



# Grindings

*Idaho Gem Club, Inc.*

P.O. Box 8443  Boise, Idaho 83707-2443

**VOL 83 NO 1**

**JANUARY 2022**

## PRESIDENT'S MESSAGE

Happy New Year Rock Hounds!!

2022 is going to be an exciting year for our club! Congratulations on being part of a growing community of adventurous, creative, nature loving people who appreciate the abundant geologic resources Idaho, The Gem State, provides. You are essential to the Idaho Gem Club family and we are glad you are part of us.

Our Annual Banquet is Tuesday, January 18, 2022, at El Korah Shrine Center at 5:30 pm. We will celebrate achievements of 2020 and 2021. Our club has outgrown Mtn. View Church! February 15, 2022, will be our first club meeting at Maple Grove Grange Hall at 11692 W. President St. (see map on back page). At this facility we will hold our monthly meetings the 3rd Tuesday at 7:00 pm. But prior to meetings, we will have trunk shows/swap meets from 5:00 to 7:00 in the meeting hall (parking lot when weather is nice). You can come early and see what people have to sell! Maple Grove Grange is a great venue and this is a wonderful move. I am thrilled to have a great increase in membership during a pandemic. Thank you for all of you who followed health protocols and kept the field trips, meetings and workshops safe for participation. Let's safeguard each other with the good health and cleanliness we learned and enjoy our new meeting hall with ample room for all of us.

Our Field Trip Program welcomes Robert Garner and Desiree Bradley, who will guide us to great gem and rock locations. Tia Call and Ryan Boring will also help, which gives everyone extra help on outings and lets everyone find excellent lapidary quality specimens. We will be changing our field trip weekends to the second Saturday of each month so we can have the assistance of Cullen Anderson, our previous Field Trip Guide, who is loved by everyone! A Saturday trip the second weekend should allow you to attend the Owyhee Gem and Mineral Society field trips on the third Saturday, if you become a member of our sister club. Robert Murphey and Dale Rawson are Field Trip Chairmen with OGMS. Both are excellent guides at the ready for our groups.

Both IGC and OGMS are affiliated with American Federation of Mineralogical Societies and Northwest Federation of Mineralogical Societies. This means both non-profit clubs are committed to following Rockhound Ethics and have strong relations with Federal and State Land Management Agencies. We have operated clubs with exemplary standards since 1934. We want to strengthen our club and build family friendships that last a lifetime, just as our founders did in the past! We are going to begin a tradition of taking a BBQ grill on field trips to encourage comradery and fellowship and will take a break at noon from digging to share a meal. All ages are always welcome at our club meetings. Our Merit Badge Program for Youth is in place and the many junior members are needed!

Congratulations to Liz Warner for winning the 2021 Project of the Year! Liz created a stunning pendant, bracelet, earring and ring set of custom silverwork with a Snowville Variscite stone. Liz is a terrific Lapidary Master and Instructor at club workshops. She will display this winning set at the Annual Gem Show in Boise and received her name on a perpetual winners plaque and a gift of special slabs. Way to go, Liz! Your skills are exemplary and we appreciate your lapidary excellence and participation in Idaho Gem Club.

The Annual Idaho Gem, Mineral and Fossil Show is coming February 26 and 27, 2022. The crowds will be much bigger considering population growth and the interest in rocks, gems and minerals. Show details inside! Please sign up to volunteer at one of the many show booths. The OGMS Show is March 5 and 6.

I am looking forward to another awesome year as your President! I thank each of you for becoming brilliant Idaho Gems! We have many goals to achieve, and so much to share with our community. If you have ideas that would benefit our club, please call me! This club is yours! The Board of Directors and officers act on your behalf to shape the future of rockhounding in Idaho. Get involved on any level and you will see the many rewards that come from fellowship among like minded friends and families! We offer education opportunities to everyone. Remember, the January 18 General Meeting is the Banquet, held at El Korah Shrine Center and our first meeting at Maple Grove Grange will be February 15, 2022. I am looking forward to seeing each of you and Rocking On in 2022!

