

THE BACKBENDER'S GAZETTE

NEWSLETTER OF THE HOUSTON GEM & MINERAL SOCIETY



DO YOUR ROCKS LOOK LIKE *THIS*?

"Summer Is Coming" on Page 7

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BACKBENDER'S GAZETTE SUBMISSION DEADLINES

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

Copy is due for the next issue by the 15th of this month. Email content to editor@hgms.org



PRESIDENT'S MESSAGE

by Nancy English

I wore myself out volunteering for the May 24, 2022, Texas Primary Runoff Elections on Tuesday. I am awed by the amount of work the Election Judges have to do for Harris County Elections. That's why I clerked instead of running the election. Five of us, all women, most of us over 60, set up and took down all the signage and equipment used by voters to make themselves heard at the poll. I said all that to say this, if you don't vote, don't complain. If you vote, remember to thank the people making it possible. And when you can volunteer to be one of those people who make elections possible.

Another rewarding part of my life is meeting with the contractors HGMS is interviewing for the improvements at the Club. Our Health, Safety, and Environmental Committee continues to gather information and bids. I welcome anyone willing to recommend the companies we need. I could also use help meeting with bidders and compiling their information for comparison.

The HSE Committee is looking for people to write or contribute to writing Policies & Processes. We need to review existing and develop new documentation designed to avoid both injury and equipment damage. This will include training requirements, developing an easy way to know who has been "trained" and establishing enforcement processes and sanctions should they be necessary. If you can donate even a few hours once, to help us move forward please contact me at president@hgms.org. Of course, we could use a longer commitment on the committee if you could and would.

Summer vacations may create more stories from our members about rocks and paleo finds. Take pictures and plan to share them at a General Meeting with your finds. Your treasures are always interesting during Show-n-Tell or for a whole program.

Try to stay cool and enjoy yourselves in June!

VICE PRESIDENT'S MESSAGE

by Sarah Metsa

I am getting into this Vice-President thing, and now I just need to develop my network a bit, and get people working on interesting topics. I am working up next month's talk right now! Let me know what topics you are interested in, and if you would be willing to give a talk at our General Meeting. It's really not that hard. After all your audience are just a bunch of rock-nerds like you!

UPCOMING SHOWS

International Gem & Jewelry Shows 2022 - Houston

Fri. June 17 12-6pm, Sat. June 18 10am-6pm, Sun. June 19, 11am-5pm

NRG Center, NRG Park, 1 Fannin St, Houston, TX

Arlington Gem & Mineral Club presents the 65th Annual Gem, Mineral, Fossil & Jewelry Show, at the Grapevine Convention Center, 1209 S. Main St, Grapevine, Texas 76051

Sat. June 18 9am-6pm. Sun. 10am-4pm

SECTION REPORTS

As always, please see the [Upcoming Programs](#) section under Events on the HGMS website to learn more about planned future meetings.

BEADING SECTION (3RD SATURDAY AT 12:30 PM)

Due to unavoidable circumstances, the May meeting was canceled, and it is possible that the June meeting may also have to be canceled. Emergencies happen!

If we can meet June 18th, the project will be a celtic knot bracelet like this one:



When we do meet, bring your beading mat, scissors, wire and wire cutter, round nose and needle nose pliers, thread and beading needles if you have them.

Want notifications about upcoming Beading Group activities? E-mail beading@hgms.org to be added.

NOTICE: Do you have a bracelet or necklace that needs restringing? The Beading Section will carefully restring your piece at an hourly rate of \$15.00 + materials. Contact beading@hgms.org to make arrangements. All funds will go to the Beading Section.

DAY LIGHT SECTION (1ST WEDNESDAY AT 1:00 PM)

For our next session on June 1st we will be learning about glass making and will make slump glass coasters.

GEMSTONES AND FACETING (2ND THURSDAY AT 6:30 PM IN PERSON AND VIA ZOOM)

It was a busy month with a sale and inventory work. This month, I want to cover something odd and weird that you've experienced while faceting. Bring your stories of things that caught you by surprise!

LAPIDARY AND SILVERSMITHING SECTION (3RD MONDAY AT 7:00 PM)

The June 20, 2022 program will be in person starting at 7:00 pm. Tony Lucci will share tips and tricks for cutting turquoise. He will provide practice material. Participants are encouraged to bring their own material and get advice on deciding whether the material needs to be stabilized and how to best work with it on their own. The Shop will be open before the meeting from 5:00 pm to 6:45 pm.

Seven participants made their own stamping tools at the May 16 meeting and they got great results!

"Sun" stamp created at Lapidary meeting, right.



MINERAL SECTION (3RD WEDNESDAY AT 7:30 PM VIA ZOOM)

On May, the Mineral Section met via Zoom meeting. The first discussion topic was the Texas Mineral and Fossil Show in Conroe, and what people saw there or purchased or wished they could purchase! (Wow, those prices!)



*Rhodochrosite with Quartz ,
Sweet Home Mine, Colorado*



Rhodochrosite, Argentina, above

Sigrid Stewart gave a talk about Rhodochrosite, how it is formed and where it is found and the qualities that make it a very collectible mineral. Color Color Color! She showed many photographs from famous localities. Work is in progress for the June topic.

PALEO SECTION (3RD TUESDAY AT 7:30 PM)

The next paleo program on June 21st is on dino tracks and Neal has a special one to show you - Paluxy Man Track. Former HGMS member Glen Kuban is a published track specialist and Neal bought this cast from him. It was cast on the Paluxy River. He has two localities for you that are particularly appropriate in the upcoming really dry summer - Dinosaur Valley State Park and the trackways at Blanco (upriver from the state park).

YOUTH SECTION (1ST AND 3RD SATURDAYS FROM 10:00 AM TO 12:00 PM)

We will continue our regular activities working in the shop.

