



MWF News

Midwest Federation
of Mineralogical and Geological Societies

February 2023 - Issue No. 619

Web Site - www.mwfed.org

Member of the American Federation of
Mineralogical Societies



PRESIDENT'S MESSAGE

Mary Ann Ferguson-Rich, MWF President

I hope your holidays went well and that everyone is eager to meet with their clubs and make plans for the coming year.

I will be heading to Tucson for their fabulous show in February and will return to Ohio in early April.

While out there, David Rich and I will be judging the MWF entries for the annual AFMS Bulletin Editors' Competition. Our prior chair for many years, Sharon Marburger (thanks for your service!), is stepping down, and David and I are filling in for 2023.

All the information and requirements for the contest are on the AFMS website on the Downloads page. Entries are made in hard copies only, along with a score sheet for the category in which the article or newsletter is being entered. **Entries should be postmarked no later than February 27, 2023**, and sent to:

(Continued on page 3)



... AND A NOTE FROM THE NEW 2ND V.P.

Bill Smith, MWF 2nd Vice President

I hope everyone had a very Merry Christmas. We traveled to Alaska to be with family. It is a beautiful country this time of year, with snow on the evergreens and frost on the alders that look like millions of diamonds in the sun.

Because of about four feet of snow covered by an inch or so of ice, I had to trade my snowshoes in for ice cleats. Still had a great time of hiking and taking in the winter beauty.

That article by Jack Cooley about the Indian Mounds Rock & Mineral Club's field trip, reprinted in the January MWF News, sure sounded exciting. Reading about the club going to the Linberg and Sons Gravel Pit & Quarry for Kona dolomite makes me look forward to warmer weather.

If any of you find you can't fit all the rocks you've collected in your back yard, just let me know, and I will be glad to relieve you of a couple of pieces.

I'm looking forward to being part of the Midwest Federation.

WHAT'S INSIDE?

Deadline Calendar.....	6
The Foolish Dinosaur	3
Geology and Beauty of the Elbe Sandstone Mountains.....	3
Nebraska Club Honors Two Members.....	2
A Note From the New 2nd V.P.....	1

President's Message.....	1
Reflections on the Value of Lapidary	8
Smithsonian Article About Fossil Lake Recommended ...	5
Study Group Examines Mineral Identification	6
Upcoming Events.....	5

NEBRASKA CLUB HONORS TWO MEMBERS

Sharon Marburger, Editor
Lincoln Gem & Mineral Club (NE)
December 2022 issue of the Pick & Shovel

A very special award for Distinguished Service was presented to Lincoln Gem & Mineral Club member Vera Lyman at a recent meeting of the club.

My research has found that since joining in 1976, Vera: was Show Chairman in 1982 and has served on most Show Committees since then; served on numerous Swap Committees; was Pick & Shovel (P&S) Editor for three years and Assistant Editor/Coordinator for three years, and has been involved in the P&S circulation (seeing that the newsletter gets mailed out) for at least 19 years; was reporter to the now-defunct state organization, NAOESCI, for at least five years.

Vera has been the Midwest Federation Liaison from our club since the beginning in 1989 (34 years); has been on the Long Range Planning and By-Laws Committee for at least 30 years; has been on the Nominating Committee for at least 26 years; was Secretary for 22 years; and has been Treasurer for 19 years.

She was also on the Youth Activities Committee for five years; was on the Housing Committee for the one and only year of its existence; was Scholarship Chair for 17 years; and she's been Hospitality/Refreshment Chair for at least nine years.

Vera has held just about every seat in the club. She is deserving of this honor.



LGMS Board Member Sharon Marburger, left, presents the club's Distinguished Service Award to Vera Lyman. Photo from the Pick & Shovel.

MWF OFFICERS

President: Mary Ann Ferguson-Rich
1166 Broadview
Tallmadge, OH 44278
330-630-9625
mafergusonrich@gmail.com

1st VP: Cheryl Neary
42 Jefferson Avenue
Patchogue, NY 11772
516-449-5341
ciervo.neary@gmail.com

2nd VP: Bill Smith
Post Office Box 311
Hardtner, KS 67057
620-840-1037
beetlebill@kanokla.net

Secretary: Donna Moore
25235 N. Illinois Highway 97
Cuba, IL 61427
309-789-6501
mwfsecretary@gmail.com

Treasurer: Steve Shimatzki
4295 County Road 16
Woodville, OH 43469
567-868-8794
sjs132@gmail.com



At the same meeting, the club named its outgoing president, Jayne Beer, the Rockhound of the Year. She was selected for her hours of work over the past year to find new housing for the club's lapidary equipment and the lapidary class.

