



# Snoopy Gems

Volume 51 Number 10 October 2025  
Mississippi Gulf Coast Gem &  
Mineral Society Inc.



Email: [mgcgms@bellsouth.net](mailto:mgcgms@bellsouth.net)

MGCGMS Established in 1974

## Message from the Editor

Members,

As our year comes to a close, we have only a couple of Saturday workshops left before our Christmas Party. It's time to start thinking about next year! What would you like to learn? Are you interested in teaching a class? We're working on putting together a schedule for both our Wednesday classes and Saturday workshops, and your input is greatly appreciated.

Our Show was a great success! The new date and location worked out wonderfully for us. Our vendors were very happy and are already planning to return next year. We'll continue working to make it even better!

Please remember to arrive early for our October workshop and meeting. Cruisin' The Coast will still be going on, so parking may be limited. There is additional parking available in the back, with a walkway between the buildings leading to the rear ramp.

Barbi Beatty  
MGCGMS Editor

<http://www.mgcgms.org>

## Workshops:

Our Wednesday classes from 11-4:00 in our room at the Mary C. All members are welcome!

### Saturday Workshop:

**Stephanie Hatcher will be teaching a Wire wrapped pin/ hair pin/ pendant. Kits in copper will be \$3.**

#### Materials:

14 Gauge round wire

#### Tools:

flush cutters, chain nose,

round nose pliers, ruler, painters tape, and sharpie



**Wednesday workshop open to the public 10/15/25:**  
Sue Shelton Spider pendants and bracelets

#### Materials:

20 ga wire and assorted beads



**Machines:** Members of our tool committee will be available to help with cutting and cabbing gemstones. As always, we will have the club machines available for metal & gemstone testing, gemstone cutting, and cabbing. There is a \$3 tool maintenance fee to use the machines.

PO Box 857 Ocean Spring, MS 39566



# Meeting Minutes

## GULF COAST GEM & MINERAL SOCIETY

### September 2025 Minutes



**Meeting called to order:** 1:05 pm by Joni Arias, Vice President.

**Meeting Minutes:** Minutes from the June meeting were distributed and reviewed. Motion to accept the minutes made by Karen, second by Vicki Reynolds. Minutes were approved.

**Treasurer:** Barbi gave the treasurer's report with totals for accounts. Motion to accept by Vicki Reynolds, second by Peter. Report was approved.

#### Committee Reports

**Sunshine:** Still sending out cards.

**Membership:** One new member from the website, Stacey Lapage.

**Communication:** Please check your email from the club for information and a link to the website. That is where most of the current information will be regarding classes and activities for the group.

**Newsletter:** The newsletter was distributed at the meeting.

**Show:** A donation sheet is available for raffle items. These items should be valued at a minimum of \$25. These need to be finalized asap so Barbi can get that information out. There are also sign-up sheets for volunteers and food for the vendor's dinner. We will have a September meeting on the second Saturday but there will be no class. This meeting will be specifically to work on the show. Our club will become a sponsor club for Wreaths Across America and we will have that at the entry table to the show. Vicki will check on the electric load capacity of the foyer area of the civic center and report back to the club. Vendors are still finalizing for the show. Currently we have 19 vendors plus the sluice outside. Discussed whether the club should rent or buy tables. We would need to have a place to store them. For this year we will probably purchase a few and rent the rest, then buy more each year. Stephanie made a motion to buy a limited number this year and rent the rest. There was a second from Barbi and the motion passed. We are not sure what time we can get in the building for set up on Thursday, but Barbi will get that information for our next meeting.

**Workshops:** Today's workshop by Barbi Beatty to wire wrap a cabochon. This next Stephanie Hatcher will be teaching a wire wrapped bracelet. Kits will be available. Vicki asked that the group make suggestions for what they want to see for upcoming workshops. Alan talked about making a channel ring at William Holland and wants to gauge interest to do that here.

**New Business:** Vicki reported that John Wright, who passed away in March, had equipment and materials that were available as his daughters continue to clean out his home.

