

ROCK TRAILS



Newsletter of the StateLine Gem and Mineral Society

VOLUME 61
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JULY 2021

2021 Officers and Directors

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Vice-President: Charlene Hacker, 517 270-8061
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Treasurer: Doris Brzezicki, 269 267-1123
Past President: Sherman Kardatzke, 517 673-5487
First Year Director: Heidi Storehalder, 517 403-7626
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Show Chairman: Sherman Kardatzke, 517 673-5487
Co-Show Chair: Glenda Gafner, 517 451-2079
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Meetings are held the first Sunday of each month
at 2:00 PM
at 201 W. Main St., Morenci, MI 49256

Secretary's Scoop



The 6-6-2021 meeting of the State Line Gem and Mineral Society was called to order by president Glenda Gafner at 6:55 PM.

Doris made a motion to accept the secretary's report as printed in the newsletter, but Glenda said no. She stated there was an error in that report. Linda W. stated that the May 2nd report had the wrong person seconding the original motion and offered a corrected motion, seconded by Emma. After extensive discussion, I am not quite sure of what the problem was. Emma's motion to accept the report was seconded by Sherm but no vote was taken, so the May 2nd secretary's report was not accepted.

Treasurer's report – Doris paid the rent, utilities and kitchen expenses. Doris supplied the start up cash for the various stations needing change. She gave Glenda a printout of the bank (credit union) statement, requested by Glenda previously, which Doris got off the computer. Glenda wanted the actual statement from the bank and Doris explained that the bank did not send that statement until around the 9th of the following month, and she would snail mail a copy of that statement to Glenda when Doris received it from the bank.

Doris congratulated all the volunteers for the great jobs they did in their respective assignments. Nearly all areas exceeded profits from 2019's show including attendance, which included 707 people this year. Steve mentioned that this was his first year participating in our show and wanted to congratulate all the members working together to make the show a success. Linda M. thanked all who volunteered in the kitchen and asked them to stand to be recognized by the rest of the members. Kitchen volunteers included Suzanne, Charlene, Linda W., Emma, Curt and Richard B. Bill, Bud and Curt were also congratulated on the wonderful job they did with geode cracking and sales. Eddie and Henry were also congratulated on their sales at the silent auction table.

Glenda reported that the Bedford trip is on even though there will not be a show this year due to covid-19. So far, she has Emma, Bud and Chris, Linda and Curt and Bill Shultz joining her to collect geodes. If you are interested, contact Glenda to be included. Glenda also stated that Denise is planning to sell her property because a big developer is buying up the surrounding property for extensive development. That means that this is probably the last year we will be able to collect geodes at that location.

Glenda shared that she spoke with our landlord, Greg, and he agreed to extend the lower rent at \$210.00 until November. (Thank you Greg!) He may sell the property so the agreement may be on a month to month basis. Sherm said he was looking for a new location for the clubhouse which will meet the needs of the club.

Secretary's Report

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Glenda asked if anyone was interested in a field trip to Flint Ridge to collect Ohio flint. Steve, Bud and Chris all expressed an interest in going. Let Glenda know if you want to go but there is no definite date yet. There was discussion about insect problems later in the season, and Lisa suggested a home-made bug repellent made of dill weed and yarrow.

Doris asked about the scholarship and Glenda said there were three eligible entries but Sherm was busy preparing for the show. She will make arrangements with Sherm to meet and make a decision on the recipient.

There was discussion on purchasing more Mexican geodes for future opportunities for sales. Doris made a motion to authorize Bill Schultz to research and recommend purchase of geodes, seconded by Linda M. Glenda thought we should spend up to \$1500.00, Doris thought \$3000.00 would be better but Sherm thought that was too much. Bud suggested a compromise of \$2000.00 max and Linda M. seconded that amended motion. The motion passed with all in favor.

Doris reported that the Jackson club was having a rock swap on August 14th in Michigan Center. Our club can rent a space for \$20.00 and it would probably be a great place to sell our geodes. She will try to get more information if anyone in the club is interested in participating.

Our July 11th meeting will be a social one held at Linda and Curt Miller's house 15277 Ohio highway 109, Lyons Ohio. It will be a pot luck so bring your favorite along with any refreshment you would like. The picnic will be at 1 p.m. and the meeting at 2 p.m.

Doris stated that the Midwest Federation will hold their meeting at the Toledo club in September and we need to fill out the application soon and advise who we are sending to represent the club. Glenda said she would call Charlene.

