

# THE ROCKFINDER

Michiana Gem & Mineral Society  
Tom Noe, Editor  
305 Napoleon Blvd.  
South Bend, IN 46617



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FEBRUARY, 1998



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Newsletter of the Michiana Gem & Mineral Society

Volume 38. Number 2

February, 1998

**Meeting:** Sunday, Feb. 22  
Doors open at 1:30 p.m.  
Meeting at 2:00 p.m.

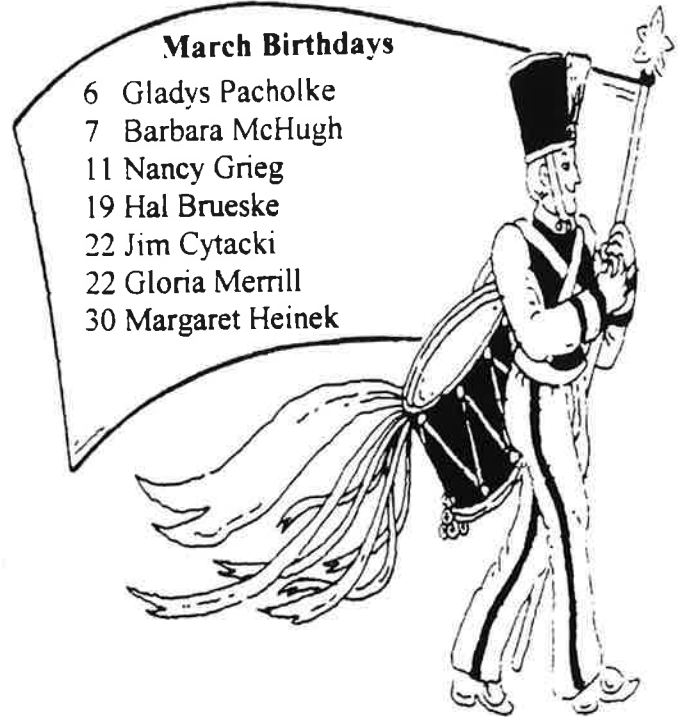
**Place:** Our Redeemer Lutheran Church  
905 S. 29th (29th & Wall)  
South Bend, IN

**February Hostesses:** Pat McLaughlin  
Kathy Miller

**February Program:** The Structure of Crystals and Gems—a talk and video presented by Winifred Caponigri, professor of geology at Holy Cross College.

## March Birthdays

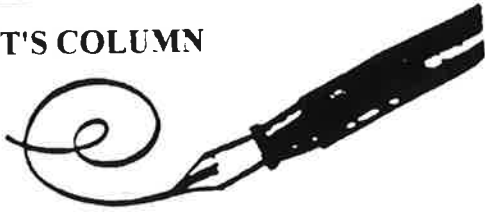
6 Gladys Pacholke  
7 Barbara McHugh  
11 Nancy Grieg  
19 Hal Brueske  
22 Jim Cytacki  
22 Gloria Merrill  
30 Margaret Heinek



## UP AND COMING

Feb. 28--March 1: Earth Science Club of Northern Illinois show, College of DuPage, Bldg. K, Glen Ellyn, IL.  
March 7--8: Roamin Club Auction, Schoolcraft College, Livonia, MI.  
March 13--15: Eastern Indiana Gem & Geological Society show, Wayne County Fairgrounds, Richmond, IN.  
March 14--15: Geodeland Earth Science Club show, Western Illinois University, Macomb, IL.  
March 20--22: Michigan Gem and Mineral Society show, Commonwealth Commerce Center, Jackson, MI.  
March 21: Metro Rock Swap, 23400 Wick Rd., Taylor, MI.  
March 27--29: South Bend Gem & Mineral Show, Century Center.  
April 8--11: Indian Mounds show, Eastbrook Mall, Grand Rapids, MI.  
April 17--19: MAPS National Fossil Exhibition and show, Western Illinois University, Macomb, IL.  
May 1--3: Kalamazoo Geological and Mineral Society show, County Center Building, Kalamazoo, MI.  
May 15--17: Midwest Mineralogical & Lapidary Society of Dearborn show, 23400 Wick Rd., Taylor, MI.  
June 26--28: Show and swap, Bloomington, IN.  
June 27--28: MGAGS Rockhound Seminar, Washtenaw Community College, Ann Arbor, MI.  
August 11-16: Combined Midwest Federation and American Federation convention and show, Michigan Tech University, Houghton, MI. (Upper Peninsula).

