

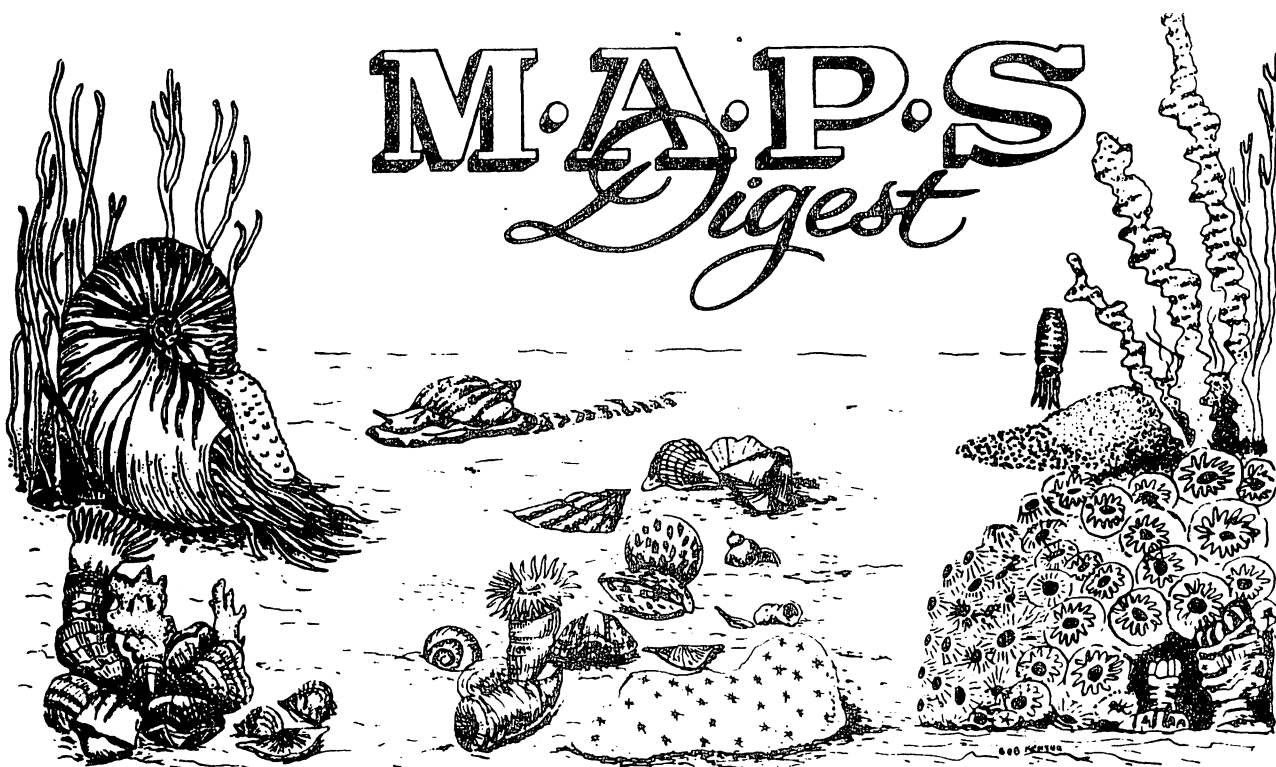
M.A.P.S. *Digest*

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Official Publication of
Mid-America Paleontology Society

Summer, 1982

REFLECTIONS

It's summer--which means we have just completed our 4th year together, this super MAPS family:

There have been many new members added and we've lost some old friends. (29) The professional Paleontologists have given precious time that we be better informed, hopefully they will see fit to continue giving this generous gift. Our Expo IV was by far the most successful yet--more people present more fossils to exchange, and many more displays than before. Letters from ever so many of you have been sent saying thank you for a special get-together and a promise of a return to Expo V.

The Brachiopod Slide Presentation is finished and the Study Guide to accompany it will be ready early in the Fall. The next slide presentation on Echinoids is well on its way with a projected completion date and Study Guide handout to be Expo V.

Expo V is being planned--once again Western Illinois University will be our host location April 15-16-17 are the magic dates to mark on your calendars. One of the greatest gifts of all is to bring a display of your choice of those incredibly awesome fossils.

