

The official bulletin of the Dothan Gem & Mineral Club, Inc.

ROCKHOUNDS HERALD

920 Yorktown Road, Dothan, AL 36301-4372

www.wiregrassrockhounds.com

December 2013



Words from...

The President

Likely by the time you receive this edition of the newsletter, we will have already held the 2013 Christmas Social. It is scheduled for Sunday, December 15 at the fellowship hall. So, if you weren't there, I can guarantee you missed a feast of fine food. Why? Because it always is. Not only do we have some knowledgeable rockhounds in our club, we have some stellar cooks, too.

As we move into the Christmas celebration, let's take a few minutes to reflect on the "reason for the season", to quote a popular saying. Even though some of us have health issues and others may have other kinds of issues, all in all we're each blessed in ways too numerous to count. This is a prime time to recognize and acknowledge that and to do what we can for those in this world who aren't as fortunate.

In this edition of the newsletter, when the Star of Bethlehem is a prominent topic of discussion in many homes, we have a *Learning Series* article on another type of star -- "star stones", also known as asterism. And in the *Kids Corner*, we have the steps for making plaster of Paris, which—if you have the right mold—you can use to make ornaments for your Christmas tree.

Anyway, take care to have a safe holiday season—what with all the before and after Christmas shopping and the partying that will occur around New Year's Eve, it can be dangerous to leave the house. We want everybody back in January for the start of another great specimen collecting year.

MERRY CHRISTMAS AND HAPPY NEW YEAR!

Jeff

Upcoming Shows

January 10 – 12	Pinellas Geological Society	Largo, FL
January 25 – 26	Panama City Gem & Mineral Society	Panama City, FL
February 22 – 23	Mississippi Gem & Mineral Society	Jackson, MS

Sources: www.the-vug.com/vug/vugshows.html

Meeting Minutes – November 2013 – by Secretary

The meeting was called to order by club President, Jeff DeRoche, at 2:07 PM. There were 38 members + 3 mini members in attendance ☺. Jeff wished Happy Birthday to all our members with November birthdays.

CORRESPONDENCE: The club received the AFMS Newsletter and two catalogs for Heritage Nature & Science Auctions. One catalog is for fine mineral specimens and the other is for fossils. The club also received two thanks you cards for the class that Arnie and JoAn Lambert and Anne Trice conducted at the Westwood Presbyterian Church.

OLD BUSINESS: The October minutes were approved without changes. Diane Rodenhizer presented the treasury report. As we have a few new members, Jeff checked to make sure that everyone received the November newsletter. Arnie and Jeff are still trying to nail down dates for the club's gem and mineral show.

NEW BUSINESS: We have a new field trip chair; Bruce Fizzell has offered to replace Ken Wilson. All the research material and info on places to dig that we've been compiling can now be handed over to Bruce. Anne Trice has taken charge of the traveling mineral display for the club. The club unanimously voted to make a Christmas donation to the Salvation Army. One of our newest members, Henry Barwood, created a Facebook group called Alabama Rockhounds and there has already been quite a bit of discussion on potential places for digs among the people who have joined the site. The web address is: <https://www.facebook.com/groups/387871511344875/>. If you Facebook, you might want to join the group.

The Merino's reported on a trip they took to the Steven C. Minkin Paleozoic Footprint Site in Walker County northwest of Birmingham, which was about a 4-hour drive from here. They had a good time and let the group know there will be another dig on December 14th. For anyone planning to go, they advised against taking a car with low ground clearance and emphasized that due to the remoteness of the site, you need to make sure you bring lunch and water with you. You will also need a hammer and eye protection. Several dates were suggested for the Club Christmas Party. As soon as Jeff reserves the church hall, I will send out a group email and Jeff will call those folks who don't have email capability. Ellen Webber—obviously one of the bravest amongst us—is taking 50, 14-year olds to the Montgomery Gem & Mineral Show. The show will be held December 6 – 8, and will be at a new location (the Alcazar Shriners on Eastern Boulevard instead of the coliseum). The Panama City Gem & Mineral show will be January 25 – 26, 2014. It will still be at the fairgrounds, but will be in an area right behind the usual place. The show has grown and just needed a bigger space.

SHOW & TELL: The Merinos brought some of the fossils they collected at the Paleozoic site. While they did not find animal tracks, they did get some really nice fern fossils. Carlos and Ginger said you can water down some Elmer's glue and paint the fossils to protect them. Ben Ferguson showed a 50-million year old petrified oyster he found at the bottom of the Choctawhatchee River back when he used to dive. Ben Childress brought some pyritized fossils he also collected from the Choctawhatchee River.