## MARGARET'S COLUMN



Last month's program was fun. Our thanks to Emily for getting the items for us to make the bead and wire book marks. I think everyone likes hands on projects.

The *Science Alive Program* at the South Bend Library on Saturday Feb 7th was fun. They said about 6,000 people came through the displays. Bob and I want to thank everyone who helped. We took a spinner for the youngsters to see what they could win. We had petrified wood, fossils, sand/magnet and tumbled stones. We had the crinoid display that Paul Godolli had assembled, one of the club's displays, and large rocks for the youngsters to handle. On Friday, Herb & Phyllis Luckert and Phyllis Smallwood helped along with Bob and me for the "at risk" students.

Saturday was the main session. Tom Noe came in with his hammer and hard hat. He also brought in large pieces of wood, dinosaur bone and a display for the youngsters to see if they could name anything in it, for a prize. Sally and David Peltz were there until noon, (I think both of them enjoyed dealing with the youngsters). Emily Johnson was a "godsend"; she stayed all afternoon. She worked with Tom's display, and I think she handed out almost 100 pieces of petrified wood. Thanks to all that helped. We took fliers on the show but ran out! Several teachers talked to us and asked if one of the club members could come to their class to show rocks. Tom Noe brought in a fruitcake tin full of real nice tumbled stones from Gordon Dobecki. They were really appreciated.

Speaking of tumbled stones, the stones we purchased several years ago are almost gone, so you might be thinking of purchasing some for the September show. We are also going to need a supply of Petoskey stones. If anyone in the club does tumbling, maybe they will start some for the Kiddies Korner. And if you know anyone who has any small Petoskey stones, see if we can talk them out of them, otherwise we will have to purchase some. The last ones we were able to get came from the Kalamazoo club show.

I am not sure if I will see you at the meeting this month. Our son, Don, has developed a mass in his lung. So Bob and I plan on going to Georgia to see if we can be of help. Don't know how long we will be gone, or even when we will go. Sister Jean will conduct the meeting, and I am sure she will do an excellent job.

I had an e-mail today telling about a LARGE tent collapsing at Tucson during the night, and destroying "several million" dollars worth of merchandise and displays of minerals, stones, etc. Since it was night, no one was in the tent, so no injuries.

The club roster is finished, and I hope there aren't too many mistakes.

I found out today that there will be a Mary Kay convention at the Century Center when our show is held in March. This should bring in some of the women, and Tom will really need help at the silent auction.

See you later!

## MINERALS DISCOVERED

Dennis Coskren has found things that no one knew existed.

The University of Kentucky doctoral candidate has discovered three new minerals atop a rocky bluff in the Great Smoky Mountains.

"They're new for the world," said Robert Lauf, head of ceramic processing at the Oak Ridge National Laboratory. "They've never been found anywhere else."

Coskren made his find while studying Alum Cave Bluff, a source of epsom salts for early settlers and saltpeter for gunpowder in the Civil War.

"I decided just for fun I would do a project and try to find all the minerals," Coskren said.

Coskren collected 26 distinct minerals, but three could not be identified despite chemical analysis, leading to the conclusion that they lay undiscovered.

The tiny crystals, which have yet to be named, have no known value.

They may help scientists better understand how elements are dissolved or mobilized by groundwater, a key issue in the disposal of toxic wastes, Lauf said.

From Rushville, IN *Republican*, (Dec 2, 1996)

## MINUTES OF THE JANUARY MEETING

The meeting was called to order at 2:00 pm by President Margaret Heinek. Present were 20 adult members and one junior member. New member Laurie Bubula and her baby daughter were introduced and welcomed to the club.

