



Mid-Ohio Mineral and Fossil Club

The LITHNICS

Volume 63 Issue 1
January 2025

THE LITHNICS



A QUARTERLY PUBLICATION OF
THE MID-OHIO MINERAL AND FOSSIL CLUB
MANSFIELD, OHIO



CURRENT OFFICERS

PRESIDENT	Lawrence Hull
VICE-PRESIDENT	Jim Baumgartner
PAST PRESIDENT	Tom Kottyan
RECORDING SECRETARY	Pat Everly
TREASURER	Pam Kottyan
TRUSTEES	Jason Larson + Joel Likins + Lawrence Hull

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DOOR PRIZE	Pam Kottyan
EDUCATION	Tom Kottyan
FIELD TRIPS	
GORMAN CENTER LIAISON	Tom Kottyan
HISTORIAN	Jason Larson
HOSPITALITY	Joel Likins
MEMBERSHIP	Pam Kottyan and Jason Larson
SHOP	Walt Upchurch
SHOW	Tom Kottyan and Jason Larson
SPECIAL INTERESTS	Joyce Kish, Susan Mathews, Bryan Summer
VIDEO/BOOK LIBRARY	Carolyn Kelly
LITHNICS EDITOR	Bryan Summer

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OUR CLUB

PURPOSE: The purpose of the Mid-Ohio Mineral and Fossil Club, is to create an interest in and study of the earth sciences and all lapidary arts and to afford an opportunity to share knowledge and working techniques with others.

MEETINGS:

General club meetings are at 7:00 pm on the first Monday of the month at:

Gorman Nature Center, 2295 Lexington Avenue, Mansfield, Ohio.

If the first Monday falls on a holiday we meet one week later.

Visitors are always welcome.

Special Interest Group (Classes) meetings are held September through May at 7:00 pm on the second Monday of the month. See Special Interest Chair, Mike McCullough.

CANCELATION OF A MEETING

If for any reason the club officers feel that a meeting should be canceled you will be notified by email as soon as possible. If Mansfield schools are closed so are we. If for any reason you don't feel safe to drive to a meeting, please, please stay home.

Annual dues are:



Adults	\$ 15.00
Children under 16	\$ 5.00
Family	\$ 20.00

Dues are due Jan. 1st of every year. Whether you join in January, December, or any month in between, the cost is the same. Everyone's dues are due again the next January 1st .

LITHNICS: Our quarterly newsletter.

Permission is hereby granted to use any original **LITHNICS** articles, whole or in part, as long as proper recognition is noted with the reprint.

Club members are encouraged to make contributions to the LITHNICS.

Contact: Bryan Summer (bryansummer1@gmail.com)

The Mid-Ohio Mineral and Fossil Club



Presidents Message

Happy New Year everybody!! 2024 is in the books and what a year it's been!! We've got a lot of new members in the club and we still have all of us old "petrified" members lol. Hope you all are staying healthy and warm as we journey through another winter in Ohio! Except for the few that are lucky to be able to go south for a while!!!

This time of year is a great time to explore all the possibilities of our hobby as in cutting minerals, tumbling and of course polishing (that's' the hard part), and there's wire wrapping, cutting cabs, silversmithing, rock carving, faceting, cleaning mineral specimens, labeling and displaying. This is just a very short list of all the things that this hobby offers.

There's planning to go on trips in the Spring or Summer. If you are like me, all you need to do is turn on the lights in the barn or shop and you are on another rock trip enjoying treasures from trips in the past!!! "Wow" does it add up in a hurry, but brings back a lot of fun adventures and memories (best part of being a rock collector)!!!

If any members need help getting started on any type of project, please contact me or some of us "Petified "members. We love to share experiences. We have the most Awesome Rockhounds in the world right here in this area!!!

Hope everyone has a very blessed and exciting new year!!!!

Lawrence Hull



Mid-Ohio Mineral and Fossil Club President

Upcoming Meetings – all meetings are at the Gorman Nature Center at 7:00 pm
Continue to watch for information about future meetings in your email.