NEWS FROM NEAL

Air Abrasive Room: I am having trouble diagnosing the problem. Logan found one of the problems:

- I had a short in a bundle of wires, but fixing that did not cure the problem.
- At least one problem is the vibrator for the abrasive and that is what I am going to work on next.

Grinding: To keep people from damaging the sanding wheels with big rocks, the first grinding station now has all metal wheels - 80, 140, 325 grits. I strongly suggest you do your preliminary work there.

TIG welder: When you are done with the TIG welder, please lock up the hand piece and **TURN OFF THE GAS**. The TIG welder is not dangerous except for the blinding electrical arc. You just need a few minutes of training. See me.

Just pretty: Logan and LT brought in this eye-popping purpurite at right. If you like purple!



UPCOMING CLASSES

GENERAL EDUCATION UPDATES:

We are seeking teachers to expand our class selections. Specifically: PMC, Dichroic Glass, Enameling, Mosaics, and bead weaving instructors are needed. Contact Classes@HGMS.org for more information on teaching or taking classes. We are planning to offer more short & easy summer-time classes for those interested in making some fun projects.

CLASS POSTINGS:

CABOCHONS 101 (CABS101-060322-SH) Have you ever wondered what goes on in that noisy Lapidary Shop? Sharon Halton, Shop Manager will teach cabochon making class on Friday, June 3rd from Noon to 4:00 PM. Sharon will discuss the principles of the creation of cabochons and present examples of cabochons in various stages of development. Students will choose a small slab, draw a design from HGMS templates, and learn to use the trim saws. Each student will choose a pre-dopped stone for hands-on experience using the grinding machines while their own dopped stones “set”. Students will leave with a beautiful cabochon and the information and comfort level needed to work on their own time during HGMS open shop times. No previous experience is needed. This class is receiving rave reviews and what could be more central to HGMS interests?

Cost is \$45.00 for members and \$60.00 for non-members, including all materials; or, you may bring your own stone slab. Minimum of 3-students and maximum of 5.

At right is a photo of cabs made by students in the most recent Cabs 101 class by 4-students.



BASIC JEWELRY MAKING SKILL CLASSES (BJMS-022-MM) will be taught by Maggie Manley, in 4-sessions on Friday, July 1st, 8th, 15th, and 22nd, from Noon to 3 PM. We will begin with basic stringing techniques, including knotting on silk cords and beading on vinyl coated wire with crimps, clam shells, wire guards, jump rings and clasps. Weeks 3 and 4 will introduce basic wire working techniques such as simple and wire wrapped loops, spiral wires, ear wires, clasps and beaded elements. Students will make 4 to 6 finished projects and leave with the skills and resources needed to continue making projects on their own.

Members cost \$175.00; Non-member cost \$200.00. Materials and tools are included.

SUMMER IS COMING!

by Sigrid Stewart

photos by Steve Blyskal

Yes, summer is coming and what's a Texas rockhound to do? In more northerly parts of the country, rockhounds look forward to summer because that is exactly when they can get out and go on field trips, without worrying about mud and snow cover. Here in Texas, we have the opposite problem. Winter is the optimum time to take field trips. It is cool out, the vegetation is feeling less fierce and most of it is not pumping out pollen as fast as it can, and the snakes are hibernating for the winter (a particularly important fact!) Have you tried rockhounding in the summer in Texas? Besides having to carry twice as much water and maybe a shade cloth, you may need gloves to pick up hot rocks that have been sitting in the sun all day! And heat stroke is a real possibility. Try carrying a bucket of rocks on a day with afternoon temperatures over one hundred degrees Fahrenheit.

Now, it can be done. You can make a (very) early start, and finish by noon. That's doable. Just plan to stay somewhere with a pool to give you something to do in the afternoon! But I have a better idea for the wimps like me who don't enjoy working in the hot sun: just go north! Wyoming, Montana, Colorado, Idaho, Michigan... all wonderful places to rockhound and not nearly as likely to burn your fingers just picking up rocks. Just plan your summer vacation around some of those juicy localities you have read about in *Rock & Gem*. Michigan coppers, Montana sapphires, Wyoming jade... the list goes on and on.

OK, well, that won't work for everyone. Some spouses and children have no sense of humor. Seriously, why go to a beach when you could be digging agates? There is no understanding some people.

Oh well, there are Gem & Mineral shows held in comfortable air-conditioned venues. There just don't seem to be many in the summertime.

Well, if you cannot get away to the fossil fields or agate beds of your dreams this summer, here is another idea: **WORK ON WHAT YOU HAVE!** Some of us less selective rockhounds



Are your cabinets full?

So have pity on your significant other and organize a bit. Go through your collection and get rid of the real duds. Consider donating or trading off some of your seconds.

And if you have some true-blue rock-hounding buddies, give them a piece of that prized South Texas shrinkwood you may never get to. That's a nice piece at right. Dry, dessicated wood that was



buried and petrified, with chalcedony filling the cracks.



Remember that you found these rocks outside. That means they could be stored outside! While HOA administrators frown on front-yard rock piles, that doesn't mean that you can't put them around the flower beds in your back yard.

Or in buckets or milk crates in your side yard. Or in stackable plastic bins in your attic – the heat is not likely to bother your rocks there.



Do be aware that enthusiasm could cause you to overload your rafters if you are not careful!

Oh, excuse me! YOUR rocks are too fancy and expensive to live out in the back yard! Well, you will just have to organize them in the house then. Are they well-displayed in cabinets or bookcases?



Have you considered lighting for your displays?

ARE THEY CATALOGED?

Will anyone know what you had if you keel over trying to carry a bucket of rocks uphill on some 100-degree summer day? Make labels, identify your rocks, keep lists and records of purchase prices. Your heirs will thank you!

Get to work then! Here is the payoff: if you clean up and organize your collection of specimens and/or cutting rough, when decent weather returns, you can go collect more! And hopefully, you will be able to store this new batch in a more logical way!