**Gem of the Month:** Information on peridot included in Snoopy Gems.

**Motion to Adjourn:** 2:10 PM motion made to adjourn by Barbi Beatty, second by Harvey Marcum, motion carried.

**Door Prizes:** Drawings held for door prizes.

**Reported by:** Secretary Stephanie Hatcher





# Happy

# October

# Birthday

Karl Beatty Barbi Beatty  
Bernadette Mastroianni



## The Science and Formation of Opal

Opal is a hydrated amorphous form of silica ( $\text{SiO}_2 \cdot n\text{H}_2\text{O}$ ) prized for its captivating play-of-color and unique internal structure. Unlike crystalline gemstones such as quartz or sapphire, opal lacks a defined crystal lattice. Instead, it consists of submicroscopic spheres of silica arranged in a regular or random pattern, giving rise to its distinctive optical phenomena. The stone's composition typically contains between 3–21% water by weight, which plays a crucial role in its stability and appearance.

## Formation of Opal

Opal forms through a low-temperature sedimentary process, typically in areas where silica-rich waters percolate through the Earth's crust. The process can be summarized in several stages:

### Silica Solution Formation:

When silica-bearing rocks such as sandstone or volcanic ash weather and dissolve, silica ( $\text{SiO}_2$ ) becomes suspended in groundwater as a colloidal solution.

### Deposition:

Over long periods, this silica-rich solution seeps into cracks, voids, and cavities in rocks—often in areas previously occupied by fossils, wood, or mineral veins. As the water gradually evaporates, silica particles are deposited layer by layer.

### Spherule Arrangement:

In precious opal, uniform silica spheres (typically 150–300 nanometers in diameter) arrange themselves in a tightly packed, three-dimensional grid. The orderly pattern diffracts light, producing the characteristic play-of-color—a rainbow-like shimmer caused by interference and diffraction of light.

### Solidification:

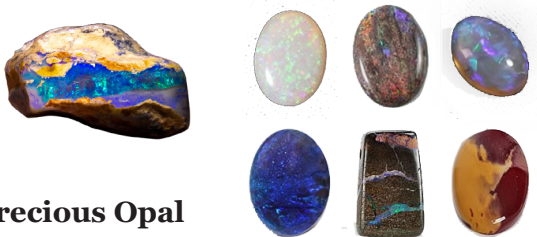
3 As more silica and water are deposited, the material



slowly solidifies. Depending on environmental factors such as temperature, pH, and evaporation rate, the result can range from precious opal to common opal (potch), the latter lacking organized internal structure and therefore color play.

## Types of Opal

Opal is classified based on its composition, appearance, and origin. The major varieties include:



### 1. Precious Opal

This variety exhibits a vivid play-of-color due to the orderly arrangement of silica spheres. Precious opal is further categorized into several subtypes:

**White Opal:** Displays bright colors on a pale, milky background. Commonly found in South Australia.

**Black Opal:** The rarest and most valuable, featuring a dark body tone that enhances the play-of-color. Found mainly in Lightning Ridge, New South Wales.

**Crystal Opal:** Transparent to semi-transparent opal showing internal brilliance.

**Fire Opal:** Typically orange to red in body color, with or without play-of-color. Found primarily in Mexico.

### 2. Common Opal (Potch)

Lacks play-of-color due to irregular silica arrangement. Common opal occurs in many colors such as white, gray, pink, green, and blue, depending on impurities.

### 3. Boulder Opal

Forms within ironstone or sandstone host rock. Thin veins of precious opal are naturally attached to the matrix, providing a contrasting backdrop that enhances visual appeal. Predominantly mined in Queensland, Australia.

### 4. Matrix Opal

Similar to boulder opal but with precious opal filling minute pores or cracks throughout the host rock, rather than forming in discrete veins.

## 5. Hydrophane Opal

Characterized by its ability to absorb water, becoming more transparent when wet. Common in Ethiopian opal deposits.

Global Locations and Deposits  
Australia



Australia is the world's primary opal source, accounting for over 90% of global production. Major fields include:

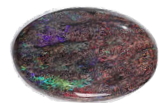
**Lightning Ridge (NSW):** Famous for black opal.



