



# *The* **BACKBENDER'S GAZETTE**

## *The Newsletter of the Houston Gem & Mineral Society*

**Volume XLVIII—No. 07**

**July 2017**



### **HGMS President's Message** *by Paul Brandes*

**H**ello HGMS, and welcome to another Houston summer! With temperatures in the 90s and the heat index hovering around that century mark, I thought I would bring you a short “public service announcement” concerning heat safety. As someone who grew up in the north, I have to be cautious about working outdoors during a Houston summer. Heck, where I grew up, a “hot” day was 85. There are times when the nighttime temperatures here don’t even get that low, and I won’t even mention another place I lived, southern Nevada! I know many of you engage in outdoor activities whether for work or pleasure (which I hope includes collecting at your favorite location). If you are doing anything strenuous outdoors during these hot summer months, please remember to take frequent breaks and drink plenty of fluids even if you do not feel thirsty.



Another item of note is that we have been receiving many donations lately. This is great for the Society; however, it also means we have to decide how best to handle donations and whether to keep the equipment for our own use, or sell it to generate revenue. Sometimes that can be a very hard decision, depending on the content. Our shop foreman/building chair, Neal Immega, does a wonderful job in determining what stays and what goes. If you have any suggestions about a donation and how it should be handled, talk to Neal.

Lastly, I want to mention once again that our members are what make the Society great, including our young members. Lately, it has come to my attention that at times, some of our

*Continued on Page 4*

### **Upcoming Program** *by Sigrid Stewart, 1st Vice President*

**J**uly 25, 2017: To be announced

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*Every article published in the BBG is edited for grammar and content. No flaming is allowed.*

***Articles now are due on the 15th day of the month before the date on the BBG issue.***

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## Purpose of HGMS

**T**he objectives of this Society are to promote the advancement of the knowledge and practice of the arts and sciences associated with the collecting of rocks, minerals, fossils, artifacts, and their identification and classification; the general lapidary art; the collecting and identification of gemstones; the designing and execution of jewelry or metalcraft; and to provide the opportunity to obtain, exchange, and exhibit specimens and rough or finished materials.

Membership dues are \$40 for an adult membership, \$60 for a couple, \$75 for a family (including all children aged 5-18), \$25 for a youth membership (ages 5-18), and \$500 for an adult life membership. Advertising rates: \$70 for 2 months, ¼ page; \$150 for 6 months, ¼ page.

**MEMBER:** American Federation of Mineralogical Societies and South Central Federation of Mineral Societies.

All meetings are held at the Clubhouse which is located at 10805 Brooklet near the intersection of Highway 59 (Southwest Freeway) and Sam Houston Parkway (Beltway 8). See the calendar inside the back page for when the different Sections meet. The General Meeting is the fourth Tuesday of each month at 7:30. The HGMS Web site address is <http://www.hgms.org>.

younger members (or the children of adult members) are wandering around the Clubhouse causing disruptions during meetings, classes, and to the normal operations of the Society. Please remember that if you bring your children to the Clubhouse, they need to be courteous to others and not cause disruptions. After all, you don't want us to have to feed them to "Uncle Neal," do you?

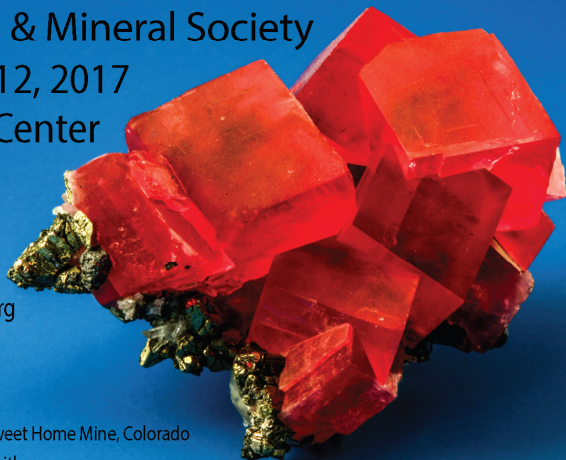


## 64th Annual Gem, Mineral, Jewelry & Fossil Show & Annual SCFMS Convention

Houston Gem & Mineral Society  
November 10-12, 2017  
Humble Civic Center

[www.hgms.org](http://www.hgms.org)

[www.facebook.com/hgms.org](https://www.facebook.com/hgms.org)



Rhodochrosite, Sweet Home Mine, Colorado  
Photo by Holly Smith

**Front of HGMS 2017 Show flyer**



## Archaeology Section

by Nancy L. Engelhardt-Moore

**June 4, 2017:** No business meeting was held on June 1. Instead on Sunday, June 4, Dirk Van Tuerenhout, HMNS Curator of Anthropology, gave a special tour of the exhibit "*Gladiators: Heroes of the Colosseum*" at the Museum for the HGMS Archaeology Section. Participants met in the museum at 1:45 p.m., and then proceeded to the exhibit. Dirk first talked about Roman legionnaires—their military life and armor. He described how much they had to endure. They would march for up to 15 miles/day with equipment weighing over 50 lbs. When they stopped, their job was to fortify the location before rest or food.

They carried large, convex rectangular shields (designed to envelop and protect them) that could be used to form a defensive wall. Their helmets were defensive with a broad neck guard. They used a specialized javelin called a *pilum* designed to pierce shields and bodies. Also, legionnaires were equipped with a short sword called a *gladius*, which is the origin of the word gladiator meaning swordsman. Dirk talked about the history and construction of the Colosseum, and the origin of the gladiators and combat. He detailed a typical day's entertainment in the Colosseum. During the tour, Dirk spoke about the archaeological artifacts on display, gladiator life, status, diet, equipment, how they gained fame, and potential wealth.

He reviewed Roman medicine and how advanced it became while doctors gained knowledge working on legionnaires and gladiators to ensure their recovery and health after brutal combat. After the fall of Rome, modern medicine did not reach the same level until the middle of the 20<sup>th</sup> century! Dirk continued by comparing the gladiatorial games and associated souvenirs, and food to modern sports events. He finished by detailing the various types of gladiators. After the tour, photos were taken with a live "model" gladiator! Everyone had a great time.

### Upcoming Program:

**July 6, 2017:** No program due to the proximity of the July 4th holiday.



Dirk speaking about seating in the Colosseum.  
Photo by N. Engelhardt-Moore



**Archaeology Section group at start of exhibit  
with live gladiator (center-back) Photo by G. Larsen Peterkin**

## **Faceting 101**

*Photo and article by Jeanne Barna*

**F**aceting Class 101 took place at the HGMS clubhouse June 10, 2017. Randy Carlson, the Gemstone and Faceting Section's Chairman, taught the class. Randy is also a Registered Gemologist. John Lee, a talented faceter, was Randy's assistant helping everyone with tips and training. Randy can be seen as the instructor in both photos.

