



Snoopy Gems

Volume 51 Number 5 May 2025
Mississippi Gulf Coast Gem &
Mineral Society Inc.



Email: mgcgms@bellsouth.net

MGCGMS Established in 1974

President's Message

Dear Members,

Thanks to Barbi and the faithful group who came out to the OS Taco Fest on the beach at Ft Maurepas to make stretchy bracelets in support of the Mary C. The weather was iffy and we didn't know about the event early enough to make better plans. Thanks again to all who helped. This is part of what we do to ensure we continue to have a home here. It's important.

Remember the Harrison County Club show this month and make plans to come and support our other local Gem club.

See you on SATURDAY

Liz Platt

MGCGMS President

<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: May 10th @10am Vicki Reynolds will be teaching wire wrapped rings. Kits available.

Materials:

20 or 18 gauge wire and any beads or small cabochon you like.

Tools:

flush cutters, needle nose, flat nose, round nose pliers



Wednesday workshop open to the public

5/21/25: Barbi Beatty will be teaching rosette chainmaille bracelets in copper. All materials will be provided. Kit fee will be \$5



John Guglik will be available to test stones and metals.

Machines: Members of our tool committee will be available to help with cutting and capping gemstones. As always, we will have the club machines available for metal & gemstone testing, gemstone cutting, and capping. 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

April 2025 Minutes



Meeting called to order: 1:10 by Liz Platt, President. Welcomed new, returning, and potential members.

Meeting Minutes: Minutes published in Snoopy Gems. Vicki Reynolds made a motion to approve, second by Peter M. Minutes approved.

Treasurer: Barbi Beatty, Treasurer, provided account balances for show, checking, and savings. Paid scholarship deposit for Peter to go to William Holland, balance will be paid before he goes. Jewelry and Art Fair earnings and expenses explained. Harvey Marcum made a motion to accept, second by Peter M., motion carried.

Committee Reports

Sunshine: Reba Shotts, currently out of town, requested more stamps to mail cards to members. John Wright, long time member, passed away. Article in Snoopy was provided by John Wright, it was reposted in his honor.

Membership: No Report

Library, Closet, Inventory: No report

Equipment: John will talk to us about testing, Barbi put information in Snoopy about testing gemstones. Harvey asked if polisher on flat lap has been fixed. Shaft part on Pepe tool had to be replaced. Joni Arias bought the part and some new blades. The club will reimburse her for the purchase.

Communication:

Newsletter: No report

Facebook: No report

Show: provided by Barbi Beatty. 20 vendors confirmed verbally, tables will be rented from ABC Rentals. Show scheduled for September 27th, fourth weekend, Saturday and Sunday at the Civic Center in OS. Vender dinner will be on Friday evening at 5:30 pm and meeting will follow. Hope to set up tables earlier in the week. Sluce will be set up if Mark Gaines agrees to help, it will be set up outside under a tent. Will do another walk through to double check everything. If anyone has questions let Barbi, or Vicki know. Some costs went up with security, building is down, overall paying less. Anything coming in the door, raffle, and food will be money for the club. All advertisement will be updated.

Workshops: Wednesday classes are open to the public, Stephanie H. will teach a collar necklace, kit fee is not yet available. You can go to the workshop page of the website for information. Providing more cooper smithing classes on Wednesdays.

New Business: Vicki Reynolds is teaching a chain pull acrylic pour class on April 17, 2025. Call Vicki with any questions. John Guglik will do an introduction to Gem Testing. Charles, in charge of field trips for Dixie Mineral Council has got permission for us to have a field trip to a gravel pit area in Louisiana. He would like to know if we would be interested in taking a field trip. Barbi will send out an email to everyone. If we join the Dixie Mineral Council, it will give our club an opportunity to go to any digs in the Southeast Federation.

Old Business: No report

Gem of the Month: Diamond, see article in newsletter. John spoke with us about different metals, melting points, and gemstones.

Motion to Adjourn: 2:20 pm motion made to adjourn by Barbi Beatty, second by Vicki Reynolds, motion carried.

Door Prizes: Drawings held for door prizes.