*Respectfully Yours*  
*Deana Ashton, President*

### DIRECTORY

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The deadline for issues is the Friday after each Board Meeting for the current month's edition. To submit articles, please send them through email to Dana Robinson, Editor [drobinso@boisestate.edu](mailto:drobinso@boisestate.edu)

## ACTIVITY CALENDAR

## JANUARY

SUN	MON	TUE	WED	THU	FRI	SAT
						1 New Year's Day
2	3 ROLE Workshop 6-8:45 pm	4 Board Meeting 7 pm	5	6	7	8
9	10	11	12	13	14	15
16	17	18 Annual Banquet 5:30 pm	19	20 Workshop 6-8:45 pm	21	22
23 30	24 31	25	26	27	28	29 Workshop 10 am-2 pm

## FEBRUARY

SUN	MON	TUE	WED	THU	FRI	SAT
		1 Board Meeting 7 pm	2	3	4	5
6	7 ROLE Workshop 6-8:45 pm	8	9	10	11	12
13	14	15 General Meeting 7 pm	16	17 Workshop 6-8:45 pm	18	19
20	21	22	23	24 Truck Load Lock-Away 1 pm	25 Show Setup 8 am	26 Gem Show 10 am-6 pm
27 Gem Show 10 am-5 pm Tear Down 5 pm-8 pm	28					

## MARCH

SUN	MON	TUE	WED	THU	FRI	SAT
		1 Board Meeting 7 pm	2	3	4	5
6	7 ROLE Workshop 6-8:45 pm	8	9	10	11	12
13	14	15 General Meeting 7 pm	16	17 Workshop 6-8:45 pm	18	19
20	21	22	23	24	25	26 Workshop 10 am-2 pm
27	28	29	30	31		

## APRIL

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4 ROLE Workshop 6-8:45 pm	5 Board Meeting 7 pm	6	7	8	9
10	11	12	13	14	15	16
17	18	19 General Meeting 7 pm	20	21 Workshop 6-8:45 pm	22	23
24 31	25	26	27	28	29	30 Workshop 10 am-2 pm



## Upcoming Events

**Owyhee Gem & Mineral Society's Rock & Gem Show**, March 5-6, 2022, O'Connor Field House, 2207 Blaine, Caldwell, ID

**Magic Valley Gem Club Annual Show**, March Date TBD, Twin Falls County Fairgrounds, 215 Fair Ave., Filer, ID

**Rock Chucks Rock Show**, March Date TBD, Flathead County Fairgrounds Grandstand Building, 265 N. Meridian Rd., Kalispell, MT

**Gems of the Treasure State, Hellgate Mineral Society Show & Sale**, March Date TBD, Hilton Garden Inn, 2730 N. Reserve St., Missoula, MT

## 2022 GEM CLUB BANQUET

The January meeting will be our Annual Banquet on January 18, 2022, at the El Korah Shrine Center, 1118 W. Idaho St., in Boise.

5:30 pm - Silent Auction Preview and No-host Cocktails

6:30 pm - Dinner Buffet served

Eugene Stewart will serve as our Emcee and Master of Ceremony once more! He will guide us through a review of 2020 and 2021 Idaho Gem Club activities. We will Install 2022 Club Officers and give Recognition Awards to members for special achievements and service. The theme is Geodes, and there will be a Silent Auction, and several chances to win cool geodes! The Banquet is a fun social event and a highlight of the year.

Contact Teresa Nebeker if you forgot to reserve a ticket! Her number is 208-890-4500.

Parking for this event is available behind the building or across the street in a lot. The Tiger Room is entered on the west side of the building and then go downstairs. The Banquet is a fun event and we hope to see you all there!

## WORKSHOPS

See the calendar for upcoming workshop dates! Come cut your rocks and learn cabochon making! Brent Stewart, Rick Corbett, Liz Warner and Tim keep the club lapidary workshop operating year round.

Third Thursday of each month from 6:00 pm-8:45 pm  
Saturday the week after general meeting -- 10:00 am-2:00 pm

### WORKSHOP LOCATION

2620 W. Idaho St., Boise, ID  
Next door to Stewart's Gem Shop

\$5 Fee for each visit (kids free)



## PROJECT OF THE YEAR WINNER!



The lucky winner of the 2021 Project of the Year Contest is Liz Warner. Congratulations!

Liz hand crafted a gorgeous jewelry ensemble of a pendant, earrings, bracelet and ring all silversmithed by her using unique Snowville variscite stones, which look similar to turquoise. Liz has passed the Master level in our R.O.L.E

Program, which stands for Recognition of Lapidary Excellence. She took to silverwork readily and has an artistic eye, able to select exquisite stones and create custom silver settings. She is a key element to the success of our club Lapidary Workshop and instructs members on making cabochons, which are ready to wear as jewelry. You will see this incredible jewelry set during our Annual Gem Show February 26 and 27 at Expo Idaho. You would be fortunate to learn from her during our workshops! She is patient and has a keen eye for perfection while keeping the experience fun!



Well done, Liz! It has been a pleasure watching you grow as a Lapidary Artist and we appreciate your effort promoting lapidary and our hobby as a Rockhounding Ambassador for Idaho Gem Club! You are truly one of the most brilliant gems in our club!!



