

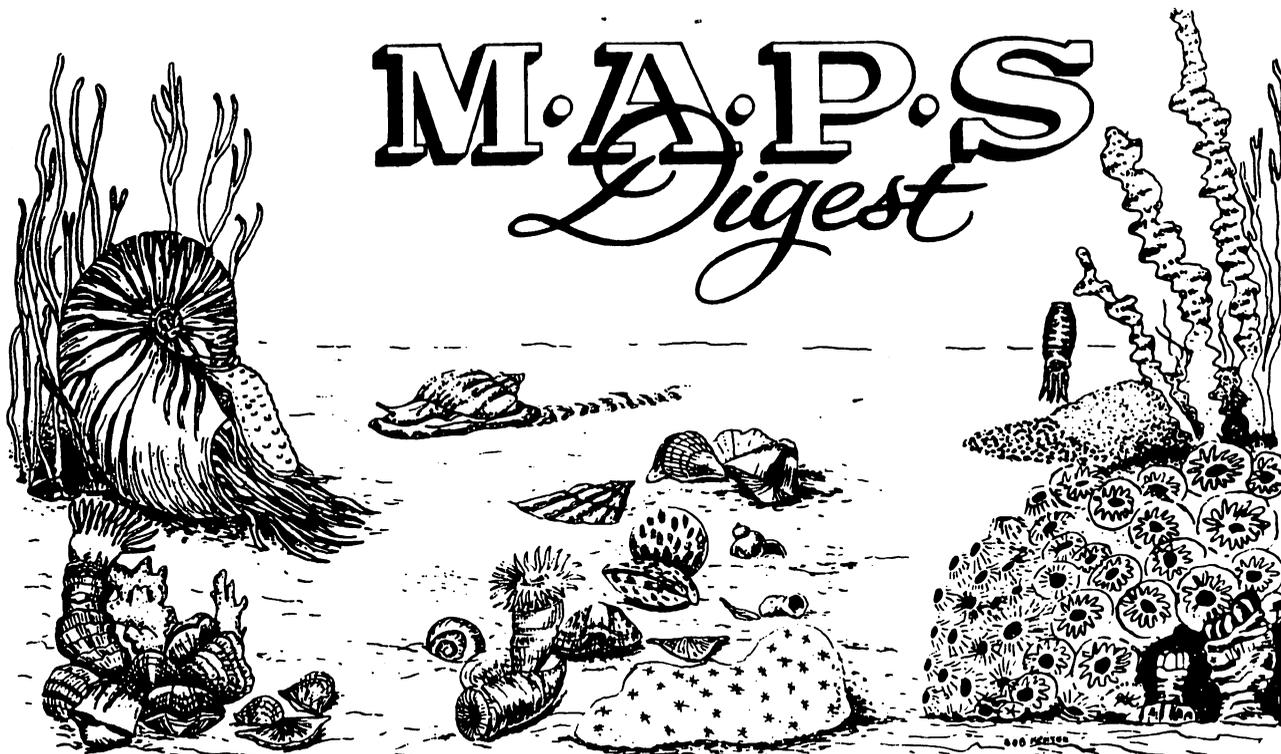
M.A.P.S Digest

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Official Publication of
Mid-America Paleontology Society

November, 1984

JOHN JAMES HEARTY, 27 Branchalfield Drive
Wishaw Lanarkshire ML2 8QB, Scotland

Here's a real scoop for you! I'm dead certain you can use this wee article on the discovery of the 2nd complete conodont animal

A DAY AT GRANTON HARBOUR -- CONODONT II

On Saturday 16 June 1984, I accompanied Mr. Neil Clark of Edinburgh to Granton foreshore near Edinburgh. We were there to collect from the thin band of varved limestone, the "shrimp band" in the Granton Sandstone, Lower Oil Shale group (Dinantian), Lower Carboniferous which occurs along the Granton-Muirhouse shore, Midlothian.