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|-----------------------|---|
| ➤ Monday, January 6 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, February 3 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, March 3 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, April 7 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, May 5 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, June 2 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, July 7 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, August 4 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, September 8 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, October 6 | 7:00 Meeting Gorman Nature Center |
| ➤ Monday, November 3 | 7:00 Meeting Gorman Nature Center |
| ➤ Tuesday, December 2 | Annual Christmas Dinner Golden Corral 5 - 7 |

Area Events

- Gorman Nature Center Rock + Fossil Day May ? 11 - 3
- Lowe Volk Park Rock + Fossil Day May ? 11 - 3
- Coshocton Flint Festival Spring May ?
- Mid-Ohio Mineral + Fossil Club Show June 7 + 8 (Richland Co. Fairgrounds)
- Coshocton Flint Festival Fall Sept ?

Article 1

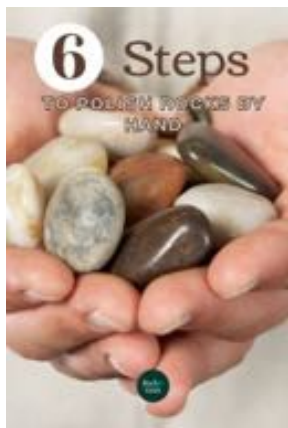
How to Polish Rocks by Hand

December 16, 2024

Knowing how to polish rocks by hand is handy after you've spent a day finding some nice specimens. Sure, your rock tumbling could be using a tumbler. Or you could discover the joy of hand-polishing your rocks. Hand polishing can turn a dull piece of stone into a gleaming beauty, but it takes a bit of time and elbow grease. Here's how...

Why Hand Polish?

How to polish rocks by hand is something even the most novice and/or youngest rockhound can easily do. It requires only a few materials, doesn't cost much and results in beautifully polished stones. Some people find the rhythmic motion of hand polishing to be relaxing, offering almost a Zen-like experience. Using the Mohs Scale of Hardness, softer stones like turquoise and amber work best for hand polishing. These stones often don't fare well in a tumbler anyway, which is one more reason to polish them by hand.



Smoothing and polishing a piece of amber with 220-grit sandpaper.

How to Polish Rocks

Step 1

Start by cleaning the rock(s) by hand. Fill a small bucket with hot, soapy water to clean off dirt. If the stone has a lot of crevices or stubborn residue, an old toothbrush works wonders. Once the rock is thoroughly cleaned, rinse off the soap, then throw out the soapy water and refill the bucket with clean water to use throughout the process.

Step 2

Round the corners and do some rough shaping with 220-grit sandpaper. Begin by moistening the sandpaper and placing it grit-side up on a cutting board or other hard, flat surface. Wet the rock, hold it in your dominant hand and begin rubbing it along the sandpaper to remove the hard edges. Continuously wet the

rock to remove fine particles and continue the sanding process until the edges become smooth and rounded or you achieve the desired shape.

To shape and polish harder substances, opt for something coarser. Some people begin with an 80-grit, but sandpaper this coarse shouldn't be used on softer stones because it could add more scratches than remove. A quick reminder – the lower the number, the coarser the sandpaper.

Step 3

Refine the shape and remove heavy scratches with 500-grit sandpaper. Moving up to finer sandpaper helps remove significant scratches and helps further refine the shape. Keep the rock wet throughout the sanding process for better results.

Step 4

Remove lighter scratches and begin polishing with 1200-grit sandpaper. Using extra-fine sandpaper buffs out tiny scratches on the stone's surface. The shine will start forming during this step. Make sure to keep the rock wet, rinsing it often to expose anything that's been missed.