Our treasury has a balance of something just over \$2,000. In the beginning, just 4 years ago we
(continued page 2)

MARK YOUR CALENDARS

- 5 June MAPS Meeting -- Augustana College
Rock Island, IL
1:00 p.m. Board Meeting
2:00 p.m. Wrap up of Expo IV. See p. 2
- 18-20 June EASTERN -- Pittsburgh, PA
- 24-27 June MIDWEST -- St. Paul, MN
- 3 July MAPS FIELD TRIP -- Biggsville, IL
10:00 a.m. See page 2 for details
- 8-11 July SOUTH CENTRAL -- AFMS, Houston, TX
- 6-7-8 Aug BEDFORD, IN -- Aug 6 - 8:30 Movie
1:00 p.m. Aug 7 MAPS Bus. Meeting
- 20-22 Aug NORTHWEST -- Pocatello, ID
- 28-30 Aug CALIFORNIA -- Long Beach, CA
- 17-19 Sept ROCKY MOUNTAIN -- Denver, CO
- 11 Sept MAPS FIELD TRIP -- Humboldt, IA
11:00 a.m. Meet Hy-Vee Super Market
Details p. 2.

SUMMER ACTIVITIES

3 July -- FIELD TRIP, Biggsville, IL Don Good is host. We meet at 10:00 a.m. at Country Fun Restaurant located 2½ miles W. of Biggsville on IL 34 (quarter mile past or West, of Junction 34 & 94S). Bring a sack lunch. Motel or camping facilities are in the area. We'll be hunting Mississippian material in the Burlington Limestone--crinoids and blastoids are the order of the day. Bring your good spirits and never mind the heat, just remember last winter. Hello crinoids and blastoids. If you need further information contact Don Good, 410 N.W. 3rd St., Aledo IL 61231 phone 309-582-5232

6-7-8 August -- BEDFORD, IN This is always a good time and an excellent swap. MAPS Brachiopod movie will be shown at 8:30 August 6, a business meeting Aug. 7 at 1:00 p.m. There is usually a field trip connected with this swap. Details at Bedford. Last year we met new people and new members. See you in Indiana.

11 September -- FIELD TRIP, Humboldt, IA The Crays are our hosts. We meet at Hy-Vee Super Market at 11:00 a.m. We will be hunting Mississippian material. Bring a sack lunch and good spirits. MAPS meeting in the quarry. For further information if necessary, contact Doug Johnson, Box 184 Donnellson, IA 52625, phone 319-835-5957.

ROCKFORD FIELD TRIP

The May Rockford Field Trip was successful. 18 members hunted mostly brachiopods and gastropods. Six or seven species of brachs were found. Beautiful popped out specimens. At least 2 species of gastropods were also found.

It was spring and highlights of the trip included spring flowers in camp grounds and green leaves on trees. Second day results included many trilobite pygidiums, but the illusive critters remained hidden. Next time!!

REFLECTIONS, concluded

we literally passed a hat and each contributed a \$. Sometimes the balance was \$7 after

postage, and each year we were concerned just how would we get enough money to print the monthly issues of the Digest. Little by little we progress.

A letter just received--in fact it's to Gil Norris who is climbing mountains gathering specimens to trade in April, 83--tells of an organization exactly like MAPS located in AUSTRALIA. How very exciting! They began their organization in 1979, a year later than the inception of MAPS. An article from their The Fossil Collector, Bulletin #6, December, 1981, can be found on page 5. Like MAPS they began with a dream to gather the amateur paleontologists together to learn and to exchange treasures. You will hear more about this family of fossil lovers from Australia. Maybe EXPO ? in Australia. Dream on dear ones!

Two other groups stateside--Austin Paleontological Society, Austin, Texas, and Genesee Valley Fossil Section of the Rochester Academy of Science Rochester, NY are consistent and loyal supporters of our MAPS family. This year at Expo IV groups from both Texas and New York were very much in evidence.

So we grow and keep our old friends "precious and rare" and make, oh, so many new ones--as awesome and gorgeous as the fossils they bring to share and exchange.

And now it is time to gather in our stores for EXPO V--may your bounty be most plentiful. One personal note--I must apologize for not answering your many letters of encouragement and for your many contributions. Over a period of time I hope your articles will all appear. Without you, wherever you are, to contribute and to support, my job would become impossible. A most sincere thank you to each of you!!