TAKE CARE OF YOUR COLLECTION

By Ed Mattson from The Vug, 3

Reprinted from the Pick & Shovel, May 2022 Issue

The Official Publication of the Lincoln Gem & Mineral Club, Inc.

Being a mineral collector, I visit the dealers and shows in our area. I also go to tag sales, flea markets, consignment and antique stores, which occasionally can have mineral specimens for sale.

What I find mostly is only one or two specimens that were bought as a souvenirs, gifts, or an Object D'Art for its decorative value. Rarely, I have found an estate sale where the deceased person was a collector or a lapidary enthusiast. Our club has been given materials and collections from various past and deceased members. Others were ones who had to move and did not have room to store their collection. Past club boards have been using this material for selling at our monthly auctions and other venues. I knew many of the members from which this material came.

What saddens me is the state these collections are in. While the original collector fully intended and started a very good labeling and record keeping system, with the demands of everyday life, time, and health, many collections will ultimately degrade into a mass of confusion.

Some of the material I have sorted through in the club stock came from an early member who passed on some years ago. I had visited him a few times when he was alive and saw his collection. Even then it was in a disorganized state. While he had started to properly have code numbers on each specimen and had a corresponding card file, he was unable to keep up with it.

When the remnants of his collection had come to me, via auction and sales, I found utter chaos. There were specimens without numbers, numbered specimens without cards, missing specimens or cards. I filled three tall kitchen can trash bags full of crumbling paper, mildewed cardboard trays, and an assortment of grubby plastic containers that I had sorted from the minerals.

I knew that he, as well as other collectors, prized each piece he bought or collected. Each had its own story to him. I knew that many pieces came from local sites now closed. I knew I was tossing out items with possibly some monetary or historical value. I tried to identify as much as I could, but ultimately, about 1/3 of what was there went into the "use as pretty rocks" buckets. Many hobbyist collections I see are potentially doomed to this fate.

You are asking, or should be asking, now, how can I avoid this happening to my collection? First, be very selective of what you take home if you self collect. Just because you work hard to get a 5 gallon bucket of material does not mean you have to keep it all. Ask yourself; is this the best that this site can offer? Do I really need this much? Can I trade or sell the excess? Be picky. Don't break your back hauling junk home.

The other way is simple. At least once a month, devote some time to keep it in order. No "I can do that to-morrow" or "I'll do it next week" excuses. Mount every thing firmly on a base of some type. It could be anything. Styrofoam, wood, stiff cardboard or clear plastic blocks so long as you keep a uniform look.

Have a short, simple label ON EACH ITEM with a corresponding hard copy list. You can do a list on the computer, but computers crash. If you self collect and have multiples, mount a few and store the rest in a sturdy container with a label in or on it.

Your next question should be “What can I use in preserving my collection?” NO cheap folding, paper-board boxes you get from a dealer. NO shoe boxes or other cheap boxes. NO zipper lock type bags or other plastic or paper bags. Both will degrade chemically and become mildew food or mouse nesting material quickly. NO plastic display cases scavenged from the dumpster behind Kohl’s or Wal-Mart. NO, NO, NO deli or other food containers of any kind! Besides that fact that they will degrade also, it is a poor way to show your collection. If you have any pride in your collection, show it properly. This all goes double if you store your collection in a basement or garage. And why are you storing your collection in such a dark, damp, moldy, bug and rodent infested and inaccessible place anyway?

With the Internet, one can find all sorts of good looking and sturdy boxes, drawers, glass front display unit kits and so on. There are many more makers and dealers of container systems just for our hobby now than in decades past.

Yes, I know you are going to worry about the time and cost, so let me ask you this. Do you want your collection, which you have spent much money, time, effort on, and have many fond memories of, to be passed on as a worthwhile and educational collection to a young collector? Or do you want it to become just some fancy rocks in a rock garden or buried in a concrete patio or wind up like the collection leftovers I deal with? Take Care of Your Collection.

IS SUMMER ALREADY HERE?

Did you get the impression that May was kind of hot in Houston? According to KHOU 11, as of May 19, Houston experienced 12 days of 90+ degree high temperatures. The average number of 90+ days for May is eight. Hurricane season doesn't begin until June 1, but historically, there has been a named tropical system in the month of May for the past seven years in a row.

Also in May, 2 records were broken at Bush International Airport, 3 at Hobby, 10 in Galveston and 1 in College Station. And then we got a cold front and rain, oh sweet relief!

And of course, heat is not the only problem.

FIELD TRIP SAFETY

by Sharon Marburger

Reprinted from the Pick & Shovel, May 2022 Issue

The Official Publication of the Lincoln Gem & Mineral Club, Inc.

Decent weather is upon us and it's time to get out in the field to hunt rocks, minerals, and fossils. Here are a few safety items to keep in mind.

Rattlesnakes are the largest of the venomous snakes in the United States. They can accurately strike at up to one-third their body length. Rattlesnakes use their rattles or tails as a warning when they feel threatened. Rattlesnakes may be found sunning themselves near logs, boulders, or open areas. These snakes may be found in most work habitats

including the mountains, prairies, deserts, and beaches. If bitten, seek medical attention as soon as possible. Dial 911 or call local Emergency Medical Services. Keep still and calm.

Bees, wasps, and hornets are found throughout the United States and are most abundant in the warmer months. Nests and hives may be found in trees, under roof eaves, or on



Sorry for the large picture. It was hard to see until it rattled.

equipment such as ladders. Stinging or biting insects, spiders, ticks, and other arthropods can be hazardous to you. Health effects range from mild discomfort or pain to a lethal reaction for those allergic to the venom. If an person is stung by a bee, wasp, or hornet, have someone stay with them to be sure that he or she does not have an allergic reaction.

Scorpions usually hide during the day and are active at night. They may be hiding under rocks, wood, or anything else lying on the ground. Some species may also burrow into the ground. Most scorpions live in dry, desert areas. However, some species can be found in grasslands, forests, and inside caves.