The class ran from 8:30 a.m. to past 5:30-6:00 p.m. The class was overly full (10 students). The cost was \$59 and affordable. Each student completed a simple faceted square in quartz.



The students now have sufficient knowledge and hands-on training to qualify to use one of our club's faceting machines (but only while on the club premises). Only experienced HGMS member faceters and members who have taken the Faceting 101 class sponsored by the Gemstone and Faceting Section are eligible to use the club's faceting machines.

## General Meeting Minutes

May 23, 2017

by Nancy English, HGMS Secretary

**P**resident Paul Brandes called the meeting to order at 7:30. He thanked everyone for coming to the May 23, 2017 General Meeting. Thirty-two members attended and two guests: Tom English and Ray Bach.

**Minutes:** Karen Burns moved to approve the minutes of the April 25 General Meeting as posted in the June 2017 BBG and the weekly HGMS E-blast. Joan Riley seconded the motion, and it passed.

**President's Announcements:** none

### Section/Committee Reports

In the interest of time, President Paul Brandes asked the members to look for Section Reports in the BBG, on the Web site, or by reading the weekly email blast from Jim Kendall for future Section meetings and presentations. If you are not on Jim Kendall's e-mail list, please contact him at kendal\_ja@yahoo.com.

President Brandes invited Section Chairs and Standing Committee Chairs to make any additional special announcements.

**Steve Blyskal** reminded the audience that for the final **Mineral Section** meeting of the summer on **Wednesday June 7, 2017 at 7:00 p.m.** there will be a **Swap and Sale**. Members can put out collection specimens or stock to be viewed and traded or sold. All Mineral Section members are urged to attend. Refreshments will be provided.

### Old Business

**Web site progress (Scott Singleton sent a report):** The Web Site has been moved to a new host at the request of the Web Site designer. Any hgms.org emails currently are being forwarded from the old host. Phyllis George is working on finding a feature on the new site to recreate the addresses.

### New Business

1. **Scott Singleton** presented a certificate that was awarded to the Houston Gem & Mineral Society for "Outstanding Leadership at the 2017 80<sup>th</sup> Anniversary Scout Fair" by the Scouts Today, Legends Tomorrow. This year, Clay Keiffer's dinosaur roamed the park to entertain the Scouts.
2. Steve Blyskal announced that it is possible that the Houston Museum of Natural Science SugarLand will use our salt dome cores in their Salt Dome Exhibit.
3. The next **Board of Directors** meeting is Tuesday, June 6, 2017 at 7:30 p.m.
4. **Next General Meeting on June 27, 2017 at 7:30 p.m.:** **Nicole Ayoub**, a new member who has been attending the Mineral Section meetings, will present a talk entitled "**Facebook 101 for Rockhounds**." This should be very interesting for older members, but even younger ones could pick up a trick or two! Info shared will

include how to buy/sell rocks on Facebook, how to open an account, and much more.

**Show 'n Tell:** none

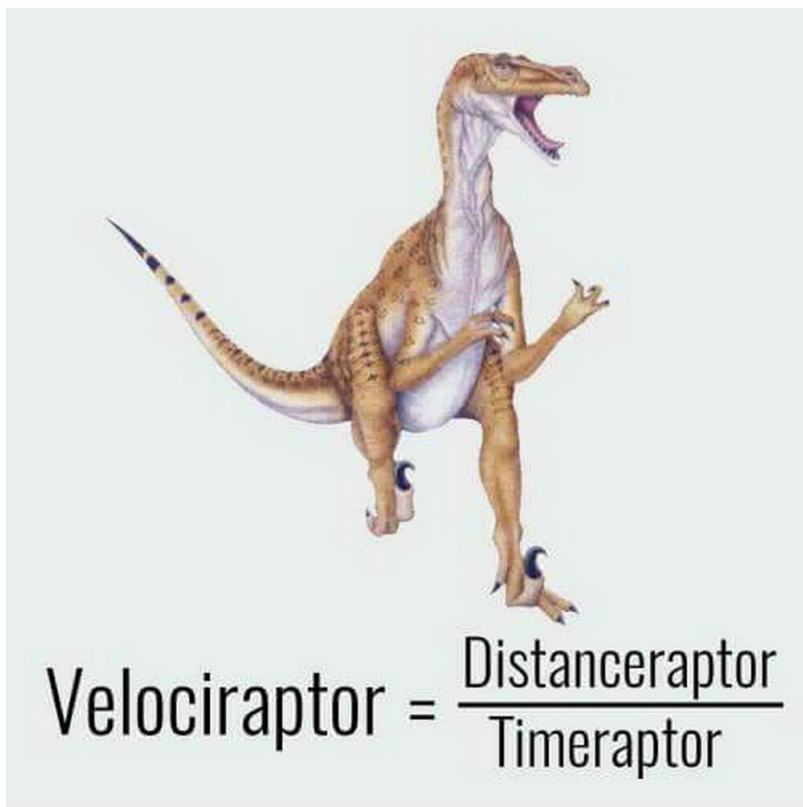
**Drawing:** none

**Adjourn:** Karen Burns moved to adjourn the business meeting, and Joan Riley seconded. The motion passed unanimously, and the business portion of the meeting adjourned at 7:40 p.m.

**Refreshments:** Sigrid Stewart provided the refreshments.

**Sigrid Stewart introduced Steve Blyskal, the auctioneer for the evening.** Steve conducted the Art Smith Memorial Auction to generate funds to be presented by HGMS to the *Rocks & Minerals* magazine to enable them to print the mineral photos in color in the regular "Connoisseur's Choice" column.

Nineteen bidders spent \$1,442.00 on top-notch donations. That money plus the sale of a piece of equipment helped the Mineral Section reach their goal of two years of payments to *Rocks & Minerals* magazine for printing the "Connoisseur's Choice" column with color photos.



Submitted by Neal Immega

**Board of Director's Meeting Minutes***June 6, 2017**by Nancy English*

	President—Paul Brandes	X	Beading Rep—Diane Sisson
X	1st Vice President—Sigrid Stewart	X	Day Light Rep—Fred Brueckner
X	2nd Vice President—Beverly Mace		Faceting Rep—
	Treasurer—Rodney Linehan	X	Lapidary Rep—Phyllis George
X	Secretary—Nancy English	X	Mineral Rep—Mike Sommers
X	Archeology Rep—Garth Clark	X	Paleontology Rep—Mike Dawkins

**V**ice President Sigrid Stewart called the meeting to order at 7:30 p.m. A quorum was present. Non-voting HGMS members also in attendance: Chase Jennings—Publicity Chair, Trade Show Chairman, and Temporary Education Chairman; Randy Carlson, Gemstone and Faceting Section Chair; and Ed Katz, also a member of Gemstone and Faceting Section.

