

OZARK MOUNTAIN GEM & MINERAL SOCIETY

CHERT CHATTER



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CHERT CHATTER

March 2022

Ozark Mountain Gem & Mineral Society

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Email: omgms.57@gmail.com

Website: <https://omgms.rocks/>

Facebook: <https://www.facebook.com/omgms.57>

Officers

President: Amy Hinkler

Vice President: Angela Richie

Secretary: Greg Goodson

Treasurer: Rick Jackson

Editor: Angel Doran

Show Chairman: Mark Northrup

Field Trip Coordinator: Mark Northrup

Purpose: To study and promote an interest in earth science, geology, paleontology, and mineralogy. To study and promote lapidary and the jewelry-making art and conduct educational programs. To support youth activities and encourage interest in earth science and related areas on behalf of youth.

Monthly Board & Membership Meetings: We meet on the fourth Monday of each month at the Prince of Peace Lutheran Church (enter at the rear of the building – directions below). The Board meeting is at 5:30 PM; the General Membership meeting is at 6:30 PM. In lieu of a December meeting, we have a Holiday party instead.

If Springfield public schools are closed due to inclement weather, the Gem & Mineral Society WILL NOT HAVE A MEETING. If circumstances force us to cancel a meeting, we will post on our Facebook page and send out an email to the membership. Everyone attending is encouraged to practice physical distancing and sanitizing – please restrain from attending if you are feeling ill or have symptoms of COVID-19.

Membership: The club’s year ends December 31, at which time dues are to be turned in or they are delinquent. Individual Membership dues are \$15, Couple dues are \$25, and Junior dues (16 and under, sponsored by a current member) are \$5. Please send dues to the address above.

New Officers & Board + Dues Due: January 1st annually

March Meeting Presentation: Angel D on Toxic Rocks

Future Presentations: April Jeff M on insuring personal jewelry

Contact Janis Dietrich to reserve a spot at an upcoming meeting or request a topic you would like to hear more about.

Chert Chatter Material: If you have any requests for items you would like to see in the Chert Chatter, please email them to OMGMS.57@gmail.com.

Directions to Prince of Peace Lutheran Church: 815 E Farm Rd 182, Springfield, MO 65810

From James River/Springfield: Go South on Campbell, turn East (left) on W Plainview Rd (W Farm Rd 182), Travel 0.5 mile and turn left into the Church. Parking and entrance for the meeting is at the rear.

From Republic: From 60/413 in Republic: Go East to 60 East Onramp toward Springfield. Exit At Campbell and follow the above directions.

From Nixa: Take MO 13/US160 toward Springfield. Turn Right on W Plainview Rd (Farm Rd 182). Travel 0.5 miles and turn left into the church parking entrance. Parking and entrance for the meeting is at the rear.

Board Meeting

February 28, 2022

Attendance

Amy Hinkler, Angela Richie, Rick Jackson, Mark Northrup, Jan Dietrich, Jeff Mills, Rick Grills, Angel Doran

Call to Order

5:39 PM

Report of the Treasurer

The Treasurer's Report was read by Rick Jackson. Jan made a motion to not show the balance, just the income or expenses per month.

Motion: Angel Seconded: Angela Motion Carried

Report of the Committees

Field Trips (Mark)

There may be a chance for some day trips coming up - Lawrence Barry was a trip but that has fallen through. Mark will continue to try to line some up. Bolee Agates is a possibility. We can't get into many quarries now due to regulations (probably liability). Mark will check into Haunted Ridge, Weblo for Round rocks, KY, Franklin NC, and Keokuk Geodes.

Rick G will still be checking to see if the Mo State Geology Department has some suggestions for trips and a possible presentation for the show. Also will be checking on the Monet Quarry.

Spring Gem Fair

Amy is still looking for some volunteers (2 or 3 people) to assist with the function of the Gem Fair. We have to mark out the spaces, put signage out, coordinate the club booth, trash patrol, and general assistance during the show. We will ask the membership at the February Meeting.

There was also a discussion about raising the space rental per 12 x 12 space (current is \$45) to \$50 per space up to 2 spaces. We have new people asking about attending so this will have to become a pre-registered event. Club members 1st, previous vendors next then any new vendors with rock related items only. RSVPs will be to the club email.

Oct Show

We have a new contract to send out to the vendors with adjusted pricing (Small is \$210; Med is \$420 and Lg is \$760). Jan made a motion to accept the new charges; Angela seconded; all in favor and the motion passed. We currently pay \$4200 for the show along with PA charges.

We discussed the display cases for Federation competition. We will look at a possible future date to referb the display cases. It was mentioned to possibly paint the inside of the display cases black.