Neil and I confidently expected to find a few shrimps, Waterstonella grantonensis, Anthracophausia dunsiana, Crangopsis sp. & Teallicaris sp. all having been recorded from this site. Other organisms found at Granton include hydroids (?) fish, nautiloids and the only known complete conodont animal. As the sun beat down upon us we set about the job in hand and within 20 minutes, Neil had discovered a complete juvenile of the genus Rhadinichthys (probably R. brevis) in an exquisite state of preservation. Up until that

cont'd. page 2

MARK YOUR CALENDARS

3 Nov MAPS MEETING -- Augustana College
Fryxell Museum, Rock Island, Il
1:00 p.m. Board Meeting
2:00 p.m. MAPS Meeting -- Mr. Jed Day, a graduate student at the University of Iowa will speak. Subject "Middle and Upper Devonian Paleogeography and Paleo-Ecology of Southwestern and Mid-Continental US"

6 Nov RENO, NEVADA -- Harrah's Hotel, 12:30
The Paleontological Society makes the First Presentation of the
HARRELL L. STRIMPLE AWARD
Lloyd, Metta, and Val Gunther, Brigham City, Utah to be the recipients. If you can share this presentation with your presence contact John Pojeta, Jr Secretary, US Geological Survey, E-501 National Museum of Natural History, Washington, DC 20560

Congratulations, GUNTHERS!!

10 Nov CHICAGO AREA PALEONTOLOGICAL SOCIETY
3rd Annual Show & Auction. Calumet Township Senior Center, 12633 S. Ashland Avenue, Calumet Park, IL
(map page 3)

1985 EXPO VII -- A FOSSIL SERENADE
APRIL 19, 20, 21

FIELD TRIP A SUCCESS

Beautiful Ordovician fat, saucy gastropods and cephalopods were the order of the day.

25 people from an area of Chicago on the East and Iowa City on the West hunted material in a quarry whose treasures were from ancient Ordovician seas.

Lewis Kehr, Ottawa, Illinois, made contact to get us into the quarry. John Catalani, Bolingbrook, brought a list of material to be found, a map showing stratigraphy of the area and real fossils so we would know what to look for.

Probably the most spectacular find was by Lewis Kehr. Lewis specializes in shark teeth. Somehow a shark's tooth turned up in the Ordovician rocks he took home to work over later.

When Gil reads this he's going to say: "Wait a minute, shark's tooth in the Ordovician, no way." A true live -- oops dead -- Fossil Mystery

(¶ ¶ ¶ ¶)

FROM OUR FRIENDS

~~As we go to press, cars are heading to Dallas and FOSSILMANIA. Field trips, Texas BBQ, Swaps, Auction, FRIENDS, Fossils. What else is there?~~

From INDIANA SOCIETY OF PALEONTOLOGY--29 people present at their most recent meeting. Money enough now for a news letter, Brad Ream in charge. Margaret Kahrs and Brad Ream are headed to Fossilmania.

(¶ ¶)

CONODONT II, Continued

moment, only 2 poorly preserved specimens of Rhadinichthys had been recorded from the Granton "shrimp bed". Neil next unearthed a beautiful Anthracocephalus with egg cluster, and a species of Cyclus. The Cyclus being a new addition to the faunal list....But Neil wasn't finished and soon a species of Amphioxus, another as yet unrecorded element in a growing faunal list.

Now, by this time you will have realized that Neil was having "one of those days"--he could do nothing wrong!...but Neil wasn't quit finished. With almost his next hammer blow there was laid open the 2nd complete conodont animal. We sat down on the beach, put down our

hammers and stared in disbelief. We were both well aware of the story of the discovery of the 1st conodont animal by Euan Clarkson in the collections of the IGS in Edinburgh and significance of this latest find was not lost to us...

Early on the morning of June the 18th, Neil met Dr. Euan Clarkson in Edinburgh University and the find was quickly confirmed. The 2nd conodont animal now awaits description and thereafter will be permanently housed in the Royal Scottish Museum in Edinburgh.

