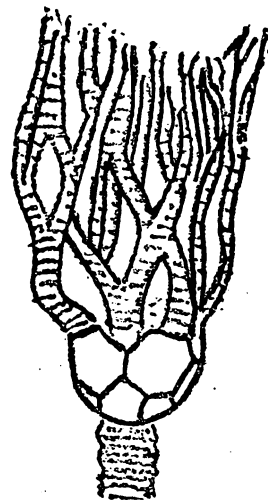


# M. A. P. S.

# DIGEST

Volume 1 Number 2      October 1978

Official publication of the  
Mid-America Paleontology Society



CYATHOCRINITES

## SOCIETY NEWS

Several informal field trips have been enjoyed by MAPS members during the summer. On 30 April Dennis Kingery and Frank Hoagland were joined by Allyn Adams and Dick Johannesen for a trip to the Pella/Oskaloosa (Iowa) area. Blastoids, corals and trilobites were found at both sites visited. These are Mississippian in age.

On 20 May a trip was held to the old Pennsylvanian strip-mine area near Atkinson, Illinois. Gil Norris, Shawn Drovesky and Jim Bruebaker of Rock Island, Illinois; Todd Hoagland and Dennis Kingery of Monroe, Iowa; and Joan and Tim Walker and Dick Johannesen of Davenport collected invertebrates such as cephalopods, gastropods and brachiopods.

The 3 June meeting was held in conjunction with the Illowa Gem and Mineral Society swap at Buffalo, Iowa with about 20 present. An outdoor meeting on 15 July at Aledo Illinois was held in conjunction with the Edwards River Rock Club swap; 33 members and guests. A decision was made to incorporate the society in Iowa; the Mississippian crinoid Cvathocrinites was selected as the official society symbol. MAPS will promote and sponsor an annual trading activity to be known as the NATIONAL FOSSIL EXCHANGE, to be held at a time and

a location yet to be determined.

The 12 August MAPS meeting was held at Cedar Rapids, Iowa in conjunction with the MWF show/convention, and was attended by 40 members and guests. Twelve of our guests later became members of MAPS. We also received our official MWF charter that day.

Our membership now (26 August) includes 87 members in 30 clubs in 11 states plus Japan and Germany.

(Editors note: the complete membership roster to be compiled in November will provide all with an excellent potential trading list.)

A lot of trading went on at the MWF show !

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## PROGRAM NOTES

- 7 October "Show and Tell of your summers collecting, plus a review of each members collecting information.
- 4 November Bob Cooper, Peoria, Ill, will talk on LIVING FOSSILS.
- 2 December "How to clean specimens", the leader to be announced.

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## DUES ARE DUE

Except that all who have joined us since 1 June are already paid for calendar 1978-1979

"A LOVE OF FOSSILS BRINGS US TOGETHER"

SILURIAN SYSTEM

\*Fossils Scarce

From Handbook of Illinois Stratigraphy  
 Illinois State Geological Survey  
 Bulletin #95

Submitted by Gil Norris

	Willman 1973 N.W. Ill.	Willman 1973 N.E. Ill.	W. Ill.	Berry & Bouert '70 S. Ill.	Iowa	Ind.	Wisc.	Europe
Cayugan				Moccasin Springs				Ludlovian
Niagaran	Racine (Cordova Qry.)	Racine	Racine Grafton Qry.		Gower (Behr Qry.)	Wabash	Engadine N. Wisc.	Wenlockian
	Marcus	Sugar Run (Lemont Area) Joliet	Joliet	St. Clair		Osgood Laurel Waldron Louisville	Joliet Milwaukee Area	
Alexandrian	Sweeney	Kankakee	Kankakee	Sexton Creek	Hopkinton			Llandoveryan
	Blanding*					Bassfield	Mayville	
	Tete des Morts (Favosites Common)	Elwood*						
	* Mosalem	* Wilhelmi	Edgewood	Edgewood				

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Any MAPS members who can attend are invited to participate in a field trip on Saturday October 14th to the Burlington, Iowa area for Mississippian crinoids. Don Good of Aledo, Illinois will be the leader for this trip.

Meet at 11M in the park where Highway 61 crosses the Skunk River; this is about 6 miles from the south edge of Burlington. tables are available in the park if you want to plan a picnic lunch.

