

CRACK 'N CAB

Gem & Mineral Society of Syracuse, PO Box 2801, Syracuse, NY
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more info

Come join the
fun!

Don't Forget
Membership
Renewals

For event
Cancellations
see TV
web page
Channel
9 or 10

Submit
questions,
requests, news,
pictures,
suggestions or
volunteer to
help the club
Hospitality
Committee. Send
email or tell us
at the next Club
meeting

January 16 General Meeting

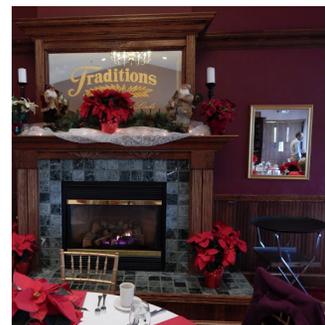
Rick Moore will be the speaker at our January meeting. The title of his talk will be "Dynamic Earth: Drifting Continents, Mountain Building and Changing Seas". He will show where North America was at various times from 600 million years ago to the present with the latest Paleo-Geographic maps. The effects these global changes on the geology of New York will be part of the talk.

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Holiday Party Photos

Thanks to Steve Albro, Judy Cook & Mark Grasmeyer

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President's Message



Mark Grasmeyer
President
December 2016

Hello my fellow rockhounds! My message will be brief so I can wrap some presents. Our holiday celebration was awesome thanks to some hard work by our committee. Great job from Linda Tanner, Linda Sweeney, Donna Dow, and Bob Livingston.

I have a Great trip for you to think about. The Albany gem and mineral show is in mid-February. We are chartering a Bus for Saturday February 18th. Look for more details soon. The price is a very affordable 35 bucks.

So, have a Great holiday season with your loved ones and see you in January.....

Secretary's Report

See Next Month.

2016 Award Winners GMSS, EFMLS, AFMS

David Millis

EFMLS Each One Teach One Recognition

Rick Moore

GMSS Rockhound of the Year

Keith Gilmer - Adult Poetry

"A Poem"

2nd Place EFMLS

9th Place AFMS

Benjamin Wilbur - Junior Article

"November - Birthstone Citrine"

3rd Place EFMLS

7thPlace AFMS

Ellie Brewster - Junior Article

"October - Birthstone Garnet"

4th Place EFMLS

Shannon Phillips

"Pseudomorphs"

10th Place EFMLS - Original Educational Article

5th Place AFMS - Written Features

Shannon Phillips - NonTechnical Article

"Collecting with Kids"

2nd Place EFMLS

5th Place AFMS

Dan Andrianos - New editor

1st Place EFMLS

3rd Place AFMS

**For Updated Event List
see <http://gmss.us> for more info.
Event Cancellations will be
announced on Cable 10 and
Broadcast 9.1**

Send us your suggestions for field trips and meeting speakers! Contact Harold Jones at vp@gmss.us or talk to him at any Club Meeting.

Jan 21 - Jr Rockhounds meet at the Clubhouse 10-1. Activity to be determined.

Feb 18 & 19 - 10 AM to 5 PM, NY State Museum Show & Sale, New York State Museum, Cultural Education Center, 4th Floor Terrace, 222 Madison Avenue, Albany, NY. Vendors display and sell gems, jewelry, minerals, fossils, and much more. This event is co-sponsored by the Capital District Mineral Club and the New York Academy of Mineralogy.

**MON May 22-SUN May 27, 2017
Spring 2017 EFMLS Workshop at Wildacres
Speaker-in-Residence - Bob Jones**

Junior Rockhounds News From Shannon Phillips

November was a great month for the Junior Rockhounds. Our meeting consisted of three crafts: making tree of life pendants, gem trees,

and making "fossil" eurypterids out of bakable clay, which we baked in a toaster oven. We had ten youngsters in attendance from pre-school aged through age 13. Ronna taught kids how to make the gem trees, Michael baked the fossils, and Shannon gave instructions on the tree of life. We all twisted a lot of wire. We were pleased to welcome three new members and their mother. Many children attend gymnastics and martial arts classes at the mall and the windows of the clubhouse really draw their attention. This is the second time we've had family drop in after seeing the clubhouse while attending other events. The little boy who joined us (his older and younger sister were interested, but they aren't the rockhounds) was SO excited that we were open and even happier when we invited him to stay and do the crafts with us. Thank you to all of those who keep the front window displays so beautiful and interesting. They really help with our recruitment.