This will be your last Digest until the end of September. May your summer be the best ever whatever your plans--may you see many of our MAPS family, and gather many treasures from ancient seas. See you! Take Care! My love

Madelynne and Slincki Lincki

BOOK FOR SALE

TRILOBITES OF THE CHICAGO REGION
\$5.00 plus \$1.00 postage. Mail
checks to Alberta Cray, 1125 J Avenue, N.W.
Cedar Rapids, IA 52405



THE PROFESSIONAL'S CORNER -- Copyright, 1982

NAMING A SPECIES

N. Gary Lane
Geology Department
Indiana University
Bloomington, IN 474-5

I suppose a lot of collectors believe that finding specimens that represent an unnamed species is one of the most important results of collecting fossils. This becomes doubly important if the new species should be named after the finder. The collector may be surprised and even angered when he or she discovers that a professional paleontologist recognizes that specimens may be new but indicates little or no interest in naming and describing the new species. This is a true conflict of interests. The collector wants his new species named but is hesitant to try to write up the specimens on his own. The paleontologist is interested in the specimens only if there is some additional scientific significance to the find. If the specimens should contribute to the understanding of an evolutionary lineage, or fill in a gap in that lineage, provide an ancestor for already known forms, or possess unusual features that contribute to understanding past ways-of-life, then the paleontologist may have a keen desire to publish on the new specimens.

There is a philosophical conflict between the rules for naming new species and our understanding of ancient populations of plants and animals. Under the rules a species name is attached to a single specimen called the holotype (main-type). The species name and the holotype specimen cannot be separated. On the other hand the selected holotype is simply one individual in what was once a breeding population of living organisms. This population, like any living one, may exhibit considerable variation. There may be changes that take place with growth from juvenile to adult, or upon attainment of sexual maturity. Not only may there be differences in size, but also in shape, ornament and other features of the fossils. The paleontologist tells this by carefully studying a large sample of specimens, perhaps 100 or 1,000, of the species. He tries to collect all sizes from very small to the largest. He may then do various measurements on these specimens and plot up this numerical data. This may show how the fossil changed shape with growth, or the ornament might change. Brachiopods may add to the number of ribs on the shell with growth, or crinoids may add arms. In order to do an adequate job of describing a new species the paleontologist must characterize the nature of the population as carefully as he can. This may involve taking lots of measurements--perhaps 10 or 12 different measurements on each individual fossil. He may then subject these quantitative data to certain statistical tests to determine whether there are significant differences or not. For instance, he may have samples of a brachiopod species from several different layers that are of somewhat different ages, or samples from the several different localities, all from the same layer. He may want to know whether there are significant changes in the length, or width, or number of ribs on a brach-

iopod. There are standard tests to be found in any elementary statistical textbook to perform these kinds of operations. He might use a so-called "t-test" for measured features or a "Chi-square" test for counted characters, like ribs. These would tell him whether the differences between samples are likely due to just randomness, and he must seek another explanation, perhaps, or differences in environment.

Not all groups of fossils are equally well studied. There are probably many new species still lurking in the rocks for some groups of fossils, whereas others have been almost too well studied with very subtle differences used to characterize different species. Groups of fossils that are especially admired by amateur collectors, like trilobites, cephalopods, and crinoids, have also been of interest to many paleontologists. In these groups there are undoubtedly some genera that have been split up into too many species already. Progress would consist, not of naming new species, but combining some of the old names together into a more usable classification of the species. Other fossil groups are much less well studied, many fossil clams and gastropods, for instance, and may still contain many new species.

After this explanation I hope you are not surprised if a professional tells you that you have found a new species but says that he "doesn't have time" to write it up. What he is really saying is that there is not enough significant scientific content to the new species to make it worth his while to expend the time and effort necessary in order to do a really first-rate job of describing the new form.

MAPS NAME TAGS -- Send \$2.50 to: Fred S. Farrar
Rte. #2, Box 295, Poplar Bluff, MO 63901
Phone 314-686-2130

THE PROFESSIONAL'S CORNER, Continued

EOCENE EXTINCTIONS AND A MAJOR METEORIC IMPACT

Charles J. Peterson

Department of Physics and Astronomy
University of Missouri - Columbia

Some months ago I discussed in this journal¹ the arguments for and against the interpretation of major extinctions at the end of the Cretaceous Period as being due to the impact of a large meteor on the earth and the subsequent environmental consequences. The evidence for this event, chemical abundance anomalies in sea and terrestrial sediments, is accepted by geophysicists and paleontologists. Whether, however, the end of the dinosaurs, ammonites, and various other living organisms was precisely coincident with the meteoric impact is still unclear and no consensus viewpoint has been reached. But now additional support for a causal relationship between meteoric events and extinctions has been published by R. Ganapathy² and by Walter and Luis Alvarez and their colleagues³.

