



The Golden Nugget

The Newsletter of the Florida Gold Coast
Gem and Mineral Society



July 2024, Vol. 30 Issue 1

Monthly Meeting Minutes



Take I-95 to Pembroke Road, (Exit 19),

- Go West 1/2 blk.
- Turn Right just before the RR tracks.
- Turn Right after the 1st building,
- Then Left at the fence.
- Ye Olde Rock Shoppe will be on the left 50 feet up.

Visitors & Members are encouraged to attend!

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Date: 6/19/2024
Time Start: 7:30
Minutes taken By: Susan Anderson
Previous Months Minutes Accepted by: Julio Lopez
Attending Officers: Julio Lopez - President
 Don Titman - VP
 Susan Anderson - Secretary
 Beverly Norona - Treasurer



St. Maarten Garnet Schist

Guest and New Members: 3 Guest – No New Members
Treasurer's Report: Beverly indicated that the bank has 3370.44 and there is \$450.0 in petty case
Other Notes/ Reports 28 members attended
 Raffle - \$107.00, Coffee \$5.00
Shop Report: Shop still needs two wheels for cab equipment, however Don indicated it not an emergency. He and Lucas will address it.

Committee Reports: New member chair – Julio Lopez generated a spreadsheet matching members with those wishing to teach a class with those willing to receive the class and will send it out to all members.

Mirtha Rimarachin did not attend, but was generating a card for the group for Audrey Sessom.
Program Presentation By: Anasthasia and Vicky Parisot gave a presentation on St. Maarten Garnets. Their company mines and perform their own lapidary techniques on the garnet. Visit their website for more detail.

Program Notes: Vicky Parisot plans to send us details on a tour that they hold in St. Maarten. Time for an island field trip!!!



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St. Maarten Garner and Jewelry

Julio Lopez was elected president after being nominated by Fletcher Sessoms at the Board of Directors meeting. This motion was 2nd by Jeff Gross and Don Titman at this meeting. Additionally no other members were nominated. Per our Bylaws, the president had elected by the Officers at this meeting. Julio will serve till the next election in November.

Steve Ackerman has rejoined the club and is willing to teach a faceting class

Susan Anderson, expanded on the shop owner requirements for a new lease

The September picnic was discuss with KC and nothing was settled. This item was tabled for the next meeting

Vicky Parisot from the St. Maarten company donated a beautiful mica schist with a large octahedral almandine garnet. This sample will be auctioned at our Christmas party. Thank you Vicky

KC indicated that she knows of people to teach classes

Editorial:

Our club Bylaws define the President as follows

“7.3.1 PRESIDENT: The President shall preside at all general membership meetings and meetings of the Board. The President shall have the power to appoint chairmen of the standing committees as mentioned in the By-Laws. The President can authorize the expenditure of funds as mandated in the Bylaws.”

This excerpt outlines duties you officially expect of your president; however, I'd like to think that these duties or responsibilities you now have entrusted upon me, are a bit more than outlined. I look at my new leadership position as a way **to help organize the club, help promote the club, help promote the fun in rocks and minerals and to help promote geology and the sciences**, while still acting an official capacity for the club. These would be my primary objectives as your president.

I look forward to getting your help in this stated objective and I strongly believe that I have your continued support. I base my confidence on the positive feedback that I been getting from you, via email and about the newsletter.

Thank you for placing your trust and confidence in my abilities to assume the office of President. It is my honor and privilege to accept this position. Please do not hesitate to call or e-mail me. Julio

Let us have fun doing this. I will not take you for Granite” 😂



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July Birthstone - Ruby (variety of Corundum)

This section on birthstones usual source is GIA, we decided to change up a bit and used a different source for corundum and Ruby information, the July birthstone (https://geology.com/minerals/corundum.shtml#google_vignette)



Ruby

Zazafotsy Quarry, Zazafotsy, Ihosy District, Ihorombe, Madagascar

Corundum, etc.

Zazafotsy Quarry, Zazafotsy, Ihosy District, Ihorombe, Madagascar

Corundum

Zazafotsy Quarry, Zazafotsy, Ihosy District, Ihorombe, Madagascar

Corundum, etc.

Zazafotsy Quarry, Zazafotsy, Ihosy District, Ihorombe, Madagascar

Ruby and Corundum from Madagascar on Igneous rocks (*Source Minedat*)

Corundum

Corundum has historically been used as an abrasive, but it is most famous as the mineral of ruby and sapphire., Article by:Hobart M. King, PhD, RPG



Corundum: Two corundum crystal segments from India showing the mineral's six-sided crystals with basal parting. These specimens are red in color and might be called "ruby corundum." Image copyright iStockphoto / Lissart.