## BONES OF A BABY DINOSAUR SENSATIONAL TO SCIENTISTS

Vernal, Utah - About 140 million years after a baby stegosaurus met an untimely death on a prehistoric sandbar, the unearthing of its skeleton in a rock quarry northeast of Vernal is causing a sensation in the scientific community.

Tuesday, a workman perched 40 feet high on the quarry's sandstone wall studded with dinosaur fossils chipped away with an icepick on a hunk of sandstone wrapped in cloth and plaster-of-paris. The foot-long package contained the scapula of the stegosaurus. In minutes the package broke off the wall, and a group of paleontologists, reporters, and Dinosaur National Monument employees burst into applause.

The scapula was one of 25 fossilized bones of a four-legged dinosaur that is known for the large leaf-like plates running down its back.

Only one other baby stegosaurus has ever been found. A slightly older and less complete skeleton was discovered 100 years ago in Wyoming and given to Yale University.

The new find, dubbed "Baby Stego" by quarry workers is about 40% complete, with the important bones, the humeri, ulnae, femura, tibiae, pubi, fibulae, an ilium, six ribs having been found. By borrowing casts of missing bones from other museums and reproducing the bones, Russell King, park paleontologist said he plans to complete mounting of the skeleton in three years. "We'll have one of the most interesting and unique little dinosaurs ever mounted; it's as complete a specimen as you can hope to find".

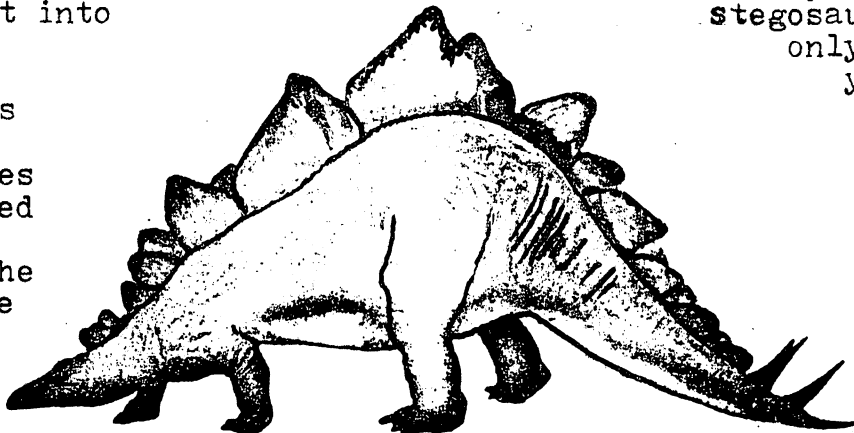
Since the cost of mounting a large dinosaur like a brontosaurus can reach \$150,000.00 King is happy to

get one for practically nothing. "The work on Baby Stego is being done as part of the normal workload of the quarry".

Back in the Mesozoic era when dinosaurs roamed the earth, the stegosaurus was one of the smaller ones, one-tenth the size of the brontosaurus, but it was plentiful. A full-grown stegosaurus was 12 to 15-feet long, stood about 7-feet high at the hip, and weighed two or three tons. Baby Stego is a little larger than a collie and weighed between 75 and a hundred pounds when living.

Dinosaurs dominated this planet for about 140 million years, but the stegosaurus lived during only 15 million years of that

timespan. It had a tiny brain, one that was smaller than the nerve center above its hips that controlled its tail.



Parts of Baby Stego were first discovered in 1965 in a stream bed that had been mined for dinosaur bones since 1909 when a paleontologist in the pay of Andrew Carnegie, the steel magnate, stumbled upon eight large vertebrae in exact sequence lying on the ground. In the next 13 years the paleontologist, Earl Douglass, shipped 700,000 pounds of dinosaur remains to the Carnegie Institute in Pittsburgh. More than a dozen complete skeletons of the larger dinosaurs were found in the quarry, including a Diplodocus.

