



STAR-O-LITE

Augusta Gem & Mineral Society, Inc.

Volume 47 No 8 August, 2011

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Next Meeting
Friday, August
19th 7:30 p.m.
Room #114

Program
Members Jana
Rollins & Pete
Hakelli on Jana's
Collection

Field Trip
Saturday, August
27th Stones & Bones
Private Collection of
Richard Hightower

The Augusta Gem and Mineral Society, Inc. meets at 7:30 PM the third Friday of every month in room 114 of the Georgia Military College facility at 115 Davis Road, Martinez, GA. (Use rear parking lot and rear entrance.) Visitors are welcome! Annual dues are \$20 for a family membership, \$15 for singles, and \$1 for junior members ages 8 to 18.

Newsletter article submissions should be emailed to rmcnutt9@comcast.net or sent through traditional mail to AGMS Editor, 4 Woodbridge Way, Evans, GA. 30809.

Message from the Editor



Dear Members of the AGMS,

Would you like to see your work featured in the Star-O-Lite?

Next month I plan to start a Show & Tell section in the newsletter; I am looking for submissions from members. Please share your recent projects, this needn't be limited to what turned out great, we have a lot of expertise available in the club who might lead you to overcoming problem areas in your work. Send me a photograph of your project; a short description & your name via email or regular mail. Depending on the response, I will begin publishing them in the order received.

Thank you, Patricia

Augusta Gem and Mineral Society July 2011 Meeting Minutes

Meeting Date: July 15, 2011

Meeting Time: 7:30 pm

Presiding Officer: Chris Wisnieski (Pres.)

Attendance: 32 Members, 2 Guests

June Meeting Minutes were approved as printed in the bulletin.

Treasurers Report: Treasurer Report presented by Wayne Parker.

Old Business: 1.) Hats are for sale-\$10 each; 2.) Elliott Huffman has volunteered for the Webmaster position. It will be a 3 month trial .3.) Jim Stoops was awarded a certificate of appreciation from the March show.

New Business: 1.) EFMS is looking for a regional VP. 2.) Members voted to discontinue membership in the Augusta Chamber of Commerce. 3.) Members voted to reimburse the Hightower's for the food they will be serving at our August Field Trip . 4.) The Aiken club invited us to join them on their Summer Excursion to the Bob Campbell Museum and a tour of the Duke Electric Nuclear Station on Saturday July 16.

Field Trip Report: 1.) Collector of the Month for June—Stingray Stinger from Tennille discovered by Phillip Yarborough. 2.) July 23rd will be to Hiddenite NC for Spodumene and Emeralds. Steve handed out directions to the location.3.)August 27th field trip will be to visit Richard and Janice Hightower's home to view their extensive collection of fossils. We will meet at Georgia Military College parking lot at 8:30am and caravan to the location. 4.) September 24th dig to Glendon Pyrite mine with Magma group. Limited group to go must already be signed up.

Door prizes were awarded to ALL in attendance. Members are requested to bring give-a-ways for next month's door prizes.

Program Report: Upcoming programs: Ann Neilson's jewelry in September, Silent auction in October, Shirley Chipman's copper jewelry in November, and Jim Knight's paleo digs in the southeast in January.

We watched a video about the Lechugilla caves and the formations found in this spectacular location from the Yarborough's collection. Thanks Tim and Phillip. Meeting adjourned at 9:30 pm.

Minutes submitted by Maurine Resch, Secretary.

Dates / Things to Remember

**Next meeting: Friday, August 19th 2011
(7:30pm)**

Regional Club Shows:

AUGUST 2011:

- **Aug 4-7, Spruce Pine, NC** - Since the early 1950's Spruce Pine, North Carolina has been the host of the Festival and welcomed visitors from around the world to shop for beautiful jewelry, gemstones, minerals, beads, crystals, fossils and more! The NC Mineral, Gem and Jewelry Festival is directed by the Mitchell County Chamber of Commerce and supported by nearly 100 community volunteers. The Festival is an indoor festival so weather is never a problem!
- **Aug 12-14, Dalton GA** - 20th annual show, "North Georgia Gem, Mineral & Jewelry Show"; Treasures Of The Earth Gem & Jewelry Shows; Northwest Georgia Trade & Convention Center, 2211 Dug Gap Battle Rd., I-75 Exit 333; Fri. 2-7, Sat. 10-6, Sun. 11-5; adults \$3 (3-day ticket), children under age 16 free; jewelry makers, goldsmiths and silversmiths, jewelry repair and design, wire wrap, wire sculpture, stone beads, pearls, stone setting, dealers, amber, opal, fossils, minerals, door prizes, grand prize; contact Van Wimmer Sr., 5273 Bradshaw Rd., Salem, VA 24153, (540) 384-6047; e-mail: vawimmer@verizon.net; Web site: www.toteshows.com
- **Aug 13-15, Gulfport, MS** - 35th Annual Harrison County Gem & Mineral Show, Harrison County Gem & Mineral Society of Gulfport, MS. Aug. 13th, Noon to 7p.m.; Aug. 14th 9a.m. to 6 p.m.; Aug. 15th 10a.m to 5p.m. Location: W. Harrison Community Center 4470 Espy Ave. Pass Christian, MS 39571. Admission: \$3 Adults; Children under 12 free with Paid Adult. Contact: Tomsey Westermeyer Show/Dealer chairman at 228-586-5279 or email at: tomsey@cableone.net.
- **Aug 20-21, Bossier City, Louisiana** - Annual show; Ark-La-Tex Gem & Mineral Society; Bossier Civic Center, 620 Benton Rd.; Sat. 10-6, Sun. 10-5; adults \$4, students \$1, children under 6 free; door prizes, youth activities, demonstrations, exhibits; contact Charles Johns, 9314 Overlook Dr., Shreveport, LA 71118, (318) 687-4929; e-mail: cwsejohns@bellsouth.net; Web site: www.larockclub.com

SEPTEMBER / OCTOBER 2011:

- **Sept. 3-5, Brunswick, GA** - Annual Gem, Mineral, & Jewelry Show Golden Isles Gem and Mineral Society. Sat., 10am-7pm; Sun., 12 noon-6pm; Monday, 10am-5pm. Glynn Place Mall, I95- exit 38, GA Spur 25/Golden Isles Parkway; 2 miles. Exhibits,

Demonstrations, Education Resources, Gold, Silver, Gemstones, Mineral Specimens, Fine Jewelry, Wire-Wrapped and Hand-Crafted Jewelry, Beads, Findings, Tools & Equipment and More! Contact: Patricia Cox, Show Chairmen, 912-265-4259, hepacox@comcast.net

- **Sept. 3-6, Hendersonville, NC**—Henderson County Gem & Mineral Society. 29th Annual Gem, Mineral, Jewelry Show & Sale, Whitmire Activity Building, Lily Pond Road, Hendersonville.
- **Sept. 9-11, Winston-Salem, NC** - 40th annual show; Forsyth Gem & Mineral Club; Educational Bldg., Dixie Classic Fairgrounds, 27th St., gate #9; Fri. 10-7, Sat. 10-7, Sun. 12-5; contact W.A. Marion, 1163 Bear Creek Church Rd., Mocksville, NC 27028; e-mail: MarionA1@yadtel.net
- **Sept 30—Oct 2, Dallas, NC.** - Gaston Gem, Mineral & Faceters Club. Show & Swap, Resource Center, 1006 Biggerstaff Park, Dallas/Cherryville Highway, Dallas. Free admission. Hours: 9-6 each day. Contact Showchair Jackay McDaniel at (704) 865-6748
- **October 1-2, Lexington, KY**- Rockhounds of Central Kentucky. 21st Annual Gem, Mineral, & Jewelry Show and Sale, Kentucky National Guard Armory, 4301 Airport Road, Lexington. Adults \$1, children 6-12 50¢, max \$3/family. Scouts in uniform free. Hours: Sat 10-6, Sun 12-5. Contact show chairs Allen Ferrell (859) 277-2469 or Lamon Flynn (606) 726-9237.