Corundum crystals: Photos of three corundum crystals. On the left is a common corundum from Transvaal, South Africa, that is about 6 centimeters in height. In the center is a gem-quality ruby corundum from Karnataka, India, that is about 1.6 centimeters in height. On the right is a blue sapphire corundum from Sri Lanka that is about two centimeters in height. All three specimens and photos by Arkenstone / www.iRocks.com



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What is Corundum?

Corundum is a **rock-forming mineral** that is found in **igneous, metamorphic, and sedimentary** rocks. It is an aluminum oxide with a chemical composition of Al_2O_3 and a member of the trigonal crystal system.

The **mineral** is widely known for its extreme **hardness** and for the fact that it is sometimes found as beautiful transparent crystals in many different colors. The extreme hardness makes corundum an excellent abrasive, and when that hardness is found in beautiful crystals, you have the perfect material for cutting **gemstones**.

Natural and synthetic corundum are used in a wide variety of industrial applications because of their toughness, hardness, and chemical stability. They are used to make industrial bearings, scratch-resistant windows for electronic instruments, wafers for circuit boards, and many other products.

Made Famous by Rubies and Sapphires

Most people are familiar with corundum; however, very few people know it by its mineral name - instead they know it by the names "**ruby**" and "**sapphire**." A gemstone-quality specimen of corundum with a deep red color is known as a "ruby." A gemstone-quality corundum with a blue color is called a "sapphire." Colorless corundum is known as "white sapphire." Corundum of any other color is known as "**fancy sapphire**."

Properties of Corundum

Corundum is an exceptionally hard and tough material. It is the third-hardest mineral, after **diamond** and moissanite. It serves as the index mineral for a hardness of nine on the **Mohs Hardness Scale**. Its hardness, high specific gravity, six-sided crystals and parting are very good diagnostic properties to use in its identification. A summary of the physical properties of corundum is given in the table below.



Montana alluvial sapphires: A scatter of small alluvial sapphires found in Montana. These blue stones are untreated and measure about four to five millimeters across.



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Physical Properties of Corundum

Chemical Classification	Oxide
Color	Typically gray to brown. Colorless when pure, but trace amounts of various metals produce almost any color. Chromium produces red (ruby) and combinations of iron and titanium produce blue (sapphire).
<u>Streak</u>	Colorless (harder than the streak plate)
<u>Luster</u>	Adamantine to vitreous
Diaphaneity	Transparent to translucent
Cleavage	None. Corundum does display parting perpendicular to the c-axis
<u>Mohs Hardness</u>	9 on the Mohs scale
Specific Gravity	3.9 to 4.1 (very high for a nonmetallic mineral)
Diagnostic Properties	Hardness, high specific gravity, six-sided crystals sometimes tapering to a pyramid, parting, luster, conchoidal fracture
Chemical Composition	Al ₂ O ₃
Crystal System	Trigonal
Uses	Historically used as an abrasive. Specimens with pleasing colors have a long history of gemstone use.
Chemical Classification	Al ₂ O ₃



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Geologic Occurrence of Corundum

Corundum is found as a primary mineral in **igneous rocks** such as syenite, nepheline syenite, and **pegmatite**. Some of the world's most important ruby and sapphire deposits are found where the gems have weathered from **basalt** flows and are now found in the downslope soils and sediments.

Corundum is also found in **metamorphic rocks** in locations where aluminous shales or bauxites have been exposed to contact metamorphism. **Schist**, **gneiss**, and **marble** produced by regional metamorphism will sometimes contain corundum. Some of the sapphires and rubies of highest quality, color, and clarity are formed in marble along the edges of subsurface magma bodies.

Corundum's toughness, high hardness, and chemical resistance enable it to persist in sediments long after other minerals have been destroyed. This is why it is often found concentrated in alluvial deposits.

These deposits are the most important source of rubies and sapphires in several parts of the world. Traditional sources of alluvial rubies and sapphires include Burma, Cambodia, Sri Lanka, India, Afghanistan, Montana USA, and other areas. In the past few decades, several parts of Africa, including Madagascar, Kenya, Tanzania, Nigeria, and Malawi, have become important producers of ruby and sapphire.

Hardness and Use as an Abrasive

The extreme hardness of corundum makes it especially useful as an abrasive. Crushed corundum is processed to remove impurities and then screened to produce uniformly sized granules and powders.

These are used for grinding media, polishing compounds, sand papers, grinding wheels, and other cutting applications.