Diane Gram, the new treasurer, gave the treasurer's report. No previous minutes were read because the December meeting was the Christmas party. Hostesses were Gladys Pacholke and Phyllis Smallwood, and everyone enjoyed their treats.

Gordon Dobecki was present at the meeting for the last time, since he has retired and will be moving to Oregon. We all wish him well in his new location.

Librarian Diane Gram reported that her reorganization of the club library will identify books by subject (jewelry, fossils, etc.) so it is easier to find a book on the topic you want.

Sunshine chair Sally Peltz asked that everyone be sure to send in your birthday and anniversary dates.

Margaret asked for speedy payment of dues from members who haven't paid yet for 1998. There are only a few who haven't sent them in.

Margaret asked for more volunteers to help at the Science Alive program at the St. Joseph County Public Library and we discussed the possibilities for polishing rocks again. Gordon has always organized this in the past, and the library has come to expect it from the club. We also discussed and agreed to hand out some of the magnetic sand bottles as prizes to kids who can answer some scientific questions. The sessions are Friday, February 6, from 9:30 to 11, and Saturday from 10 to 4.

Margaret asked for volunteers to head the Field Trip Committee, the Publicity Committee and the Educational Committee. Emily Johnson volunteered to head the Educational Committee. Thanks, Emily!

Tom Noe asked for help, especially for set-up on Friday afternoon, at the silent auction table during the March 27 to 29 rock and gem show at Century Center. Tom McLaughlin volunteered, and other volunteers should call Tom at 289-2028.

Sr. Georgia described how her order is helping to organize a rock collection for a geology course in

a school in Bangladesh. Both her collection and Sr. Jeanne's collection will be sent there, along with other donations.

David Peltz made a motion to supply up to \$100 from the club treasury for postage to help with this project. Bob Miller seconded, and the club passed the motion. Margaret offered some specimens from the club's supply, and others who wish to donate should contact Sr. Georgia at 284-5292.

Bob Miller announced upcoming dates for club meetings at the church: February 22, March 22, April 26, May 17, September 27, October 25, November 22 and December 6 (party).

Bob also described the work of the ALAA, a lobbying group established by the American Federation, which is trying to keep collecting sites on public lands open in the face of increasing government attempts to close them. Tom McLaughlin made a motion to send \$50 for a club membership to ALAA, seconded by David Peltz. The club voted to pass this motion.

Tom Noe brought a display of agates from Brewster County, Texas, and David Peltz displayed some agates found in glacial debris at a construction site near Kern Road, along with a very nice trilobite he found in some road fill.

Tom Noe described the new policy of the Indiana Department of Natural Resources, which is now prohibiting the removal of any natural material from DNR-managed lands. Since this will exclude many prime sites from fossil and geode collecting, Tom suggested that we, as a club, respond to this new development. After discussing the matter, it was agreed that Tom would draft a letter and print it in the next *Rockfinder*, so we could discuss it at the next meeting.

Margaret mentioned that the club directory will print your e-mail address if available. Let her know.

Door prizes were won by Sr. Georgia, Herb Luckert and Bonnie Brueseke.

We broke for refreshments at 2:50. Afterward, Emily handed out instructions and supplies for making beaded wire bookmarks, which kept members busy until the meeting adjourned about 4:00 pm.

Respectfully submitted,  
Gladys Pacholke

## PROPOSED LETTER TO DNR

*After a discussion at the January meeting, members asked Tom Noe to draft a letter which could be discussed at the February meeting, before being sent in the name of the club to the Indiana Department of Natural Resources. This is the proposed text, which can be adapted at the February meeting to reflect the intentions of the members.*

Dear Director,

We in the Michiana Gem & Mineral Society were quite surprised when we learned about the recent change in policy regarding DNR-managed lands in Indiana. For many years, as you know, Indiana fossils have been famous all over the world, and public areas--except state parks--have been generally available for surface collecting and the preservation of our fossil heritage.