**Coober Pedy (South Australia):** Produces white and crystal opals.



**Andamooka and Mintabie:** Known for high-quality matrix and crystal opals.

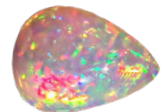


**Queensland:** Source of boulder opals in ironstone.



### Ethiopia

Discovered in the early 1990s, Ethiopian opal deposits, particularly from Wollo and Shewa, have become globally important. The material often shows hydrophane behavior and displays vivid color patterns.



### Mexico

Mexico's Querétaro region is known for fire opal, notable for its bright orange to red body color and occasional color play.



### Brazil

Produces both precious and common opal, often with excellent transparency and pastel hues. Deposits are found in the states of Piauí and Bahia.



### United States

**Nevada:** Noted for black and crystal opals, especially from the Virgin Valley region.

**Idaho and Oregon:** Yield common and dendritic opal varieties.



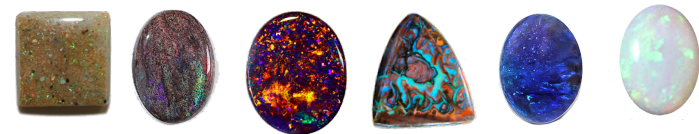


Other Notable Sources

Opal is also found in Honduras, Slovakia, Indonesia, and Turkey, though these represent smaller-scale production compared to Australia and Ethiopia.

Scientific and Gemological Significance

Opal’s structure has fascinated scientists for decades. The first structural model was proposed by J. V. Sanders in 1964, identifying its silica microsphere lattice as a natural three-dimensional diffraction grating. The study of opal has also influenced materials science and photonic crystal research due to its naturally ordered nanostructure.



Opal is a gemstone where geology meets light physics. Its formation is a slow interplay of time, water, and silica, creating one of nature’s most dynamic visual displays. Whether it’s the fiery reds of Mexican opal, the dark brilliance of Lightning Ridge, or the translucent Ethiopian hydrophane, each variety reveals a unique story written by the Earth itself.

Article by: Barbi Beatty

The Formation, Types, and Global Distribution of Tourmaline

Tourmaline is a complex borosilicate mineral known for its wide range of colors, remarkable durability, and piezoelectric properties. Its unique crystal chemistry and geologic diversity make it one of the most scientifically and commercially significant gemstones. This article explores the processes behind tourmaline formation, its various species and color varieties, and the major global sources where these fascinating minerals are found.



Tourmaline represents a group of silicate minerals sharing a common crystal structure but with highly variable chemical compositions. This structural flexibility allows for extensive elemental substitution, giving rise to a broad color spectrum and numerous mineral species.

Formation of Tourmaline

Tourmaline forms under a variety of geological conditions, most commonly through hydrothermal, pegmatitic, and metamorphic processes.

Pegmatitic Formation

The majority of gem-quality tourmalines crystallize in granitic pegmatites—coarse-grained igneous rocks formed from the late-stage crystallization of magma. As the magma cools, volatile components such as boron, fluorine, and water become concentrated in residual fluids. These fluids promote crystal growth in fractures and cavities, forming large, well-defined tourmaline crystals.

Typical associated minerals include quartz, feldspar, lepidolite, beryl, and spodumene.

Metamorphic Formation

Tourmaline can also form during regional metamorphism of sedimentary or igneous rocks that contain boron-rich minerals. Under heat and pressure, boron is released and incorporated into new minerals, producing schorl (iron-rich tourmaline) and dravite (magnesium-rich tourmaline) in metamorphic schists and gneisses.

Tourmaline’s chemical stability allows it to persist through multiple metamorphic events, making it a valuable petrogenetic indicator mineral in geologic research.

Hydrothermal Formation

In hydrothermal veins, hot, boron-bearing fluids migrate through fractures in the crust, precipitating tourmaline as they cool. These deposits often contain fine-grained or fibrous crystals associated with quartz and sulfide minerals.

