data, it appears that older, more consolidated sediments may underlie them. It seems possible that there sedimentation may be recorded back to Triassic or possibly late Paleozoic time. Unfortunately, a final definitive answer on the maximum ages of the different deep basins must await more fossil evidence from deep drilling through the entire sediment column. Continental drifters obviously would find it embarrassing if Cambrian fossils turned up in widely scattered drill holes. But presently available evidence at least is consistent with a relatively youthful (Mesozoic) origin for the present ocean basins.

Precision profiles established by reflection of low-frequency sound waves from the sea floor and buried layers beneath have shown that the ocean floors are anything but smooth. Broad oceanic ridges or rises, deep trenches, escarpments, and countless submerged seamounts characterize it instead. Indeed, the pristine surface of the oceanic crust is more rugged than most continental areas, and sedimentation has served to smooth the topography in some areas by burying original irregularities.

North America is now being denuded at a rate that could level it in a mere 10 million years, or to put it another way, 10 North Americas could have been eroded since Middle Cretaceous time 100 million years ago. If all present continents were reduced to present sea level, and their refuse were spread uniformly over the abyssal plains, a layer of sediments about 300 meters thick would result. The observed average total thickness of deep-sea sediments is only about 600 meters, or an amount equal to the erosion of the present-sized continents only twice during the past 200 million years for which time there is a known record in the deep-ocean basins. From this discrepancy, as well as from other evidence, it is clear that in the past the rate of erosion and/or the volume of land above sea level has been much less on the average than now.

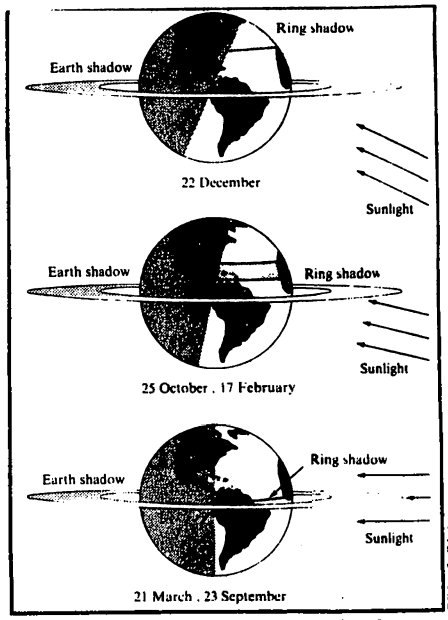
EVOLUTION OF THE EARTH
Dptt. Jr. & Batten

If observations agree with our theory, that is nice, but it they do not, that is interesting. (An Anonymous Wise Man)

RING AROUND EARTH TERMINATES EOCENE -- Science News 14 June, 1980

It had to happen. For a long time the rings of Saturn were unique in the solar system. Then other major planets began to exhibit rings, as sharper observations became possible. Now there is a suggestion that there may on ce have been rings around the earth.

The suggestion comes from John A. O'Keefe of the NASA Goddard Space Flight Center in Greenbelt, MD., and appears in the May 28 NATURE. O'Keefe starts with the "terminal Eocene event," a catastrophe that occurred about 34 million years ago. Winters became much colder (although summer temperature was not much affected), and there was a widespread extinction of the small animals called radiolaria. Dust in space could have shadowed the earth to produce the climate change, O'Keefe points out.



As the angle of incoming sunlight changes with the seasons, the ring's shadow moves, making winter hemisphere colder.

The date of the terminal Eocene event coincides with the age of the North American strewn field, the largest field of tektites. Tektites are small bits of glass that are found scattered over wide regions of the surface of the earth. It is usually assumed that tektites fell from space. The instantaneous production of so much homogeneous glass out of common rock and soil over such an area--the "North American field) runs from the Caribbean to the Indian Ocean--is hard to imagine. A single distant source, a volcanic blast on the moon perhaps, would be better. Part of a spray of debris from such an event would hit the earth, O'Keefe suggests, but part would miss and go into orbit. That part would settle into a ring, and the dynamics are such that it might have lasted a few million years.

submitted by Konecnys, Prescott, AZ

MASTODONS FOUND IN MORMONDOM -- BYU TODAY, November, 1981

A team of scientists from BYU has excavated skulls, jaw bones, ribs, foot bones and other skeletal remnants of two "adolescent" mastodons from a sinkhole near Huntington Reservoir on the Wasatch Plateau south of Price, Utah.