It would seem that the discovery of this 2nd specimen would dispel any doubts of "chance associations" of conodont apparatus with other organisms that might have been mooted had the original animal remained the only known specimen, for I understand that the conodont apparatus lies in the same position in both specimens. The descriptions and illustrations in Lethaia 16 (1983) in which Briggs, Clarkson & Aldridge reveal Clydagnathus ? of cavusformis for the first time lead me to believe that this second specimen is by far the better preserved of the two. In particular, the head region which was relatively poorly preserved in the first specimen (with the exception of the conodont apparatus itself) is readily determinable for the first time. It is to be hoped that this 2nd specimen will display clearly all the conodont elements in the apparatus and thus allow for a more definite classification. Also, any details of the posterior and caudal fins that this new find displays, will help to align the conodont animals with either the chordates (such as Amphioxus) or the chaetognaths (the "arrow worms"), alternatively we may find the erection of a new phylum, the Conodonta, as tentatively suggested already by several authors.

Then in a letter to Gil Norris from Neil D. L. Clark, 79 Charterhall Grove, Edinburgh EH9 3HT

Dear Maps: You will have recently heard from a member of MAPS in Scotland, John Hearty, who has informed you of the discovery of the second conodont bearing animal. He has told me of your interest in the discovery of the first conodont bearing animal from the collection of Granton Shrimp Bed material in the BGS (formally the IGS). I am writing to tell you that, unbeknown to him, John had found a third specimen. It is a pity that we do not have the counterpart of this specimen.

On the 16th of July we returned to the site to search for the counterpart only to find that someone had ripped the beds up and left a large

number of shrimps exposed. John and I were able to save a few of these rare shrimps but it is inevitable that many will be destroyed. A certain species (Waterstonella grantonensis) from these rocks is unique to this exposure at Granton which measures only about fifty squar meters. The shrimps only occur abundantly on one surface at this exposure.

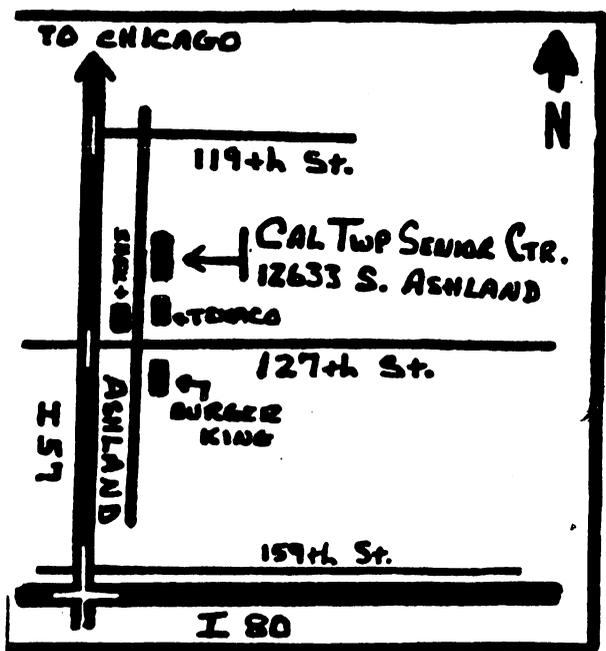
It is sad to reflect that due to this destruction other specimens of the conodont bearing animal have been weathered out of the rock.

Whether the third specimen contains the conodont apparatus will only come out of careful description. I will be sending it to Dick Aldridge in Nottingham where it shall stay with the second specimen awaiting description.

(Editor's comment. So here we have a description of one problem with one breed of collector. A site is destroyed and scientific evidence with it. MAPS has been asked before to do something about this sort of thing. There is little to be done for/with one who has no still small voice inside. But here also is the other side of the coin. 2 Collectors who have found specimens valuable to science and who have generously given those specimens to a university for study and describing.)

(Ø Ø Ø Ø)

CHICAGO AREA PALEONTOLOGICAL SOCIETY



For SWAP Table reservations contact John Catalani, 408 Justine Avenue, Bolingbrook, IL 60439

For general information contact Paul Caponera 312-389-4452.

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Announcing THE MOSASAUR Volume II

The Delaware Valley Paleontological Society, an association of amateur and professional paleontologists, is now taking orders for the second issue of THE MOSASAUR, a paleontological journal.

THE MOSASAUR has a unique niche among paleontological journals with the types of articles that it publishes and the audience to which it is directed. An editorial policy for the journal has been designed to bridge the gap between the amateur and professional communities, publishing articles of interest to all.