Report by: Rosalind Norvel-Daniels



Happy

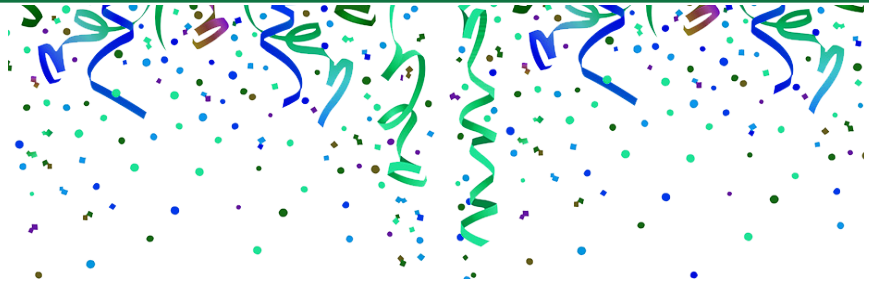
March

Birthday



Tammy Crump
Rachel Rocco

David Rodriguez
Buddy Shotts



Emerald: The Birthstone of May – A Scientific Perspective

Emerald, a gemstone prized for its vibrant green hue and historical significance, is the designated birthstone for May. Chemically classified as a variety of the mineral beryl ($\text{Be}_3\text{Al}_2(\text{SiO}_3)_6$), emerald owes its color primarily to trace amounts of chromium and vanadium. This article explores the geological formation, crystallographic properties, geochemical characteristics, and historical relevance of emeralds, with a focus on their occurrence, synthetic production, and significance in gemology and mineralogy.

Emeralds have captivated civilizations for millennia, symbolizing fertility, rebirth, and

love. Recognized as May's birthstone, emeralds belong to the beryl mineral family, sharing kinship with aquamarine and morganite. Their unique green coloration and rarity contribute to their high value and cultural status. Understanding emerald from a scientific standpoint provides insight into its geological origins, structural characteristics, and the technological processes used in its synthesis and enhancement.



Chemical Composition and Structure

Emerald is a cyclosilicate, with a hexagonal crystal system and a general formula of $\text{Be}_3\text{Al}_2(\text{SiO}_3)_6$. The green coloration is due to trace elements:

Chromium: Primary chromophore in most Colombian emeralds.

Vanadium: Found in emeralds from other regions like Brazil and Zambia.

Iron: Affects tone and saturation, sometimes giving a bluish tint.

These impurities replace aluminum in the crystal lattice, causing distortions that lead to the stone's characteristic green color.



Geological Formation and Occurrence

Emeralds form under rare geological conditions requiring the interaction of beryllium-rich pegmatitic fluids with chromium- or vanadium-rich host rocks, often shales or ultramafic rocks. This convergence typically occurs in hydrothermal or metamorphic environments. Significant sources include:

Colombia: Muzo, Chivor, and Coscuez mines; renowned for deep, saturated greens.

Zambia: Kagem mine; often vanadium-rich with good clarity.

Brazil: Diverse localities with both chromium and vanadium-bearing emeralds.

Pakistan, Afghanistan, and Russia: Notable but smaller-scale deposits.

Physical and Optical Properties

Property	Value
Hardness (Mohs)	7.5–8
Refractive Index	1.565–1.602
Specific Gravity	2.67–2.78
Crystal System	Hexagonal
Cleavage	Imperfect
Transparency	Transparent to opaque
Luster	Vitreous

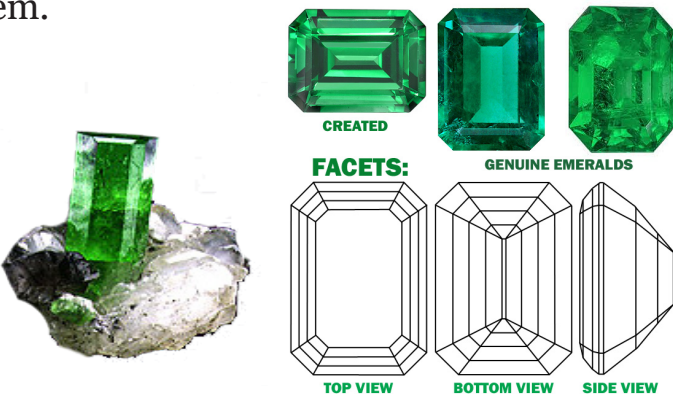
Due to internal fractures and inclusions (called *jardin*, French for "garden"), emeralds are typically less durable than other beryls and are often treated with oils or resins to improve clarity.



Treatments and Synthetics

Treatments: The most common enhancement is oiling, which involves filling surface-reaching fractures with colorless oils or polymers. Cedarwood oil is a traditional choice.

Synthetics: Lab-grown emeralds can be produced via hydrothermal or flux-growth methods. While chemically and optically similar to natural stones, synthetics often show characteristic inclusions and growth patterns that allow gemologists to distinguish them.