**Vice President's Comments:**

The Art Smith Memorial Auction generated the funds for HGMS to donate two years of payments to *Rocks & Minerals* magazine for printing the "Connoisseur's Choice" column with color photos.

Vice President Stewart Introduced Randy Carlson and Ed Katz to review a donation of Faceting equipment received by the Section. There was a discussion to resolve a dispute on the proper ways to handle donations. The BOD will consult other Section Chairmen and revisit the donation distribution process at the July 6 Board meeting.

**Approval of Previous Month's Board Minutes:** Since we did not have a quorum at the May Board meeting, the minutes of the April 4, 2017 BOD meeting need to be approved. Phyllis George moved and Fred Brueckner seconded the motion to approve the April Board meeting minutes. The motion passed. Diane Sisson moved to approve the minutes of the May 2, 2017 Board meeting. Phyllis George seconded the motion and it passed.

**Treasurer's Report:** Rodney Linehan emailed financials to all Board members in advance of the meeting.

**Office, Committee, and Section Reports**

**Archeology Section:** July 6, 2017, 7:30 p.m. No meeting due to July 4 Holiday.

**Beading Section:** Saturday June 17, 2017 at 1:30. Members will make a Mimosa Necklace. See the HGMS Web Site for supplies and instructions.

**Day Light Section:** Wednesday June 7, 2017, 1:00 –3:00 p.m. CANCELLED! Section Chair

Get last-minute news about club events by sending a note  
to Jim Kendall at [kendal\\_ja@yahoo.com](mailto:kendal_ja@yahoo.com)

cannot attend. Karen Burns is having knee problems. The Board sends get well wishes.

**Education Committee:** Chase Jennings reported that he is working on it.

**Gemstones & Faceting Section:** The next meeting will be Wednesday June 14, 2017 at 6:30 p.m. Program to be announced. The July 12 meeting program to be announced.

On Saturday, June 10, 8:30 a.m. to 5:00 p.m. at the HGMS clubhouse meeting room Randy Carlson, from the Gemstones & Faceting Section, will conduct a one-day primer course for only \$59 per student. He will teach the basics, AND you will learn how to cut a stone on your own. At the end of the course, you will be qualified to check out a club faceting machine (for use only on club premises) to cut future stones of your choice. As of the BOD meeting, the class was full.

**Lapidary and Silversmithing:** June 19, 2017 Making triplet cabochons: These are cabochons (usually made of very soft or very thin material) that have a clear quartz cap on the front and back sides.

July 17, 2017 Making intarsia cabochons: The finished product is a cabochon with inlaid metal or stones creating a picture.

August 21, 2017 Scrimshaw: Usually a pattern carved into bone. Color is rubbed over it to bring out the pattern in the finished piece.

**Mineral Section:** Wednesday June 7, 2017, 7:00 p.m. Swap and Sale: The Mineral Section is having its last meeting until September this Wednesday, June 7. The program will be in the new tradition of having a swap and sale.

Wednesday, September 6, 2017, 7:00 p.m. To be announced.

**Paleo Section:** Tuesday June 20, 2017 at 7:30 p.m. To be announced.

**Publicity Committee:** Chase Jennings reported continued advertising.

**Scholarship Committee:** Mike Sommers reported that he developed standardized criteria for ranking all applicants and producing an objective system for choosing the winning candidate. Jean Hugh Fillacier, Paul Brandes, and Nancy English have agreed to rank the applicants. Two completed applications have been received and two partials. The committee will contact the latter applicants and request the rest of the documentation.

**Shop Report—Neal Immega:** A former member called to donate his Dad's rock collection. Neal Immega, Gary Anderson, Fred Brueckner, Clyde McMeans, and Jim Kendall transferred 1000 pounds of mixed-quality rocks to the HGMS garage. Only about 10% is superior stuff, but some of that is great—Dry Head Agate, Dolomite crystals speckled with chalcopyrite crystals, good Montana moss, Bruno jasper, and carnelian. As of this meeting, most of the best is sold.

**Show Committee**—Nothing to report.

**Youth Section:** The next meetings are on June 17, July 1 and July 15.



**BBG Editor and Webmaster:** The deadline to send in articles and other pertinent information for inclusion in the July 2017 BBG is June 15, 2017. Phyllis George asked Section Representatives to remind Section members that articles for the BBG that would be entered into the SCFMS 2018 annual Bulletin Editors' Contest must be published no later than the December 2017 issue. People who put off getting them to her run the risk of not being published in time.

**Webmaster report on New Web Site:** All the alias addresses are working on the new host.

### Old Business

**Trade Show July:** Chase Jennings presented results of the Dealer Survey. Although the survey of the dealers was positive, the Board is concerned that the frequency of Trade Shows may have diluted the market. Chase Jennings does not have as much time to advertise as he will in January when his workload returns to normal. Lastly, the heat in July can be a deterrent for dealers as well as customers. The Board voted not to put on the July Trade Show. A schedule for a January 2018 Trade Show can be revisited after the November Annual Show.

**Preservation of Documents:** We need a coordinator for this project. Phyllis George said documents easily can be saved into a directory on the Web Site. They could be saved to a secure area.

**Building Safety:** no report available.

**Security:** Garth Clark will purchase replacement cameras that he will keep until he can install them. Phyllis George moved that we authorize purchase of two or three more cameras; Nancy English seconded it and motion passed.

**Creating "How-To" videos:** Volunteers are needed to research how to broadcast HGMS meeting programs live. Randy Carlson has experience in making videos and how to broadcast them. He will be happy to consult with those interested in working on this project. The BOD will make an e-blast request for volunteers. The Club needs a new projector system. We are still looking for a way to project images of props on the wall during a presentation.

**Update Trifold brochure and business cards:** The updated trifold is ready for print. Garth Clark has located the business card vendor previously used to print HGMS cards. He made the Section changes of dates and times and will order 2,000 to 3,000 cards.

**Member Services/List of Experts:** There has been no feedback from the e-blast proposal for a list of members with artisan skills, expertise in areas covered by our Sections, teachers, services, and experts within the Society.

### New Business

**Next Board of Directors meeting:** Thursday, July 6, 2017, 7:30 p.m. because July 4 is a holiday.

**Next General Meeting:** June 27, 2017 **General Meeting Presentation:** Nicole Ayoub, a new member who has been attending the Mineral Section meetings, will present a talk entitled "Facebook 101 for Rock hounds." This should be very interesting for older members, but even younger ones could pick up a trick or two! Info shared will include how to buy/sell rocks on Facebook, how to open an account, and much more.