She also attended most meetings, took care of audio-visual equipment, served on committees, participated in field trips, attended Rock Parties, hosted Rock Parties, was 2022 Show Chairman, was 2022 Summer Swap Chairman, and was "Jaynie-on-the-Spot" when needed. We were pleased to give her the Rockhound of the Year award!



Awards Committee member James Marburger presents the Rockhound of the Year plaque to Jayne Beer. Photo from the Pick & Shovel.

PRESIDENT’S MESSAGE, CONTINUED

(Continued from page 1)

Mary Ann Ferguson-Rich
1166 Broadview Road
Tallmadge, Ohio 44278

My mail will be forwarded to Tucson so please mail as soon as possible, because there will be a few days of delay due to the forward, in late February. It would be a good idea to email me that your entry is on the way (mafergusonrich@gmail.com), so I can watch out for it.

Good luck to all those who enter! I look forward to receiving your submissions.

Don't forget the slogan contest for the T-shirt, and the All American Club Award contest. Let's get some recognition for the region, our clubs, and our many hard-working and talented individuals in 2023!

THE FOOLISH DINOSAUR

Michele Yamanaka, Editor
Three Rivers Gem & Mineral Society
From the Oct. 2022 Strata Data

There once was a dinosaur named Ned.
If he'd been smarter, he wouldn't be dead.
He took a walk 'cross a field of lava,
'Cause he thought he saw something worth the bother.
The lava spit out a piece of rock
That hit him in a very bad spot.
He slipped and fell against a ledge
And that is how Ned lost his head.

*March Issue
Submission Deadline
Is Feb. 7th!*

GEOLOGY AND BEAUTY OF ELBE MOUNTAINS

Petra Schmalbrock, Editor
Columbus Rock and Mineral Society (OH)
From the November, 2022 Glacial Groove

My cousin, Dr. Susanne Herting-Agthe, and I recently biked along the Elbe river and hiked in the Elbe Sandstone Mountains. To a mineralogist like Susanne, “It’s just sandstone”; and it may not have much interest to paleontologists because even though present, fossils tend to be sparse in sandstone.

But I love it, because of the spectacular scenery of the landscape. The mountains spread over the border of Germany and the Czech Republic; the area is also called Saxon Switzerland in the German part and Bohemian Switzerland in the Czech part.

I also marvel at the very diverse plant and animal life that comes with the different micro-climates present in such a landscape. And I’m always curious about how the rocks got to be the way they appear today. Here is what I found online, combined with my pictures.



Photo courtesy of Petra Schmalbrock.

The Elbe Sandstone mountains are a landscape of towering cliffs, sandstone pillars and tabletop mountains rising 900-2,250 feet above the Elbe river, which carved its way through the huge sandstone slab. It borders geologically in the north on the Lusatian granite massif, in the west on the Elbe Valley Slate Mountains and in the south-west on the Eastern Ore Mountains, which are characterized by gneiss.

Sedimentary rock layers formed in the Cretaceous period starting 180 million years ago (mya). Sea levels rose, leading to marine formations of the

(Continued on page 4)

THE GEOLOGY AND BEAUTY OF THE ELBE SANDSTONE MOUNTAINS, CONTINUED

(Continued from page 3)

Cretaceous Sea. Exposures containing marine fossils can still be found. After the sea retreated, inlets in the Cretaceous Sea and marine currents pounding the cliffs deposited sand and gravel, but also sandy-clayey sediments in irregularly flowing waters. Subsequent lithification formed a compact sandstone slab due to high pressure.

After the sea drained away, the huge sandstone slab was subjected to strong tectonic stresses. The Lusatian granodiorite was uplifted over the 600-meter-thick sandstone slab along the Lusatian Fault, and pushed it downwards until it fractured.



Photo by Petra Schmalbrock.

About 65 mya, the sea retreated completely and erosion began to create the now observed landforms. The bizarre forms are caused by the almost horizontal strata of the thick sandstone and the vertical crevasses, which break up the rock into cuboids.

Softer layers weather faster. Deep indentations form in the rock faces, and eventually the rock breaks off along a vertical chasm.