## GEM MINERAL AND FOSSIL SHOW

*coming soon!!*

**February 26, 27, 2022**

**Expo Idaho**

The Idaho Gem Club, Inc., hosts one of the greatest regional gem shows every February. We will need help loading the show equipment into trailers at Lockaway Storage, 5246 W. Chinden Blvd., Garden City on Thursday, February 24, 2022. Show set-up is on Friday, February 25, 2022, from 8:00 am-8:00 pm.

With enough helpers, we can be set up by 2:00 pm. Then people can install their display cases until 8:00 pm



Load Trailers: Thursday, February 24, 8 am-Noon

Show Set-Up: Friday, February 25, 8 am-8 pm

Show Hours: Saturday 10 am-6 pm

Sunday 10 am-5 pm

Show tear down, load trucks and return to storage  
on Sunday from 5:00 pm to about 8:00 pm



### MEMBERS NEEDED TO HELP RUN BOOTHS!

We have many activities that need helpers. If you can dedicate 2-4 hours during the weekend, we will find a spot for you to help out. After your shift helping, take a good look at all the booths and enjoy learning fascinating aspects of our hobby through the demonstrations and vendors! Sign up please! It is a fun way to participate in this exciting weekend!

### Volunteers Needed for:

Door Ticket Sales, Wheel of Fortune, Grab Bags, Garnet Dig, Club Merchandise Sales, Basket Raffle ticket sales and the Hostess Table. Volunteer to cover booths that are short handed or very busy! There is always some place you can help to make this show a success for everyone. Sign-up sheets will be at the January Banquet meeting. You can call or text Deana Ashton if you wish to volunteer at 208-794-5628. We appreciate your help! This is a fantastic show that you should look forward to being part of! It takes all of you to make this a success! We expect strong turnout for this show!

### DISPLAY SHOWCASE RESERVATIONS:

You may set up a display of personal interest, show off the jewelry you have created, focus on your favorite type of rock, and children are encouraged to have a case as well! Fluorescent showcases are in the Black Light Room. This year we have invested in new Blacklights to really make this display room a show stopper! Cheryl Link is Chairperson for Display Showcases. You can contact her at 208-859-5098. Text message is best. Get your case reserved today!



**DISPLAY CASE APPLICATION FOR 2022  
IDAHO GEM CLUB ANNUAL GEM & MINERAL SHOW**

NAME: \_\_\_\_\_

PHONE NUMBER: (\_\_\_\_\_) \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CLUB MEMBER: \_\_\_\_\_

NON-MEMBER: \_\_\_\_\_

NUMBER OF CASES: \_\_\_\_\_

CLUB'S: \_\_\_\_\_ OWN: \_\_\_\_\_

MATERIAL IN CASES: \_\_\_\_\_

INSIDE DIMENSIONS OF CLUB CASES ARE 46.5" WIDE BY 22.5" DEEP BY 22.5" HIGH.

**LINERS AND LOCKS WILL NOT BE PROVIDED (BRING YOUR OWN)**

RETURN APPLICATION TO **CHERYL LINK** AT [CLINK@MICRON.COM](mailto:CLINK@MICRON.COM) or  
6421 BERMUDA DR., BOISE, ID 83709

**CASE SET UP: FRIDAY, FEBRUARY 25TH, 2022 AFTER 1:00 P.M.**

**SHOW DATES: FEBRUARY 26TH-27TH, 2022**

**2022 IS SETTING UP TO BE THE  
YEAR OF FLOURESCENT MINERALS!**

**By Philip S. Neuhoff, Ph.D.**

It has never been a better time to be interested in fluorescent minerals! 2021 marked the 50th anniversary of the founding of the Fluorescent Mineral Society, and as part of the celebration the Tucson Gem and Mineral Show (TGMS) had planned on having fluorescent minerals be their theme ("The Show that Glows"). Unfortunately, TGMS was cancelled due to the COVID-19 pandemic, and the celebration got pushed to 2022. As I write this, myself and many others are preparing exhibits for what promises to be the greatest exhibition of fluorescent minerals ever assembled, to be shown in a special space at TGMS in February.

In some ways, the delay of this exhibition to 2022 is somewhat fortuitous, because the world of fluorescent mineral collecting is on the cusp of being forever transformed. Many readers are probably familiar with the relatively new longwave (LW; 365 nm) LED flashlights that have made fluorescent mineral collecting far more affordable and exciting than in the past. The concentrated beams generated by these flashlights, along with their small size, make it possible to see fluorescent responses even in well-lit rooms (like at IGC's gem show) and are far easier to use and more effective in the field. This has been a great boon to the hobby. Most fluorescent minerals, however, are generally not responsive to LW UV, and require shorter wavelengths to generate a fluorescent response. A revolution is afoot to make collecting and enjoying all fluorescent minerals as enjoyable as those that respond to LW flashlights.

