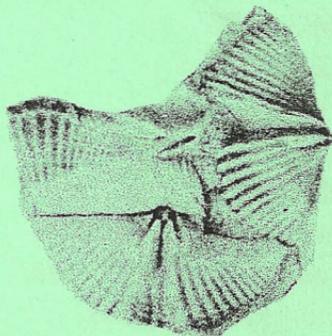


THE ROCKFINDER

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



Perry, Martha
58075 Potawatomi Dr
Osceola, IN 46561

MICHIANA GEM & MINERAL SOCIETY

2002 BOARD OF DIRECTORS

President.: Don Church 616-651-7616
Vice-Pres: Margaret Heinek 654-3673
Secretary: Sr. Jeanne Finske 284-5903
Treasurer: Bob Heinek 654-3673
Liaison: Sally Peltz 616-683-4088
Past Pres.: Margaret Heinek 654-3673

The purpose of the Michiana Gem & Mineral Society is to promote the study and enjoyment of the earth sciences and the lapidary arts, and to share lapidary knowledge and techniques.

General meetings are held the fourth Sunday of each month, 2:00 PM, EST, at Our Redeemer Lutheran Church, 805 S. 29th St., South Bend, IN. Regular exceptions include May (third Sunday), July (no meeting), August (club picnic) and the November/December meeting and Christmas party. Board meetings are held before the general meetings. The annual club show is Labor Day weekend.

HEADS OF COMMITTEES

Programs	Margaret Heinek 654-3673
Hospitality	Pat McLaughlin 259-1501
Educational	Emily Johnson
Librarian	Diane Gram 272-6885
Historian	Ed Miller 498-6513
Sunshine	Sally Peltz 616 683-4088
Publicity	Phyllis Luckert 282-1354
Field Trips	Kathy Miller 291-0332
Membership	All Members

The Michiana Gem & Mineral Society, a not-for-profit organization, is affiliated with the Midwest Federation of Mineralogical Societies and with the American Federation of Mineralogical Societies.

The Rockfinder is published monthly except July and August. Editor, Tom Noe, 305 Napoleon Blvd., South Bend, IN 46617 (ph. 289-2028). Co-editor, Herb Luckert, 221 Marquette Ave., South Bend, IN 46617 (ph. 282-1354). Reporters, Bob Heinek, Herb Luckert, club members.

Permission is hereby granted to reprint any original *Rockfinder* articles, as long as recognition is given along with the reprint.

Annual Christmas Party and Meeting

December 8, 2002

All club members are invited to attend the Christmas party and meeting! As you recall, three years ago we made a decision to combine the November monthly meeting with the December Christmas party, instead of having two events so close together. The new schedule is to skip the November meeting and put a small business meeting into the December party.



Attend the Party in December



Where? The usual meeting place, at the Lutheran church. When? December 8. Gather at 1:30 for socializing and punch. The meal starts at 2:00. Why? Who needs an excuse to have a party? What else? Dress nicely, bring a rock-related gift if you want to participate in the gift exchange, value of \$5.00 or less. Indicate on the gift whether it is most appropriate for a man or woman or anyone. What to bring? The club will provide the meat and drinks. Please bring your own table settings and a potluck dish. Is that all? No, **call Margaret beforehand (574-654-3673) to let her know how many to plan for.** Everybody welcome!

Call Kathy Miller if you'd like to help set up for the party by decorating tables on Saturday morning—574-291-0332.

MINUTES OF THE OCTOBER MEETING

President Don Church opened the meeting at 2 PM on October 27, 2002. Thirty-five adults, four juniors and three guests were present. Joe and Peggy Charles, former members, were two of the guests; Mary Rumble became a new member.

The secretary's report of the September minutes was approved as printed in the *Rockfinder*. Bob Heinek gave the treasurer's report, which will now be filed for audit.

