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

Rockhounds Herald

920 Yorktown Road, Dothan, AL 36301-4372

www.wiregrassrockhounds.com

September 2016

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Words from...

The President

Our August Summer Social was small but nice. Several folks brought in things to swap or sell. I bought a bunch of cabs from Arnie to add to my collection and 3 display cases/trays from Diane. It is time to start organizing and labeling my cabochons and other small rock related objects before I forget what they are or where I got them.

I want to thank everyone who brought food and the great stuff for BINGO prizes in June and the things we auctioned in July & August. Hope to see everyone at our season kick off meeting in September. Please bring along any contact information for potential speakers so we can try to schedule them in over the next few meetings. If you have any information on potential dig sites, bring it with you and we can discuss possible outings.

Thanks,

Pat

Announcements

Don't forget the SFMS is hosting classes at Wildacres Retreat, Sept 19-25. Check out either the SFMS or Wildacres website for a list of classes.

The Hogg Mine will be hosting a Rockhound Connection Fall Gathering September 24th & 25th. This is dig and rock swap!! They will also be open for digging on September 22nd, 23rd & 26th.

Graves Mountain has a Rock Swap and Dig scheduled, October 7th - 9th, 2016 in Lincolnton, Georgia. The mountain will be open to collecting from 8 am to 6 pm each day.

Upcoming Shows

Jacksonville Gem & Mineral Show - Sept 23, 24, & 25, 2016 at the Morocco Temple, 3800 St. Johns Bluff Rd., South, Jacksonville, Fl.

Gaston Gem & Mineral Show – Sept 30 - Oct 2, 2016 at the Gaston County Park, Gaston County Park ,1303 Dallas Cherryville Hwy, Dallas, NC

Guest Article by Brad Smith

SILVER DISCOLORATION

Working with jewelry involves an ever increasing number of skills. Chemistry is one of them that comes into play when dealing with a discoloration on the metal caused by a chemical reaction between it and the environment. In the case of Sterling silver there are three discolorations we typically encounter: ***a tarnish, a firescale, and a firestain***. Each is different in its cause, in its cure, and in its prevention. All three have to do with the metals in the Sterling alloy (92.5% silver and 7.5% copper) and how they react with oxygen and the heat of soldering or with pollutants in the air over the long term.

Tarnish is a grayish coating that builds up slowly on the surface as a result of a reaction of the silver with sulfur-based compounds in the air. Typically these are pollutants from the burning of petroleum fuels, but they can come from other sources as well. I once tarnished all the silver in my display case by putting a pretty specimen of iron pyrite in with the jewelry. Turns out pyrite has sulfur in it! Sulfur combines with the silver to form a grayish silver sulfide film on the surface.

Preventing tarnish involves keeping sulfur away from the metal. Plastic bags will help, and anti-tarnish strips are available from jewelry supply companies to pack near your items. Tarnish is easily removed by hand polishing with a jeweler's cloth or with one of the products sold for cleaning the good silverware for holiday dinner. Another way is to remove it chemically. Put a piece of aluminum in the bottom of a dish large enough to contain your piece. Heat enough water to cover the silver. Mix in 2 tablespoons of sodium carbonate per cup of water and pour into the dish. Be sure the silver touches the aluminum. Sodium carbonate is the main ingredient in washing soda. Read the labels in grocery and hardware stores.

The second type of tarnish is called ***firescale***. It is the dark gray to charcoal colored film that forms on Sterling or other copper alloys like brass or bronze when we heat it with a torch. The copper in the alloy reacts with oxygen in the air to form a dark cupric oxide coating on the surface. Luckily, the oxide is easily removed by dissolving it in a mild acid - generally called a pickle. It's important that we not let firescale form on a solder joint because it will block the flow solder over the joint.

There are two ways to prevent firescale. Most common is to use a flux, a borax-based solution applied to the metal before soldering. When melted, borax forms a thin glassy layer that keeps oxygen away from the metal. A second way is to do your soldering on a charcoal block. Together with the flame, charcoal greatly reduces the amount of oxygen in the area being soldered. In either case, oxygen is prevented from reaching the metal, so no cupric oxide firescale is formed. A second oxide can also be formed when soldering copper or a high copper content alloy like bronze or brass. It's called cuprous oxide and is reddish in color. That's why a black looking piece you put in the pickle sometimes comes out red. Problem is that while the black cupric oxide is dissolved by a pickle, the red cuprous oxide is not. The discoloration can be sanded or polished off, but an easier way is to use a "super pickle". This is a mixture of fresh pickle with a healthy shot of hydrogen peroxide from the local store.