In the Tertiary period, the adjacent region of the Central Bohemian Uplands and the Lusatian Mountains was shaped and affected by intense volcanism; but individual intrusions of magma also forced their way through the sandstone platform of the Elbe Sandstone Mountains. The most striking evidence of this phase in the earth's history are the conical basaltic hills.



Lilienstein Tabletop Mountain is seen in middle ground. Photo by Petra Schmalbrock.

In the Elbe Sandstone Mountains, one often encounters special structures in the sandstone. They are the result of weathering processes (erosion) and the different composition of different sandstone layers. Accumulations of minerals in the rock (e.g. iron) and moss and lichen growing on the surface also bring plenty of color into play, so that, as is so often the case when hiking in these mountains, it is worth taking a look at the details.

Honeycomb weathering in sandstone is not uncommon. It is mainly caused by chemical effects and forces and not, as was previously assumed, by wind erosion. Salts are precipitated on the rock surface, forming crystals that burst the sandstone and thus accelerate weathering. At the same time, under the influence of silica, solidification of the rock occurs. These two opposite processes, which take place in close proximity, lead to the characteristic honeycomb structure.



Photo by Petra Schmalbrock.

continued on page 6

UPCOMING EVENTS

Date and Time	Organization	Place	Contact
Jan. 28 Saturday, 1-5	Lincoln Gem & Mineral Club	Enclosed shelter, Bethany Park, 64 th and Vine Streets, Lincoln, NE	Sharon Marburger, mamamar7880@outlook.com
March 3-5 Fri & Sat 10-6, Sun 11-4	Eastern Indiana Gem & Geological Society	County Fairgrounds, 861 Salisbury Road, Richmond, IN	Judy Burton, jleeburton@woh.rr.com
March 10-12 Fri 10-8, Sat 10-7, Sun 10-5	Association of Earth Science Clubs of Greater Kansas City	KCI Expo Center, 11730 NW Ambassador Drive, Kansas City, MO	Bruce Stinemetz, brucestinemetz@att.net
March 11 6-9	Chicago Rocks & Minerals Society silent auction	St. Peter's United Church of Christ, 8013 Laramie, Skokie, IL	Jeanine Mielecki, jaynine9@aol.com
March 11-12 Sat 10-6, Sun 10-5	Geodeland Earth Science Clubs	Student Union Ballroom, Western Illinois University, Macomb, IL	Mary Boesdorfer, writteninwood@gmail.com
March 11-12 Sat 10-5, Sun 10-4	Kettle Moraine Geological Society	County Fair Park, 3000 Highway PV, West Bend, WI	John Rettler, johnrettler@gmail.com
March 25-26 Sat 8:30-6, Sun 9:30-4	Cedar Valley Rocks & Minerals Society	Hawkeye Downs Expo Center, 4400 6 th Street SW, Cedar Rapids, IA	Marvin Houg, m_houg@yahoo.com

SMITHSONIAN ARTICLE ABOUT FOSSIL LAKE IN WYOMING RECOMMENDED

Michele Yamanaka, Editor
Three Rivers Gem & Mineral Society (IN)
From the Dec. 2022 Strata Data

In the September issue of the Smithsonian Magazine is a fascinating article about 50-million-year-old treasures that are being found in Fossil Lake near Kemmerer, Wyoming.

These treasures are fossils that are in pristine condition and intact – a rarity in the fossil world. The area became famous after Jim Tynsky, a fossil hunter, uncovered a two-foot long “dawn horse” in 2003. Additional searching has yielded many forms of Eocene mammals in astonishingly complete and good condition. Birds and fish are also represented.

“You’ve got schools of fish, you’ve got babies and adults. You’ve got predators and prey together,” said Grande, a curator at the Field Museum in Chicago and author of *The Lost World of Fossil Lake*. It’s like “looking at a living community.” The result is “the best

picture of life in the early Eocene that has ever been discovered.” (from website)

The Smithsonian article includes an explanation of the geology of the area that presents a possible reason for the excellent preservation of the fossils.

The article also discusses the geology of Fossil Butte National Monument, which is nearby and connects it with that of Fossil Lake.

For the fossil-loving rockhound, there is information about American Fossil Quarry, on privately owned land near Kemmerer, Wyoming, where hammer- and chisel-wielding visitors pay \$69 to \$89 to spend up to four hours hunting for fossils. Finders keepers.

This Smithsonian article is copyrighted, but it is so interesting that I would encourage rockhounds to go to <https://www.smithsonianmag.com/travel/treasures-of-fossil-lake-180980544> and read the whole online version.