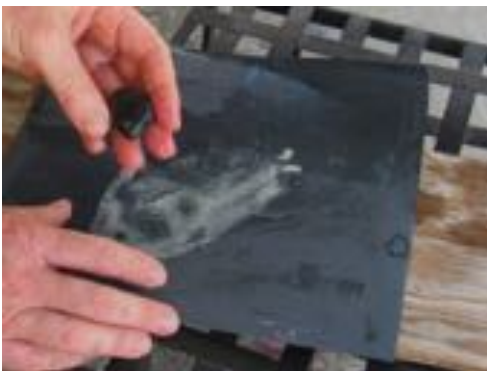
Step 5

Dampen a square of thick cloth, preferably denim or similar material, and add a good dab of toothpaste. Work the stone through the toothpaste and over the fabric to create a beautiful luster. Depending on the stone, add more toothpaste several times until the desired shine is achieved.

“There are lots of polishing compounds out there,” said Allen McGhee, long-time rockhound and hand polisher. “But I've found that toothpaste works just as well, and it's cheaper. Pretty much any toothpaste works, so don't buy the high-priced ones.”

Step 6

Rinse off the toothpaste and coat the newly polished stone with mineral oil or a commercial rock polish to bring out the luster. Once the rock dries, it's ready to show off.



Polishing with 500-grit and 1200-grit
The shine is really starting to come out.



After four rounds of shaping and polishing
the dull stone is now shiny

How to Polish Rocks by Hand: Augmenting with a Dremel

A Dremel is a popular motorized rotary tool that's handy for grinding and smoothing sharp edges and completing extensive shaping of hard stones, especially those with lots of crevices.

“You can shape and polish rocks and gems faster with a Dremel if you want,” said McGhee. “They make heads for them with all three levels of grit you need.”

When using a Dremel, protective eyewear is a must. Even small chips can damage an eye. Gloves should be used to protect hands. Sharp edges on the rock and the rotating tip of the Dremel can break the skin. Wearing a mask prevents inhaling the tiny particles coming off the rock as it is ground.

How to polish rocks by hand using a Dremel comes down to personal preference. Some prefer a more natural shape, so they do very little shaping but want to give their rocks a nice bit of shine. Alternately, a Dremel comes in handy for a perfectly smooth and/or rounded stone or for harder rocks that will take a long time to smooth by hand.

Tumbling Vs. Hand Polishing

Many people inadvertently think rock tumblers offer the fastest way to polish rocks. In reality, rock tumbling is a lengthy process that generally takes anywhere from several days to several weeks. The larger and harder the rocks, the more time tumbling takes. Hand polishing offers a quick turnaround for softer rocks.

On the other hand, rock tumbling is less labor-intensive since the machine does all the hard work.

Merits of Polishing Rocks by Hand

Although hand polishing can be time-consuming based on the hardness of the rock, it gives more control over the finished product. This control can be especially important if the final result will impact the quality, value and/or overall appearance of a rare or expensive rock or gem. Hand polishing can also give a desirable sense of accomplishment.

Story by Moira K. McGhee.

Article 2

Fossil Finds – Placoderms

November 7, 2024



Dunkleosteus terrelli skull on view at the Royal Tyrrell Museum.

Placoderms are some of the best-known fossil fish of the ancient seas because of their hard dermal plates. “Placo” means plate and “derm” means skin.

As a young boy growing up in fossil-rich western New York, I would spend untold hours walking the rocky outcrops of the Niagara Escarpment, the shore of an ancient Silurian Sea, collecting hundreds of marine fossils including brachiopods and crinoids. The joy of discovery spurred me to learn more. Who knew my road would lead me to Michigan? Some 40 years later in northern Michigan, I happened upon a fossil I had never seen. Little did I know of the wonder and amazement of finding armor-plated fish with a hammer and chisel.

Placoderm Types

These fish had hard plates on their head section and the part of the thorax just behind the head. They also sported large flat bony plates. Since soft tissue generally does not fossilize, these plates are usually the only evidence we are able to find. They were a group of now-extinct prehistoric jawed fish that were abundant in ancient seas.