Arnie brought some cabs he had just made. It was quite a large bunch, so he has obviously been busy. My favorite was the spaceship with a cab in the center. Anne displayed a gorgeous necklace of inlaid opal that Bill Tharpe made for her birthday. Anne also had a piece of lapis that Arnie and Chris Holderith cut and polished. She is in the process of doing some amazing beading work with the lapis. Chris displayed a cab of lapis he cut and polished. Brooke Brown was wearing a beautiful tanzanite necklace that Chris had made for her from a stone he got while in Afghanistan.

PROGRAM: No program was presented; however, we did have a lapis auction. Chris had several nice pieces for sale. Needless to say, club members, including yours truly, bought them. After the auction, we hung out and socialized while enjoying refreshments that Joan Blackwell and I brought. In addition, L. J. Ward collected a pile of huge Japanese persimmons from his yard and brought them to share with fellow club members. I got one and have to say it was delicious. Thanks L.J. Door prizes went to Ben Ferguson, Carlos Merino, Diane Rodenhizer, Brooke Brown and Ellen Webber.

Respectfully submitted by Pat Leduc

Star Stones (Asterism)

When parallel, needle-like inclusions, or tube-like channels, are oriented along two or more of the crystal faces of a mineral, and when that stone is cut as a domed cabochon, a four- to six-rayed figure is displayed on the dome. This phenomenon of reflected light is called "asterism" and the gems are called star stones. The most commonly seen examples are star corundums; where there are inclusions of titanium oxide (rutile or "silk") parallel to three crystal faces giving a six-rayed star. In rare cases, a twinned crystal slightly offset with its own set of rutile needles can lead to the formation of a twelve-rayed star.

Although rutile is an extremely common inclusion in sapphire, few good, natural, star sapphires are found. One of the major reasons is that the heating, which is almost universally done to sapphire rough, dissolves rutile needles; clarifying and sometimes color enhancing the stone, yes, but eliminating potential stars!



[Rutile needles (silk) aligned in three directions in unheated corundum]



[Star ruby, white star sapphire ring, rare bi-colored star sapphire]

The only other gem which commonly forms stars is quartz, where the phenomenon tends to be more visible in transmitted than in reflected light. In this species, rose quartz is the most frequently asterated variety. Most citrine in commerce has been heated, which tends to dissolve the fine rutile inclusions necessary for star formation, so it is rather rare. In fine, near-transparent quartzes which have been cut to a spherical shape, multiple stars can form an intersecting pattern over the surface.



[Star rose quartz, star citrine, multi-star quartz]

Synthetic star corundum has been produced for many decades in a process whereby a high concentration of very short rutile fibers are added to the crucible as the raw materials are melted, and the resulting crystals are cooled in a very controlled manner. Such "Linde" style stars look extremely uniform and bright. They almost seem painted on the surface rather than emanating from within the stone. In more recent years, diffusion processes have been developed by which natural gemstones (almost always corundum) can be star enhanced. In contrast to unenhanced natural star gems, these diffused pieces, like the synthetic ones, have stars which are stronger, straighter and appear less mobile, and are more confined to the surface.



[Synthetic "Linde"- type star ruby, a diffusion enhanced, natural-origin star sapphire]

Other much less commonly found star stones include diopside, enstatite, moonstone and garnet, which show four-rayed stars, and beryl and spinel which usually show six-rayed stars.



[Star diopside, star moonstone, star garnet: Image courtesy of GIA, star spinel]

In some cases, natural patterning color zones due to twinning or inclusions can form a four- or six-sided figure in a stone, but as these are *not dependent on light for their existence*, and are a permanent part of the gem, they are not considered star stones.

Not Star Stones!



[Rutile-hematite starburst in quartz, inclusion stained channels in Indonesian chalcedony, chiastolite: Andalusite crystal with carbon inclusions, trapiche emeralds--small emerald crystals outlined and adhering to each other due to carbon inclusions]

Star stones are usually native cut and often have bulging sides and an uneven bottom which can complicate the setting process for jewelers. Rather than this indicating lack of skill or care, we should consider that native cutters are very skilled at maximizing the star potential of any piece of rough. Depth in the bottom of the stone can increase the clarity of the star and controlled unevenness can often help center the star in rough that is difficult to orient.