Checks/bank drafts/international money orders in U.S. Dollars should be made payable to Delaware Valley Paleontological Society and sent in care of William B. Gallagher, Editor, Department of Geology D4, University of Pennsylvania, 240 S. 334d St., Philadelphia, PA 19104.

\$7.00 single copy, Institutional rate \$14.00 single copy.

(Ø Ø Ø Ø)

THE CURATOR'S CORNER--Gerald Kloc, Buffalo, NY

HOW TO CLEAN FOSSILS USING QUATERNARY-O

There has been for some time now a product that has been very useful in cleaning fossils. It is called Quaternary -O (Q-O). It is a super detergent or wetting agent that looks like axle grease and will break down shale by breaking apart the electrical bonds that hold the clay particles together. Q-O does an excellent job of cleaning fossils made of calcite or pyrite if they are in a shale matrix. So, fossils such as brachiopods, corals, bryozoans, gastropods, blastoids and some trilobites will clean quite well. These fossils that come from such places as the Waldron Shale of Indiana, Silica Shale of Ohio or the Hamilton Group (many shale formations) of New York or Ontario get beautifully cleaned in Q-O.

There are two methods of cleaning fossils when using Q-0, the jack rabbit vs. the tortoise method. The jack rabbit or faster method is putting the Q-0 and fossil(s) into a pot of water and bringing the water to a boil. What then happens is that the Q-0 dissolves quickly in the hot water and then starts to break down the shale matrix from the fossil. A word of caution when using this method. If Q-0 is placed in water and is brought to a boil, WATCH IT CLOSELY, for it will quickly develop a foam on top that will boil over. To prevent a boil over, one should simply turn the temperature down but still allow the solution to boil gently. The continued boiling is important because the solution of Q-0 at high temperatures will quickly break apart the shale and the agitation of boiling removes the particles away from the surface of the fossil. As the solution build down, one should continue to add more water, preferably boiling water so the boiling does not stop. If one lets the solution boil down too far, the solution develops a texture like thick glue and will quickly foam up and may boil over.

When boiling fossils in a pot or can, the removed shale from the fossils will collect on the bottom, burying the fossils in the mud and causing the Q-0 to be less effective. The best way to prevent this is by putting the fossils in a deep frying basket which will raise the fossils off the bottom of the pot. Also, the basket allows a quick way of removing all the fossils at once and allows the solution of Q-0 to continue boiling.

The amount of boiling time may vary greatly depending on what other material is mixed in the shale matrix. If the matrix is a soft shale, Q-0 will quickly do a very good job in removing the shale. But when the amount of lime or silt increases in the shale matrix, the less effective Q-0 becomes and is totally ineffective with a limestone or sandstone matrix. Therefore, some fossils I have boiled just once for 20 minutes when the matrix is a very soft shale like Silica Shale or the Waldron Shale. Other fossils I had to boil 5 or 6 times which totaled 3 to 6 hours. These fossils are in a shale matrix which contain the varying amounts of lime or silt. To save on time, one should safely remove as much of the matrix before putting the fossil into the Q-0 solution and between boilings.

When the fossils are removed after boiling, do not throw out the solution for it can be used

over and over. After continued use, too much clay will build up which must be removed. This can be done by letting the solution sit for a day to allow the clay particles to settle to the bottom. Then decant off the solution and throw out the sediment. But before you throw out the sediment, you may want to wash it and look for microfossils.

The alternate method is the tortoise or slow method. For this method all one needs to do is put the Q-0 and fossil into a container of cold water, put it on a shelf and come back to it one to two months later. This method has several advantages over the boiling method, providing one is not in a hurry to clean one's fossils: (1) one can get back to these fossils in the Q-0 solution at any convenient time; (2) one does not have to watch a boiling pot for boil overs; (3) one does not have to be bothered with the smell of boiling Q-0 or the smell when it burns from a boil over; (4) and some fossils made of calcite will not crack as in the case when these fossils are put into the high temperature of boiling water. I also have some words of caution when using this method. First, use a container with a lid to prevent evaporation. I prefer to use glass jars so I can see how the cleaning of the fossils is progressing. I also like to use large mouth jars, such as peanut butter jars, so I can put in larger specimens. Secondly, one should put the collecting locality on each jar and don't mix collecting localities into one jar. I have 20 to 30 jars of Q-0 going at any one time and there is no way I can remember the locality of each jar. The labels do help when I come back to it 2 months later.