Up until now, the only way to enjoy the beauty of minerals that respond to shorter wavelengths was to use fluorescent tube lamps that generate shortwave (SW; 254 nm) or midwave (MW; 312 nm) UV light. Lamps of this style with enough power to sensibly use in the field, or illuminate a display case like those in the blacklight tent at IGC's show, are expensive (starting at \$500 or so...cheaper lights do not have the power or the lifespan to be really useful). Part of the problem with SW and MW lamps is that they require filters that are transparent to UV but block most of the visible light so the fluorescent response is not drowned out. Longwave lights need a filter as well, but these filters are relatively inexpensive. Filters that transmit SW and MW UV are very expensive, and the large areas of filter needed to transmit the radiation produced by SW and MW tubes leads to higher costs for these lights. In addition, SW UV actually degrades the filter through a process called solarization, so the amount of UV transmitted through the filter decreases with time. In addition, SW and MW tubes are relatively large themselves...far larger than the flashlights that now house LW LED's.

Just within the last year, SW and MW LED's have been brought to market that are powerful enough and more or less cost effective enough to use for collecting fluorescent minerals. The technology behind these LED's evolves daily, with increases in power and decreases in cost the main consequences. They remain more expensive than the LW LED's that power flashlights that can now be purchased for a few 10's of dollars online, but there are commercially available flashlights generating SW and MW UV available under \$200 that are comparable in power to the Convoy S flashlights the club sold at one point. Flashlights that have illumination powers (but not the spread of UV light) similar to 35W tube lights that cost \$500 are at this writing under \$400. Power and cost will certainly go down as this sector of the LED market grows, partially in response to disinfection applications (maybe a silver lining from COVID-19?).

There are other exciting innovations happening as well. The UV lights that IGC owns and loans to members all employ what are called bandpass filters...essentially colored glass filters that are relatively transparent to UV but block most of the visible light. It is these filters that are subject to solarization that I mentioned before. There is another type of filter, called a dichroic filter, that can similarly transmit UV but block visible light. These filters have some special requirements that are beyond the scope of this article, and are also very expensive. Significant progress has been made regarding this type of filter, and its usage with UV LEDs that promises to further revolutionize lighting solutions for collecting and displaying fluorescent minerals. The upshot is that this will 1) improve the performance of UV lights; 2) ultimately decrease their cost; and 3) make it possible to have small form factor lights like flashlights that can generate multiple types of UV light, either one at a time or multiple wavelengths together. At this point, it appears that within six months a person could purchase a flashlight (or a small handheld light) that can be switched between LW, MW, and SW UV or have all of them searching for treasures at the same time.

Interested in all of this? I strongly encourage you to check out the [Fluorescent Mineral Society \(FMS\)](https://www.fmsminerals.org/). The applications of LED technology to fluorescent mineral collecting have been spearheaded by FMS members, and sneak peeks at these advances are available for all to see on the FMS Facebook page "Fluorescent Minerals". You can learn more about FMS at [www.uvminerals.org](https://www.uvminerals.org/); while participating in the Facebook group does not require a membership in FMS, joining the society provides access to the great publications it generates and other opportunities to meet and learn from dedicated collectors in this part of our hobby.

## MEMBER APPRECIATION PIZZA PARTY!

February 3, 2022 • 7:00 pm

Idaho Pizza Company

405 E Fairview Ave., Meridian

We want to thank members who volunteered at our successful Gem Show in 2020, just before the virus lockdown. All members are welcome for this complimentary dinner!

This is also a 2022 Gem Show Planning Party! While we have you all together, we will ask for input, ideas and volunteers to sign up for the upcoming show held Feb 26-27 at Expo Idaho. We're so grateful for your awesome help!!

## WELCOME NEW MEMBERS

Kathe Whitacre

Dan Shirilla

Amy & Dennis Halladay

## SUNSHINE LADY REPORT

By Deana Ashton

\*Athena Crowley, who is Jonathan Barnett's beautiful sister, has expressed gratitude to all who attended his memorial service, thanked the club for floral arrangements and appreciates the continued prayers.

\*Get well and recover quickly Catherine Parsons! She is on the mend from a serious surgery on her spine and neck.

\*Delighted to announce our eldest members Roy and Patsy Bethel looked wonderful at a recent visit. They have surpassed 76 years of marriage...going strong! They are the IGC Crown Jewels!!

\*Sandy Blodgett is recovering from knee replacement surgery and your prayers are appreciated!

IGC Sunshine Lady sends cheer, get well wishes, sympathy and anniversary expressions for our club. Please text or call Deana at 208-794-5628

## MEMBER SPOTLIGHT

Recognition of Outstanding Service belongs to **Liz Warner** and **Rick Corbett**, who have dedicated several days each month to open our Club Lapidary Workshop. Rick and Liz teach newcomers how to create cabochons from slabs of rock. They help members learn new skills and build confidence, cheerfully!