The placoderms occupied two major subgroups: Arthrodire and Antiarchs.

Arthrodire placoderms are the most well-known and abundant placoderm fossils found. They are known for a movable joint between the head and body. In fact, Arthrodire is Greek for “jointed neck.”

Antiarchs are less common and more flattened. The Antiarchs also generally had armor-plated pectoral fins and a “box-shaped” head.

Diverse Placoderms

Placoderms, among other types of fish, reached their greatest diversity during the Devonian so much so that the Devonian is called “The Age of Fish.” They were a group of fish that had jaws but no teeth. Instead, they had “tooth-like” structures that extended down to the mouth, a continuation of the boney plates of the head. There was also a great diversity in size and shape between the species.

Where the plates met, some were slightly articulated and able to move. This allowed the fish to swim more easily rather than being stiff and unmoving. Often the plates are found disarticulated but in some areas of the world, they can be found as complete minus the soft tissues.



Dunkleosteus

One of the largest species of placoderm was the famous dunkleosteus which could grow to a length of 33 feet. One of the smallest was bothriolepis which was only four inches at the widest part of the skullcap. Dunkleosteus was believed to be the largest predator at the time. Fossils of this creature have normally been found in the shales near Cleveland, Ohio. Cast models of a complete skull can be found in many museums around the world.



Dunkleosteus Ohio’s State Fossil Fish

Placoderms Found Worldwide

Placoderms numbered around 400 different species and occupied fresh and saltwater environments. However, most of the placoderm material has been found in marine sediments. As one of the first jawed fish, they were almost certainly predators of the ancient waters. They have been studied because of the development of primitive jaws. This is the first time in fossil records that we see jaws in a vertebrate creature.

Placoderms & Live Birth?

Using modern scientific techniques and equipment, such as CT and MRI scans, several leading placoderm specialists have discovered that some placoderms may have given birth to live young.

Several species have been found and extensively studied where soft tissue has been preserved. One such specimen was studied by John A. Long of Australia and has yielded some fascinating results.

“The new specimen, remarkably preserved in three dimensions, contains a single, intra-uterine embryo connected by a permineralized umbilical cord. An amorphous crystalline mass near the umbilical cord possibly represents the recrystallized yolk sac.” -Long, J., Trinajstic, K., Young, G. et al. Live birth in the Devonian period. *Nature* 453, 650-652 (2008).

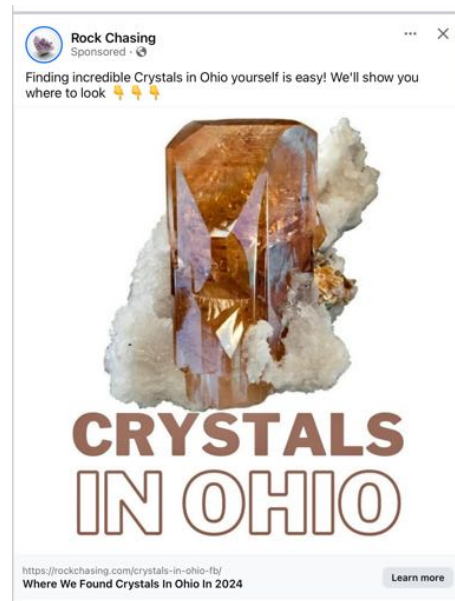
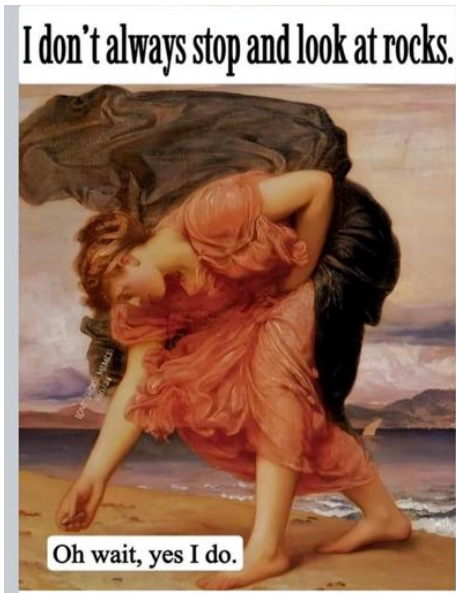


Placoderm armor plates were adorned with texture. In some cases, they had small bumps or tubercules on the armor as in the protitanichtys. In other cases, they had nearly parallel lines as in the Holonema also found in Michigan.