The first suggestion for a major meteoric event some 34 million years ago came from the North American tektites. Tektites are small, somewhat rounded, glassy objects which clearly were molten at one time. They were cooled rapidly and some show elongated tear-drop or rain-drop appearance which indicates cooling while passing through the earth's atmosphere. Tektites are believed to be formed by impacts of meteors onto the earth. Meteoric material and surface rocks are melted by the release of the tremendous amount of kinetic energy involved; the violence of the explosive collision sprays out the molten material which cools and lands over large areas of the surface. The North American tektites are distributed in a belt that stretches half-way around the earth. It is estimated that the total amount of material in this single tektite distribution is of the order of 10 billion tons of glass! Microtektites of this event have also been found in deep-sea cores from the Caribbean Sea and Indian and Pacific Oceans. The age of these tektites has been easily established by radioactive and other dating techniques.

Independently, R. Ganapathy at the J. T. Baker Chemical Company Research Laboratory in New Jersey and the Alvarezs at the University of California at Berkeley decided to search for additional evidence of the meteoric impact which had formed the tektites. A major motivation for this was that in the deep-sea cores, the microtektites are restricted to the same layers in which five major radiolarian species became extinct; these five species alone were more than 70% of the total Radiolaria.

The additional evidence for the meteoric impact comes from the presence in the deep-sea core sediments of elements--iridium, nickel, and cobalt--whose abundances can only be explained by an extra-terrestrial source, a large meteor. Ganapathy estimates that this object was at least 3 Kilometers (2 miles) in diameter and weighed 50

billion tons or more.

While the coincidence of meteoric material with oceanic micro-organism extinctions seems now better established, it is less clear whether major mammalian extinctions at the Eocene-Oligocene boundary are also related to this same event. The tektite/radiolarian extinction date is some 2 million years before the Eocene-Oligocene boundary defined in the deep-sea core study project. But the same boundary defined by the record of mammalian extinctions preserved in terrestrial sediments is dated to 4 million years earlier than the tektite/radiolarian extinction time. These differences presumably may reflect the geological difficulties in inter-relating terrestrial and oceanic sediments, but it can be expected that the present interpretation by Ganapathy and by the Alvarezs will spur more detailed investigation into the synchronicity of the land mammal and oceanic faunal extinctions. Additional investigators no doubt will search for similar evidence of meteoric material in sediments of other geological epochs of extinctions. Nevertheless, to use the words of Ganapathy, "It is difficult to avoid the implication that major meteorite impacts have played a role in the evolution of life on the earth."

NOTES:

¹"Astronomical Catastrophe and the Extinction of the Dinosaurs," MAPS Digest, 4, #7 (May, 1981) pg. 4.

²"Evidence for a Major Meteorite Impact on the Earth 34 Million Years Ago: Implication for Eocene Extinctions," Science, 216, 885, 21 May 1982.

³W. Alvarez, F. Asaro, H. V. Michel, and L. W. Alvarez, "Iridium Anomaly Approximately Synchronous with Terminal Eocene Extinctions," Science 216, 886, 21 May 1982.

OPALISED PLESIOSAUR AT WHITE CLIFFS

At the old pioneer opal field of White Cliffs, N.S.W., may be seen the most complete opalised skeleton of a plesiosaur yet found. The stubby tail, long neck, and squat, almost square head are very obvious although some of the bones of its paddle like limbs are missing. One of the remaining limbs, however, is a vision of green/blue opal while one of the polished ribs is a rich purple.

Dr. Alex Ritchie of the Australian Museum, Sydney, puts its age at about 100 million years. Adult plesiosaurs grew to 12 meters (40 feet) or more so the 2.5 metre (8½ ft.) length of this skeleton infers that it was quite a baby. The number of shafts dug close to where the find was made suggests that other miners hope to discover one of the parents!

Like so many discoveries, luck played a large part in the find; two inches to the right as the shaft was dug and ^{the} whole thing would have been missed. Luck or not, the find draws people from all over the world as the owner's visitors' book shows.

As the person who "baby-sat" the dugout thru two recent hot summers I know from experience that many came to White Cliffs in the middle of summer, just to see the remains of our "oldest inhabitant".

THE FOSSIL COLLECTOR
Gwen Rowe, White Cliffs
December, 1981, AUSTRALIA

ANTARCTIC MAMMAL -- Newly Discovered Fossils show how Marsupials Got to Australia

Washington--A team of American scientists has just returned from Antarctic with the fossil remains of the first land mammal ever found there.

The bones, which are those of a small marsupial the size of a rat, are compelling evidence for what scientists had long suspected but could never prove that marsupials, which are now mostly confined to Australia, reached there from South America across Antarctica before the continents drifted apart millions of years ago.

The National Science Foundation, which sponsored the research, said finding the mammalian fossils "ranks as one of the most significant scientific discoveries in recent years."