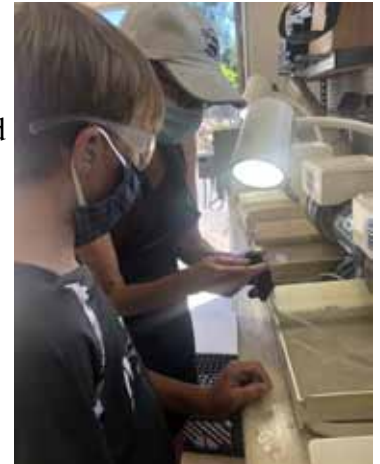
They serve as Shop Hosts

so that members can access the lapidary machines.

They also maintain upkeep on saws and grinders, drills and polishing tools, protecting the clubs investment. At

Special Events in the community, I can always count on Liz and Rick to be first to volunteer. Thank you, most sincerely, for being enthusiastic ambassadors for our club.

You are appreciated for your helpfulness and outstanding personalities that attract new members all year long! You are valuable members who deserve a big thank you!



## New Members:

Our website at [idahogemclub.com](http://idahogemclub.com) has all of the information regarding our club operations. We also have a facebook page for interacting and socializing. Please contact any Officer or Board Member with questions or suggestions! Welcome to your Gem Club!

## GARNETS

**Meaning and History**

The name “garnet” originates from the medieval Latin *granatus*, meaning “pomegranate,” in reference to the similarity of the red color. Garnets have been used since the Bronze Age as gemstones and abrasives. Necklaces studded with red garnets adorned the pharaohs of ancient Egypt. Signet rings in ancient Rome featured garnet intaglios that were used to stamp the wax that secured important documents. The clergy and nobility of the Middle Ages had a preference for red garnets.

Garnet is actually a group of several minerals. All species of garnets possess similar physical properties and crystal forms, but differ in chemical composition. The different species are pyrope, almandine, spessartine, grossular (varieties of which are hessonite and tsavorite), uvarovite and andradite. The garnets make up two solid solution series: pyrope-almandine-spessartine (pyralspite) and uvarovite-grossular-andradite (ugrandite). Pyrope and almandine range from purple to red. Spessartine is found in exciting oranges and yellows, while andradite is mostly yellow to green (the gem variety demantoid). Grossular may have the widest range, from colorless through yellow to reddish orange and orangy red, as well as a strong vibrant green called tsavorite. Blue garnets are the rarest and were first reported in the 1990s.

**Crystal Structure of Garnet**

Garnets are most often found in the dodecahedral crystal habit, but are also commonly found in the trapezohedron habit as well as the hexoctahedral habit. They crystallize in the cubic system, having three axes that are all of equal length and perpendicular to each other, but are never actually cubic because, despite being isometric, the {100} and {111} families of planes are depleted. Garnets do not have any cleavage planes, so when they fracture under stress, sharp, irregular (conchoidal) pieces are formed.

Garnet species' light transmission properties can range from the gemstone-quality transparent specimens to the opaque varieties used for industrial purposes as abrasives. The mineral's luster is categorized as vitreous (glass-like) or resinous (amber-like).

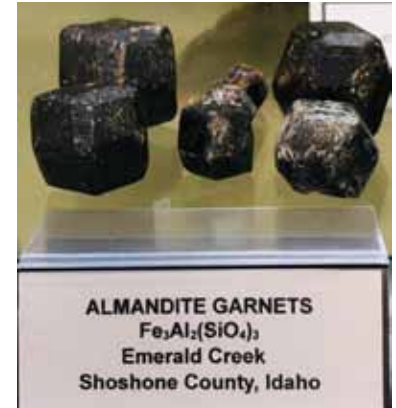
**Hardness**

Because the chemical composition of garnet varies, the atomic bonds in some species are stronger than in others. As a result, this mineral group shows a range of hardness on the Mohs scale of about 6.0 to 7.5. The harder species like almandine are often used for abrasive purposes.

**Almandine in Metamorphic Rock**

Almandine, sometimes called almandite, is the modern gem known as carbuncle (though originally almost any red gemstone was known by this name).

The term “carbuncle” is derived from the Latin meaning “live coal” or burning charcoal. Chemically, almandine is an iron-aluminium garnet with the formula  $\text{Fe}_3\text{Al}_2(\text{SiO}_4)_3$ ; the deep red transparent stones are often called precious garnet and are used as gemstones (being the most common of the gem garnets). Almandine occurs in metamorphic rocks like mica schists, associated with minerals such as staurolite, kyanite, andalusite, and others. Almandine has nicknames of Oriental garnet, almandine ruby, and carbuncle.