All of the kids left with some beautiful crafts and some new "lapidary" skills. The new edition of the AMFS Badge Program has included beading in the Lapidary Arts badge, so we have completed one of the three tasks required for that badge. We also learned about Eurypterids, the New York State fossil, filling a requirement for the Fossils badge. Last year, we focused on one badge at a time, but this year we are taking a more integrated approach that allows kids who have already completed some of the badges to work toward others as newer members complete requirements for badges that we completed last year.

A special congratulations to Junior Rockhounds Benjamin Wilbur and Ellie Brewster for earning recognition for their newsletter articles. All Junior Rockhounds are encouraged to submit articles on any topic of interest to the Crack 'n Cab. For more information, email editor@gmss.us.

Our next meeting will be at the clubhouse on Saturday, January 21 from 10:00-1:00. Hope to see you there!

Minas Gerais
Popular Pegmatite Minerals
By Shannon Phillips

If you collect minerals, chances are you have at least one specimen from Minas Gerais, Brazil. Minas Gerais is a state in Brazil whose name translates to "General Mines." The mines there



do appear to be general, judging by the extreme range of minerals that come from the area, which is similar in size to the area from Maine to Virginia. All told, Minas Gerais is home to 517 valid minerals. It serves as the type locality of 48 valid minerals. Brazil produces the greatest variety of semi-precious stones and gems in the world.

The minerals of Minas Gerais occur in two different geologic formations. One is the pegmatites of northeastern Brazil. The other is sandstone deposits. The pegmatites were most likely formed during two distinct geologic events, one occurring 700 to 450 million years ago during what's known as the Brasiliano orogeny, when the plates in the Earth's crust collided to produce the intrusion of magma that would lay the foundation for the formation of so many of the pegmatitic minerals in the area, and the other, more recent event (124-89 million years ago) was a major uplift during the Cretaceous period. As magma pushed upward, existing rock cracked and magma infiltrated the fissures, resulting in a "primary pegmatite" where "the pegmatite body is still enclosed in the original schistose or gneissic host rocks," also known as a pegmatite dyke" (Proctor 1984). The other, formed by intrusions into existing metamorphic rock in a vertical pattern, resulted in hill-like mounds of pegmatitic rock. Erosion continues to produce secondary deposits as gemstones weather out of the pegmatites, often settling some distance from the original source.

The gem-bearing pegmatites are largely concentrated on the western edge of the province and include precious stones such as emeralds, alexandrite, tourmaline and aquamarine.

Emeralds are the mineral beryl colored by the presence of chromium and/or vanadium during the formation of the crystals. The emerald is found in veins of quartz or in adjacent schists. Most often, they are extracted through pit mining. Some locations, however, including the Belmont mine, one of the region's largest emerald producers, have invested in ramp-style underground mining, which creates shafts large enough to drive equipment into the mine and to ventilate it properly. The determination regarding the best way to mine an area is made by studying core samples that reveal the depth of the emerald bearing veins. If the overburden is very deep, it is more economical to mine underground than to dig a pit.

Deposits of Alexandrite are similar in formation to those of emerald. Despite the presence of Alexandrite in the schists found in pegmatite, most of the stones are mined from alluvial deposits. Although production is relatively low, only about 250 carats a month, roughly half of which are lost in the cutting process, the venture is still quite lucrative, with high quality stones commanding a price of up to \$3,500 per carat.

The history of tourmaline in Minas Gerais is possibly the most interesting. Early explorers mistook green tourmaline for emerald when it was first discovered. Many were shipped back to Portugal where they were cut and set into royal jewels. It was not discovered until many years later that "Brazilian Emerald" was not emerald at all, but tourmaline. The stone was scorned by many upon the disappointing discovery. It wasn't until the early 19th century that pegmatitic minerals, including tourmaline and aquamarine came to be of commercial value.

Although gem cutters in Portugal and India rejected "worthless tourmaline," German settlers in Brazil appreciated the potential value of the colored stones revealed by almost any digging activity. They quickly developed trade with local *garimpieros* (freelance miners) and began purchasing mines that others considered worthless. Interest developed slowly as new colors of tourmaline were discovered, but it wasn't until World War II, when mining for beryl, mica, feldspar, quartz, and lithium minerals increased greatly for use in glass, porcelain, and electronic devices that vast discoveries of tourmaline were made in pegmatites being mined for other uses. The gemstone industry became a by-product of the war effort. During the 1950s, the growing popularity of collecting fine mineral specimens provided another lucrative market for tourmaline and other gemstones.