Officials at the foundation quoted an early advocate of continental drift, Dr. Lawrence M. Gould, who wrote in his book COLD, pub-

lished in 1931: "I had rather go back to the Antarctic and find a fossil marsupial than three gold mines."

"For years and years people thought marsupials had to be there," said the team leader, Dr. William J. Zinsmeister, a paleontologist at Ohio State University. "This ties together all the suppositions made about Antarctica. The things we found are what you'd expect we would have."

While previous discoveries of amphibian, bird, and reptile fossils in Antarctica have established the theory of continental drift beyond any scientific doubt no mammals had been found there until now.

Giant, six-foot-tall penguins lie about on Seymour Island. Whales, sharks, and strange deep-sea reptiles are also beached on the shores of the bleak Antarctic island. They're all dead, of course, the fossilized remains of marine life that once flourished off the north tip of the Antarctic Peninsula.

In February, 1982, paleontologists from 4 universities arrived on Seymour Island and its two companions in the Weddell Sea, James Ross and Snow Hill Islands. "These islands are a Rosetta Stone," said the expeditions' leader, Dr. W. Zinsmeister. "They have the best fossil record in the Southern Hemisphere for the geologic period between the Cretaceous and early Tertiary periods (from 100 to 30 million years ago)."

What puzzle will the fossils decode?...Sometime during the 70 million years covered by the fossil record a super-continent called Gondwana ripped apart and splintered into huge fragments. The continent-size chunks slowly drifted apart--South America moving west and Australia and New Zealand floating north. Besides creating new land masses the drift caused fundamental changes in the Southern Hemisphere, altering ocean-circulation patterns and changing the whole global climate...

Besides the team from Ohio State, researchers have come from the University of California, Texas Tech, and the Colorado School of Mines...The 310-foot-long icebreaker, Glacier, will take ice-core samples in the Weddell Sea while the paleo-rock hounds roam the island. Already discovered are a great variety of invertebrates--fossilized clams, snails, and starfish, fossilized tree trunks. The frigid islands are now treeless, of course.

Some paleontologists think the kangaroo and its mates originated in North America and traveled down thru South America to reach Australia.

Popular Science, April, 1982

New York Times & Associated Press reports

Thanks to John Rivers, Rochester, NY

A PICTORIAL GUIDE TO FOSSILS

by Dr. Gerard R. Case

Nothing will miss the eye of eager fossil hunters who have this guide close at hand. They'll find here a total of 1,500 illustrations of virtually every type of fossil flora and fauna likely to be found, from one-celled organisms to the highest order of mammals. Many of the illustrations were specially prepared for this volume, while others represent photographs and drawings that were loaned by museums, colleges, and universities. Useful historical information and tips on collecting fossils supplement the bounty of pictorial displays. Gerard Case is a noted collector of fossils for museums and has published dozens of papers in the field....

"A Pictorial Guide to Fossils" is published by Van Nostrand Reinhold Co., 135 West 50th Street New York, NY 10020. The price is \$29.95 plus tax.

Rich Hamell, MAPS member wrote the forward.

AN ILLUSTRATED GUIDE TO FOSSIL COLLECTING

Naturegraph Publishers, Inc.

by Casanova & Ratkevitch

This is a readable and informative book for both the beginner and the more advanced amateur interested in fossils. It is not a college paleontology textbook.

The book begins with a short history of paleontology. That history had sporadic moments in Greek and Roman times. More activity in the 16th, 17th and 18th centuries mixed myths and science. The authors note that our most famous early fossil collector was Thomas Jefferson.

The authors review the various kinds of fossil preservation. A chapter on the Classification of Fossil Forms is one of the longest chapters in the book. That chapter is followed by one spelling out the chronological history of life on earth.

A chapter on "How To Collect Fossils" has a number of tips for field work. A long checklist of Fossil Collecting Equipment does not include this writer's favorite tool, a prod, which can be used both for dislodging fossils and as a support in ascending or descending where the footing is not secure. Subsequently there is a helpful discussion of cataloguing, preparing and displaying fossil specimens.

The book lists museums with major fossil collections as well as a list of national and state parks with fossil exhibits. Very helpful to the collector is a summary of state geological surveys and their publications. There is also a listing of Paleontological libraries and Societies.

There is a chapter containing a long list of Fossil Collecting Localities in North America. That chapter should be attractive to collectors, although like all such lists the collector is likely to find some of such locations not currently available or viable. The authors list a "Pleistocene Limecrest Formation, Warren Brothers Pit" in Sarasota Cty. FL. As of last year the name of the operation had been changed to MacAsphalt Co. Access by collectors was limited to two days during the week, under the guidance of a guide for which one paid a fee of \$2.00 and was limited to a small part of this large quarry. As to this being a "Pleistocene" location one might note that for many years this was considered a classic Miocene location, that in recent years some paleontologists have argued for an earlier time frame but the matter is far from settled, and that the writer and his wife, in recent years, have exhibited fossils from this area, in competition, as Miocene without being questioned by the judges.