Old Business: Don gave his delegate report on the Midwest Federation show that was held in Springfield, IL. Don handed out the three awards which were given to members and to our newsletter at the show. Congratulations to all!

Since we do not have a meeting in November (our normal meeting date is Thanksgiving weekend), we will have our Christmas party early in December, on the 8th.

New Business: Nominations were made for the 2003 Michiana Gem & Mineral Society officers; they will be voted on at the December party:

President--Diane Gram or Margaret Heinek
 Vice-President--Don Church
 Secretary--Sister Jeanne Finske or Margaret Heinek
 Treasurer--Bob Heinek or Pam Rubenstein
 Liaison--Dennis Horrall or Marty Perry

Bill Nelson motioned that this slate be printed in the *Rockfinder* SO THAT ALL MEMBERS OF THE SOCIETY CAN VOTE. Any written ballots are to be sent to Tom Noe. (Note, ballots are printed in this issue.)

Bob Miller made a motion that, in order to go on the bus for our field trips, members be required to participate in at least three functions (work at the show, give a program, serve refreshments, attend meetings, etc.) The motion was seconded by Don Church, voted on and passed.

Decorating for the Christmas party will be held on December 7 at 9 AM in the church basement. Kathy will need workers; Emily Johnson will need help decorating the tables. Margaret Heinek will pick up the chicken (a vote was taken to find out what meat the members wanted, and the selection was chicken). Members will bring their own table settings and a dish to share with everyone

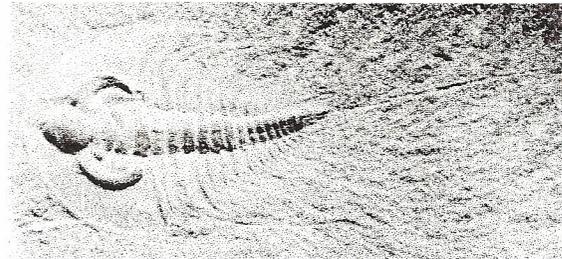
else. Margaret would like to know who will be attending, so she can buy enough chicken for everyone. PLEASE CALL TO LET HER KNOW, 574-654-3673. If you care to exchange gifts, bring a wrapped gift worth about \$3.00 to \$5.00, with an indication of whether it is suitable for a man, a woman or anyone. Also, if your child will exchange, mark it "child's gift."

Kathy Miller gave a report on her preparations for the Morgan Monroe field trip to be held September 19 to 21, 2003. The reservations on the individual cabins will have to be paid for by YOUR credit card by June in order to reserve YOUR sleeping quarters. The group will have dinner together on Saturday evening at the park inn; the meal will be \$10.50 + 6% tax and 16% gratuity. Kathy reported that we will be gold-panning (bring your own gold pan) and looking for fossils and geodes.

DUES ARE DUE now. When sending them in to Bob Heinek, make sure you update your new area code so it will be listed correctly in the roster.

David Peltz motioned that we adjourn the business meeting for refreshments and the program by Bob and Kathy Miller. The motion was seconded and passed.

Margaret Heinek, acting secretary



CONGRATULATIONS!

We have received word that several of our members have received awards in the recent newsletter contest sponsored by the Midwest Federation of Mineralogical and Geological Societies. Tom Noe, editor of the *Rockfinder*, received eighth place in the competition for small bulletins; Sam Shapiro received fifth place for an article he wrote describing how geological knowledge helped uncover a botanical fraud, and Herb Luckert received honorable mention for his article on an agate cameo that was crafted in ancient times. Congratulations to all!

INDIANA MINERALS

By Terry Huizing and Richard E. Russell

The minerals of Indiana are generally under-appreciated, except by collectors who have been exposed to the variety of species and mineral habits occurring throughout the state. Indeed, little has been published regarding the minerals, which may be found as large, well-formed crystals in undisturbed sedimentary rocks of Silurian, Devonian and Mississippian age.