Amy would like someone to volunteer to help with the Federation events at the show. Someone to assist in guiding the group to the meeting room, grouping for the field trip (we already have field trip volunteers), guiding the lunch in from delivery during their meeting, guiding them to the display cases if any are interested in showing a display, etc. asy work, I just need someone who is free during the show to help coordinate.

We discussed where to have the MWF Banquet Saturday night. Mark mentioned the University Plaza Hotel presentation room charges a service charge of 25% on top plus tax and 4% additional. We will look for a restaurant.

Mark brought up advertising. We will lock in the same advertising as last year. Rick made a motion to keep advertising the same as last year; Greg seconded; all in favor and the motion passed.

Programs (Janice)

March - Jeff Mills, Insuring Jewelry (Editor Note: This has been pushed back to April)

April - Still open

Unfinished Business

The new training room is ready for use after we get the floor covering and wall covering set up for the machines. Training for other stuff not using water is ready and the library will be open soon. There will be a Saturday work day scheduled and an email sent out for those who would like to volunteer.

Jeff Mills has been working with Rick Jackson, Mark Northrup and Rick Grills on the scholarship fund. They will present when they have all the information together.

New Business

Angel will be discussing online pay with Square.

We will be submitting IRS with the long form.

Closing

Next Board Meeting:

Monday, February 28 at 5:30

Next Member Meeting:

Monday, February 28 at 6:30

Closed

6:30 PM

Motion: Angela Richie Seconded: Rick Grills Motion Carried

Amy Hinkler provided minutes

Membership Meeting

February 28, 2022

Call to Order

6:33 PM

Report of the Treasurer

The Treasurer's Report was read by Rick Jackson. Income was \$40 in dues and \$1,482.57 in Expenses (ins).

Motion to accept the Treasurer's Report as presented.

Motion: Nancy Seconded: Bill Motion Carried

Report of the Committees

Field Trips (Mark)

There may be a chance for some day trips coming up - Lawrence Barry was a trip but that has fall-en through. Mark will continue to try to line some up. Boley Agate is a possibility. We can't get into many quarries now due to regulations (probably liability). Mark will check into Haunted Ridge, Weblo for Round rocks, KY, Franklin NC, and Keokuk Geodes.

Spring Gem Fair

Amy is still looking for some volunteers (2 or 3 people) to assist with the function of the Gem Fair. We have to mark out the spaces, put signage out, coordinate the club booth, trash patrol, and general assistance during the show.

There was also a discussion about raising the space rental per 12 x 12 space (current is \$45) to \$50 per space up to 2 spaces. Club members 1st, previous vendors next then any new vendors. Flyers will be available at the April meeting.

Oct Show

We discussed the display cases for Federation competition. We will look at a possible future date to refurbish the display cases as a club work day.

Amy would like someone to volunteer to help with the Federation events at the show. Someone to assist in guiding the group to the meeting room, grouping for the field trip (we already have field trip volunteers), guiding the lunch in from delivery during their meeting, guiding them to the display cases if any are interested in showing a display, etc. Easy work, I just need someone who is free during the show to help coordinate.

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Jeff Mills has been working with Rick Jackson, Mark Northrup and Rick Grills on the scholarship fund. They will present when they have all the information together.

New Business

Angel presented Square pay for online use. Would allow people to pay membership online. One reply was it was a way to make people come to the meeting if they had to come in to pay. \$200/yr for online payments. It was mentioned that it is a generational thing for people wanting to pay online. Also would allow vendors to pay online for vendor spaces. Option was tabled.

Angel introduced the new logo ideas. Everyone voted and #4 won. Angel will be changing to this logo. Thank you to Angel for all her work on this!! Angela made a motion to accept the new logo as the club logo; Jan seconded; all in favor and the motion passed.

Closing

Next Board Meeting

Monday, February 28 at 5:30

Next Member Meeting

Monday, February 28 at 6:30

Closed

?

Motion: Keith Seconded: Bill Motion Carried

Amy Hinkler provided minutes



President's Message

None for March

Special Requests

As always, please remember if you have extra rocks, minerals, or small fossils, you can donate them to the October Show's kid's corner activities (need to fit in the space of an egg in the egg crate). Throughout the year, gather smaller pieces for the kid's corner, so we can keep this treasure hunt going. If everyone collects 10 or more per rock trip and donates them, we can have 50 or more to put into the stock for the kids. We need about 200 every year. There are a lot of kids that come to our show looking forward to the events in the Kid's Corner, so let's not let them down.