Speaking in terms of corundum and quartz, star stones have good wearability and are often chosen for rings. When choosing a star stone for your collection or for jewelry wear, it is important to remember that the star you see is a function of the quantity, direction and quality of available light; and it will show itself to best advantage only in strong light, such as sunlight or a single overhead light source indoors, especially when that light is perpendicular to the base of the stone. Under dim, diffuse or multiple light sources, or if held vertically or at extreme angles, all but the very strongest star stones will merely look chatoyant.

Value Factors

Several factors influence the value of star stones. First would be the rarity of the material itself. For example, star beryl or star spinel have inherent rarity value not possessed by star quartz or corundum, since these species so infrequently form stars. Secondly, within any gem category value rises with the same three basic parameters that control most of any gem's value: color, clarity and carat weight.

In general, the more saturated the color, the more translucent, the fewer distracting, visible inclusions, and the larger the size, the more valuable a star stone is. Added to these basics are the characteristics of the star itself. The best pieces have strong stars which show themselves in less than ideal lighting conditions. These stars have straight, evenly bright legs which reach all the way to the girdle of the stone and are well centered in the gem.

Reprinted with permission from Dr. Barbara Smigel

Source: <http://www.bwsmigel.info/GEOL.115.ESSAYS/Gemology.Star.Stones.html>

Club Meeting – November 2013

Photos by Pat



We had a large, attentive group at the November meeting, but before and after, the folks huddled in small groups for some serious chitchat.

Club Meeting – November 2013

Photos by Pat



Oh...



...treasures!!!





Plaster of Paris

The chemical formula for gypsum is:



Gypsum has calcium (Ca), sulfur (S), and oxygen (O) in it. It also has two water molecules (H₂O).

So, if you heat gypsum, the water molecules are forced out of the gypsum and the calcium, sulfur and oxygen is left behind. It can now be crushed into a very fine powder. You can add water to this powder to make plaster.

You will need the following materials to do these activities:

Plastic candy molds, Plaster of Paris powder, water, measuring cups, spoon, clay, shells.

Go to your kitchen or a department store and find plastic molds that are usually used for making chocolate candy. Choose the shapes you like (animals, flowers, insects, etc.) Put your candy mold aside and proceed with the following:

Step 1: Take 1/3 cup of Plaster of Paris.

Step 2: Pour in water and stir. Add just a little bit of water at a time. Keep adding water until the powder has turned to thick plaster. You want it to be thick, but it also has to be soupy enough to be able to pour it into the molds. Don't add so much water that it becomes really wet and runny. If you add too much water and it gets really runny, just add a little more Plaster of Paris powder. This will thicken it up a bit.

Step 3: Pour the wet plaster into the candy mold until the mold is full.

Step 4: Every ten minutes, come back and check your plaster by touching it very carefully. Each time you come back you will see that it is a little harder than the time before. You will also notice the temperature of the plaster is changing.

What do you feel when you touch the plaster as it is drying?

Why does this happen? Scientists call this an "exothermic reaction." An exothermic reaction is one in which heat is created when two materials are mixed together and they react with each other. An exothermic reaction in which large amounts of heat are created instantly is called an explosion!

Turn the page and try another activity with Plaster of Paris: Make Your Own Fossils!



Making Fossils with Gypsum Plaster

In this activity you will need more Plaster of Paris powder, water, a spoon to stir, modeling clay and some hard items like sea shells or little plastic action figures, vegetable spray.

Repeat steps 1 and 2 from the previous page. When your plaster is ready, place it aside for a couple minutes and do the following:

Step 3: Fill the bottom of a small paper cup with modeling clay. There should be 1 to 2 inches of clay in the bottom of the cup.

Step 4: Take one of your items, like a sea shell or a small plastic figurine, and push it into the clay so that it leaves a mark in the form of the object.

Step 5: Carefully remove your hard object. You now have an indentation in the shape of your item. Give a light spray of vegetable spray into the cup. This will make it easier for you to separate the plaster from the clay in Step 9.

Step 6: Pour plaster into the paper cup. You only need to add enough to fill the indentation and cover the top of the clay.

Step 7: Hold the cup with the clay and plaster and firmly tap it on the counter top a number of times. This will push the plaster completely into the indentation and will help force out any air bubbles that might be in the plaster.

Step 8: Put the cup in a safe place on your counter and allow the plaster to completely harden. It is best to wait overnight.

Step 9: When the plaster is completely hard, carefully separate the plaster from the clay. If you need to, you can rip the paper cup to pieces to remove the cup from the clay and plaster inside.

What did you create?

You actually created a fossil! Can you see how your plaster actually looks like the item that was pushed into the clay??!! This is very similar to how many fossils were created in nature.