There are a few other statements in the book which seem open to question. On page 34, the authors present some examples of the use of the classification system, using a trilobite as the focus of one of such examples. They designate as the Class: Crustacea. Crustacea is a Superclass. Customarily the Class for a trilobite is a Trilobita and is so designated in the AFMS Fossil List. The authors say that bryozoa appear less abundantly from the Silurian to the present. While this may be true generally, it probably is not true of the Mississippian Archimedes, and some Devonian locations have had considerable numbers of Bryozoa. The authors assert that time periods are divided into epochs. From the literature and exhibits at shows it would seem that the term epoch is used for time intervals in the Cenozoic era but not for earlier eras. Starting on page 78, the authors discuss the various geologic time intervals, commencing with the Cambrian. For the most part, the dates they use do not accord with the Geologic Time Scale Rev. 11/80 by the Smithsonian. It may be noted, however, that time scales issued by various scientific organizations from time to time not infrequently vary.

Dr. Casanova is based in southern United States and has worked in the field of Paleontology for many years. Mr. Ratkevitch, a westerner, has written fossil guides for Arizona and New Mexico and has done other writings in the fossil field. The book is well illustrated, and it is a worthwhile addition to one's library. Cost \$6.95. --Critique, Philip Marcus, Wheaton, MD

EURYPTERUS remipes: A FOSSIL FOR THE STATE OF NEW YORK

Richard D. Hamell
Department of Geosciences
Monroe Community College
Rochester NY

all
drawings
not to scale

As this is the Chinese Year of the Dog, it may be only fitting that it should also be the paleontologists' year of the Eurypterid. "What is an eurypterid?", you have undoubtedly asked. These organisms belong to the jointed-leg assemblage of arthropods which includes the insects, spiders, crabs, lobsters, shrimps, other crustaceans, and the closely related horseshoe crabs (Fig. 1) and scorpions (Fig. 2).

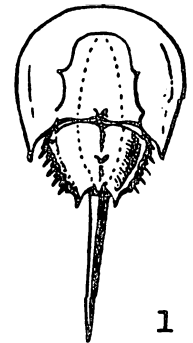
Eurypterids are, unfortunately, extinct. They thrived for nearly 300 million years, having their beginning in the Ordovician Period (475 million years ago) and met their demise at the end of the Paleozoic Era during the Permian Period, some 180 million years ago.

Eurypterids are similar in general shape to the lobsters. They are segmented into three major sections: the head region (carapace), the body or thorax, and a tail (telson). The surface of the carapace is sometimes covered by pustules and other sensory organs (ocelli). A pair of complex eyes vary in their position of the carapace. On the underside (ventral) of the head is located the mouth around which six sets of appendages are arranged. The first set, adjacent to the opening of the mouth, is tipped with claws called cheilicerae. These feeding mechanisms characterize other closely related animals such as the scorpions, spiders, and horseshoe crabs; hence their classification as Cheilicerates within the Phylum Arthropoda. The next four sets of appendages are generally modified for walking and/or crawling along the bottom of their watery realm, be it a lake, river, estuary, or lagoon. The last pair (6th) of appendages are commonly tipped with paddle-like flippers; an advantageous adaption for swimming and escaping predators.

There are several exceptions to the general body plan as noted above...An example is Pterygotus (Fig. 9), its first pair of appendages (cheilicerae) are enlarged and extend beyond the front of the head. This is the largest known eurypterid having an overall length of 3 meters (9 feet) and was no doubt a formidable predator. The docile looking Stylonurus (Fig. 4), lacking swimming appendages, probably crawled along the bottom of the rivers in search of food. Its outward appearance resembles a giant water skipper, a captain in its own day. There are numerous other eurypterid oddities.

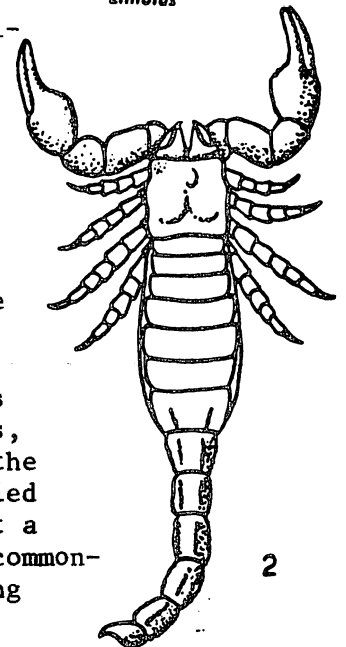
Eurypterids are not as commonly found as one might wish. Perhaps the most famous rock unit in the world noted for the abundance of eurypterids is the Bertie Waterlim Group. This rock unit extends from eastern Ontario, Canada, to eastern New York (Cedarville, Herkmer County): a geographic distance of 250 miles.