Likewise with geodes, for which Indiana is also noted, and other mineral specimens such as pyrite and calcite crystals. Indiana has a wealth of mineral and fossil resources which have been generally open for collecting by responsible amateurs without any oversight by the state government.

Our understanding is that fossil and mineral collecting (unless by permit) is now prohibited totally on all DNR-managed lands. I'm sure there were reasons for this decision, though the only one mentioned in print has been the notion of "preserving them for future generations." Were there specific occasions of abuse by fossil or mineral collectors? Will the new measure be more economical somehow? Was someone injured while collecting in public areas? I'm hoping you can explain for our members some specific reasons for the new policy.

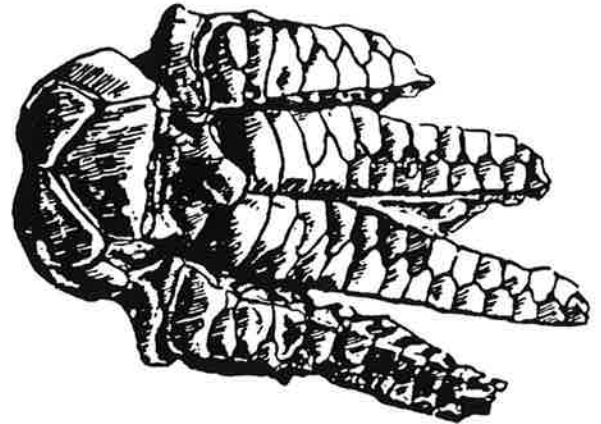
On the face of it, it seems contradictory to state that prohibiting fossil collecting will result in their preservation for future generations, since uncollected fossils are all eventually destroyed by the forces of nature and are lost forever. Only collected fossils are preserved for future generations. The same holds true for minerals and geodes which are exposed at the surface. Geodes tend to last longer than fossils do on the surface, but they are still eventually destroyed unless someone collects them. As you can see, the new policy is rather hard to understand when applied here, and a more specific explanation would

be appreciated. We would hope to publish your reply in our monthly newsletter, *The Rockfinder*.

We would also like to be sent information on the procedures for getting permits.

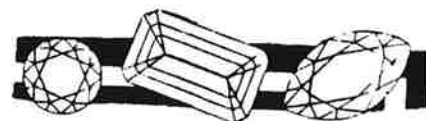
Sincerely,

Margaret Heinek, for MGMS



## SEMINAR ON FLUORITE/FLUORSPAR MINES

The Cave in Rock and Rosiclare area mines will be the subject of a symposium and field trip on May 22 and 23. "The Recent History of the Illinois-Kentucky Fluorspar District" will be examined in a series of talks and discussions on May 22, followed by a bus trip to several mines and museums in the district on May 23. Nearly a dozen speakers will include mine geologists and the mine managers from such mines as the Annabel Lee, Minerva No. 1, Denton, etc. They will speak on the history of the mines from the 1940s to 1997. Background note--the field trip will give the opportunity to make connections for collecting trips on your own. Cost for the field trip and symposium is \$45 (some meals included). Registration is due by May 15. Make checks payable to Clarksville Riverfront Foundation and send to the foundation at P.O. Box 741, Jeffersonville, IN 47131-0741--"Attn. Symposium." Tom Noe has more information, which he will bring to the club meetings.



**THUMBS DOWN: BIRDS, DINOSAURS UNRELATED. Embryonic data doesn't link, study finds.**

A theory that birds evolved from dinosaurs may lose out by a thumb.

The latest research shows that birds lack the embryonic thumb that dinosaurs had, suggesting it is "almost impossible" for the species to be closely related.

Researchers at the University of North Carolina made the discovery with a microscopic examination of stages of development in the embryos of birds. They show no vestige of a thumb that is present in primitive forms of dinosaur fossils.

"We consider this to be the unequivocal evidence that birds" did not evolve directly from dinosaurs, said Alan Feduccia, chairman of biology at North Carolina and co-author of a study published in the journal *Science*.

The North Carolina findings are dismissed by scientists at the American Museum of Natural History in New York, where the theory is enshrined as part of a \$30 million renovation that includes two dinosaur halls.