**YouTube video:** Phyllis George reported that she posted a link on the HGMS Web site to John Mitscherling's video of the 2016 HGMS Holiday Party. Her son David uploaded the video to YouTube. The link is on the Web site home page near the top.

**Adjourn:** Nancy English moved to adjourn. Diane Sisson seconded, and the motion passed. The meeting adjourned at 9:35 p.m.

### THE ALWAYS FAITHFUL FEW

*by Fran Henderson  
Editors Symposium Arizona  
via Roadrunner 03/1987*

When the meeting's called to order  
And you look around the room,  
You're sure to see some faces  
That from out the shadows loom.

There are lots of worthy members  
Who will come when in the mood,  
When everything's convenient  
They can do a little good.

They are always at the meetings  
There they stay until it's through  
The ones that I would mention  
Are the always faithful few.

They're a factor in the meeting  
And are necessary, too,  
But the ones who never fail  
Are the always faithful few.

They fill the many offices  
And are always on the spot,  
No matter what the weather  
Though it may be awful hot.

If it were not for these faithful  
Whose shoulders' at the wheel,  
Keep the society moving  
Without a halt or reel.

It may be dark and rainy,  
But they are tried and true  
The ones that you rely on  
Are the always faithful few.

What would be the fate of meetings  
Where we claim so much to do?  
They surely would be failures  
If we lacked the faithful few.

**SAYINGS**—*from Tule Smoke Signals, others,  
via The Roadrunner 06/1987, via The Roadrunner 05/2017*

- There are two well-known finishes for cars: Lacquer and Liquor !
- The toughest part of a diet isn't watching what you eat—it's watching what everyone else eats.
- A youngster was explaining to another what "mixed emotions" meant—"It's like watching the school burn down while your new baseball mitt is in your desk."
- It is better for things to go in one ear and out the other, than to go in one ear, get all mixed up, and then slip out of your mouth!



**RUBY—July Birthstone***by Del Grady**from Chips and Chatter 06/2016*

**R**uby is aluminum oxide, corundum, and “RED” colored sapphire. It forms as a six-sided crystal. It has a hardness of 9, a specific gravity of 3.9–4.1, and a conchoidal fracture. Important deposits of facet-grade ruby is found in Burma / Thailand, Sri Lanka, and Tanzania. Lesser deposits are found around the world, including North Carolina. Low-grade ruby is mined for use as an abrasive (RUBY SANDING PAPER, EMERY) and as a refractory material.

There are over one hundred color grades for ruby. Color popularity is dependent upon cultural preferences. Large stones are rare, and the most valuable color is pigeon’s blood. In the past, light-colored stones were called pink sapphire and stones not colored by chrome were not considered a ruby.

Man-made rubies are used as the pivot jewels in high end mechanical watches, dial indicators, and in costume jewelry. Boules of corundum are split length-wise for stress relief, thus limiting the size of faceted stones.

Tanzania is producing ruby embedded in different materials (green zoisite, fuchsite) that are used to make cabs. Included ruby crystals can produce 6-ray star or cat’s eye cab, which have been synthesized (Linde star).

**References:**

- A GUIDE TO ROCKS AND MINERALS by Frederick H. Pough
- GEMSTONES of the world by Walter Schumann
- GEM and LAPIDARY MATERIALS by June Culp Zeitner



**Picture:** Ruby Specimen: Rob Lavinsky, iRocks.com, CC-BY-SA-3.0

## FIND THE HIDDEN WORD

by Del Grady

A	S	A	B	R	A	S	I	V	E	S	J	Y
C	L	F	U	A	G	I	A	C	I	M	C	T
I	A	U	R	T	R	X	W	N	U	L	□	I
R	T	C	M	S	E	H	Y	□	D	E	R	V
F	S	H	A	I	E	J	T	S	R	I	U	A
A	Y	S	W	I	N	E	E	R	B	L	N	R
C	R	I	I	Y	B	U	R	W	□	I	D	G
□	C	T	□	V	I	P	M	Z	L	N	U	J
S	A	E	R	L	T	H	R	□	D	E	M	U
T	B	P	I	N	K	S	R	I	X	R	R	L
U	S	N	R	E	P	A	P	S	C	I	A	Y
M	D	T	F	A	C	E	T	I	□	E	D	H
E	E	Y	E	S	T	A	C	T	N	E	D	E
E	V	I	T	C	A	R	F	E	R	Y	A	R

ABRASIVES, AFRICA, ALUMINUM OXIDE,  
 BURMA, CABS, CAT'S EYE, CAROLINA,  
 CORUNDUM, COSTUME, CRYSTALS, FACET,  
 FUCHSITE, GRAVITY, GREEN, HARD,  
 JEWELRY, JULY, LINDE, MICA, NORTH,  
 PAPER, PINK, PIVOT, PRICED, RAY, RED,  
 REFRACTIVE, RUBY, SANDING, SIX, STAR,  
 WINE, WORLD, ZOISITE

**Instructions:** Find and cross out all the words—they can be forward, backward, up, down, or on the diagonal. When you have crossed out all the words, the remaining letters will spell out the hidden word. The hidden word can be found on page 21.

**Chips & Chatter Editor's Note:** Del created this Hidden Word with only the use of AutoCAD to draw the boxes! Nice work!

from Chips & Chatter 06/2016

## Bench Tips

by Brad Smith

See all of Brad's jewelry books at

[www.Amazon.com/author/bradfordsmith](http://www.Amazon.com/author/bradfordsmith)

[www.BradSmithJewelry.com](http://www.BradSmithJewelry.com)



### FANCY RIVET HEADS

**F**or a nice-looking rivet head, use brass escutcheon pins. You'll have perfectly rounded heads that are all the same size and shape. The pins are a little hard to find, so try the best hardware stores first. Be sure to get solid brass pins, not brass-plated steel. If unsure, test them with a magnet.

The pins are readily available online. Lee Valley Tools has them in 14-18 gauge and lengths from ¼ inch to 1 inch. Go to <http://www.LeeValley.com> and do an item search on "brass escutcheon pin."



For best results, select a drill that gives you a hole with a close fit to the rivet. Trim the rivet to leave a little less than one diameter sticking out the back side. Place the head on a scrap of hard plastic



on the anvil so as to not flatten the head. I prefer a ball peen hammer (with a small 3/8 inch ball) for setting the rivet.

### EASIER PRONG SETTING

When setting stones in a prong mount, the tool is less likely to slip off the prong if you grind a groove into its face or rough up the face a bit with sandpaper. Some folks prefer a prong pusher for doing this, and others like a set of pliers.

