



THE MOUNTAIN GEM

Gem & Mineral Society of Franklin, North Carolina

December 2020 Newsletter



Franklin Gem and Mineral Society

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 Director (2020): Tom Parker, (828-342-3619)
 Director (2019): Diane Mason, (706-379-1718)
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 Publicity: George Fritz, (828-524-4936)
 Field Trip Coordinator: Marsha Harmon, (828 369-7262)
 Program Coordinator: Kathi Walbridge
 Museum Calendar: Jay Mooney, (678-488-0620)
 Gemborees Vacant
 Education/Tours: Marsha Harmon, (828 369-7262)
 Asst Education/Tours: Ron Rossomando (828-349-2807)
 Web Master: Melissa Barfield (803-724-8312)
 Newsletter Editor: Stacy Walbridge [fgmseditor@gmail.com]

The Club is a member of the American Federation of Mineralogical Societies and the Southeast Federation of the Mineralogical Societies.



The Gem and Mineral Society of Franklin, North Carolina, is a 501 (c)(3) organization and donations may be tax deductible. Please remember us when planning your estate.

DECEMBER MEETING PROGRAM

Putting Geology in the Frame

By Dr. Bill Witherspoon

Dr. Bill Witherspoon, co-author of "Roadside Geology of Georgia," will combine microscopic rock images with images from Roadside Geology of Georgia and Google Earth to take the audience from the Coastal Plain to the Blue Ridge, and from beach sand to granite. You don't want to miss it.

The December general meeting will be held using Zoom starting at **7:00 pm** with meeting invitations sent by separate email. The Zoom meeting room will open at 6:30 pm if you would like to join early.

THANKS

By Tom Parker

I just wanted to say "Thanks" for the arrangements to bring in Pete Goetz, "the Opal Guy", at the last Members Meeting. Pete did a spectacular job on Zoom, good discussion, good examples, good pictures and he left time for comments and questions.

Everybody knows me, knows I love Opals and I just wanted to say that I took away lots of information from the presentation. Very glad he focused on the "precious" Australian Opals as there are just so many places in the world where Opals may be found and they come in a wide variety of colors. Sometime later next year we may like to invite him back to discuss both precious and common Opals from the Americas. Bravo!

Any member who has a computer, tablet or smart-phone can log into our Zoom meetings and attend. Keep up with old friends, old enemies or just plain old rockhounds. And with Zoom Meetings if you're watching Solo, you don't have to wear a Mask.

Line up your snacks and beverage of choice and settle in for a FGMS Monthly Zoom Meeting. No excuse not to!

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Club Website: <http://www.fgmm.org>

Club Facebook Page: <https://www.facebook.com/franklingems>

Club Newsletter: fgmseditor@gmail.com,

Club Contact E-mail: franklingemsociety@gmail.com

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November General Meeting Minutes

Susan Fritz, Secretary

The November General meeting was called to order by President Jane Morgan on Thursday, November 19, 2020 at 7:05 p.m. Due to the Covid pandemic, this meeting was held via Zoom.

Participants: Jane Morgan, Al Pribble, Susan Fritz, Duane Haskell, Larry Ellert, Deborah Wright, George Fritz, Stacy Walbridge, Kathi Walbridge, Mark Laing, Stephanie Brundage, John Hayes, Tom Parker, Matt Castor, Steve Fox, Sharon Fox, Amy Fritz, Betty Kimball, Jay Mooney (by phone) and Anamay Rossomando (by phone).

The newsletter deadline was announced as Friday, December 09, 2020.

Our next Board meeting for the month of December is Tuesday, December 15, 2020 and the December General meeting will be on Thursday, December 17, 2020; both via Zoom. Note that both meetings are at 7 p.m.

Stacy Walbridge made a motion that Mark Laing be elected as Board Director (to replace the vacancy Larry Ellert left when he became Museum Manager). John Hayes seconded the motion. A vote was taken and the motion passed.

Larry Ellert announced that he and Al Pribble have worked on the cameras and they are up and working. There are extra cameras and discussion ensued regarding where they might be listed for sale and what price to charge.

Larry Ellert stated that Charlotte Frye cannot attend the Streets of Franklin meetings any longer due to health issues in her family.

Tom Parker wished to reiterate that the 2020-2021 club membership dues need to be paid. Checks may be sent to the Gem & Mineral Museum, 25 Phillips Street, Franklin, NC 28734, attention Membership.

George Fritz announced that Stacy Walbridge, Editor of The Mountain Gem, has been recognized by the AFMS (American Federation of Mineralogical Societies). He won a 1st place award for the 2019 December issue of The Mountain Gem in the AFMS Bulletin/Newsletter contest.

George will submit articles to our local newspaper publications. Congratulations, Stacy!

There being no further business, a motion was made by Larry Ellert and seconded by Stephanie Brundage to adjourn the meeting. Everyone was in agreement. Therefore, the meeting was adjourned by President, Jane Morgan, at 7:17 p.m.