Linda M. made a motion to adjourn, seconded by Linda W. and passed with all in favor. The meeting adjourned at 7:42 PM..

Please add the following names to your membership list:

Thomas and Margery Barnhizer
5060 Arbor Way
Sylvania, OH 43560
419) 885-0848
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We have been notified that Ed Reynolds died Sunday morning, June 27,2021 after a lengthy battle against cancer. Our sincere sympathy to his wife, Ruby and family.

What is a gem? And why painite from Myanmar can fetch US\$60,000 per carat

Humans have adorned themselves and their belongings with attractive stones since prehistoric times. We've used fossil materials such as jet and amber, colorful rocks such as lapis lazuli, and water-clear single crystals of minerals such as amethyst and golden citrine. The "precious stones" diamond, ruby, sapphire and emerald are distinguished from the remaining "semiprecious stones" largely on the basis of perceived rarity in classical times.

But what makes a stone a gem? It boils down to a few key qualities – beauty and durability. And rarity makes a gem even more special, as is the case for my favorite: painite.

Tough beauty

Any stone may become a gem if it has beauty (in the eyes of enough beholders) and is durable enough to retain that beauty through everyday wear. Durability usually implies that the stone is hard enough to resist abrasion from airborne sand and dust. Also, that it does not easily fracture or "cleave" on flat planes of weakness (determined by its atomic arrangement).

Diamond, the hardest known material, certainly satisfies the abrasion criterion. A diamond crystal does have four orientations of cleavage plane on which it can be split easily. But for diamonds, this apparent liability can be turned into an asset.

The cleavage is used as a short cut in the early stages of shaping, cutting and polishing this extraordinarily hard material, which is otherwise a slow and painstaking business.

The four Cs

Demand drives the value of gemstones as commercial items, and this in turn is a function of fashion and name recognition. However, the main valuation criteria for gems such as diamonds are often summarized as "the four Cs": carats, color, clarity and cut.

One carat (0.2 g) is the traditional unit of weight for a gemstone – but larger stones are disproportionately rare, and worth more per weight than smaller ones.

While pure diamonds are colorless, and the same is true of many other gem minerals, striking and rare colors almost always increase their value. Small amounts of impurities or defects of the crystal structure are needed to produce the prized pink diamonds for which the Argyle mine of northwestern Australia is famous. Impurities also turn the common mineral corundum into its red form (ruby) and other colored varieties familiar as sapphires. Such colors are appreciated best through the depths of a transparent, intact single crystal, with the passage of light unimpeded by fractures, inclusions or rough surfaces. Hence the value of clarity

The rare gem painite

Although diamonds are still the popular epitome of preciousness, they are far from the rarest minerals to have been used as gems. As a mineralogist, my favorite amongst these ultra-rare stones comes from the gem gravels of the Mogok region in Myanmar. There, sapphires, rubies, spinels and other

Painite

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gemstones accumulate in river beds after washing down from the surrounding forested hills. These have been mined since ancient times.

In 1957, two deep red stones from a batch donated to the Natural History Museum in London turned out to be completely new to science. A tiny slice from one crystal was used for research, and the new mineral was named “painite” after the original donor, the gem dealer Arthur Pain.

A third painite was identified in 1979, but it was not until 2001 that a fourth was found in Myanmar. Efforts to find more intensified, working uphill along creeks and locating progressively less water-worn material. By 2005, a source outcrop for painite was finally discovered, nearly half a century after the original identification. Several thousand stones have now been recovered, but the small number of cut gems remains the preserve of specialist collectors.

Painite’s extreme rarity is due to it containing the chemical elements zirconium and boron, which do not normally associate with each other in nature and don’t occur together in any other mineral. Ironically, some painite crystals are partly altered to a crust of small pink crystals of the more common ruby.

The increase in supply means that you can now get small crystals of painite pretty easily online for tens of dollars, and poor-quality cut stones for about A\$100. However, the tiny proportion of gem-quality stones still fetch US\$60,000 per carat.



Opal, the odd one out

The national gemstone of Australia, precious opal, is an anomaly. It is soft enough to scratch easily, prone to cracking, most attractive when nearly opaque, and does not occur as crystals. Opal is made from microscopic spheres of non-crystalline silica in a very regular array. This natural “photonic crystal” diffracts light to produce the play of rainbow colours whose beauty overcomes all other considerations.