The easiest way to create a slot on the pusher is with a file, and the easiest way to create a slot on one jaw of your pliers is with a cutoff wheel. Then rough polish the slot with a medium grit, knife-edge silicone wheel.

## SAFETY: ROCK DUST

by Pam Cranford

*from Memphis A & G Society, via SCFMS, via The Roadrunner 01/2017*

**W**hen grinding and polishing, **DON'T BREATHE THE DUST OF ROCKS.** Some materials are toxic. Tiger eye is not just some kind of harmless agate—it is quartz with asbestos fiber inclusions.

The asbestos makes it shimmer and shine, but the airborne fibers are carcinogenic. Malachite is also poisonous as a microscopic dust particle. If you breathe it, respiratory problems from mild to very serious can develop. (Thus, do not lick malachite to see the pattern—spray with a water bottle.) **ALWAYS GRIND WITH PLENTY OF WATER.**

The most horrible story I ever heard was at the Bedford Indiana fossil show one June. One dealer told about an artist who became fascinated by the beauty and aesthetics of the crinoid fossil in the Waldron Shale from Cincinnati, Ohio. He worked the Dremel tool like a sculptor—scraping, chiseling, and grinding away at the shale. He was not content just to expose the flowers and stems, but he also worked on the branchlets and columns. He strived for more and more detail, allowing the stem to be completely exposed all-round. Then the final step—micro-sandblasting for the fine detail work. Like a surgeon, he worked to expose and reveal more and more detail. There was only one problem—the container box in which the specimen was isolated (to prevent dust from entering the environment and contaminating the air and the shield on the sandblaster) prevented close examination as he worked. His compulsive personality combined with an artistic license to break the rules for the sake of being creative were a deadly combination.

He was obsessed with perfection. Working without a shield made it easier and more exciting. The hundred million year old sea lilies revealed themselves before his eyes.

He finished some fine slabs. They were purchased by museums and private collectors who were lucky enough to grab them before he died at the young age of 25 of asphyxiation and septic shock.

*Safety Matters*

From Betsy Martin  
via EFMLS Newsletter



Permission granted by the artist for reproduction  
in non-profit club newsletters  
via AFMS Newsletter 2/00

## Local Collecting Sites

*Don Shurtz, Pleasant Oaks Gem and Mineral Club  
from Chips & Chatter 04/2017*

Collecting is one of the most enjoyable aspects of our hobby. There are collecting sites all around us, (*HGMS Editor's Note: This is in the Dallas area*) we just need to venture forth. I think we all know about the fossil and pyrite collecting at the Martin Marietta Materials plant in Midlothian. Another favorite fossil site is the North Sulphur River near Ladonia. But there are other great collecting sites within a couple of hours' drive. Last year I collected turritella limestone to the southeast of Waco on a field trip put together by CERA – I came back with two large pieces for my two-hours worth of digging. This year CERA is sponsoring a trip to near Lake Brownwood to collect horned coral....

Mineral Wells Fossil Park is another local collecting site for small marine fossils. The park is run by the City of Mineral Wells. Collecting is free—it sounds like a field trip to me! Lake Benbrook just to the southwest of Ft. Worth has many amazing fossils including ammonites up to 1 foot in diameter. The entire area to the south and west of Lake Benbrook down to Cleburne and Glen Rose is also noted for marine fossils.

If rocks and minerals are more to your taste, the area near Possum Kingdom Lake (along 2951) is known for small hematite pebbles. Many years ago, we did a family outing to that area but only found a few pieces. We only looked along a small section of a main road, and I am guessing that we just did not venture far enough to find an area that was not previously high-graded. Agates and jasper can be found at Proctor Lake to the southwest. I have a bolo tie with an arrowhead-shaped tumbled stone that is likely chert with jasper. With a bit more of a drive out toward the west, one can find alabaster and colorful dolomite. The alabaster is found to the west of Childress and south of Clarendon; the dolomite is found along the Red River to the north of Clarendon. Calcite in the form of clay concretions is found in the south Dallas area, but a more productive area may be to the northeast of Marlin along highway 147. With spring being here, I am getting the urge to get out and look. Anyone else interested?



**"Remember, we agreed. I'd carry the canned goods in  
if you'd carry the rocks out."**

by Ebners from Dust & Grit 2/00  
via Golden Spike News 3/00

## Making Chocolate Geodes from Rocky Trails 06/2017

Watch the cool video of the chocolate geodes created by Culinary Institute of America student Alex Yeattes and his partner Abby at <https://www.youtube.com/watch?v=qwM1Nh7rerU>.

They start by making a hollow chocolate egg, then they pour concentrated sugar syrup inside that. Over the course of several months, they make many additions of concentrated sugar syrup, plus they rotate and flip the egg to ensure that the entire interior is properly covered—and a rock crystal geode forms.



### A Rock

*Author unknown  
from The Roadrunner 04/1987,  
via The Roadrunner 05/2017*

I am but a humble rock,  
A beauty God has wrought,  
They say the Church was built on me,  
That I'm far mightier than the sea.

Some folks look, and toss me aside,  
While others cherish me with pride,  
Time passes on as time must do,  
And when man's life on earth is thru,  
In loving memory of the dead,  
A rock is placed above the head.

## A Few Rock Tips

*via Green Valley Rocker 04/1998, via Burrow Express 04/1998,  
Whole column from The Tidewater Prospector 08/2016,  
via Stone Chipper 03/2017*

### MARK REMOVER

Occasionally someone uses a felt-tip pen to write on or mark a slab. It usually happens to the side you wish to polish or make into a cabochon. Felt pens penetrate most stones—even agate—and cannot be sanded out. To remove these stains, make a small dike around the area using plumber's putty. Saturate a cotton ball with undiluted household bleach, and place the cotton inside the dike—making sure the bleach covers the stained area. Let sit one hour or more, if needed. It will remove the stain. Do not leave the bleach on longer than necessary to remove the stain as it may also bleach some color from the stone. Rinse off the bleach, and finish the stone in the usual manner.

*via Rock Rollers 04/1996*

### TO CUT JADE

First, grind and polish the jade chunk on six sides as if it were a cube. One of these faces will polish better than the others. Then cut slabs parallel to the best face.

**TREAT WOOD DOPSTICKS** with a light coat of shellac. This prevents wood from absorbing water, cracking the wax, and loosening the stone.

**MOTHER OF PEARL** for inlay work can be softened by soaking in vinegar. It can then be cut easily.

One way to **CLEAN QUARTZ AND AMETHYST CRYSTALS** is to cover them with fresh vinegar to remove carbonates such as calcite, barite, and lime. Repeat if necessary, wash well, then place crystals in washing type ammonia for 8–12 hours. Remove, rinse, and wipe dry.