Guest speaker for this evening was Pete Goetz, past president of the American Opal Society. He provided a detailed and informative presentation on opals.



Golden Numbers to Impossible Crystals

Stacy Walbridge

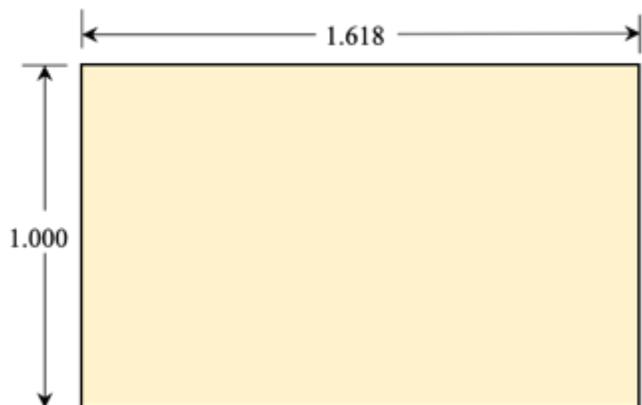
Number sequences can be funny. Sometimes there are random sequences like 5, 1, 0, 159... and sometimes there are patterns like 1, 2, 3, 4... And sometimes the random sequences are not random but have a pattern that are not easily identifiable like, 1, 2, 3, 5, 8, 13... This is a Fibonacci sequence where the next number in the sequence is the addition of the previous 2 numbers.

In the 13th century Fibonacci authored a book, *Liber Abaci*, that popularized the use of Arabic numbers in place of Roman numerals. In that book he solved a fictional problem about the growth of a population of rabbits. The population growth was represented by a number sequence which is now called the Fibonacci numbers.

Mathematicians later discovered that if you took a Fibonacci number and divided it by the previous number in the sequence you ended up with a value of about 1.618, which has been known since Euclid's time as the Golden Ratio. For many artists, the Golden Ratio is considered aesthetically pleasing to the eye and has been used for centuries in building design, paintings, and even in nature.

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A Golden Rectangle
Graphic by S. Walbridge

Salvador Dali used the golden ratio in many of his paintings with “The Sacrament of the Last Supper” being the most famous. The Golden Ratio can be seen throughout the painting with even the canvas dimensions approximating the Golden Ratio.

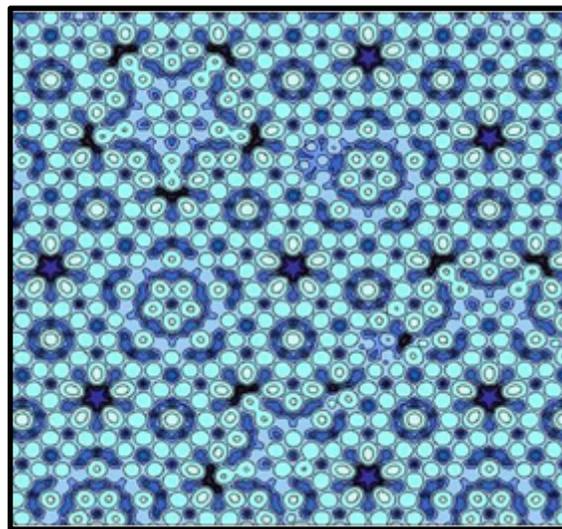


Photo Courtesy of The National Gallery of Art



You're probably wondering what this has to do with crystals. In 1984 Dan Shechtman, a researcher with the Israel Institute of Technology, was working with mixtures of aluminum and manganese when he saw an impossible crystal structure under an electron microscope. Up until this time crystals were understood to have an ordered and repeating arrangement of atoms in 3 dimensions. What Shechtman saw was a crystal structure that was ordered but did not repeat and it was not amorphous, like glass or obsidian. Shechtman was ridiculed and was asked to leave his work over his discovery. But over time, 'quasicrystals' became an accepted crystal form leading to Shechtman receiving the 2011 Nobel

Prize in chemistry. His discovery even led to a new definition of what is a crystal by the International Union of Crystallography, “discrete diffraction diagram”¹



An atomic model of an Ag-Al quasicrystal. Credit...Ames Laboratory, via Agence France-Presse — Getty Images

Now it just so happens that there are some quasicrystals where the long length of one crystal face is 1.618 times the short length². In other words the Golden Ratio or Fibonacci numbers ratio.

So number sequences can be strange and lead you to discovering relationships that you thought were random or coincidental maybe aren't so random.

References:

- 1 - <https://www.nytimes.com/2011/10/06/science/06nobel.html>
- 2 - <https://quantumgravityresearch.org/golden-ratio-in-nature-overview>
- 3 - https://en.wikipedia.org/wiki/Fibonacci_number

DECEMBER BIRTHSTONES: Turquoise, Tanzanite, & Zircon

Article and Photos Courtesy of

<https://www.gia.edu/birthstones/december-birthstones>

Turquoise

Turquoise is a semi-translucent to opaque gem that ranges from blue to green and often has veins of

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matrix (remnants of the rock in which it formed) running through it. This December birthstone has been cherished for millennia. The pharaohs and other rulers of ancient Egypt adorned themselves with it. Chinese artisans carved it more than 3,000 years ago.