"This is a significant discovery because it is the first mastodon ever found in Utah and the first anywhere at such a high elevation (10,000 feet)," said Dr. Wade E. Miller, chairman of the BYU Geology Department and director of the excavation. Ninety-nine per cent of all mastodon finds in the United States have been east of the Mississippi River and below 1,000 feet elevation.

"Mastodons have been considered lowland animals, limited largely to the eastern section of the continent, but this new evidence indicates they had greater latitude than we thought.

"Mastodons were massive animals about the same height as the modern Indian elephant but weighing four times as much (about eight tons)," the professor noted. "They would make an elephant look slender by comparison."

submitted by Lloyd Gunthers, Brigham City, UT

QUITE A SPLASH -- DES MOINES REGISTER, November, 1981

An Illinois geologist says prehistoric elephants swam to islands off the California coast 18,000 years ago, lured by lush vegetation. "Elephants do swim and I won't belabor the point," Dr. Donald Lee Johnson of the University of Illinois said...at a symposium at Scrips Institute of Oceanography. "That information has been published well." Johnson said fossil records show ancient elephants had been present on four of 26 islands off California but none of the islands had land bridges between each other or the mainland. In fact, Johnson said, there was a canyon between the mainland and the islands. Swimming was the only possible way for the pachyderms to get there, he said.

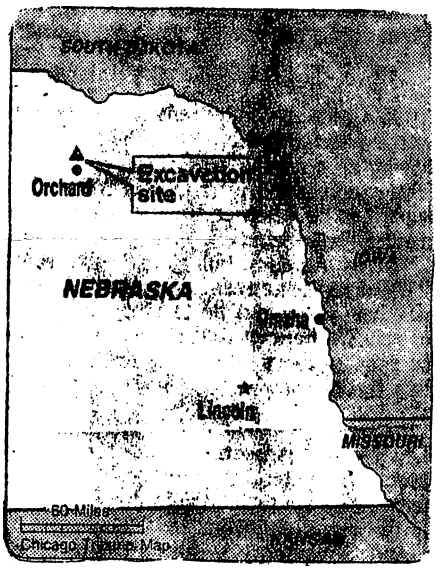
BOYHOOD FIND TURNS TO SCIENTIST'S DREAM -- by Michael Hirsley
CHICAGO TRIBUNE Press Service

Lincoln, Nebraska--It was the storybook summertime moment of an American country boy, wading in a stream, finding an interesting rock, and taking it home. But that idyllic scene from the 1940s had a profound effect on Michael Voorhies' life. The rock young Voorhies found turned out to be the fossilized tooth of a prehistoric zebra. It got him hooked on paleontology, the study of animal and plant fossils.

The stream was practically on top of what later would become one of the most abundant and detailed collections of prehistoric animal bones ever discovered. And Michael Voorhies grew up to be the paleontologist who made the discovery and led the team that unearthed the bones.

"This is probably a once-in-a-lifetime find," said Voorhies, 39 whose offices in the state museum on the University of Nebraska's Lincoln campus are filled with 3,000 packages of bones in plaster casts taken from the northeastern Nebraska digs. "It is a bone hunter's dream."

The fossil rhinoceroses, camels, three-toes horses, saber-toothed deer, and aquatic turtles are not new species to Nebraska paleontologists. But, said Voorhies, "they're the most complete remains of these animals ever unearthed." As examples, he cited tongue bones, middle-ear bones the bones of a calf embryo inside an adult rhino skeleton, and even grass seeds inside a rhino throat cavity.



Those precious discoveries--plus one other find--enable Voorhies to theorize when and how the creatures died. The additional discovery was soft ash encasing the bones, protecting them much like tissue around glassware. Thus Voorhies theorizes that somewhere in westernAmerica, about 10 million years ago, there was a volcanic eruption "a hundred times greater than what recently happened at Mr. St. Helens. (Ed. note--see Digest, November, 1981 "Mazama Eruption")

"It couldn't have been Mr. St. Helens because the Cascade mountain range including St. Helens didn't even exist back then. It was more likely in northern New Mexico or Yellowstone. There were tremendous volcanic eruptions in the Yellowstone area during the Ice Age (2 million years ago). There was evidence of a collapsed crater there 10 miles across."

