Pleasant Oaks Gem & Mineral Club of Dallas, TX

Chips and Chatter

Member of SCFMS

Affiliated with AFMS

August 2016

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1st Place, 2016 SCFMS Mini-Bulletin
1st Place, 2015 SCFMS Mini-Bulletin
1st Place, 2014 SCFMS Mini-Bulletin
1st Place, 2014 AFMS Mini-Bulletin

Purpose

The Pleasant Oaks Gem and Mineral Club of Dallas is organized for charitable and educational purposes to promote interest in the various earth sciences, particularly those hobbies dealing with the art of cutting and polishing gemstones, the science of gems, minerals and metal crafts, as well as their related fields.

Birthstones for August

Casey Montgomery, Pleasant Oaks Gem and Mineral Club of Dallas

Peridot is an August birthstone and is also known as chrysolite and Olivine. Peridot is gem quality variety of Olivine.

Historically: Peridots has a long history. Records have been found showing mining of this gemstone as early as 1500 B.C.

Physically: Peridots are green, greenish yellow, yellowish brown, brown and white. The green of peridot comes from the fine traces of iron. Although containing iron, peridots only have a 6.5 – 7 hardness on Mohs scale. They have a colorless streak. Peridots are not the easiest gem to cut and facet due to the internal tension of the gem is fairly high. They are found in the US in Arkansas, Arizona, New Mexico, Hawaii, and Nevada. Outside of US peridot are found in Australia, Egypt, China, Brazil, Mexico, Myanmar, Pakistan, Saudi Arabia, South Africa, Sri Lanka and Tanzania and sometimes they are found in meteorites.

Chemically: Peridot composition is $(Mg, Fe)_2SiO_4$; that translates to having Magnesium, Iron, Silicon and Oxygen. Peridot is a part of the Silicate family, however due to the iron content peridot it is the most magnetic transparent gemstone. Interestingly enough, peridot contains 4 of the 5 most common elements on the earth and is soluble in hydrochloric acid.

Identification mistakes: Peridot is often mistaken as Emeralds and Topaz in fact, they were known as Egypt's Evening Emerald.

How to wear: Wear colors such as earth colors, and Blue, White and yellow with peridot. People who are dark brunettes or red heads should wear it as peridot tends to pair well with those hair colors.

Article continued on page 2

Sardonyx is the other August birthstone. It has layers with shades of red or brown alternating with white layers

Physically: Like peridot, Sardonyx has 6.5 – 7 hardness on Mohs scale. Sardonyx has a white streak and has an excellent toughness. Sardonyx is widely available, it is found in India which have some of the best samples as well it is found in Germany, Czechoslovakia, Brazil, and Uruguay.

Historically: Sardonyx has a very long history as well. It dates back 4000 years to Ancient Egypt. Sardonyx was very popular with the Greeks and Romans. It was often carved as cameos. It was worn by lawyers in Classical times and is widely available.

Chemically: Sardonyx composition is (SiO2) which translates as Silicon and Oxygen which are the two most common elements on earth.

Identification mistakes: Sardonyx is sometimes confused as bloodstone

References:

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Pictues:

Peridot ring: Photograph by Erik Lemestal for Livruskammaren (The Royal Armoury), licensed under Creative Commons Attribution – Share Alike 3.0 Unported, Wikimedia Commons, https://commons.wikimedia.org

Eagle Cameo: Photograph by Marie-Lan Nguyen, licensed under Creative Commons Attribution 2.5 Generic, Wikimedia Commons, https://commons.wikimedia.org

By John Bennett

From the August Gritty Greetings (Waco Gem and Mineral Society newsletter)

Black Apatite Crystals on Calcite Matrix

Abraham Gottlob Werner, a German geologist, named apatite in 1786, although the actual mineral that he described was later reclassified as fluorapatite. Now, apatite is the name that is used to refer to a group of minerals which have similar physical properties and chemical compositions. The primary minerals of the apatite group are chlorapatite, fluorapatite, and hydroxylapatite. It is sometimes difficult to tell the difference between the various types of apatite. Most often, the specific type of apatite is not stated, they are simply referred to as apatite by dealers and collectors. The majority of crystals and specimens are fluorapatite which is the most common form of apatite.