### TO SAVE DIAMOND TRIM SAW BLADES

Some materials can be trimmed using a glasscutter. The exceptions are jade (too tough) and feldspar (Amazonite) which breaks along cleavage planes. This method is considerably cleaner and faster.

**NEVER PUT RUBBER** in contact with silver—it permanently stains.



## AFMS Safety Matters: Got a Good Sole?

*by Ellery Borow, AFMS Safety Chair  
from AFMS Newsletter 04/2017*

**Y**es, that is “Sole” and not a typo of “soul.” Over the years, I have seen a great many not-so-pretty soles out there on the footwear of rock, mineral, and fossil enthusiasts as they enjoy their collecting trips. I have also seen plenty of worn-out, torn, missing, and broken laces, as well as floppy-bottomed footwear in use.

If you will permit me, I'd like to back up a bit here and mention that proper footwear is an important segment of having a good collecting experience. Having sufficient footwear for the effort is highly recommended—just as necessary as utilizing safety glasses, gloves, protective clothing, and sun screen. One of my primary footwear concerns is when I see shoe soles that are worn down to the point of treadlessness. Smooth soles do not work as well as treaded soles in keeping people upright. However, simply because lugged soles do grip significantly better than flat ones, and may thus be a tripping hazard for some, a case could be made for smooth soles on the footwear of some folks who shuffle rather than walk.

That being said, I rarely see folks shuffle along in quarries and pits because shuffling can be dangerous. Another consideration with having tread on the sole of a boot or shoe is the direction or pattern of that tread. If the primary tread pattern is from right to left, or left to right, such a pattern would be excellent for walking straight or walking down a slope because the tread would be perpendicular to the direction of travel. But, what if one moves across the slope in either clockwise or counter-clockwise motion? In such a case, that same tread pattern would be parallel to the direction of slope and thus not have anywhere near as much gripping power. When traipsing in either a clockwise or counter-clockwise motion on a slope, it would be better to have a pattern of ridges that ran from toe to heel, and thus, again be in a perpendicular orientation to the direction of the slope. If one were similar to most of us and find the need to not just move up and down, but also right and left on a slope, it would be rather impractical to change shoes for the different directions. While most manufacturers offer patterns that are practical for all applications and occasions, I still see patterns that are biased to be better in one direction rather than all directions.

Another important consideration is the sole material's flexibility and resilience. A softer material will have significantly greater gripping power than a hard material. However, a softer sole material will not last as long as a hard sole material—especially as these boots and shoes are used on very abrasive surfaces. Again, most manufacturers realize their products will be worn in varying environments and so have selected a compromise material, a material that will wear well on wood floors as well as quarry bottoms.

Another sole consideration is water. Many of the wanderings through the woods I do when seeking lost or forgotten quarries brings me into contact with brooks, creeks, and streams—all of which are wet. I frequently have occasion to walk on, over, and through wet, slippery rocks. If one has ever experienced such a situation, one will no doubt recall the slipperiness of slick biofilm and moss covered rocks. Even a superior lugged sole can lose its grip on rounded slippery rocks. So in





such instances, having a soft sole with great gripping power is most helpful. The salient point when working in wet environments is to try to keep one's feet dry.

Additional footwear considerations also come to mind. If one is prone to dropping rocks, perhaps they should consider using strong or safety-toe footwear. If one were to crawl among the rocks or walk on or over tough and abrasive surfaces, they should consider using strong or safety-toe footwear. Folks should also consider safety-toe footwear if walking through biting insect or critter-inhabited areas or areas of unknown danger.

Do you see a pattern forming here? Yes, I do suggest wearing good and appropriate footwear—footwear suited for the occasion. As I like to say, it is not that the sole makes the man, it is that the sole makes the man—or woman—or entire family—safe.

The takeaway here is that your foot safety matters—even if it sometimes becomes a wet foot.

## GYPSUM

*by Don Shurtz, Pleasant Oaks Gem and Mineral Society  
from Chips and Chatter 05/2017*

**G**ypsum is a common mineral that is mined extensively in North America, South America, Europe, Asia, Australia, and in Northern Africa. In other words, it is found and mined just about everywhere. Chemically, Gypsum is  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ —Calcium Sulfate Hydrate. Most gypsum is found in massive form in layers or as a sandy layer on the surface. All of the crystal varieties of gypsum form in a monoclinic crystalline structure (think a three-dimensional parallelogram). Selenite is generally prismatic and transparent to translucent. Selenite is the defining mineral for Moh's hardness 2.

Selenite crystals from the Naica mine system Cave of Giants in the Chihuahua Desert of Mexico measure up to 35 feet in length—some of largest-known crystals of any substance. Selenite from the Cave of Swords in the same location forms as twinned translucent crystals that look like etched sword blades. Satin spar (also known as satin spar selenite, is another variety of gypsum that forms long, slender bars that look fibrous. Satin spar cut into spheres or domes may exhibit chatoyance (the cat's eye) effect. The desert rose crystal variety is a rosette-shaped crystal that may be mixed thoroughly with sand or have a sand druse coating. Gypsum Flower crystal variety



**Photo by Don Shurtz of specimen at  
Perot Museum of Nature and  
Science**

**The answer to the Word Search Puzzle is "JULY BIRTHSTONE."**

also starts as a rosette shaped crystal but with spreading fibrous elements that can look like a flower or other shape (e.g., rams horn). Gypsum flowers sometimes have a druse coating. The final variety of gypsum is alabaster, which is composed of very fine, highly compacted grains of gypsum. It is often associated with iron, giving it a pink to brown color. Without iron, it is white. Gypsum-based alabaster has a hardness of 1.5 and can easily be scratched by a fingernail.

As mentioned, Gypsum is found in many locations throughout the world. It has also been identified on Mars. One of the earth's most famous locations for gypsum is the White Sands National Monument in New Mexico. In addition to being a spectacular site, it was also the home of the first atomic bomb tests.

There are many industrial applications for gypsum. It is the basis of plaster and the primary component of wallboard, also known as sheet rock. Gypsum blocks have been used in construction of walls and buildings.

Gypsum is vital to the petroleum and natural gas industry as an additive to their drilling mud due to its high density. It is added to cements and mortars as an agent to control the hardening time. It is also used as a soil conditioner and fertilizer. Gypsum is also found in foods and drinks. It is a binding agent in tofu and is added to water for brewing mead, ales, and other drinks. It is also found in soaps, shampoos, toothpaste, and a variety of other products.