NOVEMBER 2011:

- **Nov.11-13, Pascagoula, MS** - The Mississippi Gulf Coast Gem and Mineral Society. Magnolia State Gem, Mineral, and Jewelry Show, Civic Center Building, Jackson County Fairgrounds. Hours: Fri & Sat 10-6, Sun 10-5. \$3 admission, children under age 13 are free. Contact Jim Darnell @ (228) 806-1039 [cell] or (228) 875-2310 [home].
- **Nov. 19-20, West Palm Beach, FL** - 45th Annual Gem, Mineral, Jewelry, Bead & Fossil Show sponsored by the Gem & Mineral Society of the Palm Beaches. So. Florida Fairgrounds Expo Center East: West Palm Beach, FL
- **Nov.25, Mobile, AL** - Mobile Rock and Gem Society. Mobile County Fairgrounds, Cody Rd & Zeigler Rd. Hours: Friday 2-7, Sat 10-6, and Sun 10-5. Admission \$3. Contact Jerry Shirey @ (251)458-2867.

Last Month's Program

Patricia – Editor

Planet Earth "Caves" Lechuguilla Cave

Yarborough's collection. Thanks Tim and Phillip.



The Chandelier Ballroom in Lechuguilla Cave

The British Broadcasting Corporation documentary series Planet Earth titled "Caves, documented a team of scientists and filmmakers exploring Lechuguilla cave including the Chandelier Ballroom where high quality crystals are found. Lechuguilla Cave is the sixth longest cave (130.24 miles) known to exist in the world, and the deepest in the continental United States (1,604 feet), but it is most famous for its unusual geology, rare formations, and pristine condition. It is located in Carlsbad Caverns National Park, New Mexico.

Wikipedia

http://en.wikipedia.org/wiki/Lechuguilla_Cave#Filming

Collector of the Month 

June – Tennille Dig

Stingray Stinger

Phillip Yarborough



Club Hats (Colors: Black or Tan) for Sale \$10 each

Black Hat - Modeled by Member **Jana Rollins**



Walt Kubilius, has invited anyone interest to the Astronomy Club of Augusta for a talk on Meteorites by Anita Westlake.

When: Friday, August 19, 7:00pm
Where: Augusta State University
Science Building, Auditorium

Anita Westlake, longtime member of the Georgia Mineral Society, will give a talk on **Meteorites** to the Astronomy Club of Augusta, next month. Members of the public are encouraged to attend. After the meeting, Anita will have samples of meteorites and tektites available for purchase.

For more details, contact Walt Kubilius at wkw@bellsouth.net.

Remaining 2011 AGMS Field Trips

By Steve Huffman

August - Sat. 27th - Stones & Bones Private Collection of Richard Hightower (Meet at GMC at 8:30a.m.)

September - TBA date - Tentative Glendon Mine, NC - Pyrite

October - Sat. 29th

November Sat. 19th - Cunningham Farm - Emerald and Quartz (Meet at McCormick Huddle House 8:00a.m)

December - No Dig - Christmas

Not Everything Geological Takes Forever to be Shaped

(contributed by Terry Fetzer) By Dale Gnidovec, Curator of the Orton Geological Museum at Ohio State University.

Many Earth processes are very slow — the growth of mountains, the erosion of hills, the movement of continents — so geologists tend to think in long time spans. That outlook is proper for many things, but a recent article demonstrated that it might not apply to something that I have often assumed it does — the growth of crystals.

Most of the gem minerals — emeralds, rubies, sapphires, diamonds — form underground, so we can't watch them form or measure how fast they grow. We can, however, make some educated guesses based on other information.

For example, the beautiful aquamarine crystals from Pakistan and Afghanistan occur in granitelike rocks called pegmatites that solidified less than 5 million years ago. Pegmatites form only at depths of at least 3 miles. The area is rising at the rate of about half an inch per year, so it took at least half a million years for those pegmatites to reach the surface. That doesn't leave more than a couple million years for those aquamarine crystals to form.

Another indirect method is to calculate how long it took crystal bearing molten rock to cool and harden.

A dike is a tabular (sheet like) body of igneous rock that was injected as molten material into older rock. The dikes in California's San Diego County are known for producing large crystals of tourmaline. One dike, called the imalaya Dike, is 1½ feet thick, and another, the Stewart Dike, is 82 feet thick.

Knowing how hot the material had to be when molten and knowing the thermal conductivity of the surrounding rocks, researchers calculated that the thicker dike took nine years to cool and harden and the thinner dike took just five days! That means a 4-inch-long tourmaline crystal in the Himalaya Dike grew at almost an inch a day.

Fast crystal growth also has been documented directly. The ancient Greek silver, copper and lead mines of Laurium, about 25 miles southeast of Athens, were worked extensively. The Greeks dumped the slag into the sea, where reaction to seawater caused crystals to grow. As long as a halfinch, they formed after the mines were abandoned about 2,000 years ago.