Types of Tourmaline

Tourmaline’s color and chemistry vary dramatically due to cation substitution. The primary recognized species include:

Type	Dominant Elements	Typical Color(s)	Formation Environment
Elbaite	Li, Al	Green, pink, blue, multicolor	Pegmatites
Schorl	Fe <sup>2+</sup> , Al	Black	Metamorphic rocks
Dravite	Mg, Al	Brown to yellow	Metamorphic limestones, schists
Liddicoatite	Ca, Li, Al	Multicolor (zoned)	Pegmatites
Uvite	Ca, Mg, Al	Dark green to brown	Metamorphic marbles
Chromdravite	Cr <sup>3+</sup> , V <sup>3+</sup>	Intense green	Metamorphic deposits near ultramafic rocks

Color Varieties

Color variations arise from trace elements:  
Iron (Fe), black, dark green, or blue  
Manganese (Mn), pink, red  
Chromium (Cr) & Vanadium (V), vivid green  
Copper (Cu), neon blue to green (Paraíba tourmaline)



Bi-color and watermelon tourmaline display striking color zoning, typically pink cores with green rims, due to changes in fluid chemistry during crystal growth.

## Global Locations and Deposits

### Brazil

Brazil is the leading source of gem-quality tourmaline, particularly from Minas Gerais, Paraíba, and Bahia. The Paraíba tourmaline, discovered in the late 1980s, is famed for its copper-bearing, electric blue to green hues.

### Africa

Mozambique and Nigeria produce copper-bearing varieties similar to Paraíba tourmaline.

Madagascar yields a wide range of elbaite colors.

Kenya and Tanzania are known for vivid green and pink stones.

### United States

Significant deposits occur in California (Pala and Tourmaline Queen mines) and Maine (Mount Mica). These pegmatites are known for multicolored elbaite crystals.

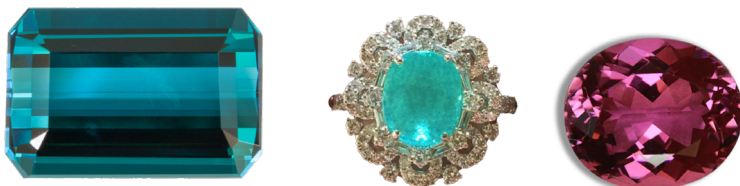
### Asia

Afghanistan and Pakistan produce fine elbaite from pegmatites in the Hindu Kush and Himalayas.

Sri Lanka yields dravite and uvite in metamorphic rocks.

## Other Notable Locations

Tourmaline is also found in Russia, Namibia, Zambia, and Canada, each region yielding distinctive color and chemical variations.



## Scientific and Gemological Importance

Tourmaline is both a geological tracer and a technological material. Its complex chemistry records the conditions of formation, making it valuable for reconstructing metamorphic and magmatic histories. Additionally, its piezoelectric and pyroelectric properties make it useful in pressure sensors and other electronic devices.

In gemology, tourmaline's hardness (7–7.5 on Mohs scale), vibrant color range, and durability make it a favorite for jewelry. The discovery of copper-bearing varieties revolutionized the gemstone market, increasing scientific and commercial interest.

Tourmaline is a mineralogical marvel, bridging the worlds of geology, physics, and art. Its formation through diverse geological processes—from boron-enriched pegmatites to metamorphic rocks—produces a kaleidoscope of chemical and color variations. Found on nearly every continent, tourmaline continues to captivate both scientists and collectors, symbolizing the beauty of geological complexity.



## References:

Deer, W.A., Howie, R.A., & Zussman, J. (1997). *Rock-Forming Minerals, Volume 1B: Disilicates and Ring Silicates*. Geological Society.

London, D. (2008). *Pegmatites*. The Canadian Mineralogist Special Publication 10.

Henry, D.J. & Dutrow, B.L. (2018). "Tourmaline: The Indicator Mineral for Metamorphic and Igneous Processes." *Elements*, 14(2): 89–94.



Article by: Barbi Beatty

# Bench Tips

**A productive jewelry bench setup** prioritizes ergonomics, organization, and safety. Essential tips include adjusting your bench height to chest level, creating separate work zones for soldering and finishing, and using organizational tools to keep small components and tools easily accessible.