Cultural and Historical Significance

Emeralds have held symbolic value in numerous cultures:

Ancient Egypt: Cleopatra famously cherished emeralds as symbols of eternal youth.

Incas and Aztecs: Regarded emeralds as sacred.

Modern Times: As May's birthstone, emerald is associated with spring, renewal, and love.



Conclusion

Emerald is a gemstone of both geological wonder and cultural legacy. Its distinct color, coupled with its rarity and complex formation, makes it one of the most valued gems in the world. Whether appreciated for its beauty, scientific intrigue, or symbolic significance, emerald continues to be a gemstone of enduring fascination.

References

Nassau, K. (1980). *Gems Made by Man*. Chilton Book Company.

Giuliani, G., et al. (1997). "Geology of Colombian Emerald Deposits." *Mineralogical Record*.

Schmetzer, K. (1991). "Synthetic Emeralds Grown by the Hydrothermal Method." *Gems & Gemology*.

Hurlbut, C.S. & Kammerling, R.C. (1991). *Gemology*. John Wiley & Sons. Agate: Formation, Properties, and Applications of a Cryptocrystalline Quartz

Article by: Barbi Beatty 2025

Agate:

Agate is a cryptocrystalline variety of silica, primarily chalcedony, characterized by its fineness of grain and brightness of color. This paper reviews the geological formation of agate, its physical and chemical properties, the mechanisms contributing to its unique banded structure, and its practical applications in both scientific and commercial contexts.



Introduction

Agate has captivated humans for millennia due to its aesthetic patterns and durability. Found globally in volcanic and metamorphic rocks, agate has been used historically in tools, ornaments, and amulets. Recent research has expanded our understanding of agate formation processes, trace element composition, and potential industrial applications.

Geological Formation

Agates typically form in voids within volcanic rocks, such as basalt, through the precipitation of silica-rich fluids. Over time, these fluids deposit microcrystalline quartz in rhythmic layers, resulting in the characteristic banding. The formation process can span millions of years and involves cycles of silica supersaturation, polymerization, and mineral replacement. Variations in temperature, pressure, and impurity concentration during deposition lead to the wide diversity in agate appearance.



Mineralogical Composition

Agate is composed predominantly of silicon dioxide (SiO_2) with minor inclusions of iron, manganese, chromium, and other trace elements that contribute to its coloration. Its structure is cryptocrystalline, consisting of extremely fine intergrowths of quartz and moganite. This complex structure results in agate's notable hardness (Mohs 6.5–7) and resistance to weathering.



Optical and Structural Properties

The distinctive banding of agate arises from rhythmic crystallization processes. Under polarized light, agate shows alternating birefringence in layers, reflecting changes in crystal orientation. Electron microprobe and Raman spectroscopy studies have identified cyclic variations in water content, trace elements, and crystallinity, supporting a model of episodic deposition in fluctuating geochemical environments.



Geographic Occurrence

Agate deposits are widespread, with significant sources in Brazil, Uruguay, India, Madagascar, the United States (notably in Oregon and Montana), and Germany. Each locality often yields specimens with distinctive morphologies and colorations, reflecting the geochemical history of the host rock.

Applications

Agate's durability and appearance make it valuable in gemology and ornamental art. Industrially, agate is used in precision instruments due to its hardness and resistance to acids. In scientific research, agate mortars and pestles are standard tools for grinding substances without contamination. Additionally, agate is a model system for studying self-organization in mineral formation.

Conclusion

Agate remains a subject of interdisciplinary interest, linking mineralogy, geology, chemistry, and materials science. Ongoing research into the formation mechanisms and microstructural properties of agate not only enhances our geological understanding but also contributes to innovations in synthetic materials and nanotechnology.



References

- Heaney, P. J. (1994). Structure and chemistry of the low-pressure silica polymorphs. *Reviews in Mineralogy and Geochemistry*, 29(1), 1-40.
- Götze, J. (2001). Characterization of agate: geochemical, mineralogical and textural studies. *Mineralogical Magazine*, 65(5), 733–748.
- Moxon, T., & Ríos, S. (2004). The growth of agate: A review of the literature. *European Journal of Mineralogy*, 16(2), 241–256.

Article by: Barbi Beatty 2025

Upcoming Shows

Tennessee Valley Rock and Mineral Society

May 3 – 4, 2025

Chester Frost pavilion , Chester Frost county park,
Hixson Tn 37343

Free admission and parking. Event is at Chester Frost Pavilion on an island. 3-4 may 2025, 10a-4p eastern each day.