Gypsum crystals in salt pools in Australia have been observed to grow a half-inch a month, and borax crystals in Searles Lake, Calif., add a half inch every few hours. **Earth isn't always slow.**

(gnidovec@geology.ohio-state.edu, December 27, 2005, www.dispatch.com, website of The Columbus Dispatch, via, The Golden Nugget April 2011

Last Month's Field Trip – Hiddenite NC



Our July trip was to the Emerald Hollow Mine Nestled snugly in the foothills of the beautiful Brushy Mountains of North Carolina. Steve picked the perfect trip for July as it was 20 degrees cooler

down at the creek. The creek had clean, clear, mountain water gently flowing; the creek bed was filled with gemstones from the mine above. Unfortunately afternoon thundershowers forced several of us in the creek into the sluicing area for our complementary buckets earlier than planned, and lightening stopped the sluicing for awhile. The



afternoon weather aside, it was a great time for all and everyone found some great specimens.

Thanks to all that attended – Patricia



What are those fibers in my rose quartz?



Most of us are curious about the variety of colors in quartz. Rose quartz is one of the loveliest types, and many of us have specimens or jewelry of rose quartz. What accounts for its delicate pink color? Recent work has shed some light on its origin - apparently it is due to the presence of a close relative of the mineral dumortierite.

The breakthrough discovery was work done in 1987 by 2 geologists at the University of Missouri at Columbia, Ken Appin and Brian Hicks. They were doing studies on the etching of various types of quartz. They discovered in one of their samples, a rose quartz from the Ruby Range of Montana, masses of pink fibers on the sample surfaces after etching in hydrofluoric acid. The color of the fibers was spectrally the same as the pink color of the quartz specimen. Testing by X-Ray diffraction convinced them that the fibers were a mineral called dumortierite, and that they were responsible for the pink color of that particular quartz.

Dumortierite is a complex boron-bearing silicate. It was named for a French paleontologist, and has been known as a mineral since 1881. It is generally found in fibrous to columnar aggregates and is usually an attractive pink to blue to purple in color. The particular concentration of trace amounts of iron and titanium seems to control the color seen. Dumortierite is often found in granite pegmatites, high temperature hydrothermal veins, and in highgrade regional metamorphic rocks where boron was available during metamorphism. Sometimes interesting collector specimens occur from Maine, California, New Mexico and elsewhere. Lapidary quality dumortierite occurs in South Africa and other locations.

Appin and Hicks work was followed by Julie Goreva, Chi Ma and George Rossman at Cal Tech. In a paper published in 2001, they looked for pink fibrous material in rose quartz from 29 localities from around the world. All of the samples they tested had such fibers. The fibers were very small, best described as nano-fibers 0.1 to 0.5

micrometers wide (about 0.00002 inches). Their optical patterns again matched the pink color of rose quartz. X-Ray diffraction, Raman spectroscopy and other analytical tests showed that these fibers were from a mineral close to, but not exactly like, dumortierite. The scientists concluded the rose color of all massive rose quartz was due to this material.

Later work by this same team further characterized this material as a dumortierite relative. The only significant difference is the relatively large amount of iron replacing aluminum at a particular location in the mineral structure. Whether or not this will constitute a new mineral remains to be seen. At this point then it is hard to tell some one exactly what this material is. Yes, it is like dumortierite, but really isn't technically, and doesn't have an official name. I could suggest it be called that pink fibrous dumortierite-like stuff in the rose quartz. A bit unwieldy, but, (to paraphrase the Bard), to a mineral collector, wouldn't the coloring agent of rose quartz by any other name, still look so sweet?