**Pyrope**

Pyrope (from the Greek *pyrōpós* meaning “firelike”) is red in color and chemically an aluminium silicate with the formula  $\text{Mg}_3\text{Al}_2(\text{SiO}_4)_3$ , though the magnesium can be replaced in part by calcium and ferrous iron. The color of pyrope varies from deep red to black. Pyrope and spessartine gemstones have been recovered from the Sloan diamondiferous kimberlites in Colorado, from the Bishop Conglomerate and in a Tertiary age lamprophyre at Cedar Mountain in Wyoming.

A variety of pyrope from Macon County, North Carolina is a violet-red shade and has been called rhodolite, Greek for “rose”. In chemical composition it may be considered as essentially an isomorphous mixture of pyrope and almandine, in the proportion of two parts pyrope to one part almandine. Pyrope has tradenames some of which are misnomers; Cape ruby, Arizona ruby, California ruby, Rocky Mountain ruby, and Bohemian ruby from the Czech Republic.

**Spessartine**

Spessartine or spessartite is manganese aluminium garnet,  $\text{Mn}_3\text{Al}_2(\text{SiO}_4)_3$ . Its name is derived from Spessart in Bavaria. It occurs most often in skarns, granite pegmatite and allied rock types, and in certain low grade metamorphic phyllites. Spessartine of an orange-yellow is found in Madagascar. Violet-red spessartines are found in rhyolites in Colorado and Maine.

**Pyrope–Spessartine (blue garnet or color-change garnet)**

Blue pyrope–spessartine garnets were discovered in the late 1990s in Bekily, Madagascar. This type has also been found in parts of the United States, Russia, Kenya, Tanzania, and Turkey. It changes color from blue-green to purple depending on the color temperature of viewing light, as a result of the relatively high amounts of vanadium (about 1 wt.%  $\text{V}_2\text{O}_3$ ).

Other varieties of color-changing garnets exist. In daylight, their color ranges from shades of green, beige, brown, gray, and blue, but in incandescent light, they appear a reddish or purplish/pink color.

This is the rarest type of garnet. Because of its color-changing quality, this kind of garnet resembles alexandrite.



### Andradite

Andradite is a calcium-iron garnet,  $\text{Ca}_3\text{Fe}_2(\text{SiO}_4)_3$ , is of variable composition and may be red, yellow, brown, green or black. The recognized varieties are demantoid (green), melanite (black), and topazolite (yellow or green). Andradite is found in skarns and in deep-seated igneous rocks like syenite as well as serpentines and greenschists. Demantoid is one of the most prized of garnet varieties.

### Grossular

Grossular is a calcium-aluminium garnet with the formula  $\text{Ca}_3\text{Al}_2(\text{SiO}_4)_3$ , though the calcium may in part be replaced by ferrous iron and the aluminium by ferric iron. The name grossular is derived from the botanical name for the gooseberry, *grossularia*, in reference to the green garnet of this composition that is found in Siberia. Other shades include cinnamon brown, red, and yellow. Because of its inferior hardness to zircon, which the yellow crystals resemble, they have also been called hessonite from the Greek meaning inferior. Grossular is found in skarns, contact metamorphosed limestones with vesuvianite, diopside, wollastonite and wernerite.

Grossular garnet from Kenya and Tanzania has been called tsavorite. Tsavorite was first described in the 1960s in the Tsavo area of Kenya, from which the gem takes its name.

### Uvarovite

Uvarovite is a calcium chromium garnet with the formula  $\text{Ca}_3\text{Cr}_2(\text{SiO}_4)_3$ . This is a rather rare garnet, bright green in color, usually found as small crystals associated with chromite in peridotite, serpentinite, and kimberlites. It is found in crystalline marbles and schists in the Ural mountains of Russia and Outokumpu, Finland. Uvarovite is named for Count Uvaro, a Russian imperial statesman.

### Geological importance

The mineral garnet is commonly found in metamorphic and to a lesser extent, igneous rocks. Most natural garnets are compositionally zoned and contain inclusions. Its crystal lattice structure is stable at high pressures and temperatures and is thus found in green-schist facies metamorphic rocks including gneiss, hornblende schist, and mica schist. The composition that is stable at the pressure and temperature conditions of Earth's mantle is pyrope, which is often found in peridotites and kimberlites, as well as the serpentines that form from them. Garnets are unique in that they can record the pressures and temperatures of peak metamorphism and are used as geobarometers and geothermometers in the study of geothermobarometry which determines "P-T Paths", Pressure-Temperature Paths.