GEOLOGY--Geologically, Indiana is in the heart of the North American plate, and its geologic history reflects the movement of that plate. The fact that Indiana was near the equator during much of Paleozoic time is evidenced by the coastal reefs of the Silurian Period and the tropical swamps and forests of the Pennsylvania Period. Indeed, the igneous and metamorphic basement of Indiana is buried under a mile or more of sedimentary deposits.

Several regional geologic structures developed when Paleozoic rocks were deposited, and with subsequent erosion produced the three areas of bedrock geology in which the minerals of Indiana are found. The major structural features are the Illinois Basin to the west, the Michigan Basin to the north, and the intervening Cincinnati Arch (Fig. 1).

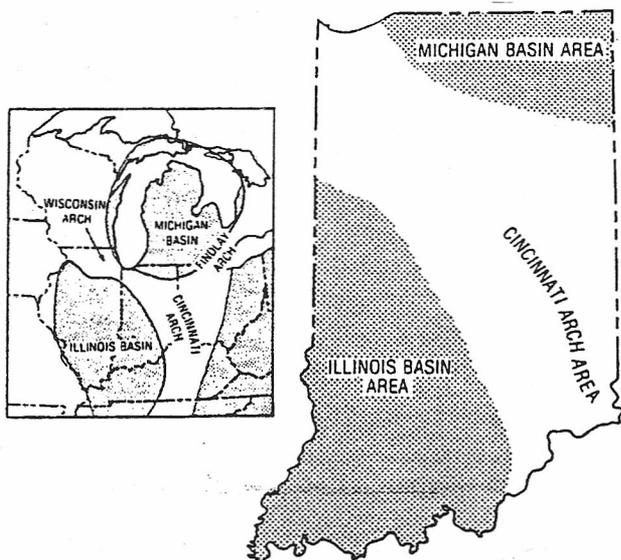


Figure 1: (A) Major bedrock structural features of the western Great Lakes and Central Lowlands of Indiana and adjacent states, and (B) the three major structural areas of Indiana.

(Modified and redrawn after Gutschick, 1966, and Hartke, et al., 1975.)

Rocks of Silurian age comprise much of the bedrock surface of the arch. On either side of the arch axis, the rocks dip into the broad structural basins. In the Illinois Basin area, strata from Ordovician to Pennsylvanian in age dip southwest from 10 to 30 feet per mile, forming the basin's east flank. In the Michigan Basin area, strata from Silurian to Mississippian in age dip northeast from 10 to 20 feet per mile.

MINERAL OCCURRENCES: The major mineral deposits of Indiana seem generally to follow the margins of the basin areas and the Cincinnati Arch. Minerals occur in both Silurian and Devonian carbonate rocks, or are associated with geodes in the Mississippian rocks of the Illinois Basin. The simple mineralogy of these deposits and their occurrence—on the flanks of a structurally high area suggest that metal-bearing brines migrated up-dip from the basin areas and precipitated ore minerals on encountering sources of reduced sulfur. Shafer (1981) indicates the “favorable geology, ore minerals in minor amounts and tentative evidence that ore-type fluids passed through suitable host rocks indicate that undiscovered Mississippi Valley-type ore deposits probably exist in Indiana.”

The most abundant minerals in Indiana rocks are calcite, clay minerals, dolomite, glauconite, goethite, gypsum, hematite, limonite, quartz and siderite (Erd, 1960). Other common minerals such as aragonite, barite, celestite, fluorite, marcasite, pyrite, sphalerite and strontianite are present in small amounts at many localities. Minerals of limited occurrence include anhydrite, galena, honessite, millerite, pyrrhotite, smithsonite, smythite and sulfur.

Indiana minerals are typically found in limestones and dolomitic limestones, where they occur in cavities (vugs), in geodes and along bedding, joint or fracture surfaces. The occurrences are commonly exposed by road and stream cuts and at active and abandoned quarries. In shales, most minerals are found in concretions or at the boundary with adjacent limestone formations.