Venomous Spiders found in the United States include the black widow, brown recluse, and hobo spiders. Spiders are usually not aggressive. Most bites occur because a spider is trapped or unintentionally contacted.

Tick-borne pathogens can be passed to humans by the bite of infected ticks. Lyme disease is the most commonly reported tick-borne disease in the United States. Areas with woods, bushes, high grass, or leaf litter are likely to have more ticks. Some common symptoms of infection with tick-borne diseases include body/muscle aches, fever, headaches, fatigue, joint pain, rash, stiff neck, and facial paralysis. Check your skin and clothes for ticks every day.

Shower or bathe as soon as possible after working outdoors to wash off and check for ticks. Remember to check your hair, underarms, and groin for ticks. Immediately remove ticks from your body using fine-tipped tweezers. Clean the area with soap and water. Wash then dry clothes in a hot dryer to kill any ticks present. If you develop symptoms of a tick-borne disease, seek medical attention promptly.

WHEN IS ARAGONITE NOT ARAGONITE?

By Prof. Philip R. Kesten, Ph.D., Department of Physics, Santa Clara University

*Reprinted from the BRECCIA newsletter of the
Santa Clara Valley Gem and Mineral Society, May 2022*

On a rockhounding trip to the Corocoro Mining District in Bolivia, you have the good fortune to find a spectacular crystal specimen. It is long and hexagonal with a flat, terminated end. Aragonite! Aragonite, a crystalline form of calcium carbonate - a calcium atom (Ca) connected to a carbon atom (C) and three oxygen atoms (O) - is often found in this region.

But this specimen doesn't look quite like the aragonite with which you're familiar, so you make some tests. The crystal you found has a hardness of 2.5, somewhat lower than the known hardness of aragonite. You drag the crystal across your porcelain streak plate – the streak it leaves is red, not white as you would expect for aragonite. And the specific gravity of this specimen is almost 9, three times higher than the specific gravity of aragonite. (Specific gravity is a measure of the density of the rock, that is, how much mass is packed into a given volume. If you don't know how to measure specific gravity, I provide some easy instructions below.) Wrong hardness, wrong streak color, wrong specific gravity - is this crystal aragonite? Not likely.

Is there a mineral that does have a hardness of 2.5 and a specific gravity of 9, and that leaves a red streak? Yes – copper! But native copper occurs only rarely in crystalline forms, and even then, the crystals are either cubic or octahedral, not hexagonal. So, no, the specimen you found is neither aragonite nor a crystal of copper. No – what you have found is a pseudomorph of aragonite, a crystal that formed as aragonite but in which, over millions of years, the calcium atoms in the calcium carbonate molecules have been replaced by copper atoms. You have found a “copper after aragonite” pseudomorph. For you fans of ancient Greek, “pseudomorph” comes to us from the Greek “pseudos” meaning “false” and “morphe” meaning “shape.”

Some minerals are more susceptible than others to the replacement process by which a pseudomorph is created. Aragonite is one, although copper after aragonite is a rarity. (If you have really found a crystal of copper after aragonite, you are one lucky duck! Even a small specimen of this pseudomorph sells for hundreds of dollars.) A far more common pseudomorph of aragonite is calcite after aragonite.

Strictly speaking, copper after aragonite and calcite after aragonite are substitution or infiltration pseudo-morphs. A substitution pseudomorph forms when one mineral is replaced by another while the original mineral's crystalline form is preserved. Because of the substitution, however, the resulting pseudomorph has the color, hardness, and specific gravity (and other properties) of the new mineral. Atoms in pyrite, the FeS_2 molecules of which are an iron (Fe) atom bonded to two sulfur (S) atoms, are also relatively commonly replaced. Pseudomorphs of pyrite retain the distinctive look of pyrite, of course, but none of its other properties. Can you guess what atomic substitutions have occurred to form limonite after pyrite, goethite after pyrite, and hematite after pyrite, all common pseudomorphs? The molecules in limonite are FeO (O is oxygen), molecules in goethite are $\text{FeO}2\text{H}$ (H is hydrogen), and molecules in hematite are Fe_2O_3 . (Hint: the iron atoms in FeS_2 remain during the process of forming the pseudomorph.)

Another group of common pseudomorphs form from glauberite, a mineral easily identified by its intertwined, plate-like, rhombic crystals. Pseudomorphs of glauberite are among my favorites! Glauberite is relatively soluble, so when subjected to water, the molecules that form glauberite can, over time, dissolve away to be replaced by gypsum, or calcite, or selenite, ... or a good number of other minerals. Gypsum after glauberite and calcite after glauberite pseudomorphs are particularly common and easy to acquire.

Because glauberite is soluble, it is also common for the surfaces of a glauberite crystal to dissolve, allowing molecules of another mineral to attach themselves to those surfaces. In this way a glauberite crystal can become encrusted with that second mineral. When the rest of the glauberite dissolves away, what's left is a hollow cast composed of the second mineral but in the shape of the original glauberite crystals. This is an aptly named cast pseudomorph, often referred to as an epimorph. (The Greek word "epi" means "on top of.") A common epimorph forms when the mineral prehnite coats a crystal of laumontite. Often the encrusting of the laumontite is not complete, leaving a hollow, partial shell of prehnite.

Technically, the term pseudomorph refers to one substance forming in the shape of another, either by molecules of one replacing molecules of the other or by one substance encrusting another. But a "substance" does not have to be a mineral – petrified wood, for example, is considered a pseudomorph. Millions of years ago, imagine a tree falling over into a primordial swamp. Buried, eventually, beneath layers of mud and perhaps ash from ancient volcanoes, and therefore without oxygen to envelope it, the wood could not decay... so the voids left behind as the wood broke down became filled with silicates. Silicates... that's rock! Rock in the form of the original, living tree. We could call this a silicate after wood pseudomorph. (But to be clear, no one calls petrified wood by this name!) And in the same way, fossils of dinosaur bones are technically pseudomorphs... made of the stone that replaced the biological material in the bones of creatures that lived millions of years ago. Stone, but still in the shape of those bones. The same is true of fossils of brachiopods and ammonites.