STUDY GROUP EXAMINES THE MANY WAYS TO IDENTIFY MINERALS

Kreigh Tomaszewski
West Michigan MWF Mineral Study Group

Recently our study group took a break from looking at minerals, and looked at the ways that mineral identification can be done.

Just about anything about a mineral can be identified later except the location it came from (and with very advanced methods this is often possible too). Your first identification of a specimen should always be the location where it was collected; you can look up the locality and read the short list of known minerals from that location. The locality is the most important item of information about a specimen.

The German mineralogist Fredrich Mohs came up with a standard hardness scale that has been in use

since he proposed it in 1822. It is based on the idea that any mineral can scratch any other mineral that is softer or of the same hardness. We practiced doing hardness tests using both mineral test kits and hardness points. We talked about the related property of tenacity – how tough the mineral is in defending itself against breaking and physical deformation.

The French priest (and mineralogist) Rene-Just Hauly accidentally dropped a calcite specimen in 1781 and had an inspiration from the evenly split fragments. He is credited with founding the study of crystallography.

We reviewed the six major crystal systems; isometric (cubic), tetragonal, hexagonal, orthorhombic, monoclinic, and triclinic. We touched on the 32

(Continued on page 7)

BEAUTY AND GEOLOGY OF ELBE MTS., CONT.

continued from page 4

Brown iron bands are layers in the sandstone that are due to brown iron enrichments. Iron oxides are dissolved in the leachate and lead to deposits in various layers of sandstone, where they solidify and gain resistance to further erosion. The characteristic brown iron bands or tubes develop over time.



*Photo by
Petra
Schmalbrock.*

Sources:

https://en.wikipedia.org/wiki/Elbe_Sandstone_Mountains

Elbsandsteingebirge - Geologie - sachsen.de

<https://www.nationalpark-saechsische-schweiz.de/der-nationalpark/naturraum/geologie/>

DEADLINE CALENDAR

Deadline for the **MWF Bulletin Editors Contest** is **Feb. 27, 2023**. Rules, categories of entries, and score sheets for the contest can be found at amfed.org on the Downloads page. Entries must be hard copy, postmarked on or before Feb. 27, and sent to:

Mary Ann Ferguson-Rich
1166 Broadview Road
Tallmadge, Ohio 44278

Send an email to mafergusonrich@gmail.com to tell her that the entry is on the way.

Entries for the **MWF T-Shirt Slogan Contest** are due **March 1, 2023**. Sandy Shorter, Chair of the Public Image and Courtesy Committee, is creating the T-shirt that needs a slogan; her email address is sandyshorter25@gmail.com. Entries should be emailed to MWF President Mary Ann Ferguson-Rich, mafergusonrich@gmail.com.

Club yearbook entries for 2022 will be accepted for the **MWF All American Club Awards** until **April 1, 2023**. For further information, contact MWF Merit Awards Chair (and President) Mary Ann Ferguson-Rich, mafergusonrich@gmail.com.

Rockhound of the Year Awards may be submitted at any time for certificates and a mention in the MWF News. Contact Jeanine Mielecki, jaynine9@aol.com.

STUDY GROUP EXAMINES THE MANY WAYS TO IDENTIFY MINERALS, CONTINUED

(Continued from page 6)

crystal classes. Closely related to crystal form, habit refers to the preferred crystal growth, which may be very different than the perfect crystal form. This is the form the mineral is usually found in, and may be quite characteristic.

Minerals tend to break in smooth flat planes related to the internal crystal structure of the atoms that make it up. Breaking an unknown specimen can reveal a lot about it and is very useful in identification if cleavage planes can be identified. Note that cleavage planes are related to the crystal structure, but often connect various axis endpoints instead of following the axis themselves. Some minerals, such as quartz, do not have cleavage and instead show fracture, which can also be useful in identification.

When a mineral is powdered and placed on a white surface its color is often (very) different from the massive form. A piece of unglazed tile is normally used as a streak plate by rubbing the unknown across its surface. With a hardness of 7, the streak plate powders the mineral and gives the white surface for comparison.

This also works for minerals harder than Mohs 7, but they must be powdered by other means. It is most useful in dark colored minerals. We practiced taking streaks. You might be surprised at how often specular hematite gives the blackish streak of magnetite instead of the expected reddish streak.

Luster is how the mineral surface appears. Metallic and non-metallic are the main distinctions. Vitreous means it looks like glass on the surface. Adamantine (like diamond), greasy, resinous, silky, and pearly are other common descriptive terms used for the non-metallic lusters.

