



Mid-Ohio Mineral and Fossil Club

The LITHNICS

Volume 60 Issue 1

Jan 2022

THE LITHNICS



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



CURRENT OFFICERS

PRESIDENT	Tom Kottyan
VICE-PRESIDENT	Jim Baumgartner
PAST PRESIDENT	Bill Byrley
RECORDING SECRETARY	Pat Everly
TREASURER	Pam Kottyan
TRUSTEES	Pam Lauer until 12/31/2021

CURRENT COMMITTEE CHAIRS

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	Mike McCullough (Classes)
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

Message from the President Tom Kottyan



Fellow club members,

As Covid still continues to kick our collective butts, we are forging ahead with plans for our June show. The theme for the show is “ Native Copper and Copper Minerals”. The show is June 11-12, 2022. We are sending out contracts in January for our dealers. The next two months are a good time to put together a great display of copper minerals or anything you have a passion for collecting. As a club, we always get compliments on the variety and quality of our displays. This year could be a great start, if you have never had a display case at our June show. If you have any questions on putting in a case please talk to me. The club is only as strong as its members. We are lucky to have so many club members with diverse interests and talents in minerals, gems, fossils, and crafts. Please consider putting in a case this year. We also are looking for programs for the spring months. If you would like to do a program or know of a good speaker please contact me or Jason Larson. Thanks again to our fellow members and Happy Holidays.

Tom Kottyan

Tom Kottyan

Mid-Ohio Mineral and Fossil Club President



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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.

- Monday, Jan 3 7:00 Meeting Gorman Nature Center
- Monday, Feb 7 7:00 Meeting Gorman Nature Center
- Monday, March 7 7:00 Meeting Gorman Nature Center
- Monday, April 4 7:00 Meeting Gorman Nature Center



Size Doesn't Matter

Rock composition determines how deadly a meteorite impact is.

The mineralogy of the rocks that a meteorite hits, rather than the size of the impact, determines how deadly an impact it will have.

Date: December 13, 2021

Source: University of Liverpool

A new University of Liverpool study has found that the mineralogy of the rocks that a meteorite hits, rather than the size of the impact, determines how deadly an impact it will have.

The earth has been bombarded by meteorites throughout its long history. Meteorite impacts generate atmospheric dust and cover the Earth's surface with debris and have long been considered as a trigger of mass extinctions through Earth's history.

A multidisciplinary research team from the University of Liverpool sought to explore why some meteorites have caused mass extinctions, for example the K/Pg Chixulclub impact that killed off dinosaurs, yet many which are larger in size have not.

They analysed 44 impacts over the past 600 million years using a new method: assessing the mineral content of the dust ejected into the atmosphere upon impact.

Their findings, published in the *Journal of the Geological Society of London*, reveal that meteorites that hit rocks rich in potassium feldspar (a common and rather benign mineral) always correspond with a mass extinction episode, irrespective of size.

Potassium feldspar is non-toxic. However, it is a powerful ice-nucleating mineral aerosol that strongly affects cloud dynamics, which makes them let through more solar radiation. This in turn warms up the planet and changes the climate. The atmosphere also becomes more sensitive to warming from greenhouse gas emissions, such as large volcanic eruptions.

Liverpool sedimentologist, Dr Chris Stevenson, from the University's school of Earth, Ocean and Ecological Sciences co-authored the study.

He said: "For decades scientists have puzzled over why some meteorites cause mass extinctions, and others, even really big ones, don't.

"It's surprising when we put together the data: life carried on as normal during the 4th largest impact with a crater diameter of ~48 km, whereas an impact half the size was associated with a mass extinction only 5 million years ago.

"Many kill mechanisms have been proposed, such as large volcanic eruptions, but just like meteorites, these don't always correlate with mass extinctions.

"Using this new method for assessing the mineral content of the meteorite ejecta blankets, we show that every time a meteorite, big or small, hits rocks rich in potassium feldspar it correlates with a mass extinction event.

This opens up a whole new avenue of research: what exactly kills off life during these episodes, and how long do the potassium feldspar effects last? Until now, only meteorites have changed the aerosol regime of the climate. However, present day human activities represent a similar mechanism with increasing emissions of mineral aerosols into the atmosphere."