And finally, as promised, here is an easy way to measure the specific gravity of a specimen. (Or of anything.) First, specific gravity is the density – the mass per volume – of an object relative to the mass per volume of water. To find the specific gravity of a rock specimen, then, you need to measure its mass (or weight) and its volume. Find a cylindrical container, preferably one not too much wider than the sample to be measured, and a kitchen scale. Set your scale to read out in grams and find the weight W of the specimen. (Just to be persnickety, grams are a measure of mass, not weight. But your scale has

been set to convert from weight to mass.) Carefully measure the diameter in centimeters of the cylinder, partially fill it with water, and measure the height H in centimeters that the water level goes up when you sub-merge your sample. The volume V of your sample is equal to the volume of the water it displaces, that is, V is equal to $\pi(D/2) \times (D/2) \times H$ in cubic centimeters (cm³). You can now compute the specific gravity, which is equal to $(W / V) / (1 \text{ g/cm}^3)$, where 1 g/cm³ is the density of water at 4 oC. (And yes, dividing by 1 is just as easy as it looks!)

So... when is aragonite not aragonite? When it is a pseudomorph! Consider adding some pseudomorphs to your collection.

A GALLERY OF PSEUDOMORPH PHOTOS



Prehnite after glauconite



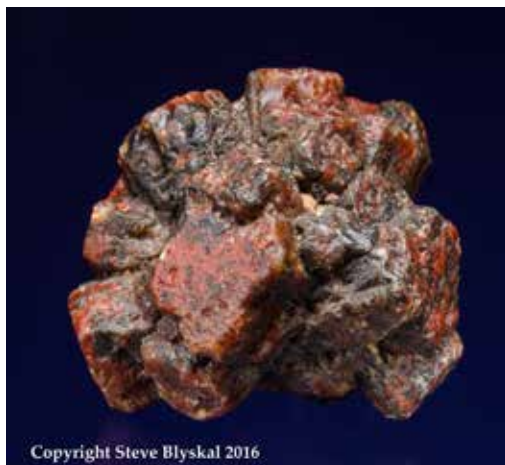
Malachite after azurite



Prehnite after calcite



Malachite after azurite



Chalcedony after aragonite



Goethite after pyrite



Chalcedony after aragonite



Stibiconite after stibnite



Limonite after siderite



Quartz after calcite



Goethite after marcasite

AN 8TH CONTINENT?

*by Matthew Lybanon, Editor, MAGS Rockhound News,
11-12/2021
via AFMS 12/2021 Newsletter*

About 3,500 feet under the south Pacific sits a piece of land adjacent to New Zealand 2 million square miles in size—about half as big as Australia. But scientists can't agree on whether this submerged land mass—a collection of submerged chunks of crust called Zealandia (or the Maori name Te Riu-a-Mui) that broke off an ancient supercontinent called Gondwana about 85 million years ago, is a continent or not. A team of geologists declared it one in 2017, but not all researchers are convinced.

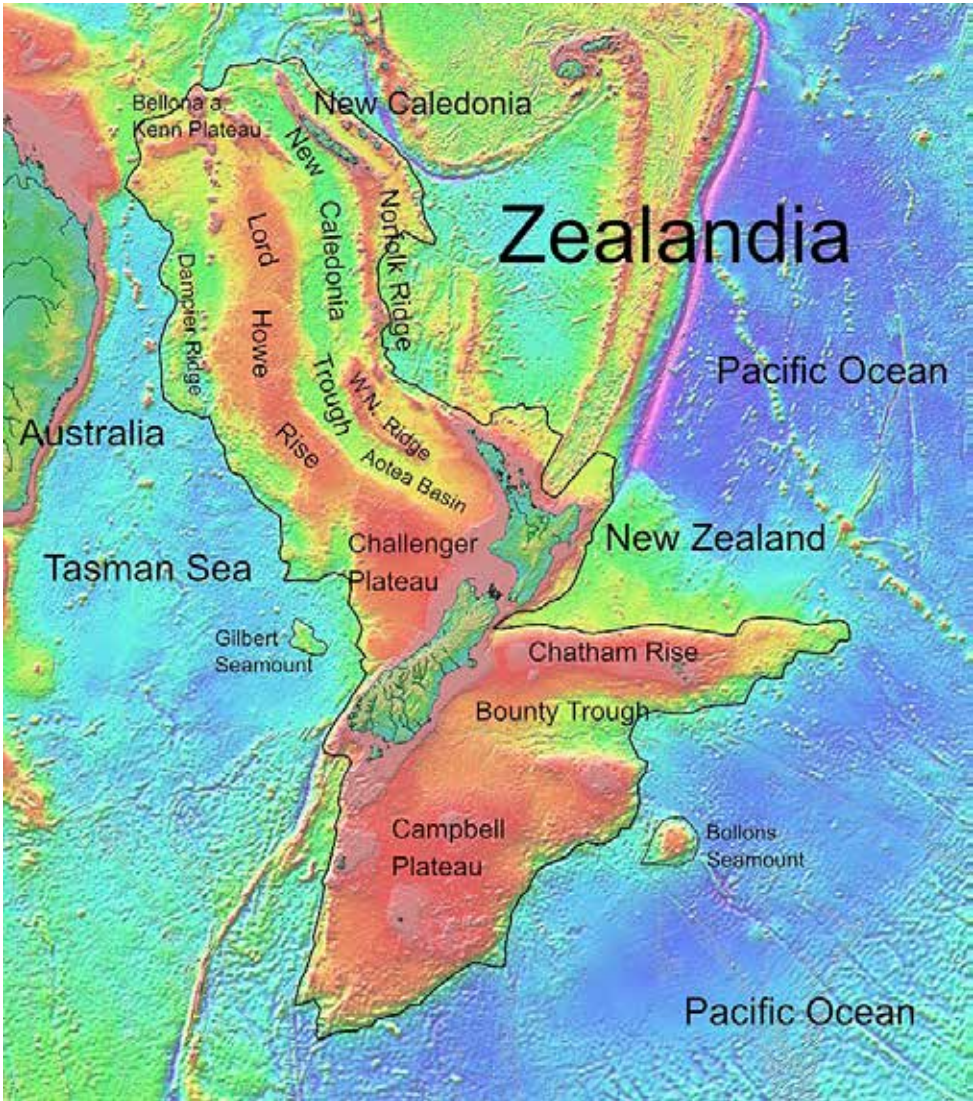
Nick Mortimer, a geologist from New Zealand's GNS Science who led the 2017 group, explains that a continent should have clearly defined boundaries, occupy an area greater than 1 million square kilometers, be elevated above the surrounding ocean crust, and have a continental crust thicker than that oceanic crust.