After several uses, one will notice that the Q-0 solution will become less effective. This is due to the removal of Q-0 from solution by the "clinging" of the Q-0 to the clay particles that come off the fossil. As it becomes less effective, the Q-0 solution will change from a dark amber color to a pale yellow color. To increase its effectiveness, just add more Q-0. If the solution of Q-0 turns an off white color, it has become totally ineffective and should be disposed of.

The question most often asked about Q-0 is how much Q-0 should one put into water? As yet, I have not come across any information on any ratio between Q-0 and water. I have experimented and have come up with a ratio of at least one well rounded tablespoon for each qt. of water. You may prefer more Q-0.

Concluded page 8

The following article appeared in the July, 1984, issue of *California Geology*, and the California Division of Mines and Geology has graciously given us permission to reprint it.

Living within 50 miles of this location, it is embarrassing to note we have never collected there, but the fossils we have seen from the area consist mostly of trilobite hash.

The original article is accompanied by many illustrations which were revelations -- complete, or nearly complete, examples of species we had never seen whole. Then we realized the pictures were furnished by C. A. Nelson, the most authoritative source on the White-Inyo Ranges, and his collection was made over a period of 30 years, aided by hundreds of UCLA undergraduate and graduate students. Last summer one of these students was our daughter, Jane, and after six weeks of surveying the area, when we quizzed her about fossils, she shrugged and remarked, "Nothing any good."

Don't expect to come here and find a complete *Fallotaspis* some morning. Some decade would be more like it!

If you would like to subscribe to *California Geology* for one year (12 issues), send \$3.00 to the California Division of Mines and Geology, P. O. Box 2980, Sacramento, CA 95812. It is one of the great remaining bargains in geologic publications!

Denny and Marty Sutherland**

FOSSILS AND FORMATIONS OF THE LOWER CAMBRIAN TYPE WAUCOBAN SECTION
Inyo County, California

by Eric Seiple

Discovery of Waucoban Section

One of the best Lower Cambrian reference sections in North America can be found less than 50 miles (80 km) from Death Valley, in a wild and pristine setting much the same as when pioneering paleontologist C. D. Walcott first explored in the 1880's. Here, on the western edge of the Great Basin, Walcott discovered important exposures of sedimentary rocks bearing the then oldest known Cambrian fossils. These strata he designated as the type locality for the Lower Cambrian Waucoban Series (Walcott, 1895 and 1908). All biostratigraphically equivalent rocks in North America are correlated with this section.

Walcott named his Waucoban Series after Waucoba Spring, which lies near the Waucoba-Saline Valley Road, a semi-maintained dirt road that runs from State Highway 168, two miles (3 km) east of Big Pine, to Saline Valley. The word *Waucoba* comes from the language of the Paiute Indians, first inhabitants of Inyo County. It is translated as "stinking water," no doubt a reference to the odor of the highly mineralized springs on the eastern slopes of the Inyo Mountains.

The base of the type Waucoban section

is found one mile north of Waucoba Spring in the Campito Formation (Nelson, 1971). From its base, the type section extends southeastward and encompasses strata nearly 7,000 feet (2,100 m) thick.

Stratigraphy and Paleontology

Campito Formation

The Campito Formation (named by Knopf, 1918, but redefined by Nelson, 1962, p. 141), oldest of the rock units included in the Waucoban Series, has been divided into two members. The older of the two is the Andrews Mountain Member, about 2,500 feet (760 m) thick, which consists of gray to black quartzitic sandstone and interbedded gray siltstone and shale. It is in a horizon approximately in the middle of the Andrews Mountain Member that the first olenellid trilobites, *Fallotaspis*, are found. This represents the oldest trilobite horizon in North America; this horizon is considered by many paleontologists to be the base of the Cambrian Period. Rocks of the Andrews Mountain Member below this appearance of trilobites are considered upper Precambrian by many paleontologists.