Story Source:

Materials provided by **University of Liverpool**. *Note: Content may be edited for style and length.*

Journal Reference:

1. M.J. Pankhurst, C.J. Stevenson, B.C. Coldwell. **Meteorites that produce K-feldspar-rich ejecta blankets correspond to mass extinctions.** *Journal of the Geological Society*, 2021; jgs2021-055 DOI: [10.1144/jgs2021-055](https://doi.org/10.1144/jgs2021-055)



Mid-Ohio Mineral and Fossil Club
**GEM, MINERAL, JEWELRY
BEAD, & FOSSIL SHOW**

“COPPER & NATIVE COPPER MINERALS”

JUNE 11 & 12, 2022



New Mineral Classification System Proposed

Jun 6, 2019

by Robert M. Hazen

The modern mineral classification system, developed by the American geologist and mineralogist James Dwight Dana in the 1850s, categorizes more than 5,400 mineral species based on their dominant chemical compositions and crystalline structures. Professor Robert Hazen from the Carnegie Institution’s Geophysical Laboratory and George Mason University suggests an additional classification system, which could amplify existing knowledge of how minerals evolve over time without superseding the existing designations. In his new paper, published in the journal *American Mineralogist*, he argues for categories that reflect a deeper, more-modern understanding of planetary scale transformation over time.



“A system grouping minerals and non-crystalline natural solids — which are not currently classified by the existing system — into what I call ‘natural kind clusters’ would better reflect the inherent messiness of planetary evolution,” Professor Hazen said.

“For maximum efficacy, scientific classification systems must not just organize and define, but also reflect current theory, and allow it to expand and guide us to new conclusions.

Professor Hazen pioneered the concept of mineral evolution, linking an explosion in mineral diversity to the rise of life on Earth and the resulting oxygen-rich atmosphere.

He then added another layer to his vision by introducing mineral ecology, which analyzes the spatial distribution of Earth’s minerals to predict which ones remain undiscovered and to assert our planet’s mineralogical uniqueness.

A system of categorization that reflects not just a mineral’s chemistry and crystalline structure, but also the physical, chemical, or biological processes by which it formed, would be capable of recognizing that nanodiamonds from space are fundamentally different to diamonds formed in Earth’s depths.

The existing classification system groups some minerals with disparate formation histories together in one category, while splitting others with similar origin stories into separate mineral species.

Another example: currently 32 different mineral species of the tourmaline group are delineated by the distribution of the major elements of which they are comprised.

So, a single shard of tourmaline with slight variations in chemistry often contains multiple species of the mineral, even if they all formed in the same geologic event.

A natural kind classification system would rectify that problem, and allow for the inclusion of non-crystalline materials, such as volcanic glass, amber, and coal, which currently aren’t counted as minerals, but can offer knowledge about our evolving planet.

“Earth’s mineralogy tells vivid stories, revealing how eons of geologic activity and the rise of life facilitated novel combinations of elements,” Professor Hazen said.

“But to glean every nuance of this mineralogical text, we must embrace a new language for describing the creation of minerals that reflects the passage of time.”

Robert M. Hazen. 2019. An evolutionary system of mineralogy: Proposal for a classification of planetary materials based on natural kind clustering. *American Mineralogist* 104 (6): 810-816; doi: 10.2138/am-2019-6709CCBYNCND

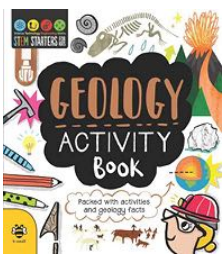
Ohio Rockhound

A useful website focusing on Ohio minerals, including collecting sites.

1. Mark J. Camp, [Roadside Geology of Ohio](#) (2006).
2. June Culp Zeitner, [Midwest Gem, Fossil, & Mineral Trails: Great Lakes States](#) (Rev. ed., June 1999 – first published in 1955).
3. June Culp Zeitner, [Midwest Gem Trails: Field Guide for the Gem Hunter, the Mineral Collector, and the Tourist](#) (3d. Rev. ed., 1964 – originally published in 1956).
4. James Martin Monaco & Jeannette Hathway Monaco, [Fee Mining & Mineral Adventures in the Eastern U.S.](#) (2d ed. 2010).
5. Kathy J. Rygle & Stephen F. Pedersen, [Northeast Treasure Hunter's Gem & Mineral Guide](#) (4th ed. 2008).