In the case of the placoderms that I collect in Michigan; I wander in search of the distinct texture of the fish plate. Often in the quarries, I search for the plates that have weathered out of the shale. Often the plates themselves are broken into dozens of pieces. At this point, it is necessary to scour the site looking for every piece I can find. The challenge is to return home and put the puzzle pieces back together.

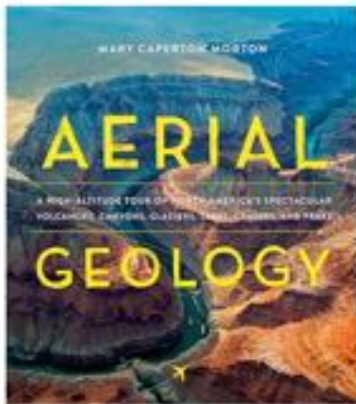
Story and photos by Joseph J. "PaleoJoe" Kchodl.





Facebook: Search “Rock Chasing in Ohio”

Geology Books



Aerial Geology: A High-Altitude Tour of North America's Spectacular Volcanoes, Canyons, Glaciers, Lakes, Craters, and Peaks

Hardcover – October 4, 2017

by Mary Caperton Morton (Author)

4.6 ★★★★★ 201 ratings

4.3 on Goodreads 237 ratings

[See all formats and editions](#)

“Get your head into the clouds with *Aerial Geology*.” —*The New York Times Book Review*

YouTube



Dunkleosteus Animation

2.6M views · 3 years ago

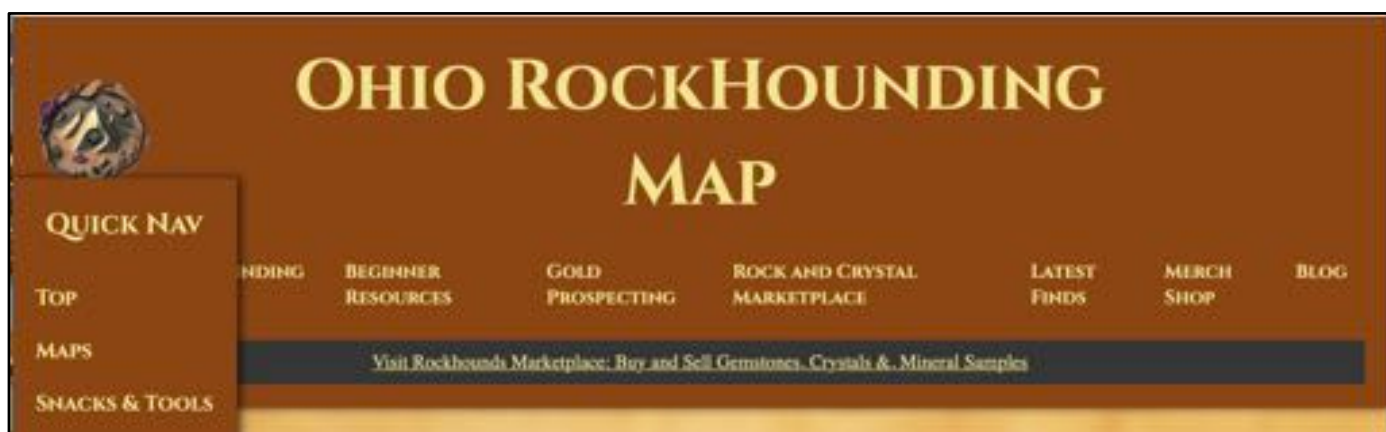
Julian Johnson-mortimer

Hello here's a little Dunkleosteus Animation interview with MARK from ...