- Bill Cordua, U. Wisconsin @ River Falls

References:

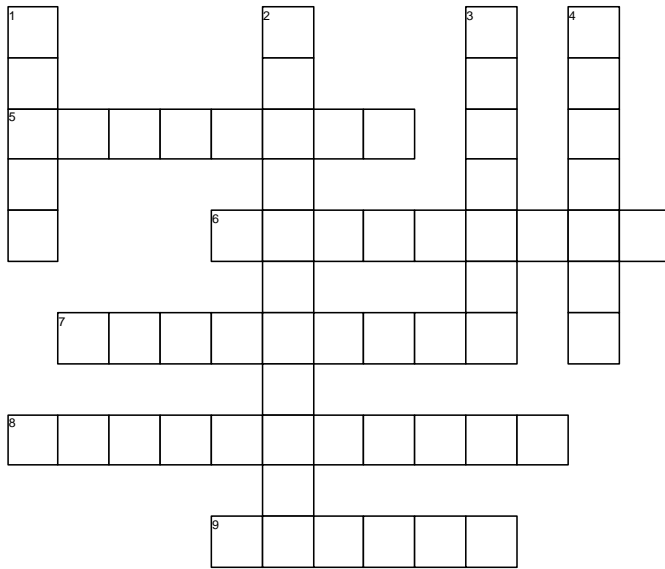
Appin, Kenneth and Brian Hicks, 1987, Fibers of dumortierite in quartz, *American Mineralogist*, v. 72, p. 170-172.

Goreva, Julia, Chi Ma and George Rossman, 2001, Fibrous nano-inclusions in massive rose quartz: The organ of rose coloration, *American Mineralogist*, v. 86, p. 466-472.

Ma, Chi, Julia Goreva and George Rossman, 2002, Fibrous nano-inclusions in massive rose quartz: HRTEM and AEM investigations, *American Mineralogist*, v. 87, p 269-276.

Photo added from <http://www.mindat.org/min-3456.html>
From Breccia July 2009 Via The Quarry Feb. 2010

**Crossword Fun
August**



www.CrosswordWeaver.com

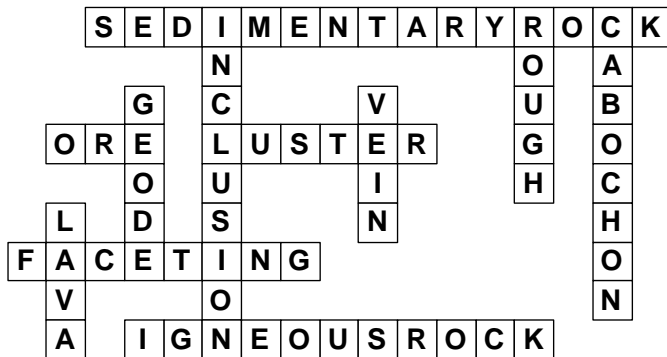
ACROSS

- 5 The way certain minerals break along planes dictated by their atomic structure.
- 6 With a treelike habit.
- 7 A rock from space that reaches Earth's surface.
- 8 The reflection of light from internal elements of a stone, yeilding a ranbowlike play of colors.
- 9 Wide and flat, describing the habit of some minerals.

DOWN

- 1 The external flat surfaces that make up a crystal's shape.
- 2 Geological records of biological activity. May be impressions made on the substrate by an organism.
- 3 Referring to a mineral: having no definite shape.
- 4 The wearing away of the material on the surface of Earth.

July CROSSWORD SOLUTION



**Word Search
August**

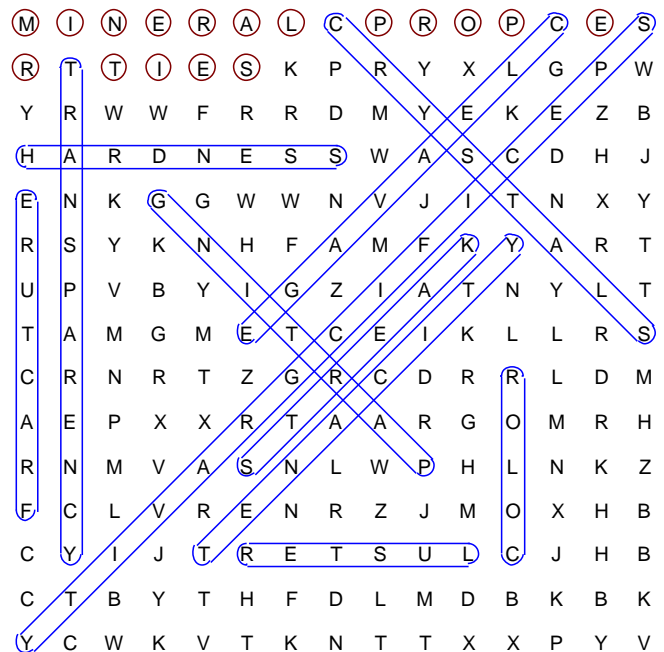


Word List:

Adamite, Aragonite, Calcite, Fluorite, Gypsum, Scapolite, Sodalite, Willemite

Find the words in the grid, when you are done, find the hidden message in the unused letters in the grid. Words can go horizontally, vertically and diagonally in all directions.