Major deposits of aquamarine are found in several regions of Minas Gerais. They are mined both in alluvial deposits and in pegmatites. The color of the aquamarines ranges from a light greenish hue, which is heat treated to remove the yellow tinge and strengthen the blues, to natural deep blue that can resemble blue tourmaline. Most aquamarine is heat treated, a process that replicates that of nature, and produces a stable blue color that is most often associated with the stone. Brazil is known as the aquamarine capital of the world because of the quantity and quality of the aquamarine it produces. The largest known aquamarine, a stone of weighing over 500,000

carats (244 lbs) was discovered there in 1910. The Papamel aquamarine, 48.5 cm long x 38 cm in diameter (19 x 15 in.), was transported to Germany through great effort. When no museum offered to purchase the doubly terminated, water-clear stone, it was cut into pieces and sold individually. The crystal produced 200,000 ct of finished gems and several pieces did find their way into museums. The American Museum of Natural History in New York City now displays the nearly 6-kg remnant (presumably the only uncut piece of the Papamel aquamarine) in the J. P. Morgan gem collection. The publicity surrounding this discovery and subsequent distribution greatly increased the demand for aquamarine, boosting mining operations focused primarily on this once overlooked gemstone.

The world's largest cut aquamarine, the Dom Pedro, is the best part of a crystal discovered in the late 1980s. The exceptional crystal was accidentally dropped and broke into three pieces. After over a decade of negotiation for its purchase, the 60 pound, two-foot long crystal was acquired by Jürgen Henn, a German gem dealer, and Dr. Hermann Bank, a renowned gemologist and head of the firm Gebrüder Bank. Once safely in Germany, the crystal was delivered to master cutter and gem artist, Bernd Munsteiner, who spent nearly a year studying the crystal and working on a design before cutting it into a 10,363 carat sculpture. After being displayed extensively, the stone was in peril of being cut into smaller stones until it was purchased by American businesswoman Jane Mitchell and donated to the Smithsonian Museum of Natural History.

There are hundreds of other precious stones and minerals found in Minas Gerais. Many are of commercial value as cut gemstones and mineral specimens. A few of the most popular, emerald, tourmaline, and aquamarine have extraordinary origins both geologically and in terms of their arrival on the commercial market. Minas Gerais will continue to provide valuable information about earth processes, beautiful specimens of valuable gemstones, and world-class collectors' pieces. With so much to learn, there will certainly be more to come about this fascinating locale.

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Winter Woes By Keith Gilmer

The weather outside is frightful,
And driving is not delightful,
Who ordered this stuff?
I've had quite enough,
I'm too cold to be more insightful.

Spring can't be too far away?
I'm thinking this white stuff will stay!
But there's always hope,
That we can all cope,
Until green grass will blanket the way.





Gem & Mineral Society of Syracuse

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- Photographers Extraordinaire
Judy Cook, Steve Albro
- Hospitality Committee Chair
Donna Dow

Eight people organized the Gem and Mineral Society of Syracuse in 1951. Since that time it has grown in membership to include adults, families, and young folk. The Society was incorporated in 1969 under the same name.

The objectives of the Society are to stimulate interest in mineralogy, paleontology, and the lapidary arts. Member interests include collecting, identification, and display of minerals, gems, fossils. Members share and develop their artistic skills in jewelry design and creation.

Our monthly meetings provide social and educational experiences. Field trips give collectors chances to find specimens and enjoy the outdoors, exercise and time with old and new friends.

General Meeting 3rd Monday of the month (NOT in July, August, December) at 7:30 PM in the Clubhouse (Shoppingtown Mall on the 2nd floor near Sears).

Visitors are ALWAYS welcome!

You can also visit our facebook and flickr pages.

Annual member dues:

Adult \$10 • Family/Couple \$15 • Junior \$5 • Life \$5

If you would like to join or renew your membership, download the application form (PDF), go to <http://gmss.us/about/membershipform.pdf> or get a form at a meeting or send request to the address at the top of this page and we will US mail an application/renewal form to you.