Zealandia meets all those stipulations. The problem, however, was that until recently, the oldest crust and rock ever sampled from Zealandia was just 500 million years old, whereas all the other continents contain crust that is 1 billion years old or more. But a recent study found that part of the submerged continent is twice as old as geologists previously thought, which could boost Mortimer's argument.

Tiny mineral grains taken from granite rocks have led to a potential breakthrough in ancient continental reconstructions. The geologists behind the recent research (published in *Geology*) looked at 169 chunks of Zealandia granite, which were found under New Zealand's South and Stewart Islands.

Granite forms when magma crystallizes deep within the Earth's crust. The granites were brought to the surface by uplift of the Zealandia continent in response to earthquake activity along a plate boundary over millions of years. By extracting microscopic crystals

from the granite, the team was able to determine both the age of the crystals themselves and of the crust in which they formed. The results showed that crust was once part of another supercontinent known as Rodinia, which formed between 1.3 billion and 900 million years ago—far earlier than 500 million years ago.



Zealandia Topography
From <https://en.wikipedia.org/wiki/Zealandia>

Dr Rose Turnbull (also of GNS Science, and one of the authors of the Geology article) says that a key finding in this study was the unique isotopic signature measured in microscopic grains of zircon, a mineral that is found in all granites. The isotopic composition of zircon is used in geology to understand deep time and can be used to reveal what the Earth's crust looked like both at and deep below the surface.

To use a human analogy, all of today's eight continents have older ancestors such as Gondwana, Laurasia, and Pangea. The new study has enabled scientists to place Zealandia in the 'family tree' of continents descended from Rodinia.

With this new information, Zealandia may yet turn out to be a 'missing link' between South China, Australia, and North America—and this opens up the position of South China and Zealandia within Rodinia to new international scrutiny, Dr Turnbull says.

References:

Ringwood, M.F., et al., 2021, Phanerozoic record of mantle-dominated arc magmatic surges in the Zealandia Cordillera: *Geology*, v. 49, p. 1230–1234, <https://doi.org/10.1130/G48916.1>

Mortimer, N., et al., 2017, Zealandia: Earth's Hidden Continent: *GSA TODAY*, v. 27(3), p. 27-35, <https://doi.org/10.1130/GSATG321A.1>

BENCH TIPS FOR MAY

by Brad Smith

DEBURRING A HOLE

When you drill a hole, there's always a burr produced on the underside of the metal. We all have our ways of removing them - typically by filing or sanding the area smooth. But doing it this way will put scratches on your piece that will have to be polished off.

A quick way to remove the burr is to grab a drill that's two or three times larger than your hole. Simply twist it in the hole to cut off the burr.

I usually do this twisting by hand, but if you have many holes to do, it's easier on your fingers to put the drill into a holder like a pin vice.



CLEANING STEEL SHOT

Steel shot in a vibratory or rotary tumbler works great to burnish and shine your finished silver pieces. But a common problem is how keep the shot clean. Carbon steel shot can get rusty if exposed to the air, and even stainless steel shot can sometimes develop a blackish coating that's hard to remove.

My solution of choice to clean the shot is Classic Coke. Just pour an ounce or

two over the shot and let the tumbler run for an hour or so. A bad case might require a second cleaning. Some folks like to let the bubbles in the Coke dissipate before using it so that gas pressure doesn't build up in the tumbler barrel. I've heard that it's the phosphoric acid in Coke that does the trick.

While you're waiting for the shot to clean up, just settle back and enjoy the rest of the Coke.

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TIPS AND TRICKS FROM BRAD'S BOOKS



**HOUSTON GEM & MINERAL SOCIETY
BOARD OF DIRECTORS MEETING MINUTES**

May 3, 2022
by Sharon Halton

X	President— Nancy English	x	Beading— Maggie Manley
X	1st Vice President—Sarah Metsa	X	Day Light—Fred Brueckner
X	2nd Vice President—Beverly Mace		Gemstones & Faceting—Randy Carlson
	Treasurer—Michele Marsel	X	Lapidary & Silversmithing—Richard Good
X	Secretary—Sharon Halton	X	Mineral—Ray Kizer
	Past President —Sigrid Stewart	X	Paleontology—Mike Dawkins

President Nancy English called the Zoom meeting to order at 7:35 p.m.
A quorum was present. There were no non-voting members in attendance.

PRESIDENT’S COMMENTS

I promise, this is the last time I will mention this. I am grateful for the help to prepare the Clubhouse for the cleaning on April 15 by C & S Janitorial. And I thank Michele Marsel for cleaning the ovens and facilitating the cleaning of the carpet stain by Dean Wix. Yay Team

Clean Up! The President explained how the stain on the carpet occurred.

Approval of Minutes: Michele Marsel moved via email to approve the minutes of the April 5, 2022 Board of Directors 'Meeting. Ray Kizer seconded the motion. It was voted on via email and passed on April 18, 2022.