King calls the stream bed a "dinosaur logjamb". When Baby Stego lived, a river ran west to east across a flat plain. The climate was warm and humid, and lush vegetation grew along the river. If a dinosaur died in the river, or if a flood swept him to his death, the carcass could float down

the river and become stranded on a sandbar where the river turned. As the flesh disintegrated the bones, knocked about by the river and mixed up with other bones, were covered by layers of silt. Water flowed thru the porous earth and a mineral mix similar to sandstone over the years replaced the organic bone material. The sandbar eventually turned into a hard sandstone.

When the Rocky Mountains were formed about 70-million years ago, the earth buckled and the sandstone riverbed tilted to an angle that now measures 67 degrees. Some of the accumulated layers of earth eroded, finally revealing to modern man a mass of fossil bones, in sandstone some 8 to 12 feet thick.

One reason the Baby Stego's bones are rare, said King, is because bones from young dinosaurs are soft and pliable and subject to rapid decay. Only if the remains are promptly covered by silt and mud is the decay process halted.

King also said the fact that the leaf-like back plates are missing suggests several questions: did they develop later in the animals life? Or were they limited to one sex only?

From the Rocky Mountain News, Denver Colorado, 10 May 1978.

Submitted by Mary Boland

ELECTION of OFFICERS

Election of officers for 1978-1979 will take place at the October meeting. The following have been nominated:

- President Gil Norris  
Rock Island, Illinois
- Vice President Doug DeRosear  
Donnelson, Iowa
- Secretary Alberta Cray  
Cedar Rapids, Iowa
- Treasurer Jo Ann Good  
Aledo, Illinois

BOOK REVIEW

"The Bone Hunters" by Url Lanham  
Columbia University Press

In ancient geological times, the heart of North America from the Arctic coast to the Gulf of Mexico was covered by the Cretaceous Sea. This shallow sea, which has been called the American Mediterranean, washed a shoreline inhabited by dinosaurs; in its mild skies flew great leather-winged reptiles and dainty sea birds. Fishes several yards long thronged the waters, in company with an astonishing assortment of gigantic swimming reptiles, some resembling fishes in shape and habits, others paddling heavy turtle-like bodies that bore a long sinous neck and toothy skull. All had long since disappeared into the eons of geological time when men began opening the Great West; but by the 1860's, the first traces of them reappeared and the race of the "bone hunters" was on.

Here is their story. The famous and the not-so-famous appear in its pages: John Wesley Powell, Joseph Leidy, Clarence King, Thomas Henry Huxley, and the "bone hunters" themselves..... O C Marsh, E D Cope, the Sternbergs, J B Hatcher, G B Grinnell, and all the others. These men startled the scientific world, revolutionized their discipline, and laid the foundations for much of todays work in paleontology. Their discoveries, their incredible errors, and their mutual hatreds come alive here. This is an American West not of stampeding cattle and gun-toting outlaws, but of ancient fossils and dedicated scientists..... yet as exciting as anything Buffalo Bill ever knew.

This book will take you into the Bad Lands and the Great Plains, into laboratories and libraries, and into the lives and minds of "The Bone Hunters".

This one is worth reading. (DJ)

Note: MAPS members are invited to send in 1-column reviews of any book they feel would be of interest to our society.

## IDENTIFYING THE ARCHIMEDES SCREW

by Dick Johannesen

Bryozoa, or "moss animals" had soft parts like the brachiopods but built a hard, calcareous shell around themselves like the corals. This shell or skeleton is a lacy meshwork structure, and within this structure are tiny holes that were the homes of the tiny individual animals of the colony. The species Archimedes of the Cryptostome order of bryozoans built its shell with lady fronds arranged around a central corkscrew-like column. These lacy fronds seldom remain attached to the screw in the fossilized form as we find it now.

Many fossil collectors have specimens of this distinctive bryozoan in their collection but few know exactly what they have when it comes to the species. This article will, hopefully, give you a simple but fairly accurate identification chart to use along with a standard of measurement to determine the various species.

"Index Fossils of the United States" by Shimer and Shrock illustrates on pages 262 and 264 five examples of this unique fossil, and also gives a description of the eight more common species. (There are sixteen known and described to date). The classification of Archimedes is based on three factors:

- 1 The spacing of the spirals along the axis of the screw
- 2 The thickness of the central screw
- 3 The angle of the screw with the axis

Unless you have a considerable number of specimens to examine and with which to make comparisons, it is difficult to identify a species based on only one of these factors, especially on one of the first two. Fortunately the angle is easier to check and provides a good yardstick for identification.