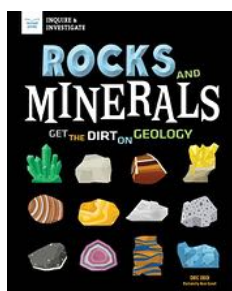
Amazing YouTube Videos

1. 15 Unreal Geological Oddities and Rock Formations
2. Future of Earth's Continents – Earthquakes and Volcanoes
3. 25 Strangest Geological Formations on Earth
4. A Brief History of Geologic Time
5. Creation of the Great Lakes – How The Earth was Made



Geology Activity Book

Every boy and girl needs a solid background in STEM (Science, Technology, Engineering, Math) and geology is one of the science that excites kids, parents, and teachers and can ignite a lifelong love of the sciences.



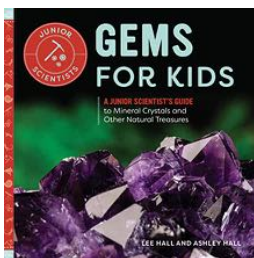
Rocks and Minerals - Get the Dirt on Geology

A fun and informative introduction to the earth science happening beneath our feet, packed with hands-on science experiments and STEM research projects that help readers ages 12 to 15 discover the amazing world of geology!



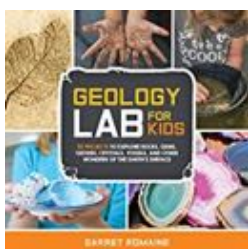
Ultimate Rock-Opedia by National Geographic Kids

Welcome to the amazing world of rocks and minerals! Let's start at the very beginning, with an introduction to the origin of our rocky planet, then move on to explore the world of igneous, sedimentary, and metamorphic rocks. You'll discover how they form, what makes them unique, and most importantly, how to identify them in your own backyard.



Gems for Kids

A Junior Scientist's Guide to Mineral Crystals and Other Natural Treasures
by Lee Hall and Ashley Hall



Geology Lab for Kids

52 Projects to Explore Rocks, Gems, Geodes, Crystals, Fossils, and Other Wonders of the Earth's Surface.
By Garret Romaine



Winter in The Tetons

John Muir Poems & Quotes

Many hikers and lovers of nature have heard of the great **John Muir**.

An inspiring man to many, Muir was even known as the “**Father of the National Parks**” or “**John of the Mountains**”. A wanderer and traveler at heart, he worked to share his love of nature and beauty with others all around the world.

1. “The mountains are calling and I must go.”
2. “The world is big and I want to have a good look at it before it gets dark.”
3. “One touch of nature makes the whole world kin.”
4. “In every walk with nature one receives far more than he seeks.”
5. “Going to the mountains is going home.”
6. “The world is big and I want to have a good look at it before it gets dark.”
7. “Between every two pine trees there is a door leading to a new way of life.”
8. “The mountains are fountains of men as well as of rivers, of glaciers, of fertile soil. The great poets, philosophers, prophets, able men whose thoughts and deeds have moved the world, have come down from the mountains – mountain dwellers who have grown strong there with the forest trees in Nature’s workshops.”
9. “The sun shines not on us but in us. The rivers flow not past but through us. Thrilling, tingling, vibrating every fiber and cell of the substance of our bodies, making them glide and sing.”
10. “Earth has no sorrow that earth cannot heal.”



Winter in Yosemite

John Muir Poems and Quotes Continued...