Voorhies...will always remember the late summer afternoon in 1979. "My wife and I were fossil hunting..., I was returning to our camp, and stopped to explore a gully. When I look up, at the top of a bank, I saw a gleaming white skull." ...Voorhies remembered his hands "trembling with excitement" as he dug and brushed away ash and found the skull joined to a string of neck vertebrae. The complete skeleton was in itself a rare find. He had no idea it was only one of dozens buried there...

Voorhies had to keep his discovery to himself for eight years, until he wrote a sufficiently intriguing application to get $60,000 in grants from the National Geographic Society. With the money and a half-dozen workers, Voorhies spent two summers excavating. Unearthing the bones was a lot harder than unpacking glassware. "We injected a plastic preservative into the skulls and bones, then put them in plaster casts before lifting them out," he explained...

News of the discovery traveled to the Smithsonian Institution in Washington, D.C. "I can't think of anything like it, so many animals in one place and so utterly complete," said Robert Emry, curator of tertiary mammals at the National Museum of Natural History, part of the Smithsonian...

(continued page 9)

Please add the following to your membership list:

H. Rocky Byrom
Box 703
Alpine, TX 79830
915-837-7269

Collecting 42 years. Retired Military Port Captain. Will not trade. Likes fossils and the people who like them.

Col. Sam & Dayle Goldenberg, Jr.
1701 St. Albans
Austin, TX 78745
512-447-4859

Retired Air Force and Housewife. Interested ammonites and all other fossils.

Norm & Betty Lemkau
22019 Young Avenue
Castro Valley CA 94546
417-581-6430

Retired. Collecting 30 years. Will trade. Interested in all fossils particularly trilobites and echinoderms. Wants to learn and have contact with others of like interest.

Louis Todd
1803 Lattimore
Denton, TX 76201
817-387-0062

Design Draftsman. Collecting 30 years. Will trade. Major interest Permian bone, echinoderms. Have for trade Lower Permian bone from TX Red Beds. Has a passion for fossil collecting.

David M. Work
P. O. Box 1671
Rolla, MO 65401

SCIENTIST'S DREAM Continued "We have enough of everything to keep us busy for a long time, learning many new things about grassland life 10 million years ago," he said. For now, he is content to analyze the wealth of skulls and skeletons surrounding him, and to contemplate assembling an exhibit of several skeletons in the dramatic death poses he found.

He has the perfect spot for it: Elephant Hall, the Nebraska State Museum exhibition center just down the street from Voorhies' office, is the second most popular attraction on campus after the football team. Voorhies admits his exhibit needs thousands of still-to-be found dollars and about six years of work, to become a reality. But to an expert on the Miocene Age, who considers life in the last 10 million years to be recent history, what's six years?

submitted by R. W. Heinish
Indianhead Park, IL 60525

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WE NEED A TRANSLATOR

An article has arrived for publication in Digest. Not an unusual happening and always much appreciated.

This article is a bit different. It is written in French. HELP!

While we are about it, no doubt we should be establishing a file for several languages--Italian, German, Spanish and in hand French.

Is there anyone among us who is a linquist?

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BIG CROCODILE FOSSIL FOUND

MOSCOW--The fossil remains of a gigantic sea crocodile that lived 150 million years ago have been discovered by Soviet scientists, the Tass news agency announced.

"The new discovery by the paleontologists enables them to make important corrections regarding ideas about the formation of the earth crust of eastern Europe," the Soviet news agency said.

Tass said the ancient reptiles frequented what is now the Volga River region when it was covered by water some 150 million years ago. Sedimentary deposits along the Volga have yielded remnants of fleecy rhinoceros, mammoths and other creatures of various eras, Tass said.

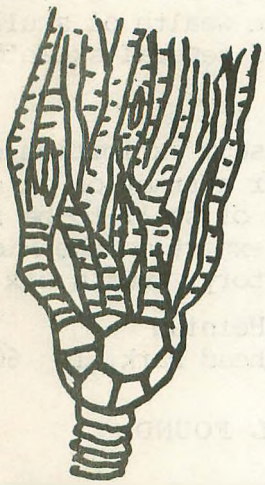
MOLINE DISPATCH

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 2 p.m. in the Science Building, Augustana College, Rock Island, Illinois.



FIRST CLASS MAIL

CYATHOCRINITES

MID-AMERICA PALEONTOLOGY SOCIETY

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

Dated Material - Meeting Notice

Allyn & Dorris Adams
612 W. 51st St.
Davenport, IA 52806