Upcoming Shows Near Us

3/25 - 3/26: Cedar Valley Rocks and Minerals Society. Hawkeye Downs Expo Center, 4400 6th Street SW, Cedar Rapids, IA. Sat 8:30-6, Sun 9:30-4. <https://cedarvalleyrockclub.org/>

4/2 - 4/3: Lincoln Gem and Mineral Club. Lancaster Event Center, 84th and Havelock Ave, Lincoln, Nebraska. Sat 9-5. Sun 10-5. <https://www.lincolngemmineralclub.org/>

4/8 - 4/10: American Gem, Mineral and Jewelry Shows. Hendricks County Fairgrouynds, 1900 E Main St, Danville, IN. Fri: 10-6, Sat: 10-6, Sun: 11-4. <https://americangemshow.com/>

4/9 - 4/10: Southern Illinois Earth Science Club. Pavillion of the City of Marion Illinois, 1602 Sioux Dr, Marion, IL. Sat: 10-6, Sun: 10-5. <https://siesclub.org/>

4/9 - 4/10: Northwest Arkansas Gem & Mineral Society. Siloam Springs Community Building, 110 N, Mt. Olive St, Siloam Springs, AR. Sat: 9:30-5, Sun: 10-4.

4/10: Black Hawk Gem and Mineral Society. Waterloo Center for the Arts, 225 Commercial St, Waterloo, IA. Sun: 11-5.

4/22 - 4/24: Wichita Gem & Mineral Society. Cessna Activity Center, 2744 George Washington Blvd, Wichita, KS. Fri: 9-6:30, Sat: 10-6, Sun: 10-5. <https://wichitagemandmineralsociety.org/>

Radioactive Mineral Safety

While researching for this month's presentation, I came across this document written by a former computer engineer qualified in radiation safety and a collector of minerals. I'm only going to copy the Quick Start Guide here, but if you are interested in collecting radioactive minerals, you may want to read all of the "quick and dirty introduction to Radiation Safety...for complete newcomers to the field." - Angel D.

Here Be Dragons

-Or-

The Care and Feeding of Radioactive Mineral Species

Being an introduction to radiological safety for the amateur mineralogist

Radiological Protection

By
Alysson Rowan

Version 1.86.01.0018
February 2017

<http://randomseed.org/inheritance/wp-content/uploads/2013/12/article.RadioactiveMineralSpecimens.A4.pdf>

Quick Start Guide to Radiation Safety

Where nuclear radiations come from

Nuclear radiation, often termed ionising radiation, originates in the heart of unstable atoms, radioactive elements that were created in the process of the making of the solar system. These elements break down by emitting fast-moving particles and photons of light similar to X-Rays. These unstable elements have become concentrated over the age of the Earth, and are found as pockets and lodes in a range of locations. Some commonplace minerals such as Zircon have tiny amounts of these elements incorporated into their structure, others are essentially radioactivity free.

To put this into perspective -

Some commonplace elements possess some small radioactive characteristic – Hydrogen, Carbon and Potassium, all essential constituents of life as we know it, are slightly radioactive. As a result we are slightly radioactive, and always have been.

Because nature abhors anything of absolute purity, there is inevitably a tiny quantity of (radioactive) uranium in even the purest drinking water, small amounts of radioactive radon gas in the freshest of air and traces of Thorium in your soil. All placed there by nature and not by mankind.

Even sunlight represents a radiation source – the ultraviolet rays that give you a sun-tan (and possibly skin cancer) are kin to the gamma-rays from nuclear disintegration. In fact, there is gamma radiation emitted by our sun that we are inevitably exposed to for our whole lives.

- and all without ill effects.

What nuclear radiations do to you

Nuclear radiation, in short, causes damage to the cells of your body. This damage is largely to the structures of the cell but may involve the DNA in the cell nucleus. Usually the radiation will disrupt the cell sufficiently to kill the cell or it may cause some minor damage that is easily repaired. The latter is of no consequence at all; whilst the former is only significant when sufficient cells are being damaged to result in a radiation burn.

When the ionising radiation affects the cell's DNA, two outcomes are possible. The first is that the cell will die, either immediately or when it attempts to divide – resulting in a similar situation as before. The second, and more serious consequence, is that the cell will continue to live and replicate as normal, but carrying with it a new genetic abnormality.

Under most circumstances, such abnormality results in the cell being treated as an intruder organism (infection) and is removed by the white blood cells. Exceptional circumstances will cause the cell to continue to thrive, and it may initiate the development of a tumourous growth, potentially a cancer.