4K

Interesting Web Sites

1. Mineralogy4kids
 - a. <https://min4kids.org>
2. Minerals by Name
 - a. http://www.galleries.com/Minerals_By_Name
3. Ology - the science website for kids from the American Museum of Natural History
 - a. <https://www.amnh.org/explore/ology?channel=earth>
4. Fascinating Geology for Kids
 - a. <https://littlebinsforlittlehands.com/geology-for-kids/>
5. Geology for Elementary Schools
 - a. <https://study.com/academy/topic/geology-for-elementary-school.html>
6. Elementary School Science
 - a. <https://www.elementaryschoolscience.com/lesson-plan-intro-rocks-minerals>



2025 Rockhound Holidays (Rock + Gem Magazine)

People often say there's a holiday for everything, and they're right. The good news is there are some fun holidays for Rockhounds to enjoy and celebrate.

Old Rock Day – January 7

National Jewel Day – March 13

Geologists Day – April 6

Earth Day – April 22

Nickel Day – May 16

Dinosaur Days – June 1

National Caves & Karst Day – June 6

World Oceans Day – June 8

International Drop a Rock Day – July 3

International Rock Day – July 13

National Pet Rock Day – September 7

Collect Rocks Day – September 16

National Fossil Day – October 15

Upcoming Events and Rock Shows – (Ohio and close to Ohio)

Check the Midwest Federation of Mineralogical + Geological Societies for Calendar Updates

January No Area Events

Tucson Arizona Gem Show Jan 30 - Feb 16

February No Area Events

March

Mar 29-30 Stark County Gem and Mineral Show
Sat 9-5 & Sun 10-5 Stark County Fair Grounds 305 Wertz Ave

Our Club's Craft Program

We will send out information about craft classes as we get them planned and scheduled.

MIDWEST FEDERATION OF MINERALOGICAL & GEOLOGICAL SOCIETIES

New Website: <https://www.mwfed.org>

New Juniors Website: <https://www.mwfed.org/juniors>

FUTURE ROCKHOUNDS OF AMERICA

(American Federation of Mineralogical Societies)

Lora Hall, AFMS Youth Director

youth@amfed.org

Future Rockhounds of America (FRA) is a whole lot more than just the badge program! The new FRA website is packed FULL of lots of resources for activities with kids and teens in YOUR club - Any Midwest Federation Club. Features like **Rock Pals, the Junior Volunteer Award, Contests and rock-related activities for Kindergarten-12th grade kids** can make your club attractive to families and increase your membership. Check out the links below for ideas, and visit www.juniors.amfed.org/rock-mineral-activities for more!

[The Midwest Federation of Mineralogical + Geological Societies](https://www.mwfed.org)

You can check out all the Shows and Events in our Midwest Region (Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska) at the Midwest Federation of Mineralogical + Geological Societies <https://www.mwfed.org>



[The U.S. Geological Survey Youth and Education in Science \(YES\) Team.](#)

Revamped their web presence to better assist with online and home learning.

The new USGS learning from home portal for lesson plans and activities, grades K – 12.
www.usgs.gov

Students of all ages can always tap into the USGS Resources for Teachers for over 140 years of USGS research in the natural sciences in the form of lesson plans and activities, maps, podcasts, online lectures, videos and animations, and much more. Browse thousands of ideas for using these resources in elementary, secondary, university, and informal education settings

Meeting Minutes

October 2024

Lawrence Hull opened meeting welcoming guests & members. Minutes & Treasurer's reports for September were read.