Their Discovery The first specimen ever described was found in the township of Westmoreland, Oneida County, New York in 1818 by Dr. S. L. Mitchell. Dr. Mitchell regarded this unique fossil to be a distant relative of the catfish family and therefore, named the genus Silurus. It is only a mere coincidence that the fossil was of Silurian age. The similarity of the spelling of the genus and the time period has nothing to do with a common derivation. The



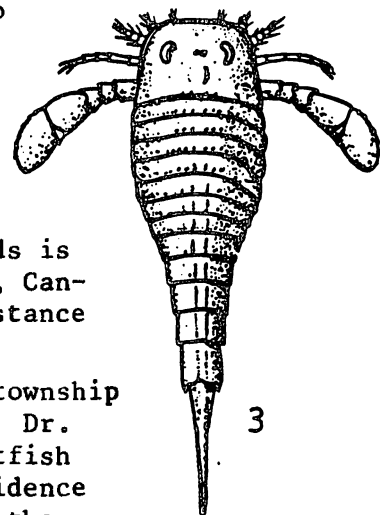
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Limulus



2

Palaemonopterus

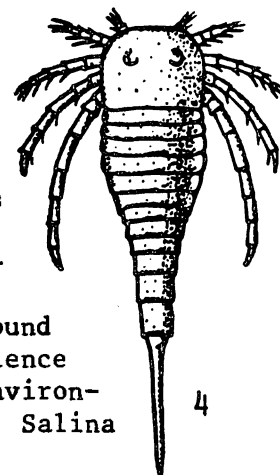


3

Eurypterus

geologic period--the Silurian--is derived from the region where the rocks of that age were first described in southeast Wales. An ancient tribe, the Silures, inhabited this region until they were conquered by the Romans around 80AD. The genus--*Silurus*--has a Latin derivation meaning "a river fish".

Their Niche In Nature The type of environmental niche that eurypterids inhabited still remains a question. Other fossils that are found with these creatures are low in diversity (number of different kinds), but those species that are present are found in abundance. The inarticulate brachiopod *Lingula* is perhaps the most commonly found companion with the eurypterids (especially the waterlime rock units of the Bertie Group, Late Silurian; 390 million years ago). Whether these arthropods (eurypterids) scurried through the brackish estuaries that serpented across the carbonate mud flats or groped in the saline-rich algal ladden lagoons is, at present, unresolved. In eastern New York, near Cedarville, rare plant remains (*Cooksonia* sp.) and scorpions are found with the numerous varieties of eurypterids. This assemblage lends some credence to the speculation of a fluvial habitat similar to the salt-marsh estuarine environments envisioned for the eurypterids found in the Pittsford Shale (Vernon Fm., Salina Group), in Pittsford, New York...

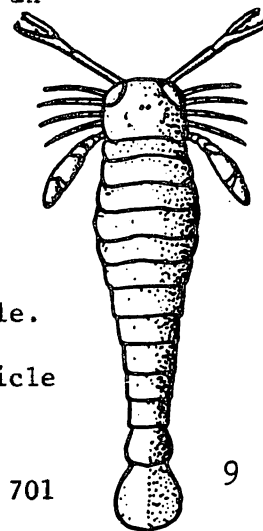


Stylonurus

Candidates For State Fossil of New York In the recent issue of the Conservationist (Jan.-Feb., 1982) Dr. Fisher, State Paleontologist of New York, has written an article on the candidates for state fossil of New York. Dr. Fisher suggests that New York State should have a fossil representative amongst the other symbols for the State of New York. He proposes four candidates (in order of preference): the eurypterid *Eurypterus remipes*, the mastodon..., the trilobite *Phacops rana*..., and the Ordovician snail *Maclurites magnus*...

...Needless to say, that there are no doubt many other fossils of personal esteem, but there are none that surpass the uniqueness and are the most characteristic of New York than the eurypterids.

(Ed. note--Rarely do I shorten an article, but I have done that with this article. Rich Hamell included several plates and several species of eurypterids which do not appear in this article. Due to (1) lack of space, and (2) some of this article was unique to New York, I elected shortening the final copy. It will not happen very often.)