Ref: Wikipedia, <https://en.wikipedia.org/wiki/Gypsum>

## THE IMPORTANCE OF WATER

*by Mark Nelson, Safety Committee Chair  
from CFMS Newsletter June 2017*

**A**s summer nears, we rockhounds will be taking advantage of the warm weather to plan trips to rock and gem shows and places to do some mineral collecting. We'll trek over hills, streams and deserts - and then take our finds back to our work shops to turn them into art. So many of our activities involve environmental conditions that are warm. Most workshops don't have refrigerated air conditioning and can heat up during the summer. So do halls where we hold our shows!

Members of our society or club will look to its leaders to make them aware of the conditions that will enable our members to enjoy our hobby safely. A weak and tired person can get hurt at a workshop or can damage equipment, and on a field trip they are more likely to trip and fall. Mishaps of this type can affect us directly (by falling into us) and indirectly (losing access to a work shop or shortening a field trip to take someone to the emergency clinic).

An altered mental status due to fatigue and dehydration puts all of us at risk of injury, and one of the primary causes of this is the failure to drink water regularly during activity! Water regulates our body's temperature, lubricates joints, and helps transport nutrients for energy and health. If we are not properly hydrated, we won't be able to perform at an acceptable level and may become a hazard to ourselves and others.



Two-thirds of the human body is made up of water, and the body of a person of 154 pounds contains about 1500 ounces of water. Almost 70% of this water is inside the body's cells, 20% is in the space surrounding cells, and slightly less than 10% is in the bloodstream. The water in the human body is essential to keeping it healthy. We lose water constantly. Humidified air leaves our body when we breathe. We sweat to cool the body and we eliminate water and waste by urinating or having a bowel movement.

How many times at our shops and during field trips have we seen our members seek a chair, rock, or stay in the car to "sit this one out"? One of the first signs that the body needs water is a lack of energy. This is often followed by the reduced volume and darker yellow color of urine, dry or sticky mouth, dry skin, mild headache and slight muscle cramps. Thirst is generally NOT the first indication that the body needs water!

How much water should I be drinking? There are no set guidelines for water intake because everyone is different. Sweat rate, heat, humidity, and activity intensity and duration are just some of the factors that must be considered. A simple way to make sure you are staying properly hydrated is to check your urine. If your urine is consistently colorless or light yellow, you are most likely staying well hydrated. Dark yellow or amber-colored urine is a sign of dehydration. When the amount of water you intake matches the water you excrete, the body's water supply will be balanced. A healthy person of about 150 pounds and not sweating excessively should drink at least 65 ounces a day. This is (4) 16-ounce plastic bottled water units. For a hot workshop or vigorous collecting activity, it is recommended to increase this to 100 ounces. As a rule of thumb, I advise field trip members to drink one 16-ounce bottle for every hour of an active, warm field trip.

If you don't want to carry plastic water bottles around, there are some options. CamelBak Hydration makes a 100-ounce bladder with a drinking tube that can be slipped into a knapsack and is available for \$25.20 from sporting goods stores. Target and Walmart sell similar products in a variety of sizes and colors, such as the 2-liter Outdoor Products H<sub>2</sub>O Performance Hydration Pack Water Bladder for \$22.99. Negotiate a group purchase and have your club's logo printed on them!

As we enter into the warmer months, we need to preach the most basic of safety rules:

**DRINK WATER!**

### **Giant Pearl—from Giant Clam??** *from Huntin' & Diggin' 06/2017*



A fisherman in the Philippines has kept hidden in his home what might be the largest natural pearl ever found for more than 10 years.

The enormous pearl is 30 cm wide (1 ft), 67 cm long (2.2 ft) and weighs 34 kg (75 lb). If it is confirmed to have formed within a giant clam, as has been reported, it would likely be valued in excess of US \$100,000.

## Mineral Inclusions

*by Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas  
from Chips and Chatter 06/2017*

**W**hat is a mineral inclusion? We have all probably seen an inclusion in quartz or other minerals, but have you ever thought about what an inclusion is and why it is there in the stone? A simple definition is any material that is trapped inside a mineral during its formation. There are three basic types of inclusions. The first is something that formed before the mineral, and then the mineral formed around it (antigenic inclusion). An example could be a rutile crystal or cluster grew, and then was trapped inside a quartz crystal as it grew around it. The second category is something that forms at the same time as the mineral (syngenetic inclusion). Phantom crystals are examples of a syngenetic inclusion. Smokey phantom crystals are sometimes found in a quartz crystal. The quartz crystal was growing the whole time, but at some point it was exposed to natural radiation causing the smokey quartz to form, but clear quartz continued to grow after the radiation was removed. The final category is something that forms after the mineral forms (epigenetic inclusions). An example could be feldspar forming in cracks of a host crystal.

Some examples of solid inclusions include rutilated quartz, topaz, and corundum, a star sapphire or garnet (generally rutile is the inclusion), chaistolite (a variety of andalusite) which has a distinctive graphite-rich cross, a trapiche emerald with its characteristic 6-spoked shape of carbon-rich included material, and even tiger-eye, a variety of quartz with inclusions of fibrous quartz and amphibole.

Inclusions can be a solid such as another mineral, a liquid, gas, or in the case of amber (which technically is not a mineral), organic material trapped in the host crystal. Liquid or gas inclusions can be of any category listed above. Liquid and gas inclusions are often found together. An example would be an enhydro quartz specimen. The Perot Museum has a very nice amethyst quartz cluster which has multiple pockets of entrapped water. As the water does not fill the void completely, the rest of the void is filled with air and / or water vapor. Another example of a gas-included mineral would be common white quartz—the white color is caused by included microscopic air bubbles.

### Reference

- GIA, <https://www.gia.edu/gems-gemology/>
- Murphy, Patrick, Inclusions in Gems and Minerals, [www.cigem.ca](http://www.cigem.ca)
- Wikipedia, <https://en.wikipedia.org/wiki/>



**Rutilated quartz, picture by Rob Lavinsky /  
iRocks.com, licensed under Creative  
Commons Attribution—Share Alike 3.0  
Unported**