"There is a discrepancy between what the embryology tells us and what the fossils tell us," said Mark Norell, a museum scientist. But he noted: "No one feature, such as the thumb, can sway things one way or the other."

The museum, he said, still believes that birds are "living dinosaurs."

Other researchers, however, are less certain.

"The North Carolina work is very, very credible evidence," said John A. Ruben of Oregon State University. "The idea that birds evolved from dinosaurs is definitely in trouble."

Researchers who accept the bird-dinosaur connection, said Mr. Ruben, "will have to chew this one over very carefully."

Finding the mismatched digits of birds and dinosaurs, said dinosaur expert Shorrs Olson of Washington's Smithsonian Institution, "is the end of it, as far as I'm concerned."

"There is no way that birds and dinosaurs could be directly related," he said.

The North Carolina study is based on the

belief that animals which shared a common ancestry exhibit common features during embryonic formation. If birds are related to dinosaurs, there should be evidence in bird embryos of a thumb remnant.

Relating bird embryos to the human hand. Ann Burke, a biologist at North Carolina, said birds have only the equivalent of the forefinger, the middle finger and the third finger. To biologists, these would be known as digits two, three and four.

"Birds should have that in common if, in fact, they share a common ancestry with dinosaurs," said Ms. Burke.

*The Blade: Toledo, OH, (Oct. 24, 1997)*

**STONES FOR EVERY PURPOSE**

For the laundry	SOAPSTONE
For cooking	PUDDINGSTONE
For borrowers	TOUCHSTONE
For burglars	KEYSTONE
For stockholders	CURBSTONE
For editors	GRINDSTONE
For motorists	MILESTONE
For shoemakers	COBBLESTONE
For politicians	BLARNEYSTONE
For street cleaners	PAVINGSTONE
For horticulturists	PEACHSTONE
For medical patients	LIVINGSTONE
For coffee drinkers	DRIPSTONE
Found in orchards	CHERRYSTONE
For transfusions	BLOODSTONE
For newborns	BIRTHSTONE
For flood victims	MUDSTONE
For reformed smokers	PIPESTONE
For bald men	CAPSTONE
For teachers	CHALKSTONE
For ground keepers	FIELDSTONE
To keep clothes neat	IRONSTONE
Substitute for Oranges	LIMESTONE
For undertakers	GRAVESTONE
For pushy people	GALLSTONE
For big strong women	AMAZONSTONE
For a marathon walker	STEPPINGSTONE
For the chef	POTSTONE
Product of the Near East	OILSTONE
For environmentalists	

*From Hard Rock News (April, 1995)*

## ILLINOIS FIELD TRIP

by Herb Luckert

The Illinois State Geological Survey is sponsoring an all-day field trip beginning at 8:15 a.m., May 30, 1998. The meeting place is at the Rock Creek Hiking Trail parking lot, just across the road from the main entrance to Kankakee River State Park. The trip will be conducted by geologists from the ISGS and will cover areas inside the park and nearby quarries. Collecting of fossils, as well as calcite and pyrite, will be possible at the quarries. The tour is free. You are asked to bring a hard hat and safety glasses, if you have them. (Lunch and a full tank of gas might be a good idea too.) Register at the starting point on the day of the trip.

Another all-day field trip, a little tougher for our club members to get to, will be on April 18, 1998, in Hancock County, on the Mississippi River. Fossils and geodes on this one. The meeting place is at Hamilton High School, corner of Route 136 and 10<sup>th</sup> Street in Hamilton, at 8:15 a.m.

Why doesn't the Indiana State Geological Survey do something like this?

## SEND A ROCKFINDER TO A FRIEND

Club members, do you know a neighbor, relative or friend who is interested in lapidary arts, minerals or fossils? If so, we would be happy to send a sample copy of the *Rockfinder*. This will help publicize the club and may lead to some new members joining. Call Tom Noe at 289-2028 with the names and addresses, and he'll send a copy of the next *Rockfinder*.