11. "There are no accidents in Nature, he said. Every motion of the constantly shifting bodies in the world is timed to the occasion for some definite, fore ordered end. The flowers blossom in obedience to the same law that marks the course of constellations, and the song of a bird is the echo of a universal symphony."
12. "I only went out for a walk and finally concluded to stay out till sundown, for going out, I found, was really going in."
13. "Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and cheer and give strength to body and soul alike."
14. "Only by going alone in silence, without baggage, can one truly get into the heart of the wilderness. All other travel is mere dust and hotels and baggage and chatter."
15. "The clearest way into the universe is through a forest wilderness."
16. "Of all the paths you take in life, make sure a few of them are dirt."
17. "The world is big and I want to get a good look at it before it gets dark."
18. "One day's exposure to mountains is better than a cartload of books."
19. "The power of imagination makes us infinite."
20. "No traveler, whether a tree lover or not, will ever forget his first walk in a sugar-pine forest."



Interesting Web Sites

1. One Geology Kids
 - a. <http://www.onegeology.org/extra/kids/links.html>
2. Oxford University Museum – The Learning Zone
 - a. <http://www.oum.ox.ac.uk/thezone/index>.
3. The Geological Society – Ask a Geologist
 - a. <https://www.geolsoc.org.uk/askageologist>
4. 80 Unique Virtual Field Trips
 - a. <https://micromyearth.com/virtual-field-trips>
5. Virtual Field Trips – Geology of the National Parks
 - a. <https://www.e-education.psu.edu/geosc10/node/1802>

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

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

All show dates may be affected by the Corona Virus

Jan

No Area Shows at this time.

Feb

10 – 13 TUSCON, AZ GEM AND MINERAL SOCIETY SHOW “The Show That Glows”

18 – 20 INDIANAPOLIS, IN Annual Show

March

11 - 13 GEMSTREET USA 19201 E Bagley Road Cuyahoga County Fairgrounds

Middleburg Heights, OH 44130

18 - 20 JACKSON, MI Annual Show

April

8-10: WYOMING, MI Indian Mounds Rock & Mineral Club Annual Show. Thurs./Fri 9:30-9; Sat 9:30-7. Rogers Plaza Town Center, 972 - 28th St. SW, Wyoming.

Contact: Kreigh Tomaszewski, (616) 243-5851

23-24: CUYAHOGA FALLS, OH Summit Lapidary Club Annual Show Sat 10-6; Sun 10-5 Expo Center, 48 East Bath Rd., Cuyahoga Falls. Contact: Becky Kosco, (330) 808-8134

23-24: TROY, OH Miami County Gem & Mineral Club Annual Show. Sat 10-6; Sun 10-4. Miami County Fairgrounds, 650 N. Co. Rd. 25A, Troy.

Contact: Dewey Buck, (937) 308-3012;

30 - May 1 GEOFAIR Sharonville Convention Center 11355 Chester Rd Sharonville Convention Center, Sharonville, OH 45246

[The Midwest Federation of Mineralogical + Geological Societies](#)

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 Web Site (www.amfed.org)



The Midwest
Federation of
Mineralogical
+ Geological
Societies





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

Tom welcomed members & guests to the October meeting of the Mid-Ohio Mineral & Fossil Club.

Minutes & Treasurer's report for September 2021 were read.

As Carolyn Kelley has Covid-19, there will be no DVD's or tapes until next year (2022).

Jason Larson will be handling the November silent auction after the normal business meeting. Three members volunteered to help with the money – Rob Ludwedge, Bryan Summer & Jillian. It was also noted members may bring items to swap/sell as well.

Lithnics – please send any articles and/or information to Bryan Summer.

December meeting will be our annual Christmas Dinner at Golden Corral (provided Covid co-operates). ***The dinner will begin earlier than usual – 5:00pm ending at 8:00pm.***

Mike McCullough said Joyce will be holding a wire-wrapping class on Saturday, November 6th at Gorman Nature Center from noon-3pm. Interested members please see Joyce.

Old Business: none

New Business: Looking for a new name for our Lithnics. "The Slab" was put forth by Rob Ludwedge for consideration.

Gay Abrams suggested inducting Walt Upchurch as a Lifetime Member and no longer required to pay annual dues. This was 2nd by Dave Grove. Approved by members present.

Joyce also said there is a Gemboree on October 24th & 25th in Bath, OH. There will be 32 vendors attending. Also, she noted there was a gentleman in Stark Co., Ohio who passed away and will be having an online auction on his equipment October 13th -20th by Kelco Auctioneers.