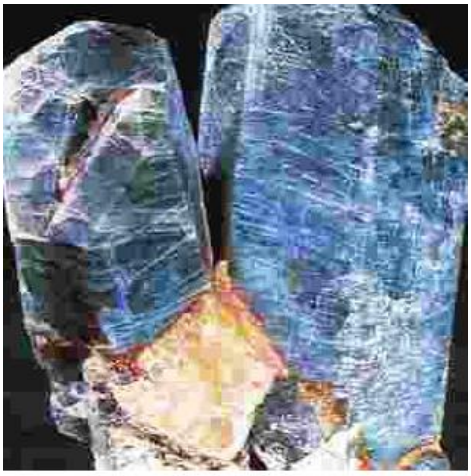
Apatite is a mineral that is often mistaken for other minerals because of its close resemblance to several precious gemstones. This is reflected in the mineral's name, which comes from the Greek word "*apatein,"* which means "to deceive" or "to be misleading." Beryl, sphene, topaz and tourmaline are some of the minerals that apatite is often mistaken for.

Apatite is found in phosphorite, a sedimentary rock that contains at least 15% phosphate. Most of the phosphorous in these rocks comes from apatite minerals. Figuring out which minerals are contained in most of these rocks requires testing in a laboratory since the individual apatite particles are usually so small. Most of the phosphorite that is mined around the

world is used to make fertilizer. It is used in the manufacture of animal feed supplements as well as in phosphoric acid, elemental phosphorous, and other phosphate compounds that are used as industrial chemicals. China is the largest producer of phosphate while Morocco, Russia, Western Sahara, and the United States are also major producers. More than three quarters of the earth's phosphate rock is found in Morocco and Western Sahara.

Apatite is the main source of the phosphorus that plants use. The bones and teeth of most animals are made of calcium phosphate, which is the same material as apatite.

As a gemstone, apatite is more popular with collectors than it is with jewelry customers. It has a Mohs hardness of 5, but is a brittle material. It breaks by both conchoidal fracture and indistinct cleavage. Apatite is really too fragile for use in most types of jewelry. Collectors enjoy well-formed apatite crystals though, and the prices that are paid for them are often way over their value as rough gem material.



Twin Crystals of Blue Apatite

Some jewelry applications that use apatite are safer to wear than others. Earrings, pendants, pins, and other pieces that are less likely to strike hard surfaces are good uses for this mineral. Apatite can be used in the making of rings, but the rings should only be worn occasionally and the settings should be designed to prevent undue damage to the stone. Since apatite is softer than quartz, even wiping dust off your apatite jewelry can cause apatite to lose its polish and develop scratches. When storing apatite, wrap them individually in soft cloth or store them in a fabric-lined box. Apatite is affected by heat and shock, so do not use steamers or ultrasonic cleaners. Don't wear apatite jewelry if you are working with chemicals because it is easily affected by acids. Also, care should be taken to avoid wearing apatite jewelry when doing any strenuous physical activity or even simple household chores as it may become damaged.

Red Apatite on Quartz Matrix

Specimens of apatite that have very good color and clarity are sometimes faceted into gemstones. Stones that don't have quite as much clarity but still have good color are cut into cabochons. Although apatite is usually found as green crystals, it can also be found as blue, brown, pink, purple, yellow, or even colorless crystals. Translucent apatite may occasionally contain a thin layer of parallel rutile crystals. When one of these is cut as a cabochon, with the rutile layer parallel to the bottom of the stone, they often exhibit chatoyance. Chatoyant stones are called "cat's-eye apatite." Transparent green apatite is called asparagus stone while the blue stones are called moroxite.

The value of apatite predominately depends on color intensity. Stones that have high color intensity are the most valuable. Most apatite that is of gem quality is normally found as tiny crystals. Faceted apatite that is over one carat in size can be very expensive to buy. Almost all apatite has visible inclusions.

Apatite has a few uses other than as fancy stones in jewelry. It is sometimes used as a pigment in the better quality paints. Both the blue and green varieties provide surprisingly good coverage when applying only a single coat. Some members of the scientific community have proposed that apatite can be used to contain nuclear waste.

Several methods can be used to identify apatite. Apatite will fluoresce under ultra-violet light. Also, since apatite is a 5 on the Moh's Hardness Scale, a scratch test will almost always identify it. Apatite has a vitreous or glass-like luster and will leave a white streak on a dark tile.