## HOW BIG IS A BOULDER?

Size determines what a rock is called:

- Boulder: more than 10 inches in diameter.
- Cobble: from 2.5 to 10 inches in diameter.
- Pebble: from .16 to 2.5 inches in diameter.
- Granule: from .08 to .16 inches in diameter.
- Grain: from .04 to .08 inches in diameter.

## SAD BUT TRUE

A freshman at Eagle Rock Junior High School won first prize at the Greater Idaho Science Fair, April 26. He was attempting to show how conditioned we have become to the alarmists practicing junk science and spreading fear of everything in our environment. In his project he urged people to sign a petition demanding strict control or total elimination of the chemical "Dihydrogen monoxide." And for plenty of good reasons, since:

1. It can cause excessive sweating and vomiting.
2. It is a major component of acid rain.
3. It can cause severe burns in its gaseous state.
4. Accidental inhalation of it can kill you.
5. It contributes to erosion.
6. It decreases effectiveness of automobile brakes.
7. It has been found in tumors of terminal cancer patients.

He asked 50 people if they supported a ban of the chemical. Forty-three said yes, six were undecided and only one knew that the chemical was water. The title of his prize-winning project was "How Gullible Are We?" He feels the conclusion is obvious.

From *Mineral Mite*, submitted by M. Hurt

## PAPER FROM ROCKS

A new type of paper for industrial use has been developed by Ukrainian researchers. The paper is made of basalt which is found in large quantities in the Ukraine. The rock is found, melted in electric furnaces, then passed through special strainers producing a strong elastic fiber. Basalt paper is water resistant and resists rot. It can be heated to 800 degrees without melting. It is expected to be used extensively in the manufacture of industrial filters.



(From *Kiskigem Journal* 8/97 via GLACIER GRAVEL 8/97)



## UPDATE ON CRATER OF DIAMONDS STATE PARK IN ARKANSAS

By J. Michael Howard

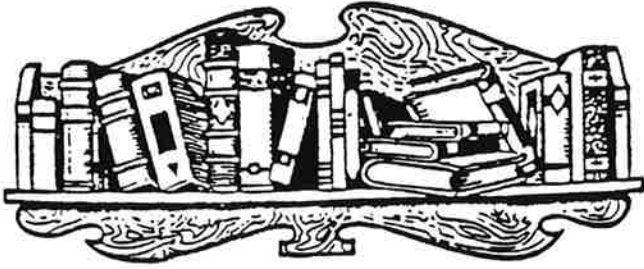
Phase I of the exploration and evaluation program was completed over two years ago. The results, derived from some 26 small diameter core holes, included a determination of the actual shape of the pipe, a remapping of the surface rocks, and the conservative calculation of some 78.5 million tons of diamondiferous rock being present to a depth of 650 feet. The pipe was anticipated to have either a carrot shape, like classic African kimberlite diatremes, or a champagne-glass shape, like the Australian Argyle pipes. To everyone's surprise, it is a hybrid, having a martini-glass shape with country rock contacts dipping inwards at about 45 degrees toward a small feeder pipe. Drilling also allowed the discovery of additional data important to the geologic interpretation of the intrusion. First, a new type of rock—epiclastic material—was discovered on the eastern margin of the pipe. This rock consists of a mixture of sandy phases of Cretaceous sediments from the adjacent Trinity Formation blended with breccia tuff material from the explosive phase. The diamond content is undetermined at this time, but will be less than that of the breccia tuff alone. The second discovery was from a key drill hole that was slant-drilled under Middle Hill from the south, after two attempts at coring vertically on the hill failed to get through hard magmatic lamproite. The slant hole penetrated lamproite breccia tuff under the hill. This discovery proved that the breccia tuff was explosively emplaced first and then a magmatic phase filled a portion of the crater, creating a lava lake. This is a significantly different interpretation of the intrusion sequence than was previously recognized by geologists from just surface mapping. Phase I testing ended with a much better understanding of the intrusion process of the Prairie Creek pipe and of the diatreme's shape.