Pterygotus

Figures -- Easton, W. H., 1960, Invertebrate Paleontology, Harper and Rowe, NY, 701

LINK TO ANCIENT LIFE -- Insect in Amber 40 Million Years May Yield DNA

ROCHESTER TIMES UNION -- 27 Feb. 82, Thanks to John Rivers, Rochester, NY
NEW YORK -- A mummified insect has been found with much of its soft tissues apparently intact after 40 million years, scientists at the Univ. of California at Berkeley report. The specimen is so well preserved that elements within cells appear to be visible, they said.

The insect, a female fungus gnat is imbedded in transparent Baltic amber, according to a report in the current issue of the journal SCIENCE. Baltic amber, which is fossilized resin from conifer trees, was formed 40 million years ago or even earlier, scientists estimate, after the great age of the dinosaurs and early in the evolution of mammals. The amber is dated by employing widely used geological techniques to date the rocks with which it is found...

In the case of the insect...the soft tissues were evidently dehydrated and preserved when the gnat got stuck in the resin that later became amber.

Preservation of the insect is so remarkably good according to the chief scientist involved, that a colleague hopes to extract some intact DNA (deoxyribonucleic acid) with the hope that it can be replicated, thus providing scientists, for the first time, with the chance to study the genetic material of an ancient creature.

In specimens many millions of years old, only bones and hard tissues are ordinarily preserved.

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

Judy Owyang

FOSSILS/ETC.

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General contractor. Interested in upper Ordovician fossils, all types. collecting 18 years. Will trade Upper Ordovician (Cincinnati) fossils. You name it, I have got it or can get it.

Pipefitter/ Student. Interested in trilobites & sharks. Will trade marine & terrestrial fossils of Florida-teeth of shark, porpoise etc. terrestrial-teeth of horse, rhino, elephant, etc. Wants to share a common love of fossils, to gather & share info. My son and I have a lot to learn especially outside of Florida. I can think of no better way.

Retired. ex sheet metal, aircraft & marine. Interested in all fossil material. Crystalized & unusual specimens sometimes used for jewelry applications. Will trade some cephalopod, crab, and coral species. Dinosaur & Oreodont, etc. To make contact with other fossil collectors for exchange of info & specimens

Student-developmental Biology. Interested in Paleozoic & Mesozoic communities/ trophic relationships. Will trade Penn. specimens, also Miss., Cretaceous & Tertiary specimens. Will send a list on request. Interested in interacting with people with practical collecting experience and a knowledge of paleo-communities.

Retired letter carrier. Interested in invertebrate mollusks; Pliocene & Miocene of Florida; Eocene of Jackson, Miss. & Paris, France. Will trade all fossils of above.

Copper fabricator, Westinghouse. As of now my collection is small, but I am continuously working on it. My interest is in fossils & enjoy contact with other fossil fanatics.

Student. (He has just really gotten into collecting. He will be a student in geology at the U. of Iowa fall of '82. Was recently initiated into the Aristotelian Chapter of the National Honor Society.)

Machinist. Interested in vertebrate paleontology. Will trade mosasaur vertebrae, ammonites, clams, etc.

Teacher. Interested in invertebrates, botanical, & ammonites, if I could afford them. Will trade Cretaceous material from West Texas. A rock becomes valuable to me because someone took the time to pick it up for me. Interested in material from all areas of the U.S.

Polymer & Coatings chemist. Interested in Mazon Creek flora & fauna. Will trade material from the Mazon Creek area. Wants to share and cultivate with others a common interest in fossils.

Self-employed -antiques restored & refinished. Interested in Cenozoic vertebrates, Paleo. marine invertebrates. No specimens for trade but will trade expert antique furniture restoration for fine fossils. Thirsty for any info on fossils, contact in this field seeking info on S. Dak. collecting sites.

Supervisor. Interested in crinoids, cystoids, blastoids & primitive sharks & shark-like fishes. Have for trade Silurian fossils, Miss. fossils, blastoids crinoids (usually cups) cystoids (occasionally). Wants to trade and communicate with others.

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

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

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

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

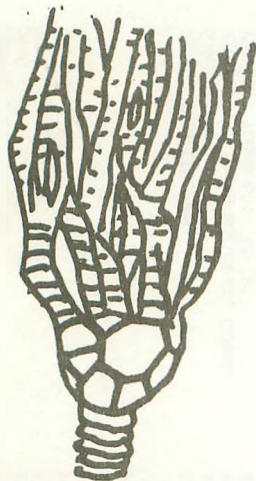
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