The cells most sensitive to this type of damage are those undergoing rapid division: as part of the growth process in young people; as the normal process of repair of an injury of some kind; or as the normal operation of the lining of the gut or of the skin – replacement of cells lost through normal abrasion.

How to protect yourself from radiation

There are two means of incurring radiation damage: radiations originating outside the body and radiations originating inside the body.

The second source of radiation dose is the more serious, as the radioactive material not only affects the lining of the gut most severely, but can become permanently lodged in the body, causing a concentrated radiation dose to that part of the body.

To prevent this, simple hygiene rules should be observed. Imagine, for the moment, that the radioactive material is a dangerous bacterial culture. How would you deal with it?

- Wash your hands after handling the material.
- Wear (thin) gloves wherever possible when handling the material.
- Do not handle the material alongside food, where food is prepared or where food is eaten.
- Do not lick, eat or sniff the material.
- Avoid causing dust when handling the material.
- Keep the material in a closed container (bag, box, cabinet etc.) whenever not in use.
 - and locked away, if possible.
- Keep material away from children and animals.

The first source of radiation dose, although less acutely hazardous, is the more difficult to minimise. In brief, the principles of size, time, distance and shielding are used. Minimising the time spent deep in the radiation field, keeping as far from the material as possible and putting something between you and the radiation source will all help reduce your received dose. Smaller samples give less radiation dose than an equivalent large specimen. In brief:

- Keep your specimens as small as you can (yes, this one hurts an enthusiast badly).
- Avoid handling the material more than is necessary.
- Use handling equipment (tongs, tweezers or even specimen mounts) whenever possible.
- Work at arms' length if possible.
- Keep a layer of dense material (lead-backed plywood, lead-copolymer acrylic sheet, barium plaster or a thick sheet of steel) between your body/face and the material.
- Keep highly active, large or stock specimens in shielded storage (steel and wooden boxes are generally good enough for most specimens.)
- Don't use a hand-lens when peering closely at your specimen – use a simple binocular microscope, and maintain your distance that way.

Finally, most natural radioactive specimens give rise to radioactive Radon gas. Unless your radioactive specimens are large or very numerous, the ventilation in a typical house is sufficient to prevent excessive build-up of Radon. Remember to ventilate your specimen cabinet well before you get those specimens out – a single lung-full of radon-enriched air is definitely to be avoided.

Natural Radioactivity versus Artificial Radioactivity.

There is no difference between the radiations encountered in nature and those encountered in the laboratory, with one exception: the radiation levels available in the laboratory are many times higher than anywhere in the Earth's crust today.

Processes that take many millions of years in nature can be reproduced in a few hours to weeks in a nuclear laboratory. For gemstone enthusiasts, this means that naturally radiation enhanced colour in gems may be re-created quickly and cheaply in the laboratory. Unfortunately, this generally requires the use of a nuclear reactor where the neutron flux causes some atoms of the crystal to become themselves radioactive.

For the first few days to weeks, radiation enhanced stones should be treated as highly radioactive. After this time, the radioactivity will fall off to very close to nothing.. Unfortunately, some mineral impurities may become activated and as a consequence will undergo radioactive decay over a period of years to centuries – rendering these minerals inappropriate for radiation enhancement, and dangerous for use.

Placing your favourite topaz next to a large piece of uraninite will eventually enhance the colour, but the colour change will be undetectable in your lifetime, or those of your descendants. Nor will your topaz become itself radioactive, although it may suffer surface contamination by radon daughter nuclides or by dust from the uraninite.

Parts of the process by which many stones become radiation-coloured is imperfectly understood as yet. As understanding of the mechanisms improves, more and more gemstones are able to be enhanced by radiation treatment.

Special information for gem and cut-stone enthusiasts.

There are many gem and decorative stones that are radioactive, only rarely are they sufficiently hot to represent a genuine hazard. The classic example is Zircon.

This having been said, there are a number of very attractive rare-earth minerals that are occasionally used for decorative purposes. These can be noticeably radioactive due to the substitution of Thorium for the rare-earth elements.

Similarly, it is not unusual for a particularly attractive or interesting specimen to be cleaned, polished and mounted for wear as jewellery. If the mineral is not one that you know, then it is worth checking it against the list of known radioactive minerals, or getting someone to check it with a Geiger counter. Uraninite has been known to be mounted as a pendant, as has thorium-rich columbite, both of these being particularly radioactive minerals.

It is worth considering whether a radiation enhanced gem will be well suited for your use. The enhanced colour of the stone may be less stable than in a natural stone, the colour changing over a period ranging from weeks to years. In some cases, inexpensive stones are not checked for residual radioactivity before shipping (the problem of activated impurities).



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