Apatite in History

Since apatite was unknown before the end of the 1700s, there are very few historical references to it. Moon rocks that were collected by astronauts during the Apollo missions were found to contain some apatite. In 2010 more intrinsic analysis revealed hydrogen that had been trapped in the mineral. They estimated that water that once existed on the surface of the Moon was at a rate of at least 64 parts per billion – 100 times greater than previous estimates – and as high as 5 parts per million. The theory was that if the minimum amount

Green Apatite Crystal

of mineral-locked water was converted to liquid, it would cover the Moon's surface in roughly one meter of water. Further studies have revealed a totally different probability. Apatite, while forming, absorbs its component elements starting with fluorine (fluorapatite), then chlorine (chlorapatite), and finally hydrogen (hydroxylapatite) once the fluorine and chlorine are depleted. This means that, at some point in time over the past 4 billion years, the rocks that made up the moon were in an environment that contained at least some water. Not that the surface of the Moon was wet. The 'current' final determination is that there is still a lot about this mineral that needs to be discovered.

Mystical Properties of Apatite

Since apatite is actually part of our composition and is produced and used by the human body, it is believed to have powerful healing abilities. Apatite is said to mend damaged bones, cartilage, teeth and it boosts the possessor's calcium absorption. It is believed to relieve the pains that are caused by arthritis and other joint-related ailments.
Apatite is a stone that is associated with animal conservation. It is made up of phosphate, the mineral that makes up the teeth, bones, horns, antlers, and tusks of all vertebrate animals.

Editor's Corner – Long Articles, Museums, etc.

Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas

Because we publish a six page newsletter, it is rare that we can include a multi-page article. However, I wanted to fit the Apatite article in, so a month with little Federation activities to report and no minutes from our July meeting, this seemed an ideal opportunity. Gritty Greetings is the newsletter of the Waco Gem and Mineral Society, and John Bennett is their webmaster in addition to being a very good author. I hope you enjoyed the article. Here is another picture of fluorapatite that I took some time ago at the Perot Museum of Nature and Science. The specimen is currently on display. This fluorapatite is just one of the many fine minerals and gems on display.

Speaking of the Perot Museum, volunteer opportunities abound for club members who can give a little of their free time. Volunteers generally assist patrons in the various display halls. Of particular interest to rockhounds are the Lyda Hill Gem and Mineral Hall, the T.Boone Pickens Life Then and Now Hall (Dinosaurs and fossils), and the Rees-Jones Foundation Dynamic Earth Hall. There are also opportunities to help out in the education area with special programs in the summer and special camps. If you have ever given a thought about volunteering, you can get more information at http://www.perotmuseum.org/about-the-perot/Volunteer/index.html. If you are from another area (city, state, etc.), I am betting there are other museum volunteer opportunities in your locality.

Show Calendar - Upcoming Show Dates

Aug13-14, Gonzales, LA, Baton Rouge G&MS, Lamar Dixon Expo Center, www.brgemandmineral.org
Aug 20-21, Bossier City, LA, Ark-La-Tex G&MS, Bossier City Civic Center, www.larockclub.com
Aug 27-28, Jasper, TX, Pine Country G&MS, The Events Center, www.pinecountry-gms.org

Sept 10 – 18, Denver, CO. Multiple shows at multiple locations

Ref:

- July - August 2016 SCFMS Newsletter
- Rock & Gem Show Calendar, http://www.rockngem.com/show-dates-display/?ShowState=ALL

Visit an Area Club

Arlington Gem & Mineral Club, 1408 Gibbins, Arlington, TX, 1st Tuesday of each month at 7:30 pm
Cowtown G, M, & Glass Club, meets the 2nd Tuesday at 7:00 pm, Corp. Emp. Rec. Association (CERA) 3300 Bryant Irvin Rd. Fort Worth
Dallas Bead Society, meets 1st Saturday of each month at The Point at CC Young, 4847 W. Lawther Dr., Dallas, TX
Dallas Gem & Mineral Society meets the 3rd Tuesday of each month at 7 pm, American Legion, 10205 Plano Rd, Dallas (next to their shop)
Dallas Paleontological Society, 2nd Wed. of each month at 7:30 pm, Brookhaven College, Building H, 3939 Valley View Lane, 75244
Fort Worth Gem & Mineral Club, 4th Tuesday of each month at 7:30 pm, 3545 Bryan Avenue, Ft. Worth
Oak Cliff Gem & Min Soc., 4th Tuesday of each month at 7:30 pm, Unitarian Universalist Church, 3839 W. Keist Blvd, Dallas,
Pleasant Oaks Gem & Mineral Club, meets the 1st Thur. of each month at 7:30 pm, Garland Women's Activities Bldg., 713 Austin, Garland,