Treasurer's Report: Michele Marsel sent the Treasurer's Report to members on May 3, 2022. Questions should be emailed to her. President English asked that the cost of the cleaning company be added as a separate line item in the Clubhouse expenses so she can follow the costs more easily.

COMMITTEE REPORTS

BBG Editor: Sigrid Stewart – No new business. Tom English wanted to say that the BBG is the best newsletter he has ever seen from any group that he has seen. Thank you, Sigrid.

BBG Notice: Beverly Mace notified members today, May 3, 2022, that the online version of the May BBG is available on the HGMS Website.

Donations, Sales, Auction Committee (DSAC): Michele Marsel

The April 23 Sale (Pounder/Faceting Rough/Equipment Auction) - The sale included a faceting rough pre-sale at the April 16 Faceting Section meeting and equipment & tool auctions at the General Meeting on April 26. The net profit (after PayPal fees and 50% donor split on the Helm faceting material) was \$4,727.

The final disposition of the Saxman donation from 2019 is still pending. Ray Kizer reported that he has completed his evaluation of the 23 flats of material. We are waiting for Steve Blyskal to confirm that the Mineral Section will buy the entire collection and that a check can be sent to the Saxman family.

Richard Good indicates that he has additional equipment ready to deliver to the Club to sell including 2 Highland Park 10" combination saws and a cabochon maker.

Education Committee: Maggie Manley

Nancy English complimented Sharon on the feedback about her Cabs 101 class. An email was received from a participant complimenting her as a teacher.

Joy Lester is taking a break from teaching. Maggie is working on new policies to explain the club's position on teachers working with our organization.

Health Safety & Environmental Committee: Sarah Metsa

Exterior Lights: The burned-out bulb on the parking lot light above the entrance door has been replaced. Yesco confirmed they can convert the three exterior light fixtures to LED (no need for new fixtures). The LED bulbs are on order and they will schedule the conversion work when they arrive. The expected time frame is 3-4 weeks. The total cost for the completed repair and the pending upgrade is estimated between \$900 and \$1000. It should then be close to five years before we have to worry about another lighting repair.

Sarah Metsa doesn't have as much time to work on getting parts of the safety projects done and intends to start delegating projects. As always, volunteers would be most welcome.

Richard Good is going to speak to the insurance company about what is expected for the lighted exit signs.

Sharon Halton has offered to help get the water-filtration system estimate moving and will start by making contact with a company that Michele Marsel has identified.

Membership Committee: Beverly Mace reported new and renewed memberships in April. Notices will be going out soon ONLY to members who haven't yet paid their 2022 dues.

Scholarship Committee: Mike Sommers told us at the General Meeting "that one person has applied for the HGMS scholarships. Now we have received two complete applications and one without the LoR (letter of recommendation) yet. I've received at least three other inquiries over the past week, hoping they translate into a completed application."

Show Committee: Scott Singleton. The next Show Committee Meeting is May 10, 2022. Sharon Halton said that she was asked by Rick Rexroad to pursue purchasing badges for the security volunteers. She showed one of the badges that she received.

Website Committee: Scott Singleton. Nancy repeated the request that was read at the April 26, General Meeting. The Website Committee is starting a project to get interesting articles previously published in the BBG scanned and put on the Website so it becomes more useful, meaning accessible by web searches. (Articles hidden in past BBGs are not useful). This is a big job. So, we call on all BBG authors to send us digital versions (i.e., a Word doc as well as any figures in the article) of their past articles if they would like us to have them accessible on the web for all to enjoy. This club has several prolific and knowledgeable authors, and we would like to get their help in this project.

SECTION REPORTS

President English asked Section Chairmen or Representatives to limit their comments to news about the Section and problems the BOD needs to know about since the meetings are posted on HGMS.org under programs and the calendar and are posted on the weekly eblast.

President English suggested listing the upcoming dates for the Section meetings in the Board of Director's Minutes.

Beading Section: third Saturday, 12:30 p.m., May 21, 2022, June 18, 2022, July 16, 2022.

Day Light Section: first Wednesday, 1:00 p.m., May 4, 2022, June 1, 2022, July 6, 2022.

Gemstones and Faceting Section: second Thursday, 6:30 p.m. May 11, 2022, June 9, 2022, July 14, 2022. Hybrid Zoom

Lapidary and Silversmithing Section: third Monday, 7:00 p.m., May 16, 2022, June 20, 2022, July 18, 2022.

Mineral Section: third Wednesday, 7:30 p.m., May 18, 2022, June 15, 2022, July 20, 2022. Zoom program planned.

Paleo Section: third Tuesday, 7:30 p.m. May 17, 2022, June 21, 2022, July 19, 2022. In-person

Youth Section: first and third Saturdays, 10:00 a.m. to Noon., May 7 and 21, 2022, June 4 and 18, 2022, July 2 and 16, 2022. In-Person

OLD BUSINESS

Access Lock: The policy update and log activity report have not been completed and will be presented at the June Board Meeting.

Display Cases status: Sigrid Stewart reported at the General Meeting that Kris Dingfield is not available to help with the rebuilding of the cases. She will look for other solutions.

Dunn SW: The Dunn Southwest Board has elected to return the assessments to pay for painting the buildings due to a lack of participation of which they needed 100%. According to Audrey Kelley at Coir Property "The ACC and the Board are selecting new paint colors. 3 Out of 33 buildings have painted their properties since 2009.

The Board and ACC will send a request to ask all members to paint their properties using the new paint colors and materials (specifications for paint manufacturer and type of paint).

So that we can maintain the uniformity all will be asked to perform their paint within 90 days of the request. Kirkconnell is still a good option if you all want to give them a call." Audrey will send their contact details in a separate email early next week with all the particulars. Coir Property mailed us a check for the assessment we paid in 2021.

NEW BUSINESS

Neal Immega Transition: Neal is working to repair the shop equipment, so it needs very little attention in preparation for him to step down as the Shop Chairman.