### Industrial uses

Garnet sand is a good abrasive, and a common replacement for silica sand in sand blasting. Alluvial garnet grains which are rounder are more suitable for such blasting treatments. Mixed with very high pressure water, garnet is used to cut steel and other materials in water jets. For water jet cutting, garnet extracted from hard rock is suitable since it is more angular in form, therefore more efficient in cutting. Garnet paper is favored by cabinetmakers for finishing bare wood. Garnet sand is also used for water filtration media.

As an abrasive, garnet can be broadly divided into two categories; blasting grade and water jet grade. The garnet, as it is mined and collected, is crushed to finer grains; all pieces which are larger than 60 mesh (250 micrometers) are normally used for sand blasting. The pieces between 60 mesh (250 micrometers) and

200 mesh (74 micrometers) are normally used for water jet cutting. The remaining garnet pieces that are finer than 200 mesh (74 micrometers) are used for glass polishing and lapping. Regardless of the application, the larger grain sizes are used for faster work and the smaller ones are used for finer finishes.

The largest source of abrasive garnet today is garnet-rich beach sand which is quite abundant on Indian and Australian coasts and the main producers today are Australia and India.

### Where is Garnet Found?

Garnets come from many different regions and countries. Bohemia was the primary source of the red pyrope garnets so popular during Victorian times. In 19th century Russia, green demantoid garnets from the Ural Mountains were prized by the Russian royal family and used by the great jeweler Peter Carl Fabergé (1846–1920). Today, the African continent supplies much of the world's garnet. Namibia is now producing demantoids, and most of the bright green tsavorites in the market come from Kenya, Tanzania and Madagascar. Namibia and Tanzania are also key sources of the rich orange-to-yellow spessartine garnets. For many years, Southern California's Little Three mining area was known for producing this spellbinding gem. The birthstone for January is also found in Myanmar, Brazil, Iran, Afghanistan, Pakistan, India, Sri Lanka, and the United States, among other countries.

New York has garnet as its state gemstone, Connecticut has almandine garnet as its state gemstone, Idaho has star garnet as its state gemstone, and Vermont has grossular garnet as its state gemstone.



### Garnet Cleaning

This birthstone is more susceptible to damage than rubies, sapphires and diamonds. So while not all garnets are good candidates for daily wear, they are ideal for earrings, brooches and pendants. Give thought to how you store your garnet jewelry. If you let it rub against harder gems – again, think diamonds, rubies and sapphires – it can be scratched. And in turn garnet can scratch softer gems, such as opals or pearls. Most garnets are not treated. Rarely, however, some garnets might be fracture filled, whereby treaters try to improve the apparent clarity of the gem by filling surface-reaching breaks with a glass-like substance. Such treated stones require special care. Regardless, use of a soft brush with warm soapy water is always safe for cleaning garnets. Ultrasonic cleaners are usually safe, except for stones that have fractures or have been fracture filled. Steam cleaning is not recommended.

Curious about your garnet birthstone's reputed health benefits? According to Indian astrology, garnet helps eliminate negative feelings (depression, guilt) and instill greater self-confidence and mental clarity to promote creative thinking and peace of mind. In ancient and medieval times, gems like garnet were also thought to be remedies for inflammatory diseases and to soothe the angry heart.

### GEM CLUB OFFICERS

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### MINUTES OF THE IDAHO GEM CLUB GENERAL MEETING DECEMBER 21, 2021

Meeting called to order at 7:10 by Deana Ashton. She gave everyone a few extra minutes to vote in the Project of the Year Contest. Deana restarted the meeting at 7:20 and the Pledge of Allegiance was recited. There were 2 new members present. Deana welcomed members back that haven't been in awhile.

There were no corrections to the minutes as printed in the *Grindings*. Dana Robinson made a motion to accept the minutes as printed, Terri Frostrom seconded, and the membership voted to pass the motion.

Rick gave out door prizes to 15 adults. There was no building fund drawing tonight.

**Secretary Report:** There is a new Rock & Gem issue for the Library.

**Treasurer Report:** Teresa went over the financial statements. There is a copy on the back table for anyone who wants to look it over.

**Juniors Report:** No report.

**Workshop Report** by Brent Stewart: Brent reported on the Christmas Party Workshop that ran for two days last weekend. Marge taught wire wrapping inside and the shop was busy during both days. Rick and Liz really keep the workshop going, so many thanks to them.

There will not be a workshop on New Years.

**Sunshine Lady Report:** Deana talked about the memorials that we had during December. Please let her know if someone needs a hand or cheering up.

#### Old Business:

Deana and Terri went over the new location at the Maple Grove Grange. The address is 11692 W. President Dr., in Boise. Our first general meeting there will be on February 15.

Deana and Christine went over the Silent Auction that will be at 5:30 pm at the Annual Banquet.