President's Message

Ling Shurtz, POGMC President

If you missed our July meeting at Spring Creek Barbeque in Richardson you missed some good food and friendly talk. For our August meeting we will have a speaker from Garrett Metal Detectors. Make plans for an interesting discussion and likely a demonstration of some of their products. For show and tell, our August birthstones are Peridot and Sardonyx.

Club Officers for 2016

President:	Ling Shurtz
1st VP, Programs:	Carolyn Grady
2nd VP, Field Trips:	Open
Secretary:	Lee Elms
Treasurer	Del Grady
Editor:	Don Shurtz

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Minutes of the July 2016 Meeting

There were no minutes from our July meeting. For those that missed it, we had our annual indoor picnic at Spring Creek Barbeque

Meetings

The August 4th 2016 meeting will be at the Garland Women's Activities Building. We will have a speaker from Garrett Metal Detectors who will discuss metal detector uses and hobby applications.

The September 1st meeting will be the Garland Women's Activities Building, 713 Austin Rd, Garland – downtown near the library and train station

VISITORS ARE ALWAYS WELCOME

Editor's Corner – Thanks

Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas

Over the last couple of months, a lot of club members have been helping out with articles for the Chips and Chatter. I want to thank all who have helped out. Ling wrote about Bloodstone in March, Lee wrote about Diamonds in April, Carolyn wrote about Emeralds in May, Cheryl wrote about Alexandrite in June, Del wrote about Ruby in July (he also tossed in a nice little puzzle), and this month Case wrote a nice article about Peridot and Sardonyx. You all need to give yourself a pat on the back for your efforts. It really helps the Editor when she/he can edit rather than being the staff writer. Thank you one and all.

Federation News Summary

Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas

This is a slow time for Federation News. The SCFMS Convention is over and reports have been written and published, and the AFMS Convention is the last weekend in July – too late to get information for our August newsletter. We should have some AFMS convention news in the September issue.

For the SCFMS, it would seem that we are just biding our time with nothing going on. However, like the duck, things on the surface may seem smooth and calm, the under the water there is a lot of churning going on. As a SCFMS Officer I have some insight into the churning, and believe me, it is fast and furious! You will start to see some of the details in the coming weeks and months. Along with a bunch of new forms for dues, insurance and club officers, the SCFMS should soon be rolling out a revised (hopefully simplified and more secure) website. As the SCFMS webmaster I am probably the most hopeful that the new website will be simplified – right now I have to update 5 – 7 pages to add a new newsletter to the site. That should soon be a one page update.

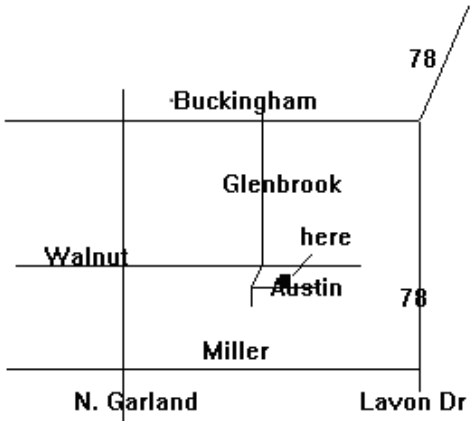
So stay tuned for more from the AFMS and the SCFMS.

SCFMS Home Page: www.scfms.net
AFMS Home Page: www.amfed.org

PLEASANT OAKS GEM and MINERAL CLUB of Dallas

Meetings
First Thursday of each month, 7:30 PM
Garland Women's Activities Building
713 Austin St., Garland, TX
(Northeast corner of Austin & Glenbrook

Membership
Single Adult: $16.50,
Junior: $5.00, Family: $27.50
(Plus badge fee for new members)



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CHIPS AND CHATTER
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To:

VISITORS ARE ALWAYS WELCOME

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