When checking the angle it must be born in mind that very few specimens will have a precisely true and straight axis. In life these water dwellers had leafy, fanlike members (known under the general name of fenestellids) which were attached to and surrounded the central screw. The whole animal was flexible, moving with the water currents, so the fossilized specimen may be more or less curved. This is particularly true of the slender-stemmed species. So this possible curvature must be taken into account when trying to establish the true axis of the specimen for the purposes of identification.



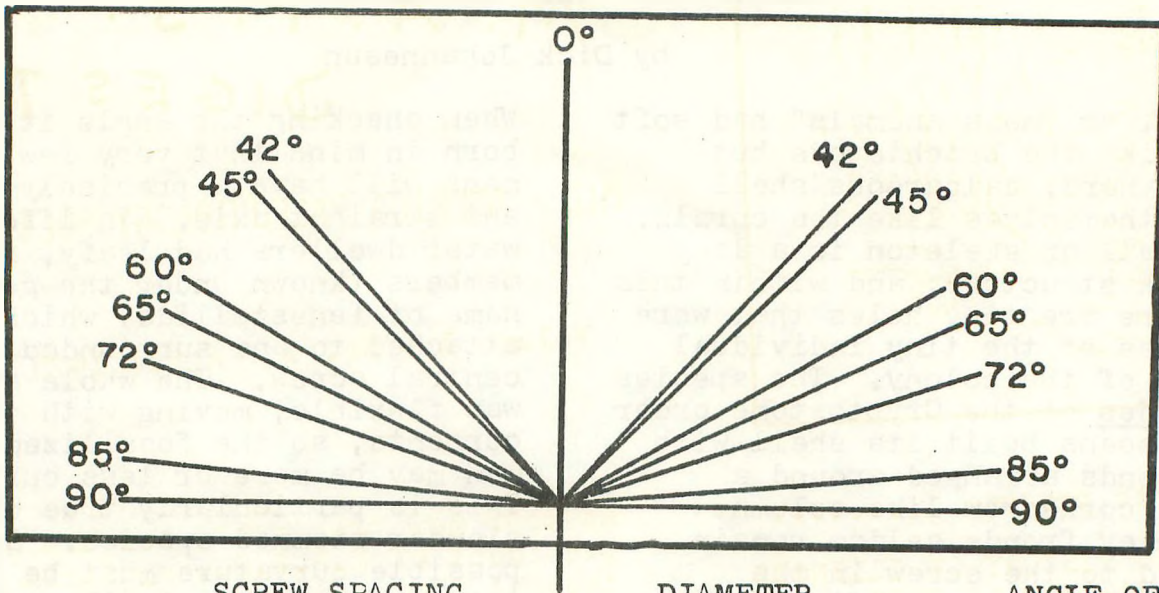
The chart following, and the index data, were prepared from the much more detailed information given in "Index Fossils".

Now to proceed.

If possible lay the specimen on the chart along the vertical line. Line up the axis of your specimen with the 0° line of the chart at the point where it crosses the 90° line, and with a ruler, card, or other straightedge determine the angle of the spiral.

As the spiral can run in either direction the chart has been drawn to handle this possibility. Comparison with the chart to determine the angle plus a check of the screw spacing along the length of the specimen will give you two of the three factors required for your identification.

Have fun !



SPECIES	SCREW SPACING	DIAMETER	ANGLE OF SCREW
A. communis	7 to 8 in 20mm	1 to 2mm	85 to 90 deg.
A. swallowvanus	5 to 5½ in 20mm	3 to 7mm	85 deg.
A. intermedius	6 to 7 in 20mm	1½ to 3mm	72 deg.
A. proutanus	5 to 7 in 20mm	1 to 2mm	65 deg.
A. wortheni	2½ to 3 in 25mm	5 to 10mm	65 deg.
A. terebreformis	3 to 4 in 20mm	1 to 2mm	60 to 65 deg.
A. sublaxus	2 to 2½ in 25mm	1 to 1½mm	42 to 45 deg.
A. laxus	1 in 25mm or more	1 to 1½mm	42 to 45 deg.

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