Tables I, II and III provide a convenient reference to the best known and most significant mineral occurrences within the state. Since the major mineral deposits seem to follow the margin of basin areas, the localities have been grouped accordingly.

Rocks of different ages may occur at a given locality, but only the age of the mineral-bearing host rock has been identified.

It is emphasized that almost all localities are on private property and permission by the landowner must be granted before entering the property.

**TABLE I
INDIANA MINERAL OCCURRENCES IN
SILURIAN AND DEVONIAN ROCKS NEAR
THE MICHIGAN BASIN MARGIN**

Calcite, Fluorite, Pyrite in Silurian, Fort Wayne, Allen County.

Calcite, Dolomite, Pyrite, Quartz, Sphalerite in Silurian, Delphi, Carroll County.

Calcite, Pyrite in Silurian, Monon, White County.

Calcite, Dolomite, Marcasite, Sphalerite in Silurian, Logansport, Cass County.

Calcite, Dolomite, Galena, Marcasite, Pyrite, Sphalerite in Devonian, Rensselaer,) Jasper County.

**TABLE II
INDIANA MINERAL OCCURRENCES IN
SILURIAN AND DEVONIAN ROCKS NEAR
THE ILLINOIS BASIN MARGIN**

Barite, Calcite, Dolomite, Glauconite, Goethite, Marcasite, Pyrite in Silurian, New Point, Decatur County.

Calcite, Pyrite, Sphalerite in Silurian, Lapel, Madison County.

Barite, Calcite, Dolomite, Pyrite in Silurian, Napoleon, Ripley County.

Barite, Calcite, Dolomite in Silurian, Versailles, Ripley County.

Calcite, Fluorite, Pyrite, Sphalerite in Silurian/Devonian, Norristown, Shelby County.

Calcite, Fluorite, Marcasite, Pyrite, Sphalerite in Silurian/Devonian, Columbus, Bartholomew County.

Calcite, Dolomite, Glauconite, Marcasite, Pyrite, Sphalerite in Devonian, North Vernon, Jennings County.

Calcite, Marcasite, Sphalerite in Devonian, Anderson, Madison County.

Pyrite in Devonian, Indianapolis, Marion County.

**TABLE III
INDIANA MINERAL OCCURRENCES AS-
SOCIATED WITH GEODES IN MISSISSIPPIAN
ROCKS OF THE ILLINOIS BASIN**

Calcite, Dolomite, Fluorite, Millerite, Quartz, Strontianite in Mississippian, Corydon, Harrison County.

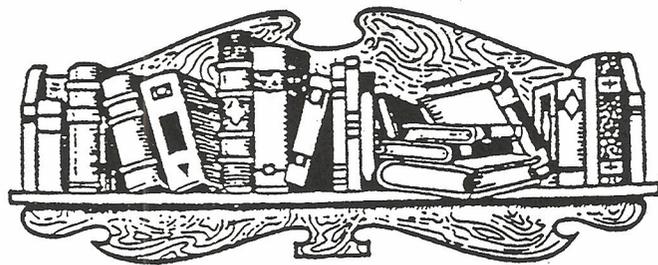
Anhydrite, Calcite, Celestite, Gypsum, Marcasite, Quartz in Mississippian, Mitchell, Lawrence County.

Aragonite, Barite, Calcite, Celestite, Dolomite, Goethite, Gypsum, Honessite, Marcasite, Millerite, Pyrite, Pyrrhotite, Quartz, Siderite, Smithsonite, Smythite, Sphalerite, Strontianite, Sulfur in Mississippian, Bloomington, Monroe County and Brown County.

Calcite, Dolomite, Goethite, Marcasite, Quartz in Mississippian, Belmont, Monroe County.

Anhydrite, Barite, Calcite, Celestite, Dolomite, Fluorite, Gypsum, Marcasite, Pyrite, Quartz, Sphalerite, Strontianite in Mississippian, Salem, Washington County.