In ancient seas, sediments settled on the ocean bed. Organisms died and they settled onto the sediment. Their shells left impressions in the sediment. Over time the sediment hardened and the shell dissolved away, but an impression of the shell was left -- just like the impression you made in the clay. More sediment filled into the impression - just like your plaster. All of these sediments hardened into stone (a process geologists call "lithification").

The impression left by a shell in sedimentary rock is called a "mold." The sediment that fills in this impression and hardens to look like the original shell is called a "cast." Cast and mold is one manner in which fossils are created. The impression you made in the clay is the "mold." The plaster created the "cast." You have made a cast and mold fossil in your own home!!

Who What Where When Why How

December Birthdays

DEC 2 Grady Whittaker

DEC 2 Jace Whittaker

DEC 3 Alexandra Pollan

DEC 21 Esther Dunn

DEC 26 Gene Pollan

Random Rock Facts

Gemstones can be classified in many ways, e.g., natural or synthetic, precious or semiprecious, faceted or cabochon. They can also be classified by treatment. A gem labeled as *unenhanced*, means the color, transparency, hardness, or optical phenomena have not been changed by man. An *enhanced* gem has received some type of treatment to change its characteristics, typically irradiation, heating, dyeing, oiling, laser drilling, etc. In the gem trade, all Tanzanites are assumed to be heat treated.

Tanzanite, one of three modern gemstones for December (the others are Turquoise and Blue Topaz), is a member of the orthorhombic crystal system.

Source: <http://www.bwsmigel.info/Lessons1and2/DEBasicTerms.html>

Meeting Information

Time: 2:00 PM

Date: Fourth Sunday of each month (except June, July and August)

Place: Fellowship Hall – Tabernacle United Methodist Church
4205 S. Brannon Stand Road
Dothan, AL

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Field Trips Chair – Bruce Fizzell
334-577-4353

Hospitality Chair – JoAn Lambert
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Club Hostess – Laural Meints
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Website: www.wiregrassrockhounds.com

Objectives

To stimulate interest in lapidary, earth science and, when necessary, other related fields.

To sponsor an educational program within the membership to increase the knowledge of its members in the properties, identifications and evaluations of rocks, minerals, fossils and other related subjects.

To cooperate and aid in the solution of its members' problems encountered in the Club's objectives.

To cooperate with other mineralogical and geological clubs and societies.

To arrange and conduct field trips to facilitate the collection of minerals.

To provide opportunity for exchange and exhibition of specimens and materials.

To conduct its affairs without profit and to refrain from using its assets for pecuniary benefit of any individual or group.

Classified Ads

Looking for an item to round out your rock collection?

Got a specimen, tool or handicraft for sale or trade?

Submit the pertinent details to me by the 10th of each month and your inclinations will be made known to the membership in the next bulletin.

N. J. Blackwell
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Annual Dues

Single \$15
Family \$20

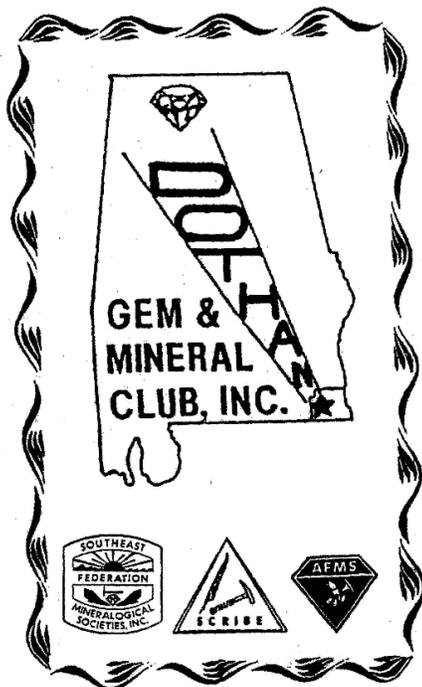
Refreshments

DEC 15 – Potluck Christmas Social
JAN 26 – Margie & Joe Cody
FEB 23 – TBD

ROCKHOUNDS HERALD

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Where you might hear...

When it comes to gemstones, the term *natural* is often misunderstood to mean *unenhanced*. However, in the reality of the gem trade that may not be the case.

Natural means the material was not made, or assisted in its making, by human effort. Otherwise, modifiers such as *laboratory grown*, *synthetic*, *cultured*, or *man-made*, must be used when the material is being advertised or marketed.

Unfortunately, many sellers know that by using the word "*natural*" in the description of a gem their buyers will *assume* that the gem is untreated.

Source: <http://www.bwsmigel.info/Lessons1and2/DEBasicTerms.html>

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