Some minerals, like lodestone, are naturally magnetic. Others can be attracted by a magnet. Some minerals become magnetic after heating or fusing with a blowpipe. This can be a key to identification.

Crushing the mineral to powder and analyzing it in a flame, with the help of a blowpipe, is a classic way to identify minerals. Observing the colors of flames in oxidizing and reducing conditions, and the colors of beads formed by fusing the unknown with various chemicals, are also useful. The common example is spilling a little liquid while cooking and having the salt

in the water turn the flame yellow. Blowpipe analysis is particularly effective in identifying the elements that compose your unknown mineral.

When excited by ultraviolet light, also known as black light, some minerals will exhibit fluorescence, glowing with different and characteristic colors. A related effect is phosphorescence, where a mineral will glow after stimulating (black) light is removed. A few minerals, such as tremolite and quartz, will exhibit triboluminescence and glow when struck.

Some minerals, like quartz, will also generate electricity when stressed (piezoelectricity). Thermoluminescence is the ability of a mineral to emit a small amount of light upon being heated.

Comparing the weight of a (pure) specimen to the amount of water it displaces lets you calculate the density, or specific gravity, of the unknown, and can often be used alone as an identification. Density is how many times heavier the specimen is than an equivalent-sized quantity of water.

Weigh the specimen in air. Weigh the specimen suspended in water. The difference is the weight of the water displaced; divide this difference into the weight in air to get the specific gravity. Each mineral has a unique specific gravity range.

We talked about identification by geology and association with other minerals. If you can identify one mineral in a specimen, association may limit the number of choices for the other mineral.

We talked about color. Color can be useful in mineral identification, but it can be unreliable due to trace impurities. And we finished talking about identification by example. Experience is a wonderful teacher. Being able to say "That looks just like a specimen of x that I saw at y" can tell you exactly what tests are needed to confirm an identification. It is one of the reasons why our mineral study group exists.

Meetings of the West Michigan MWF Mineral Study Group are held at 653 Burton Street SE, Grand Rapids, Michigan. Contact me, kreigh@gmail.com, for dates and times; all West Michigan rockhounds are invited to attend. Face masks will be required (unless everyone attending has been fully vaccinated against COVID-19).

Valerie J. Meyers, Editor
Midwest Federation of Mineralogical and Geological Societies
vjmwriter@yahoo.com
Post Office Box 13456
Overland Park, KS 66282-3456

Non Profit Org
U.S. Postage
PAID
Fiatt, IL
Permit No. 1

It is MWF policy that its name and logo may not be used for commercial purposes.
Please notify the Secretary of any violations.

REFLECTIONS ON THE VALUE OF LAPIDARY FROM A LONGTIME PRACTITIONER

Phyllis Weis, Wisconsin Geological Society
From the December, 2022 Trilobite

(This is an Editor's Note from the Trilobite: "Phyllis has been a WGS member for well over 50 years. She has been doing lapidary for over 60 years.")

Lapidary is more than the grinding and polishing of stones. You must look deep into the aspects of this hobby to see that the benefits are quite surprising. Working on stones can be a great teacher, without the learner even being aware of the lessons in store for them.

When grinding on stones, to obtain quality results, you need the touch of a gentle mother, easy, firm, but still with even and consistent pressure. Being able to accept your finished work with a few natural flaws (such as small crystal pockets) is important; they just add character and individuality to your finished piece. The same as raising a child. Every one is slightly different and has a character of its own.

Being able to accept disappointment when a stone cracks or even falls to the floor and is destroyed at the polishing level is a feature that the lapidarist

must be aware of and be able to cope with. This disappointing consequence must be faced with a shrug of the shoulder or with a smile. Then it's on to making the stone smaller or starting over again, whatever the case may be. The lapidarist who becomes too upset at this event will not last long in the hobby.

Many of the lessons that are learned are parallel to the lessons needed to survive in everyday living. Patience with your work is of the utmost importance, especially the sanding procedure. Taking time to remove the smallest scratches makes the difference in the quality of the workmanship. Perseverance in the performance of one's hobby results in the acquiring of many lovely pieces of jewelry.

This hobby is full of many pleasant surprises and pleasures as you experiment with the many different types of material. Sometimes the easy stones are hard, and sometimes the ones you think are going to be hard are easy. Never take anything for granite.

Encourage those close to you to take advantage of this character-building hobby. You might even want to give it a try yourself!!