Rock Pickings (June, 2002)



**NEW BOOKS FROM INDIANA UNIVERSITY
PRESS: THE LOST WORLD OF THE MOA**
By Sam Shapiro

Our Indiana University Press has recently published a dozen books on paleontology. Here are six of them which may interest members of the Michiana Gem and Mineral Society:

1. *Drawing Out Leviathan: The Dinosaur Debate and the Future of Science.*

form in low-lying areas such as streams. Creatures such as pigeons and insects become trapped.

For thousands of years, Native Americans along the California coast used the sticky goo to mend broken implements, jewelry and other household items. Canoes and roofs also received generous applications of the plentiful asphalt.

In 1828 a land grant made it possible for people to use as much "brea" as they needed. However, soon people were charged between \$13 and \$16 per ton. Bones that were found at that time were tossed aside because they were thought to be nothing more than the remains of cattle and birds that had somehow fallen victim to the sticky mess.

Soon after Major Henry Hancock became owner of the rancho in 1875, the first scientific investigation began. In 1913, the Los Angeles Natural History Museum began a two-year exploration of the area. About three-quarters of a million specimens were unearthed. Early pictures show long tables lined with row upon row of bones. In 1915, Captain C. Allan Hancock donated the 23 acres of Ranch Brea to Los Angeles County. The area was named Hancock Park, a name it retains at the present time.

Dr. Chester Stock, a faculty member of Berkeley and later the California Institute of Technology, headed various excavations and assembled complete skeletons during the years 1918 to 1950. In 1930 he published his findings. He was also responsible for the Observation Pit Enclosure completed in 1949. It is still in use today.

George C. Page, for whom the present museum is named, is a multimillionaire who dreamed of a beautiful museum to house the fantastic collection that was stored in the basement of the Los Angeles Museum of Natural History. Construction began in 1975 and on April 13, 1977, the doors opened. The La Brea fossils had found a home at last.

Next time you are in Los Angeles, plan to spend some time at this unusual place. Your author has been there twice and hopes to return some day.

The Trilobite (Feb., 1998)

UNSTICKING STUCK STONES

The standard method for separating stones that have been epoxied together, such as doublets or triplets, has long been to soak the stones in alcohol. However, this sometimes doesn't work. If the epoxy joint is a year or more old, alcohol soaks do very little.

If the epoxy job is relatively new, a rather strange thing may happen. A long soak will release the epoxy that has been bonding the layers together, but the stones may be broken in the process. This is due to the contraction and expansion within the material being broken down by the alcohol. Here are a couple of remedies to prevent this occurrence.

1. **Vinegar.** Vinegar is rarely used in the lapidary shop and yet it is one of the best unstickers there is. When used in prolonged soaks, that annoying breakage won't happen. It will probably require a longer soak, but that is minor if it means getting back unbroken stones.

Caution: if calcium of any kind is present, the vinegar will begin to attack immediately. However, it is safe for most non-calcium stones.

2. **Heat.** Heat is probably the best method of separating doublets or triplets. While the melting point of epoxy is rather high, it isn't beyond the dopping-stove temperature. With due care, this method can be used even on such heat-sensitive stones as precious opal. Besides, it will work where all other methods fail!

Simply set the doublet or triplet on the dopping stove until it is too hot to handle without gloves. Then (using gloves) pick it up and slide the layers apart with even finger pressure. Waste no time since the pieces cool rapidly. After sliding the sections apart, cool everything slowly to prevent breakage. When cool, drop in vinegar or alcohol for final cleanup.

Caution! Do not use excessive heat! Hot-plates and stove burners are much too hot and will bring disaster if they are used. An alcohol or electric dopping stove is ideal for this purpose.

Note: Epoxy disintegrates at a temperature of 250 degrees F. This should be a warning to those who use heat to set epoxy.

original source unknown, via *The Bergen Matrix*
(Feb., 2000)

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