## Bench ergonomics and setup

**Optimal height:** A bench set at chest height when you are seated prevents you from hunching over and reduces strain on your neck and back. If a standard workbench is too low, place it on blocks to raise it to a comfortable level.

**Proper seating:** Use an adjustable chair or stool that allows you to keep your feet flat on the floor. An adjustable seat lets you customize the height for different tasks.

**Sturdy construction:** Your bench should be solid hardwood to provide stability during tasks like hammering and filing. A flimsy bench can wobble, causing vibration that loosens joints.

**Bench pin placement:** Your bench pin is the primary work surface for sawing and filing. Mount it in the curved cutout of your bench so your work is directly in front of you and at the proper height.

**Catch tray:** The "sweeps drawer" or catch tray below the bench pin collects precious metal filings and scraps. This makes it easy to save and refine your valuable scrap material.

## Organization and storage

**Left or right-handed layout:** Position your most frequently used tools, such as pliers, tweezers, and files, on the side of your dominant hand for easy access. Materials like wire, solder, and stones can be kept on the non-dominant side.

**Use magnetic strips:** Mount magnetic strips on the side of your bench or a nearby wall to hold small tools, saw blades, or burs. A magnetic bar like the one on the IKEA Fintorp Magnetic Knife Rack is a great option.

**Vertical storage:** Use shelves or pegboards to keep tools visible and off your main workbench, reducing clutter. Akro-Mils 44 Drawer Plastic Parts Storage Cabinets are excellent for storing small components and flex shaft attachments.

**Repurpose organizers:** You can use common household items for storage. A rotating silverware holder can organize tools, and a hanging file folder can be used to organize wire and sheet metal.

**Containers for small items:** Keep solder chips, findings, and gemstones safe in stackable, compartmentalized

containers like those made by Plano or found at retailers like Joann's.

## Specialization and cleanliness

**Create dedicated work zones:** Keep your main fabrication bench separate from dusty tasks like grinding and polishing, and from wet or chemical processes like pickling.

**Separate soldering area:** For safety and efficiency, keep soldering tools and chemicals separate. A fire-resistant surface like a Silquar™ High-Heat Block, kiln bricks, or ceramic tiles is essential for soldering.

**Contain chemicals:** Store chemicals and acids in their original containers or in unbreakable, tightly sealed, and labeled vessels. Keep a spill kit nearby.

**Invest in a dust collector:** A dust collection system is a worthy investment to reduce exposure to metal particles from sanding and polishing, and it also allows you to collect valuable metal dust for refining.

## Creative bench hacks

**Use double-sided tape:** Securely hold small components and details for sanding or test-fitting before committing to soldering.

**Binder clips as tweezers:** A binder clip can be used to support cross-locking tweezers, keeping them secure.

**Grid on your soldering block:** Drawing a grid on your soldering block can help with aligning and spacing your pieces.

**Lubricate your sawblade:** Rub your sawblade with beeswax or burr life before cutting to make sawing smoother and more efficient.

**Prop for soldering:** Use a pre-1982 copper penny as a prop when soldering. The copper can help distribute heat.

## Safety first

**Personal protective equipment (PPE):** Always wear safety glasses, closed-toed shoes, and an apron. Tie back long hair and avoid wearing loose clothing or jewelry.

**Fire safety:** Keep a fire extinguisher in your studio. Store flammable items away from your soldering area.

**Ventilation:** Ensure proper ventilation, especially in your soldering and chemical areas, to draw away fumes.

**Secure gas tanks:** Chain oxygen, acetylene, and propane tanks to a wall or sturdy bench to prevent them from falling over.