The overlying Montenegro Member yields a wider assortment of trilobites, including *Daguinaspis*, *Fallotaspis*, *Nevadia*, *Holmia*,

Holmiella and *Judomia* (Nelson, 1976). It is composed of approximately 1,000 feet (300 m) of greenish-gray shale and quartzitic sandstone, with minor lenticular marly limestones in the uppermost 200 feet (60 m). In these pod-shaped limestone beds have been collected the first archaeocyathids of the Precambrian-Cambrian succession in this area, *Ajacicyathus*, *Rotundocyathus*, *Ethmophyllum* and *Pycnoidocyathus* (McKee and Gangloff, 1969). These archaeocyathids are among the more typical forms from an assemblage that includes 17 species.

Archaeocyathids were marine, benthic animals that secreted a calcereous, double-walled skeleton shaped like a cup or a cone. They were at first considered primitive corals on the basis of a superficial morphological resemblance to some coelenterates. A second school of thought held that they were calcareous sponges. Presently they are placed by themselves in a separate zoological phylum, Archaeocyatha. As a group, Archaeocyatha had attained worldwide distribution by the close of the Lower Cambrian, diversifying into over 450 species (Pesci, Scholl, Scales, and Libbey, 1955). However, the entire phylum underwent great reduction in numbers during the Lower Cambrian and by the end of the Cambrian they were extinct.

Poleta Formation

The archaeocyathid-bearing limestones and trilobite-bearing shales of the upper Montenegro Member of the Campito Formation grade conformably into the Poleta Formation (named by Nelson, 1962, p. 141-142). The rocks of the Poleta Formation have been grouped into three members, based upon a remarkably persistent trend in lithology across scores of square miles in eastern California and western Nevada. The lower strata, up to 600 feet (180 m) thick, consist of massive- to thick-bedded gray-blue and buff limestones, in which occur a varied fauna of at least 20 species (McKee and Gangloff, 1969) including abundant archaeocyathids (*Archaeocyathus*, *Protophoretta*, *Pycnoidocyathus*, *Cambrocyathus*, *Ajacicyathus*, *Rotundocyathus*, *Annulogungia* and *Ethmophyllum*). Many of the archaeocyatha have been preserved in what might have been their original growth positions. Some

local concentrations of the fossils appear to represent small reefs or bioherms. If this is so, the archaeocyathid may have been the first shell-secreting organism to construct such structures on an ocean floor.

Archaeocyathid-bearing limestones characteristic of the lower Poleta grade into the principally detrital deposits of the middle Poleta which is about 500 feet (150 m) thick. Gray-green shale is the major rock type exposed, and it yields several genera of trilobites, including *Judomia*, *Fremontia*, *Laudonia*, *Nevadella*, *Holmia*, and *Olenellus*.

Also reported from these middle Poleta shales are specimens belonging to three distinct classes of echinoderms: an edrioasteroid, found in the Silver Peak region of Esmeralda County, Nevada; abundant disassociated plates of an eocrinoid (it shows affinities to *Eocystites*) from a horizon near the unit's lower boundary; and helicoplacoids, whose disarticulated plates range through about 150 feet (45 m) of shale near the middle of the member. A preliminary analysis of these helicoplacoids suggested that there may be as many as six to ten species present (Nelson and Durham, 1966).

The youngest member of the Poleta is, typically, 200 feet (60 m) of unfossiliferous mottled blue-gray limestone; and this grades in conformable fashion into the Harkless Formation.

Harkless Formation

The Harkless Formation (named by Nelson, 1962, p. 142) is 2,000 feet (610 m) thick and is nearly all detrital deposits. The only carbonate strata found within it occur in the lowermost 100 feet (30 m). The carbonates often yield an abundance of large archaeocyathids, genus *Coscinocyathus*, some of which are up to 10 inches (25 cm) long by 2 inches (5 cm) wide. The usual dimensions of those specimens from the Campito and Poleta formations are around one-half to four inches (1 to 10 cm) long by one-eighth to one-half inch (0.3 to 1 cm) wide.