I've saved the worst form of discoloration, ***firestain***, for last. Think of firescale (above) as like getting dirt on your shirt that you have to wash off. Firestain is like getting ink on it. The discoloration is not just on the surface, it seeps down and stains the material. Firestain happens when we heat a piece of silver too hot, too long, and/or too many times. Firestain occurs when the oxides start to build up below the surface of the metal. You generally don't notice it until after polishing. It appears as a darker area of the surface and is easy to spot when viewed under light bounced off a piece of white paper. Because firestain is below the surface, there's no easy bench tip solution. Depletion guilding may work for some pieces. Otherwise, removing it calls for sandpaper and aggressive polishing. A much better approach for a piece that will require a large number of solderings is to protect the metal from developing firestain by applying liberal amounts of a firecoat. Regular soldering flux will provide some protection but is not as effective as preparations made specifically for the task. Jewelry supply companies offer several commercial solutions, but my favorite is the Prips mixture in alcohol. I use it every time I intend to do more than two solderings on a piece.

Note: Get all 101 of Brad's bench tips in "Bench Tips for Jewelry Making" on Amazon.com

Strange Hoodoos – Living Growing Stones – An Incredible Geological Phenomenon

Earth is an amazing planet and our nature is full of wonders. This time we would like to focus our readers' attention on another amazing geological phenomenon, namely the so-called growing stones. It is difficult to imagine that stones can really grow, but these stones seem to be alive!

The Romanian Trovants Museum Natural Reserve is located in Valcea County, close to the road connecting Ramnicu Valcea and Targu Jiu, 8 km from Horezu. Here in a small village named Costesti, there are some fascinating and mysterious stones called trovants that are believed to be alive.

There are sand or grass levels with trovants in many places of Romania, but the ones in the region of Costesti are particularly impressive because of diversity of their shapes (mostly spherical or ellipsoidal) and dimensions.

The term "Trovant" is a term used in Romanian geology. Trovants represent a quite bizarre geological phenomenon, which consist of spherical shapes of cemented sand due to some powerful seismic activity that occurred 6 million years ago. The earthquakes definitely contributed to the creation of the first trovants.

It is assumed that trovants consist of a stone core with an outer shell of sand. What makes these formations unique and mysterious is that they are reproducing after coming in contact with water. After heavy raining the stones grow, starting with 6-8 millimeters and ending with 6-10 meters. It's really remarkable!

The trovants from Costesti Museum are unique in the world because of one particularity – small trovants are growing on the surface of other bigger trovants. And they are the biggest trovants in the world.

One of the strangest aspects of these stones is that although they vary in size from a couple of millimeters to even 10 meters, they are very similar, despite a natural law that states there are no such things as identical stones. In addition, just like the famous rocks in Death Valley, California, the trovants often move from one place to another place.

Complex aggregates of two or more trovants can often be found. There is no mineralogical difference between these strange pseudoconcretions and the surrounding sands. Their cement is often carbonate-type and no distinct nucleus can be found inside them.

Many hypotheses have been produced on their origin. However, scientists believe that the stones increase in size due to high content of various mineral salts, which are under their shell. When the surface becomes wet, these chemicals start spreading and put pressure on the sand, making the stone “grow”.

Trovants were formed in the process that involved: gravitation force, seismic shocks, solution cohesion forces (particularly surface tension) and the adhesion strength between the sand grains and the liquid.

The great trovants found in the thick sand beds reflect great initial amounts of solutions in the bulk of the sandy sediment. The perfect spherical shapes which sometimes can be found suggest great magnitudes and durations of the paleoearthquakes.

A hypothesis on the seismic origin of the trovants is very well sustained by many laboratory experiments, of which the most relevant are those in which

sand spheres are obtained from wet sand on fine sieves subjected to mechanical shocks.

On Earth, trovants of different ages have been recorded in Russia, Siberian Platform, and Wyoming.

They are also in the Carpathians area (a mountain range in central Europe that extends from Slovakia and southern Poland southeastward through western Ukraine to northeastern Romania). In Romania they are particularly numerous in the lower Sarmatian and are very diversely shaped.

However, despite their best efforts, scientists have failed to come up with a logical explanation *why the stones have extensions* that remind of roots. If they are cut, their sections have colored rings, just like trees.

The two essential conditions for the trovants formation are:

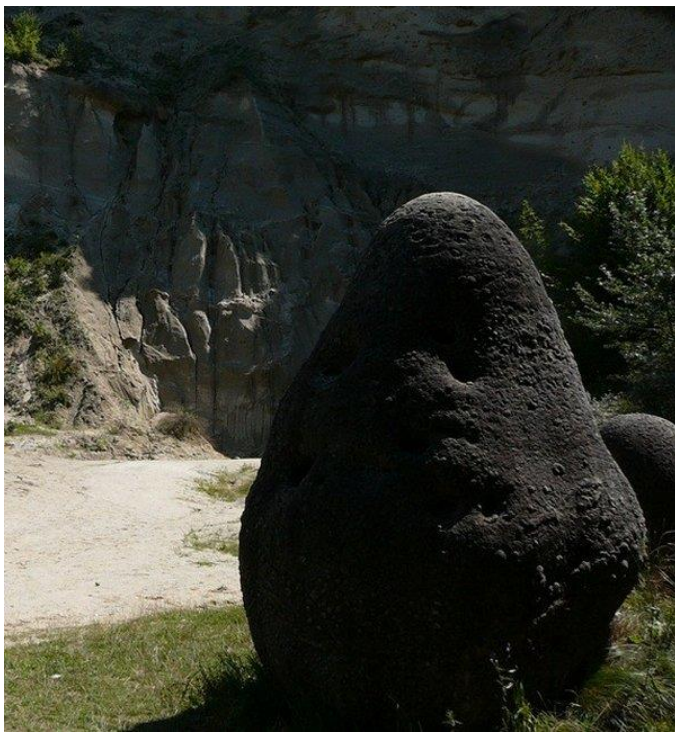
– existence of sand sediments and conservation of a vast porosity, despite the normal compression caused by the pressure

– presence of local concentrations – “segregation” of specific minerals from secondary components dispersed in the host rock.

These stones behave almost like some kind of unknown inorganic life-form! We cannot deny that our planet is truly amazing.

Local residents have been aware of the stones unusual properties for more than 100 years, but they have never paid the trovants any special attention. The stones were often used as building materials and tombstones.

Today, the Trovants Museum in Romania is protected by UNESCO.



Source: http://www.messagetoeagle.com/strange-hoodoos-living-growing-stones-an-incredible-geological-phenomenon/
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Club Social – August 2016

Photos by Pat & Bruce

Kid's Corner

Which Type Of Rocks Are Most Damaged By Freezing?

There are three basic types of rocks: sedimentary, igneous, and metamorphic. Sedimentary rocks are distinguished by their layered formation on the earth's surface. Igneous rocks are formed by the cooling of magma and lava from volcanoes. Their appearance can vary from dull to glassy. Metamorphic rocks transform from existing rock types whether it be previously an igneous, sedimentary, or an older metamorphic rock. In this experiment, we'll find out which of them is least damaged by frozen water.

Problem:

In this experiment, students will find out which kind of rock (sedimentary, igneous, or metamorphic) is most damaged by frozen water.

Materials:

- Sedimentary rocks (such as sandstone or limestone)
- Igneous rocks (such as granite or pumice)
- Metamorphic rocks (such as slate or marble)
- Several water bottles (each to hold each type of rock in one container)
- Water
- Freezer

Procedure:

1. Take your rocks and put each kind in a separate water bottle.

2. Fill each with the same amount of water. Cover all the rocks. Label all the bottles.

3. Put into the freezer and freeze until the water becomes ice.

4 Take it out and thaw the ice.

5. Repeat steps 3-4 for about 3-5 more times for each bottle.

6. Take the rocks out and observe which kind looks the most damaged.

7. Record your results.

Editor's Note: Now go research the reason why the damage occurred.

Source: http://www.education.com/science-fair/article/type-rocks-damaged-freezing/

Who What Where When Why How

September Birthdays

SEP 7 Hilda Hardy
SEP 8 Richard Morris
SEP 9 Margie Coody
SEP 20 Lydelle Morris

Random Rock Facts

An inclusion is any material that is trapped inside of another mineral while that mineral forms. Types of inclusions found in gemstones include:

1. Solid – usually only one species of solid inclusion is found, but there are known examples containing two or more species.

2. Liquid – cavities can be full or nearly full of a liquid ranging from plain water, saline, liquid carbon dioxide, a naturally occurring hydrocarbon compound, or something more exotic.

3. Gaseous – cavities can be filled or partly filled with a gas; usually normal air or carbon dioxide, but sometimes a compound gas or other exotic gas can be found.

4. Optical – three types of optical inclusions are phantom, color zoning and radiation halo.

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

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

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Hospitality Chair – Vacant

Club Hostess – Vacant

Club Liaison – Garry Shirah
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Refreshments

SEP 25 – Potluck Refreshments

ROCKHOUNDS HERALD
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Where you might hear...

There is a distinction between the place where a gem forms and where it is mined or collected. Known as *gem deposits,* the locations are classified as either primary or secondary.

A primary deposit is where the gems are still held within the original site of its formation. These "lode" deposits are often located deep underground and encased in solid rock (pegmatites, veins, pipes, etc.).

When those gems are brought to, or very near the surface via uplift, crust folding or other geologic events, subsequent erosion and weathering can result in them being released from the primary deposit and redistributed into secondary deposits. Secondary deposits are classed as either *eluvial* or *alluvial* depending on their relationship to the original source.

Source: http://www.bwsmigel.info/lesson10/de.gem.formation.html
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