**All pictures by Don Shurtz. Specimens are or have been on display at Perot Museum of Nature and Science.**



**Ruby with double star  
(Twinned Rutile)**



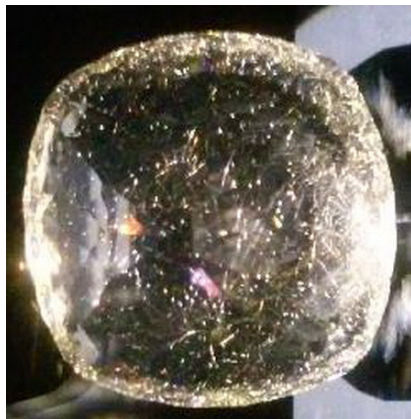
**Garnet with Star (Rutile)**



**Aquamarine – The Helix  
(Phantom Crystal Faces)**



**Fluorite (Phantom Crystals)**



**Faceted Quartz (Rutile)**



## Show Time 2017–2018

July 1-2	Grapevine, TX	Arlington Gem & Mineral Club Grapevine Convention Center, 1209 S. Main St. <a href="mailto:nadira.charaniya@gmail.com">nadira.charaniya@gmail.com</a> <a href="http://www.agemclub.org/html">http://www.agemclub.org/html</a>
July 8-9	Tulsa, OK	Tulsa Rock and Mineral Society Tulsa County Fairgrounds-Exchange Center; 4145 E. 21st Street <a href="mailto:m_rongey@sbcglobal.net">m_rongey@sbcglobal.net</a>
Aug. 12-13	Gonzales, LA	Baton Rouge Gem & Mineral Society Lamar Dixon Expo Center Trademart Building 9039 S St. Landry Ave <a href="mailto:larockclub@gmail.com">larockclub@gmail.com</a> ; <a href="http://larockclub.com">larockclub.com</a>
Aug. 19-20	Bossier City, LA	ArkLaTex Gem & Mineral Society Bossier Civic Center, 620 Benton Rd. <a href="mailto:larockclub@gmail.com">larockclub@gmail.com</a> ; <a href="http://larockclub.com">larockclub.com</a>
Aug 26-27	Jasper, TX	Pine Country Gem & Mineral Society The Event Center; 6258 Highway 190 West <a href="mailto:jonetta.nash@yahoo.com">jonetta.nash@yahoo.com</a> ; <a href="http://www.pinecountry-gms.org">www.pinecountry-gms.org</a>
Oct. 13-15	Westwego, LA	Gem & Mineral Society of Louisiana Alario Center; 2000 Segnette Blvd <a href="mailto:gemshow2017@gmail.com">gemshow2017@gmail.com</a> <a href="https://www.facebook.com/GemAndMineralSocietyOfLouisiana/">https://www.facebook.com/GemAndMineralSocietyOfLouisiana/</a>
Oct. 13-15	Mount Ida, AR	Mount Ida Area Chamber of Commerce 30th Annual Quartz, Quiltz, and Craftz Festival Montgomery County Fairgrounds Fairgrounds Rd. <a href="mailto:director@mtidachamber.com">director@mtidachamber.com</a> <a href="http://www.mtidachamber.com">www.mtidachamber.com</a>
Oct. 20-22	Knoxville, TN	Knoxville Gem & Mineral Society hosting <b>SFMS Federation</b> Kerbela Temple, 315 Mimosa Ave
Oct. 20-22	Austin, TX	Austin Gem & Mineral Society Palmer Events Center, 900 Barton Springs Rd.
Oct. 21-22	Bristol, CT	Bristol Gem & Mineral Club hosting <b>EFMLS Federation Show</b> Beals Community Center, 240 Stafford Ave. <a href="mailto:bristolgem@hotmail.com">bristolgem@hotmail.com</a> ; <a href="http://www.bristolgem.org">www.bristolgem.org</a>
Nov. 10-12	Humble, TX	Houston Gem & Mineral Society hosting <b>SCFMS Federation Show</b> Humble Civic Center, 8233 Will Clayton Pkwy. 5 miles east of Bush Intercontinental Airport 1 mile east of Hwy. 59 <a href="http://www.hgms.org">www.hgms.org</a> ; <a href="mailto:showchair@hgms.org">showchair@hgms.org</a>
Nov. 18-19	Mesquite, TX	Dallas Gem & Mineral Society 1800 Rodeo Dr. <a href="mailto:case53d@yahoo.com">case53d@yahoo.com</a> ; <a href="http://www.dallasgemandmineral.org/">http://www.dallasgemandmineral.org/</a>

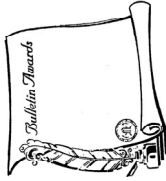
2017		July				2017	
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
						1	10-4 Shop Open 10-Noon Youth Section
2 10-4 Shop Open	3	4 <b>NO</b> Board Meeting  <b>Independence Day</b>	5 10-3 Shop Open 1:00-3:00 Day Light Section 7:30-Mineral Section	6 <b>7:30</b> Board Meeting  <b>NO</b> Archeology Section	7	8	10-4 Shop Open
9 10-4 Shop Open	10	11 11-3 Shop Open <b>NO</b> Show Committee	12 10-3 Shop Open 6:30 Gemstones & Faceting Section	13	14	15	10-4 Shop Open 10-Noon Youth Section 1:30 Beading Section
16 10-4 Shop Open	17 7:30 Lapidary Section	18 11-3 Shop Open 7:30 Paleo Section	19 10-3 Shop Open 7:30-Mineral Section	20	21	22	10-4 Shop Open
23 10-4 Shop Open	24	25 11-3 Shop Open 7:30 General Meeting	26 10-3 Shop Open	27	28	29	10-4 Shop Open
30 10-4 Shop Open	31						

2017		August				2017	
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
		1 11-3 Shop Open 7:30 Board Meeting	2 10-3 Shop Open 1:00-3:00 Day Light Section	3 7:30 Archeology Section	4	5	10-4 Shop Open 10-Noon Youth Section
6 10-4 Shop Open	7	8 11-3 Shop Open 7:30 Show Committee	9 10-3 Shop Open 6:30 Gemstones & Faceting Section	10	11	12	10-4 Shop Open
13 10-4 Shop Open	14	15 11-3 Shop Open 7:30 Paleo Section	16 10-3 Shop Open	17	18	19	10-4 Shop Open 10-Noon Youth Section 1:30 Beading Section
20 10-4 Shop Open	21 7:30 Lapidary Section	22 11-3 Shop Open 7:30 General Meeting	23 10-3 Shop Open	24	25	26	10-4 Shop Open
27 10-4 Shop Open	28	29 11-3 Shop Open	30 10-3 Shop Open	31			

# The BACKBENDER'S GAZETTE

The Newsletter of the  
Houston Gem & Mineral Society

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## SCFMS

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2000 - 1st (Large)  
2003 - 1st (Large)  
2005 - 1st (Large)  
2006-2012 - 1st (Large)  
2013 - 1st (Large)  
2014 - 1st (Large)  
2015 - 1st (Large)  
2016 - 1st (Large)

## AFMS

1998 - 2nd (Large)  
2004 - 3rd (Large)  
2007 - 1st (Large)  
2010 - 2nd (Large)  
2012 - 3rd (Large)  
2013 - 3rd (Large)  
2014 - 2nd (Large)



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