Most of the Harkless Formation in the Waucoba region is characterized by, in ascending order of outcrop; (1) dark gray to black siltstone and quartzite; (2) thick-bedded brown

vitreous quartzite bearing common to abundant trails and borings belonging to the trace fossil genus *Scolithus*; and (3) gray to gray-green siltstone and shale. Brachiopods and *Salterella*, a slender molluscan fossil around a quarter inch in length, occur in a few of the siltstone lenses. Trilobites of the genus *Paedeumias* occur in the upper quarter of the section, though they are infrequent finds in the Waucoba area. Farther east, in Esmeralda County, Nevada, the Harkless Formation has yielded near its base and top abundant olenellid trilobites, typically including *Ogygopsis*, *Olenellus* and *Fremontia*.

Saline Valley Formation

Above the Harkless Formation lies a heterogeneous unit about 850 feet (260 m) thick, that has been named the Saline Valley Formation (Nelson, 1962, p. 142). Its lower half consists of massive buff to red-brown quartzite with minor beds of siltstone and sandy limestones. The upper half is a blend of brownish quartzite, gray silty shale, brown siltstone, and gray limestone. Most of the fossils reported from the Saline Valley Formation in the Waucoba district have come from the uppermost 10 feet (3 m), where an olive-gray fissile shale contains abundant trilobites of the genera *Paedeumias*, *Bristolia* and *Olenellus*. Elsewhere, at a point a few

miles northeast of Mount Dunfee in Esmeralda County, Nevada, rocks correlated with the Saline Valley Formation have produced the largest single trilobite assemblage yet described from rocks of Lower Cambrian age in North America (Palmer, 1964).

Mule Spring Limestone

Rounding out the complete, inclusive record of the lower Cambrian age along the type Waucoban section is the Mule Spring Limestone (named by Nelson, 1962, p. 142). This dark blue to grayish limestone is approximately 1,000 feet (300 m) thick. It is a most distinctive lithologic unit, contrasting noticeably with the reddish and brown tones of the Saline Valley Formation in conformable position below it. Within the Mule Spring Limestone abundant fossil algae occur; in some places they make up about 40 percent of the rock. The algae belong to a morphologic group called *Girvanella*, into which indeterminate varieties of primarily Cambrian forms have been placed. In the Mule Spring Limestone these algae have been preserved as spherical to oval bodies one-half to one inch (1 to 3 cm) in diameter.

Acknowledgments

I would like to give a special thanks to Clemens A. Nelson of the Department of Earth and Space Sciences at UCLA who graciously provided the photographs of trilobites used here.

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**This article was intended by Eric Seiple as a popular review of the literature on the area, for both professionals and amateurs.

(Editor's Comment--Many thanks to Marty and Denny for the article, and a special thanks from this typist to Marty who set up the article in Digest format. Easiest Digest ever. Appreciate that! A long time ago Bert Johnson, Napa, convinced me not to split articles, well, it happened this time. I thought I could avoid it --but it was worth it.)

* * * * *

HOW TO CLEAN FOSSILS USING QUATERNARY-0 Concl'd

To purchase Q-0 one can order it from ICN Pharmaceuticals Inc., K & K Laboratories, 121 Express Street, Plainview, NY 11803. As of March 7, 1984, the smallest quantity that could be ordered is 10 pounds at \$8.00/per pound or a cheaper rate of 40 pounds at \$6.00/per pound. I suggest that a group or organization get together and take orders for the larger quantity of 40 pounds. However, write in advance to get the current price. I can remember back in 1976 when I ordered 10 pounds at \$3.00/per pound and (I have) seen how quickly it has gone up in price.

(Ø Ø Ø Ø)

FROM THE MATRIX

FRANKLIN HADLEY--839 Chapel Hill, E. Drive, Indianapolis, IN 46224

Since retiring from working for Gen. Motors Corp. as an engineer, my work is paleontology specializing on Brachiopods. I am co-authoring a paper (in process) and volunteering at the State Museum one day/week identifying brachs that have been in an old museum. The labels got

lost and/or mixed while in storage.

The Dalmanites trilobite (in the Indiana Society of Paleontology logo) is rare. All I've ever found are tails. I think I saw a complete one, either at Macomb or at the Bedford Indiana Rock Swap.

DICK JOHANNESSEN--2708 34th Street, Apt. 1 Rock Island, IL 61201

Does any MAPS member have a contact in Venezuela, particularly in the city of Ciudad, Guyana?