The turquoise birthstone was thought to possess many beneficial powers, like guaranteeing health and good fortune. From the 13th century on, it was believed to protect the wearer from falling (especially off horses), and would break into several pieces at the approach of disaster. Hindu mystics maintained that seeing a turquoise after beholding the new moon ensured fantastic wealth.

This turquoise birthstone also played an important role in the lives of Native Americans. The Apache thought turquoise could be found by following a rainbow to its end. They also believed that attaching the December birthstone to a bow or firearm made one's aim more accurate.

Tanzanite

Tanzanite may be a relative newcomer to the world of colored stones, but it was one of the most exciting gem discoveries of the 20th century. Blue stones emerging from Tanzania were identified as the mineral zoisite in 1962. Not until 1967, though, did prospectors locate the primary source for this December birthstone: the Merelani Hills. It was eventually named tanzanite in honor of its country of

origin. The tanzanite birthstone is often described as “velvety,” mostly because of its deep and saturated color, which ranges from a pure rich blue to violet,



with the blue considered most valuable.

Tiffany & Co. believed that tanzanite had international appeal and became its main distributor. In 1968, Tiffany launched a major advertising campaign to promote it. With its vivid colors, high clarity and potential for large cut stones, tanzanite quickly became a sensation.

Zircon

The origins of the word “zircon” have elicited colorful debate. Some scholars believe it comes from the Arabic word zarkun, meaning “cinnabar” or “vermilion.” Others think the source is the Persian word zargun, or “gold colored.” Considering the broad color palette for this December birthstone – red, orange, yellow, brown, green and blue – either derivation seems possible. Colorless zircon is known for its brilliance and flashes of multicolored light, called fire, which have resulted in centuries of confusion with diamond

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During the Middle Ages, this December birthstone was thought to lull one into a deep sleep and scare off evil spirits. In the Hindu religion, zircon alternates with hessonite garnet as one of the nine gems of the navaratna. When worn together, the nine gems protect the wearer and bring wealth, wisdom and good health.

And The Winner Is

By George Fritz

Picture by Kathi Walbridge



Congratulations are in order for our own Stacy Walbridge. He is the Editor of the Mountain Gem, the club newsletter. Stacy was judged 1st Place winner by the A.F.M.S. (American Federation of Mineralogical Societies) for the December 2019 issue of The Mountain Gem. The category included new editors for the calendar year 2019. The finalists were selected from seven regions of the United States from coast to coast.

For the past two years he has kept us informed as to what is going on in the club, all while holding a full-time job with the past year being especially challenging.

Museum History Corner

A Museum Resident

Fred Plesner, Curator Emeritus

Christmas is a time when we think of family, peace and good will but all too often it is a time of violence and such was the case on Christmas Eve of 1929. Some sort of affray occurred that involved a man named Frank Anderson and the sheriff's department was called.

Deputy sheriff L. Frank (Bryan) Setser arrived to settle the dispute in which Charles Waldroop, Clyde Ledford and Harley Ledbetter were present. Deputy Setser placed Frank Anderson under arrest on charges of being drunk and fighting with Harley Ledbetter. Deputy Setser then left with Frank Anderson to book him into the Macon County Jail. Here things should have ended, but no, things were about to get a whole lot more complicated.

When his shift ended Deputy Setser set out for his home in the Cartoogechaye Community presumably to spend Christmas with his family. From here I have not been able to unravel what happened due to conflicting testimony. On his way home Deputy Setser passed the home of Charles Waldroop and was hailed by Waldroop and Clyde Ledford. Whatever happened next led to another affray and ended with Waldroop being shot twice in the right hip.

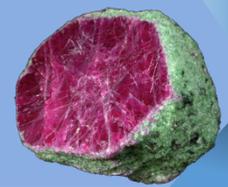
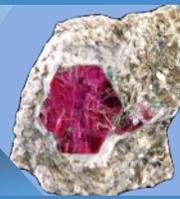
Charges of assault were instituted by Deputy Setser and counter charges were brought by both Charles Waldroop and Clyde Ledford.

It all came down to a trial before Judge John Harwood in Macon County Superior Court on Monday, April 21, 1930. How the testimony went I don't know but it ended with all three men being found guilty.

Court costs came to \$218.00 to be divided equally between the three men and Deputy Sheriff Setser was fined \$100.00, Charles Waldroop and Clyde Ledford were each fined \$30.00.

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December Board Meeting
7:00 pm Tuesday, December 15, 2020

November General Meeting
7:00 pm Thursday, December 17, 2020
This will be a Zoom Meeting
Putting Geology in the Frame
By
Dr. Bill Witherspoon

January Newsletter Deadline is
Wednesday, January 20, 2020