Georgia Mineral Society

May 9 – 11, 2025

Cobb Civic Center, 548 South Marietta Pkwy SE,
Marietta, GA 30060

notes

Friday May 9, 10 am to 6 pm, Saturday May 10, 10 am to 6 pm, Sunday May 11, 10 am to 5 pm. Free admission. Over 30 dealers.

Link(s):

www.gamineral.org

Harrison County Gem and Mineral Society, Inc.

May 17 – 18, 2025

Joppa Shriner Center, 13280 Shriners Blvd., Biloxi, MS

Saturday 9-5 and Sunday 9-4, Central Time Zone, Admission \$6.00, \$1.00 Discount Coupon on Website and Facebook. Children under 12 free/with paying adult. 20 plus vendors, Kids' Corner, Exhibits, Demonstrations, Educational Resources, Available for Purchase: Fossils Gemstones, Jewelry Supplies and More.

Link(s):

WWW.HCGMS.ORG/FACEBOOK

Greensboro Gem & Mineral Club

Saturday, June 7

Piedmont Triad Farmers Market, Sandy Springs Rd., Colfax NC

notes

Open Air Rain or Shine 12th Annual Gem, Mineral & Jewelry Show. Gem Sluicing, free geodes for kids 12 and under. Free admission, free parking

Link(s):

www.facebook.com/GGMCrocks

Bench Tips

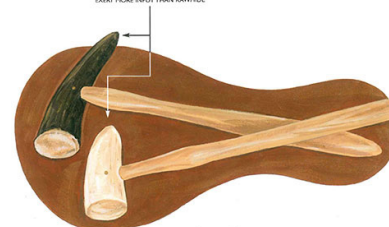
There's the Rub:

Applying an Ultra High Polish to Tools



Every tool that rubs against metal leaves a mark corresponding to the tool's finish. That means some tools, such as gravers, need to be maintained with an ultra high polish. When sharpening a graver, you generally polish the belly, since it is the underside that leaves the finish on the metal. To do this, hold the graver flat and rub the belly firmly against a series of progressively finer grades of abrasive paper; the paper should rest on a very flat surface, such as a piece of glass. If the tool is new and needs a lot of work, begin with 220 grit, then proceed to 400 and 600 grit. Next, lap the surface on 4/0 polishing paper, which is extremely fine and leaves a polished surface. However, if you want to achieve the absolute highest luster, here's a trick. After the final polish, take a regular graphite pencil and charge up a section of the same 4/0 paper, until the area is covered with graphite (a lubricant). Now re-polish on this section, applying strong pressure. You can then take out your work, use the graver and note the smile you see in the brilliant reflection!

MALLETS CUT FROM A COW HORN OR AN ANTLER
EXERT MORE IMPACT THAN RAWHIDE



Horn of Plenty: How to Carve Your Own Mallet

Goldsmiths often use mallets to form and smooth metal, in a process called "bouging" (rhymes with "rouge-ing"). These days, bench jewelers can choose mallets of many different materials, such as rawhide, rubber, and plastic. But long ago, the best mallets were made of horn. Horn mallets seem to exert more impact and leave fewer surface blemishes than rawhide. And because horn has an interior grain, the working surface holds up for a long time, after which it can be reshaped for even further use. Unfortunately, horn mallets are not commonly found in jewelry tool catalogs, at least not in the U.S. Fortunately, they are fairly simple to make. The first thing you need is a cow horn or an antler. (Try finding them in a Western supply store.) Using a probe, determine where the hollow interior ends, then use a saw to cut the horn off in the solid area just beyond it. Drill a 3 mm hole from the inside to the outside of the curved horn, midway between the ends. Repeat the drilling with 6 mm bits. Now take a standard hammer handle and carve and reshape it to fit the hole tightly.

We always welcome new members!



Date _____ Mississippi Gulf Coast Gem and Mineral Society

http://www.mgcgms.org		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: _____	
Members Birthdays			
Adult: _____		Birthday M/D: _____	
Adult: _____		Birthday M/D: _____	
Junior: _____		Birthday M/D/Y: _____	
Junior: _____		Birthday M/D/Y: _____	
Please Check All Applicable Interests			
<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? _____			
Please check the following: <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: _____			

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Snoopy Gems
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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

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Parliamentarian	John Guglik
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Member at Large	Sue Shelton
Member at Large	Vicki Reynolds

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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

May 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

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

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