Tom reminded folks the only thing worse than a cat bite is a human bite & thanked Jim for the update.

Bryan Summer said there will be a new archeology exhibit coming to GNC.

Hospitality – Joel Likins has November covered, not necessary in December and January 2022 is already covered. The rest of 2022 a new sign-up sheet will be coming.

Jim Baumgartner said Roger Bartley is making slow progress in his recovery and doing pretty well.

Personal Exhibits:

Dave G – Agates from the Southeast Kentucky show, some iron concretions that have fossils in them and Potato Agates from England.

Bryan S – brought in some of the first Flint he's cut & tumbled.

Kristin & Mark - went to the Herkimer Claim in New York and found some several small Herkimer's.

Pam K – has a nice tray made of copper & wood set in resin from Troy, Michigan.

Rob L – brought in several varieties of sand given to him by a friend (Dan E.).

Joyce – has some copper related pieces.

Terry H – copper pieces.

Jason L – Flint from Nethers down by Flint Ridge, OH.

Door Prize(s) as several pieces of copper were donated for door prizes and won by:

Jillian C – copper

Debbie L – copper with silver prehnite

Gay A – glacial float copper

Georgia C – copper on basalt

Skeeter – float copper

Mike M – copper

Bob K – copper in matrix

Gary – copper

Meeting was adjourned for refreshments – hosted by Pat E, Gary and Bryan S. Program followed given by Lawrence H & Dave G on their recent trip.

November

Jim Baumgartner welcomed members & guests to the November meeting of the Mid-Ohio Mineral & Fossil Club filling in for vacationing Tom Kottyan.

Minutes were read for October 2021. No treasurer's report as Pam Kottyan is vacationing.

As Carolyn Kelley is still under the weather, there will be no DVD's or tapes until next year (2022).

Jason Larson will be handling the tonight's silent auction after the normal business meeting.

Three members volunteered to help with the money – Rob Ludwedge, Bryan Summer & Jillian.

Lithnics – please send any articles and/or information to Bryan Summer.

December meeting will be our annual Christmas Dinner at Golden Corral (provided Covid cooperates). ***The dinner will begin earlier than usual – 5:30pm ending at 8:00pm.***

Old Business: none.

New Business: Jim B noted Roger B is doing well & can walk some. Hopefully will have his knee replacement in January 2022.

Jason L made a motion that current officers & trustees will extend one more year for 2022 due to Covid. Robert Kreiling 2nd. All members present in favor with 1 nay vote.

Personal Exhibits:

Dave Grove noted calcite can be eaten off of prehnite w/copper pieces with Sulfuric acid & leaving your prehnite w/copper intact.

Hospitality – Joel Likins has sign-up sheet for 2022. December and January 2022 are already covered. The rest of 2022 a new sign-up sheet will be coming. Tonight's refreshments are provided by: Linda Welch & Walt Upchurch.

Mike M brought in some Ghost Peppers for those brave enough to take home.

Joyce K brought in a Christmas Tree with wire-wrapped Ohio Flint to be raffled for the Akron Children's hospital. She noted that some of the members of MOMFC, Joyce K & Bryan S, donated to the project as well. You may go online to Akron Children's Hospital Tree Fest.

Door Prize: Pat Everly won a nice piece of Calcite with little Pyrite inclusions.

Jason L made a motion to adjourn the meeting. Dan E 2nd. Meeting adjourned for refreshments & silent auction.

December – Annual Christmas Dinner

Tom welcomed approximately 26 members & guests to the annual Christmas Dinner at Golden Corral.

Minutes & Treasurer's report for November were omitted as were the various committee reports due to the Christmas gathering.

Joel L gave the blessing.

Jason L was collecting dues for 2022.

After dinner, Tom K & Pam K pulled names for various prizes: stuffed penguins, snowmen, tinsel houses, etc. Numbers were then pulled by Pam K to choose a prize from the wrapped minerals consisting of: Petrified Wood & Apatite.

Tom adjourned the meeting wishing everyone a very Merry Christmas & Happy New Year.

Don't Forget to Check Out our Website for Club Information
www.rlls.webs.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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