Testing during Phase II was designed to finish the evaluation of the contact on the north edge of the pipe by core drilling and to collect approximately 1,000 carats of diamonds for a commercial evaluation as to the content, quality and grade of stones present. Only through such a process is a pipe now considered

evaluated. Grade had been estimated from admittedly scant historic records at around 10 carats per 100 tons. A series of minitrenches, each measuring 100 feet long, 4 feet wide and 40 feet deep, was dug in the two most prospective rock types: the lamproite breccia tuff (several types and varieties) and the epiclastics. A total of 9,600 tons of material was processed through a nearby company mill, northeast of the park. The results were most interesting. No stones over 2 carats were recovered and very few over 1 carat. The total recovery was only a little over 43 carats, or less than 0.5 carat per 100 tons. This figure was entirely unexpected, considering the high yield to tourists and diamond hunters over the past 90 years. When the trenches were dug, the top 10 feet of material was removed and not processed, but saved and returned back onto the surface after the trench was backfilled. I was told by one geologist several years ago that it appeared that the pipe had been only recently exposed, so no natural surface diamond enrichment zone was present. However, the poor value of the host rock as determined by this testing indicates to me that there is a significant concentration in the upper 10 feet. Apparently, neither of the companies nor the park's consultant considered that this might be the case, as no attempt was made to request that even one batch of overlying material be processed. The work was finished this spring and the report was due after the companies paid the consultant his report fee. Supposedly the report will be completed by the end of September.

A couple of sidebars to this entire exercise--the park was never closed during the entire testing process and, since the site appears not to be commercially viable, an earlier agreement between Arkansas and the U.S. Department of the Interior will prevent future commercial testing of the site for the next 50 years. In 1997, the park celebrated the discovery of the 20,000<sup>th</sup> diamond since the site became a state park in 1972. I look forward to continued park activity and hope that several of the interpretive displays will be modernized using the new data available. A recent remake of the park's audiovisual display updates information from Phase I testing for the public.

From *Friends of Mineralogy Newsletter* (Sept. 15, 1997). Michael Howard is the national FM secretary and a geologist with the Arkansas Geological Commission.



## FOR FURTHER READING

Physicist Richard Muller and associate George MacDonald have added a new wrinkle to the debate about the timing of ice ages. Milankovitch's 1914 theory that the tilt of earth's axis regularly changes enough to cause climate change may not be enough to explain the whole series of ice ages--especially the last million years. Milankovitch's theory doesn't seem to fit that period very well. The new suggestion is that asteroid collisions (where have we heard this before?) in space could have created vast clouds of interstellar dust within the galaxy, and that the earth periodically runs into enough dust to affect our climate. Isotope studies do show increases in interstellar dust at the proper times to account for the ice ages, but critics say the dust is not nearly enough.

*Science News* (Oct. 4, 1997)

If dinosaurs had diaphragms, they couldn't have been the ancestors of birds. Birds have a very different system of breathing. That makes the discovery of what appears to be a diaphragm in a fossil of *Sinosauroptryx* very interesting. Critics point out that the fossil is crushed, so the tissues may not be accurately preserved. We can await further developments in the paternity suit of the century.

*Science News* (Nov. 15, 1997)

## SAFETY HINT

from the AFMS Safety Manual

Heat stroke and heat exhaustion are different. Heat stroke symptoms are flushed, hot and dry skin; high temperature, dizziness, and headache. First aid--put patient in shade, head and shoulders raised. Sponge with cool water, ice bag (if available) on head. If conscious, give 1/2 teaspoon salt in 1/2 glass of water every 15 minutes for 3 or 4 doses. No stimulants. Get patient to a doctor as soon as possible. Heat exhaustion symptoms are cold and pale skin, cold perspiration, dizziness, nausea, and cramps. First aid--keep patient warm, flat on the back, with head low. Give 1/2 teaspoon salt in a 1/2 glass of water or salt tablets, coffee or aromatic spirits of ammonia. Unless a quick recovery, get patient to the doctor.



INDIANA  
Fossil Areas

Q: How many psychologists does it take to change a light bulb?

A: Only one, but the bulb has to really want to change.