President English will talk to Neal about his plans to reduce his responsibilities and what timeline he has in mind. The Board agreed that the first step is to find out the many things Neal does. President English will pursue an additional meeting with Neal to ask questions about his plans and his timeline for letting go of these tasks.

Neal explained to Nancy English that John Cooper has made repairs this year that would have cost us \$10,000 had we had to have it done. The Board thanks John Cooper for his expert help on the shop repairs.

Mike Dawkins asked for Paleo meeting program ideas. Several ideas were offered including a review of fossils, of which many examples can be shown. Another idea was to present the various Texas locations where preserved dinosaur prints can be found.

There was no additional new business.

The next Board of Directors Zoom meeting will be on the first Tuesday, 7:30 p.m. June 7, 2022.

The next General Meeting will be on the fourth Tuesday, 7:30 p.m. on May 24, 2022, and June 28, 2022. Sarah Metsa asked for General Meeting program ideas.

Adjourn: Fred Brueckner moved to adjourn the meeting. Richard Good seconded the motion and it passed. The meeting adjourned at 8:52 p.m.

HOUSTON GEM & MINERAL SOCIETY

GENERAL MEETING MINUTES

May 24, 2022
by Michele Marsel

Former President Sigrid Stewart called the meeting to order at 7:29 pm. Sigrid welcomed 14 attendees in the clubhouse and 5 online, including new member Larry Gardner. No guests attended.

PRESIDENT'S COMMENTS

Annual Report: Our Treasurer, Michele Marsel produced a 2021 HGMS Annual Report. We have advertised it in the Weekly e-Blast. I want to encourage you to request your copy by emailing treasurer@hgms.org.

The speakers used for the hybrid meetings are very sensitive. If you feel the need to have a personal conversation during the meeting or the program, please move to the garage.

Approval of Minutes: James Wark moved to approve the minutes of the April 26, 2022, General Meeting as published in the May BBG. They were also posted in the Sunday, May 22, 2022, e-blast. John Mitscherling seconded the motion and it passed.

COMMITTEE/SECTION REPORTS

Please look for reports of future Section meetings and programs in the BBG calendar, on the Website <https://hgms.org/events>, or by reading the weekly e-blast from Houston Gem and Mineral Society. If you are a member and not on our email list, please contact the Publicity Chair at News@hgms.org, using the Subject Line: "New Member to be added." Former President Stewart invited other Section Chairs and Standing Committee Chairs to make any additional announcements.

Clubhouse Committee: Neal Immega announced that our defibrillator had a new battery, but the pads were outdated (2010). They are on order, but with supply chain delays we're not sure when they will arrive, and the AED machine will not work without them. So, Neal requests that everyone hold off having any heart-related emergencies until we get the new pads.

Membership Committee: Sigrid reminded everyone it was time to pay dues.

Donations, Sales, Auction Committee (DSAC): Michele Marsel reported there are no new sales currently scheduled. The Committee will announce any upcoming sales/auctions in the eBlast.

Education Committee: Maggie Manley reported via email. "I am excited to note I am working on new classes to include dichroic glass, and wire wrapping with Susan Burch. The Cabochons 101 class was outstanding with Sharon Halton!" She is also working on a chain maille class.

Health Safety & Environmental Committee: Sarah Metsa reported that the Committee is working on getting estimates and there is nothing to report now.

Show Committee: The Show Committee met on May 10, 2022. They are looking for donations of crinoids and other small fossils for the Dino Dig. They are also making rock magnets to sell at the Info Booth and would like any donations of quarter to half-dollar-sized rocks to make the magnets out of. Contact Sigrid Stewart if you have anything to offer. Small flat squares are best for magnets, and all types of small rocks polished or not are useful. Neal Immega will bring some low-quality fire agate for them.

Web Site Committee: Sigrid Stewart talked about the posts the Committee is working on for BBG Articles so that information can be more easily searched on the internet.

OLD BUSINESS

Former President Stewart asked members to look for the progress of Old Business items in the Board of Directors' Meeting Minutes in the latest BackBenders Gazette (BBG) on the HGMS Website <https://hgms.org> under Publications.

Building Issues: No new updates on the project to paint the building. Michele Marsel reported that we are waiting for paint specifications from Dunn SW and will need to get contractor estimates. She asked for a volunteer to assist the Board in getting estimates – anyone wishing to help may contact Nancy English at president@hgms.org We hope to have the information from Dunn SW by next week.

NEW BUSINESS

Shop News: We need a Shop Foreman for two Sundays a month. Michele Marsel will continue to be foreman 2 Sundays each month. Beginning in June 2022, until a new Foreman volunteers the Shop will be closed 2 Sundays each month. Open/Closed dates will be posted on the HGMS Website Events page and in the eBlast.

Former President Sigrid Stewart asked for any other New Business. Steve Blyskal mentioned he had spoken with Aaron Frank Thomas (the Kokernot Ranch guy) and he is interested in doing a presentation for HGMS when he is in town. Steve will assist Sarah to follow up on this.

The next Zoom Board of Directors meeting will be Tuesday, June 7, 2022, at 7:30 p.m.
The next Hybrid General Meeting will be on Tuesday, June 28, 2022, at 7:30 p.m.

Show-n-Tell: Steve Blyskal displayed two concretions found in Karnes County, TX (south of San Antonio). They were found in the pit of an old uranium mine that was being reclaimed. They contain calcite which is known for fluorescence. He demonstrated with a large shortwave fluorescent light. Clyde McMeans tested for radioactivity and found very little.

Drawing: James Wark won a light amethyst geode half. John Mitscherling won a rough chunk of dark amethyst.

Refreshments were provided by Sigrid Stewart. She reminded everyone to Feed the Kitty! Your donations go to offset the cost of the snacks.

Adjourn: Sarah Metsa moved to adjourn the business meeting. James Wark seconded the motion and it passed. The meeting adjourned at 7:50 pm.