Where science comes in

The polishing and carving of semiprecious stones originated in prehistory. But the cutting of diamonds in particular has become a sophisticated craft well grounded in the science of optics. One rough stone may ultimately produce several finished stones of different sizes, the pattern of cuts being chosen to minimize waste.

Diamond cutters angle the facets on each stone precisely, so as to maximise the internal reflection of light and the dispersion of white light into rainbow sparkles. They also aim to produce an overall shape which appeals best to the market.

Similar considerations have led to standard cuts being developed for other gems, to show them at their best.

<https://theconversation.com/what-is-a-gem-and-why-painite-from-myanmar-can-fetch-us-60-000-per-carat-97453>

Bench Tips

by Brad Smith



FANCY RIVET HEADS

For a nice looking rivet head, use brass escutcheon pins. You'll have perfectly rounded heads that are all the same size and shape. The pins are a little hard to find, so try the best hardware stores first. Be sure to get solid brass pins, not brass plated steel. If unsure, test them with a magnet.

The pins are readily available online. Lee Valley Tools has them in 16 or 18 gauge and lengths from 1/4 inch to

1 inch. Go to <http://www.LeeValley.com> and do an item search on "escutcheon pin"

For best results, select a drill that gives you a hole with a close fit to the rivet. Trim the rivet to a leave a little less than one diameter sticking out the back side. Place the head on a scrap of hard plastic on the anvil so as to not flatten the head. I prefer a ball peen hammer (with a small 3/8 inch ball) for setting the rivet.

EASIER PRONG SETTING

When setting stones in a prong mount, the tool is less likely to slip off the prong if you grind a shallow groove into its face or rough up the face a bit with sandpaper. Some folks prefer a prong pusher for doing this, and others like a set of pliers with a slight groove on one jaw.

The easiest way to create a slot on the pusher is with a file, and the quickest way to create a slot on one jaw of your pliers is with a separating disc. Then do a rough polish on the slot with a medium grit, knife-edge silicone wheel.



Learn New Skills with Brad's "How To Do It" Books
[Amazon.com/author/bradfordsmith](https://www.amazon.com/author/bradfordsmith)

Upcoming Events

Meeting:

July 11, 2021

Potluck - 1:00 pm

Meeting - 2:00 p.m

at Linda and Curt Miller's house
15277 Ohio highway 109,
Lyons Ohio

Aug 7

ISHPEMING, MI

Ishpeming Rock &
Mineral Club Annual Show
9:30-4:30.

Ishpeming Elk's Club
597 Lakeshore Dr.
Ishpeming

Aug 13-15:

HOUGHTON, MI

Copper Country Rock &
Mineral Club Rock Swap
Fri 1-8; Sat 10-6; Sun 11-3.
Houghton Middle School
1603 Gundlach Rd.
Houghton

Livingston County

has cancelled their Rock Show this year,
normally in September

Sept 10 - 12

GREENFIELD, IN

500 Earth Sciences Club of Indianapolis
County Fairgrounds, 620 N. Apple St.
Greenfield, IN

Sept 10 - 12

BOWLING GREEN, OH

Toledo Gem and Rockhound Club (hosting the
MWFconvention)
Pavilion, County Fairgrounds, 13800 W. Poe Rd.
Bowling Green, OH



Ongoing - **Currently canceled**

Richard Brzezicki is at the clubhouse on
Thursdays 1:00 pm - 6:00 pm. It is best to check with him first before you go. Cell (269) 267-7666

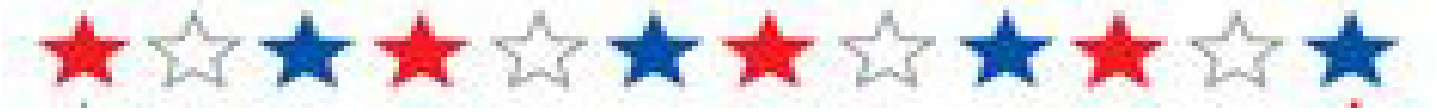
Sherm Kardatzke will be holding capping classes on Thursday evenings, 6:00 pm - 9 pm.

Wire Wrapping Sessions at Hobby Lobby in Adrian on Fridays 11:00 am - 3:00 pm.

Linda Miller (419) 923-2090 and

Judy Snyder (517) 902-3990

(check to verify there will be someone there)



Rock Trails

Sandy Gerhart, Editor
704 W. US Hwy 223, #205
Adrian, MI 49221

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first Sunday of each month
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Morenci, MI 49256