July Word Search Solution



Bench Tips

SOLDERING PRONGS

I often use prongs to hold an irregular cab or other object on rings and pendants. But they're a little tricky to solder. You have to find some way to hold them all upright while soldering, and what looks like a strong joint sometimes turns out to be a fake. There's nothing worse than having a prong break off when you're setting the stone *#~*!

I solved both problems with one little trick. Locate and center punch the location for each prong. Then drill holes just a little smaller than your prong wire. Sand a small taper on the ends of your prong wires and insert them in the holes. The wires support themselves, soldering is easy, and the joint is stronger because of the increased soldering area.

TWISTING WIRE

Twisting wires together can be done with an old hand drill but goes much faster with a power tool. My preference is to use a screw gun, although a Dremel or Foredom should do well. Just make a little hook out of coat hanger wire (or use a screw-in cup hook) and chuck it up in your screw gun. Fasten the ends of the wires in a vice and slip the other ends on your hook. Keep a little tension on the wires as you twist.

Note that a power drill is too fast a tool for this unless you have one with a variable speed control.

SMOOTHING EARWIRES

Any time you make your own earwires, the hardest part for me is to sand and polish the end that's inserted into the ear. Any sharp edge there is no fun. I've tried using sanding sticks, cup burs, and silicone polishing wheels. I've tried buffing on a Zam wheel, and I've tried spinning the wire in the Foredom to polish the tip. While all of these techniques do the job, none are very easy or fast.

Then it occurred to me - I could melt the wire smooth. One quick touch in the flame of the propane/oxygen Little Torch does the trick - not enough to form a bead on the wire but just enough to round off the tip.

More BenchTips by Brad Smith are at:

<http://groups.yahoo.com/group/BenchTips/> or
<http://facebook.com/BenchTips>

[Brad Smith's Bench Tips published with his permission]

Star Stones

The optical phenomena of some gem materials to display a single ray of light on their surface is called chatoyancy, a French word meaning cat or cat's-eye.



Gems displaying this characteristic exhibit a single undulating narrow band of white light with a changeable luster. Another optical effect is shown when some gem materials exhibit more than one ray of light.

These rays will cross or intersect each other at some central point or points on the surface of a cut and polished gem. This phenomena is called asterism or is more commonly known as a star.

The cause of asterism or chatoyancy is attributed to tubes, or needlelike inclusions within the gem. When these foreign inclusions are highly uniform in alignment within the gem, they will be capable of concentrating and reflecting or transmitting the light which enters the gem. However, this potential will not be effectual in the form of a ray or rays if the gem does not have the optical shape necessary for focus and magnification of the light. When the foreign inclusions are aligned only in one direction with the gem, a single ray of light will be possible. If the alignment is in two directions, then the gem will have the potential of emitting two rays of light which will intersect each other at a central point or points on the gem creating a star with four legs. When the alignment is in three directions, three intersecting rays can be emitted which will produce a six legged star.

by Mary Prosek, from The Opal, October 2007
via Rock Buster News Aug. 2011

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 Patricia McNutt, Editor
 4 Woodbridge Way
 Evans, GA 30809



**FIRST CLASS
 TIME DATED MATERIAL**



PURPOSE OF THE AUGUSTA GEM & MINERAL SOCIETY INC.

1. To encourage interest in rocks, minerals, fossils, and related subjects of the lapidary craft.
2. To sponsor educational programs within the membership, to increase the knowledge of its members in the properties of identification and evaluation of rocks, minerals, fossils and related subjects.
3. To cooperate with other mineralogical and geographical clubs and activities.
4. To arrange and conduct field trips to facilitate the collection of specimens and minerals.
5. To provide an opportunity for the exchange and exhibition of specimens and minerals.

The Augusta Gem and Mineral Society Inc. is affiliated with the American Federation of Mineralogical Societies via its membership in the Southeast Federation of Mineralogical Societies and the Eastern Federation of Mineralogical & Lapidary Societies. Please visit our web-site at: <Http://www.augustagemandmineralsociety.org/>