#### New Business:

The Gem Show is coming up quickly and volunteers are needed. There are new black lights for the cases in the Black Light tent. Contact Cheryl Link to sign up for a case. There are sign-up sheets for the needed volunteers on the back table.

Greg Sandmire suggested planning a trip to McDermitt this year for petrified wood. There is a company that is going to mine the area for lithium. We can't be sure of access after the project begins.

Meeting adjourned at 8:30 pm to count Project of the Year ballots and for the auction.

Liz Warner is the big winner this year for Project of the Year! Congratulations!!

*Respectfully submitted, Dana Robinson,  
Acting Secretary*

## MINUTES OF THE IDAHO GEM CLUB BOARD MEETING JANUARY 4, 2022

Deana Ashton called the meeting to order at 7:07 pm.

**Present:** Deana Ashton, Ed Moser, Cheryl Link, Rick Corbett, Teresa Nebeker, Terri Frostrom, Willa Renken, Brent Stewart, Jason Smith, and Dana Robinson.

**Absent:** Randy Harrison

**Guests:** John Benedict.

Deana asked for any corrections to the minutes as printed in the *Grindings*. Willa made a motion to accept the minutes, which was seconded by Ed. Board members voted, motion carried.

**Secretary Report:** No report.

**Treasurer Report** by Teresa Nebeker: Teresa went over the monthly financial statements, disbursements, and show payments and contracts. Business insurance for the year will be paid in January.

**Sunshine Lady Report:** Deana reported that Cathy Parsons and Sandy Blodgett had surgeries.

**Banquet Report:** More tickets sold, but not enough yet. Need to check with Christine regarding planned Silent Auction.

**Show Report:** The venue will have sanitation stations set up. Not sure if masks need to be provided or are made available by them.

The building cost will be going up this year and probably for several more years. Willa made a motion to increase the entrance fee for adults to \$5. Kids 12 and under still free. Ed seconded the motion, the board voted and the motion passed.

**Workshop Report:** Brent reported that the Christmas Party Workshop went very well. A very big Thank You! to Brent for a great setup. The workshop was very busy for both days.

The next workshop will be on Thursday, Jan. 20th from 6-8:45 pm and then on Saturday the 29th from 10 am-2 pm. Monday, Feb. 1 will be the ROLE workshop from 6-8:45 pm and then the regular Thursday workshop on the 17th from 6-8:45 pm. There will not be a Saturday workshop since we will all be at the show.

Brent and Jason will be excused from the February board meeting as they will be in Tucson.

**Youth Group:** Cheryl will send out an invitation to the younger members in March to get the program started up again.

**Scholarship Report:** We only had one application this year from a High School student. She will be a 2023 graduate and is pursuing a geology degree in AP courses.

After much discussion it was decided that the student is too far outside the parameters of the scholarship at this point. The application was denied.

We should put a table in the show with a couple of items to sell raffle tickets to support the scholarship fund.

**Old Business:** We will be needing a trailer to move the Library cabinet and the storage cabinet over to the Maple Grove Grange. Deana has planned for the move to happen on January 22nd. The wall can then be patched.

**New Business:** Willa went over the nominations for lifetime members.

We will need to do a meeting with all of the Gem Show event chairpersons.

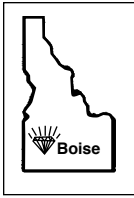
Brent reviewed and updated the notes for Gene to use at our banquet.

Three new member applications were reviewed. Willa made a motion to accept the new members, Ed seconded, the board voted and the motion carried.

Meeting was adjourned at 8:55 pm.

*Respectfully submitted, Dana Robinson  
Acting Secretary*





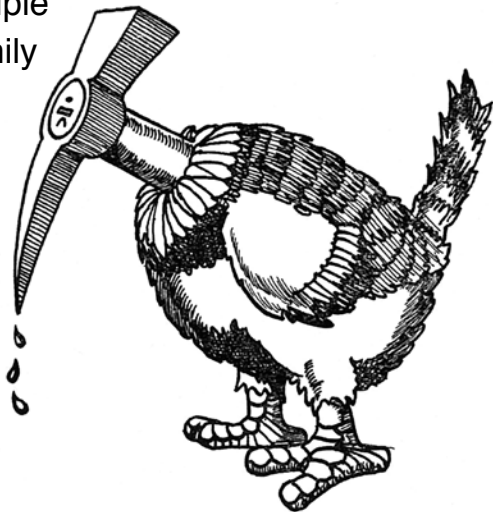
Idaho Gem Club, Inc.  
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**GENERAL MEETING:**  
3rd Tuesday of every month: 7:00 p.m.

**BOARD MEETING:**  
1st Tuesday of every month: 7:00 p.m.

**ADDRESS:**  
Maple Grove Grange  
11692 W. President Dr., Boise