# We always welcome new members!



Date \_\_\_\_\_ Mississippi Gulf Coast Gem and Mineral Society

<a href="http://www.mgcgms.org">http://www.mgcgms.org</a>		Application for Membership	
Individual: \$20.00		Individual +1 relative Same Address: \$30.00	
Junior Under 18: \$6.00			
Name: _____		Cell: _____	
Name: _____		Cell: _____	
Address: _____		Home Phone: _____	
City: _____			
State: _____		Email 1: _____	
Zip: _____		Email 2: _____	
<b>Members Birthdays</b>			
Adult: _____		Birthday M/D: _____	
Adult: _____		Birthday M/D: _____	
Junior: _____		Birthday M/D/Y: _____	
Junior: _____		Birthday M/D/Y: _____	
<b>Please Check All Applicable Interests</b>			
<input type="checkbox"/> Beading <input type="checkbox"/> Chain Mail <input type="checkbox"/> Field Trips <input type="checkbox"/> Fossils <input type="checkbox"/> Others: _____	<input type="checkbox"/> Cabbing <input type="checkbox"/> PMC <input type="checkbox"/> Faceting <input type="checkbox"/> Wire Wrapping		<input type="checkbox"/> Jewelry Making <input type="checkbox"/> Lapidary <input type="checkbox"/> Minerals <input type="checkbox"/> Silver Smithing
How did you hear of us? _____			
<b>Please check the following:</b> <input type="checkbox"/> I understand that my picture or likeness may be used in Society promotions. <input type="checkbox"/> I authorize MGCgms to include my contact information be included in Society listings for members to contact each other only.			
Signature: _____			
Signature: _____			

Mississippi Gulf Coast Gem & Mineral Society Inc.  
 P.O. Box 857 Ocean Springs MS 39566  
[mgcgms@bellsouth.net](mailto:mgcgms@bellsouth.net)



**Snoopy Gems**  
is the Official Publication of  
The Mississippi Gulf Coast Gem and Mineral  
Society, Inc.

**AFFILIATIONS**  
The Southeast Federation of Mineralogical  
Societies, Inc.  
The American Federation of Mineralogical  
Societies, Inc.  
S.C.R.I.B.E. (Special Congress Representing  
Involved Bulletin Editors)

#### OFFICERS 2025

President	Liz Platt
Vice President	Joni Arias
Treasurer	Barbi Beatty
Secretary	Stephanie Hatcher
Parliamentarian	John Guglik
Editor	Barbi Beatty
Web master	Barbi Beatty
Member at Large	Sue Shelton
Member at Large	Vicki Reynolds

#### COMMITTEES

Membership	Barbi Beatty
Show Chair	Barbi Beatty
Historian	Lettie White
Librarian	Vicki Reynolds
Sunshine	Reba Shotts

#### AFFILIATIONS

ALAA	John Wright: Past Director
SFMS	John Wright: Past President
SFMS	Barbi Beatty: Treasurer & Past Asst Treasurer & Insurance Liaison
SFMS	Buddy Shotts: Past Long-range Planning, Past President, Past State Director

Annual dues are:  
\$20 Individual  
\$30 (2) Members in same house hold  
\$6 Junior

## 2025 Workshop/Meeting Dates

January 11 Mary C. 9:30-4:00  
February 8 Mary C. 9:30-4:00  
March 8 Mary C. 9:30-4:00  
April 12 Mary C. 9:30-4:00  
May 10 Mary C. 9:30-4:00  
June 14 Mary C. 9:30-4:00  
July 12 Mary C. 9:30-4:00  
August 9 Mary C. 9:30-4:00  
September 26 After Vendor Dinner  
**October 11 Mary C. 9:30-4:00**  
November 8 Mary C. 9:30-4:00  
December 14 Christmas Party Mary C.  
11:00am-3:30pm

**Dates subject to change.**  
**Be sure to check each month!**  
The September meeting is the Friday  
evening of the gem show after the dinner  
for the dealers at the Ocean Springs Civic  
Center Building.  
December will be our  
Christmas Party and Installation of  
Officers

## October 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

# Snoopy Gems

**Official Publication of the Mississippi Gulf Coast Gem & Mineral Society Inc.**



**<http://www.mgcgms.org>**



The Mississippi Gulf Coast Gem & Mineral Society is a Non-profit Organization Dedicated to Education, Science, and the Lapidary Arts and Crafts

**Snoopy Gems MCGMS**  
**P.O. Box 857**  
**Ocean Springs, MS 39566**