Committee Updates:

Shop - Ready to go just call Walt U before going to be sure will be open

Membership - Jason L reported is up to date & if anyone is NOT getting the emails being sent, please let him know

Hospitality - Brenda & Carolyn. See Joel if you'd like to do November

Books & DVD's - Most books have been dispersed & alot of the programs can be found on the internet. Still, there are some DVD's available for check out if interested

Field Trips - Joel & Debbie went to Iceland & Nova Scotia. Mick P back from a trip. Have heard there is a fossil site in Lodi?? More to follow. Lawrence H will be going to Arizona in January.

Special Interests - October will be a Silver Smithing or Casting Class to be held at Lawrence H's house. Sign up sheet is being circulated. November will be a Kumihimo class taught by Terri at the nature center.

Programs:

November - Annual member silent auction. December - annual dinner at Golden Corral. This may be tentatively moved to Tuesday, December 3rd, as they close early on Monday's for carpet cleaning. More to follow at November meeting.

Old Business - none

New Business -

Shows:

1. Detroit @ Warren Michigan at the college - October 12th & 13th Admission \$9 parking is free
2. Mason, Michigan - October 19th & 20th
3. Cuyahoga Falls, Ohio - October 26th & 27th. 38 Vendors, 48 E Bath Rd, Cuyahoga Falls, OH

Door Prize: Susan Miller won a piece of Copper from the Upper Peninsula of Michigan.

Garret Harrison won a give brought by Carolyn Kelley.

Meeting adjourned for refreshments & Members Show & Tell program.

[November 2024](#)

Lawrence welcomed members & guests. Minutes & Treasurer's reports were read.

Joel/Lawrenve Hull stated a building update is in the work.

Special Interests will meet at Walt's on Leppo Rd next Monday at 6:30pm. There will be more special interests in the future.

Robert K said Miley Auctioneers will be having some Indian Artifacts coming up for bid.

Joel L has Hospitality covered for the remainder of the year. Sign up sheets will be available in January 2025 for next year.

Field Trips - Lawrence H is planning a trip to Arizona in January 2025. Jay M reported Craig Cramer - from the Columbus Club - will let us know about future Field Trips. You need to join the Columbus Club as well.

Programs are needed for 2025. January, Bryan S is doing the program. February - Joel will give a synopsis of Debbie & his trip to Iceland & Greenland.

Lithnics - has gone out for the 3rd quarter 2024. If you did not receive, let Bryan S or Jason L know.

Old Business - 0

New Business -

An offering bucket will be set up for Dave Swenton who recently lost everything due to the devastating hurricanes that recently hit Florida. Dave G will be sure any funds raised will be passed on to Dave.

Bryan S said the tentative Rock & Fossil Day at Lowe-Volk Park is scheduled for January 18th from 9-3. Members asked to see if this could be changed to April or May for potential days.

Silent Auction tonight will be 3 rounds. Tom K also noted there are saws/grinding wheel & other assorted tools in addition to the normal Minerals & Fossils.

Personal Exhibits:

1. Pat E wore the necklace she made in the recent silver smithing class.
2. Terri - wore a pendant she made.
3. Caleb - had a rock from South Africa.
4. Dave G - had a rock.
5. Jason L - had a nice piece of Pigs Swiss Fluorite from Hyogo Prefecture, Japan.

Tonight's Door Prize: Stan Eusey won a \$20 gift certificate he can use for tonight's silent auction.

August Door Prize: won by Patti B a nice piece of Thomsonite from Minnesota.

Meeting adjourned for refreshments & silent auction.

December 2024

Lawrence welcomed about 35 members to the Golden Corral for our annual Christmas Dinner.

Grace was given & eating commenced.

Tom & Pam K had door prizes. Everyone present received a special gift: a piece of Copper from Upper Peninsula, Michigan.

Everyone had an enjoyable evening & Christmas wishes were given.

Don't Forget to Check Out our Website for Club Information:

<http://www.midohiomineralandfossilclub.com>



The Lithnics

If you have any club news, articles you would like share with members, updates on your committee, etc. please email info to:

Bryan Summer – bryansummer1@gmail.com

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January 1, April 1, July 1, October 1