If so, please write to Dick. Need the information by December 1.

L. STEVE EDMONDSON--6202-48th Avenue E, Tacoma Washington 98443

A great way to use those nice but imperfect specimens is to give them out on Halloween to the older kids. I've gotten a couple of juniors that way--I wrapped them with a paper having the story of the fossil on it so no one would eat them!!

(Steve has a wry sense of humor. He's editor of CHIPS--newsletter of PALEO-LOGGERS.)

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

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

Wally's ad in the October Digest was wrong--please note

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* * * * *

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Ardmore, OK 73402

Please update the following:

JUDY OWYANG FOSSILS/ETC 1914 Sawtelle Boulevard, West Los Angeles, CA 90025 - 213-477-3166

Paleontological Societies -- P. 4 of the Directory

MYRTLE BEACH FOSSIL CLUB -- Rt. 6 Box 269 A, Conway, SC 29526 - 803-347-7592

Addresses of two responsible members

Aura Baker
Rte. 6 Box 269 A
Conway, SC 29526
803-347-7592

David Grabda
802 Ceddings Drive
Myrtle Beach, SC 29577
803-293-2758

Our second annual fossil fair will be Saturday, December 8 at the Santee Cooper Auditorium (corner of Oak St. and 21st Avenue N. Myrtle Beach, SC). Fossil collections from North and South Carolina will be on display, free admission and free fossil identification by professionals are featured. The fair will be open from 10:00 am to 7:00 pm.

* * * * *

ADDITIONS TO YOUR MEMBERSHIP DIRECTORY

Thomas & Linda Arnold
167 S. Main St.
PO Box 331
Richlandtown, PA 18955

Anne Marie Munger
49 Evelyn Avenue
Phillipsburg, NJ 08865

Dorothy Allee
R 1 Box 167
Marshall, in 47859
317-597-2693

Jack-of-all-trades! Just interested. Do a fossil, rock, gem, and mineral program for school groups. Always learning. Have great enthusiasms.

* * * * *

NOMINATING COMMITTEE REPORT

The Nominating Committee submits the following slate of officers to be voted on at the November meeting. Nominations from the floor may also be made at that time.

- President Marv Houg, Cedar Rapids, Iowa
- 1st Vice President (Program Chairman) Karl Stuckerjuergen
West Point, Iowa
- 2nd Vice President (Field Trip Chairman) Jeff Nekola,
Cedar Rapids, Iowa
- Treasurer, Allyn Adams, Davenport, Iowa
- Director, Jim O'Daniel, Monmouth, Illinois

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CALIFORNIA GEOLOGY subscriptions \$6.00 per 12 issues, \$10.00 per 24 issues. State of California, Division of Mines and Geology, 1416 Ninth Street, Room 1341 Sacramento

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

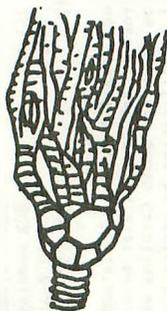
Membership in MAPS is open to anyone, anywhere who is sincerely interested in fossils and the aims of the Society.

Membership fee: January 1 through December 31 is \$7.00 per household.

MAPS meetings are held on the 1st Saturday of each month (2nd Saturday if inclement weather). September, October, May, June and July meetings are scheduled field trips. The August meeting is in conjunction with the Bedford, Indiana Swap. November through April meetings are scheduled for 2 p.m. in the Science Building, Augustana College, Rock Island, Illinois. One annual International Fossil Exposition is held in the Spring.

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

President: Peggy Wallace, 590 So. Grandview, Dubuque, IA 52001
1st Vice President: Marvin Houg, 3330 44th St. N.E., Cedar Rapids, IA 52402
2nd Vice President: Don Good, 410 N.W. 3rd Street, Aledo, IL 61231
Secretary: Mary Wells 2033 Lillie Avenue, Davenport, IA 52804
Treasurer: Allyn Adams, 612 W. 51st Street, Davenport, IA 52806



CYATHOCRINITES

MID-AMERICA PALEONTOLOGY SOCIETY

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

Dated Material - Meeting Notice

FIRST CLASS MAIL