Some problems with using natural corundum as an abrasive are that the deposits are usually small, irregular in shape, and the corundum is of variable quality. They are not reliable sources of consistent-quality material needed to run a manufacturing process. Synthetic corundum, produced using calcined **bauxite**, has become a more reliable source with more consistent properties. It has replaced natural corundum in most manufactured products.



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Aluminum oxide sandpaper is made by attaching size-graded particles of synthetic corundum (aluminum oxide) to a sheet of paper. It is a sandpaper widely used for woodworking and other manufacturing work. Photo copyright iStockphoto / Ma-Ke

Use as a Gemstone

In the **gemstone** and jewelry market, almost all of the attention goes to a small group of gems known as "the big four": **diamond, ruby, sapphire, and emerald**. Two of these, ruby and sapphire, are gem corundums.

" In the past, most gem corundum was produced in **Asia** and **Australia**. In the 1990s, many gem corundum discoveries were made in **Africa**. All of the stones in this photo were mined in Africa. Nearly all gem corundums are treated by heating or another process to improve their color.



These most popular gems are highly sought after and have been mined in many parts of the world for thousands of years. Today, millions of rubies and sapphires are required every year to meet the demands of the jewelry market -- from inexpensive commercial stones sold in malls and department stores to spectacular specimens used in designer and custom jewelry. The demand for attractive stones exceeds the abilities of mines to supply. As a result, the prices paid for attractive natural stones have risen to high levels.

When a consumer wants a "ruby ring" or a "sapphire pendant," they are generally not interested in substituting a **red spinel, blue iolite**, or other attractive gem of similar color. They want "ruby" or they want "sapphire." Retail jewelers, especially those selling pieces and sets for under \$500, have been increasingly presenting synthetic or "lab-created" gems alongside the natural stones in their



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display cases. The synthetic materials have the same aluminum oxide composition and crystal structure as natural rubies and sapphires. Their color is also produced by the same trace elements (chromium for ruby and iron with titanium for sapphire).

They have the same optical appeal and usually a better physical appearance than similar-size natural stones of the same price. As a result, many consumers now gladly purchase synthetic stones because they receive a more attractive product at a price that they can afford. Over the long term, synthetic gems are likely to continue displacing natural stones from the market, especially in the lower and middle price ranges where consumers are very conscious about price.

There is nothing wrong with selling or purchasing jewelry that contains synthetic gemstones as long as two conditions are met: 1) the seller must disclose the fact that the gemstones are products of man rather than products of nature; and, 2) the buyer clearly understands that the gemstones are synthetic and made by people rather than being products of nature.

Corundum watch bearings: Corundum (ruby) bearings in an antique pocket watch with a "jewel" movement. In the early 1900's, synthetic corundum was being used as the jewel bearings in watches. Image copyright iStockphoto / Robert Kacpura.



Other Uses of Corundum

Corundum has many other uses. It is chemically inert and resistant to heat. These properties make it a perfect material for making refractory products such as fire brick, kiln liners, and kiln furniture. Today, these products are usually made with synthetic corundum.

Pure corundum is colorless, transparent, durable, and scratch resistant. Large crystals of clear synthetic corundum are grown, sawn into thin sheets, and then used as the windows of grocery store scanners, watch crystals, aircraft windows, and protective covers for electronic devices.



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What is it? (New Section of Rock and Minerals Identification)

Tip2 - color, luster, banding, layering, and grain size

Rocks are classified based on their origin and their physical properties such as mineralogical composition, grain size, and texture. It very important to know the origin, i.e. the three rock types.

1. Igneous Rocks (meaning “comes from fire”).



Intrusive (Plutonic) Igneous Rock - Granite



Extrusive (Volcanic) Igneous Rock - Basalt

2. Sedimentary Rocks (*reworked, eroded, deposited, or chemical sediments*).



Sedimentary Rock - Banded Sandstone



Sedimentary Rock - Fossil Limestone (Chemical)

3. Metamorphic Rocks (*changed due to high pressure and temperatures*)



Metamorphic Rock – Banded Gneiss



Metamorphic Rock – Mica Schist



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As indicated in the last tip knowing the location and origin of your rock or individual mineral will help significantly. The next important items that geologists look for in a rock are physical properties of the rock and minerals. The following physical properties are but a few such as:

1. Uniformity
2. Color
3. Luster
4. Grain size
5. Banding or Foliation
6. Layering
7. Hardness
8. Weight and Density

These physical properties are applicable to rocks but also are applicable to minerals. We will treat physical properties of mineral on separate tips section. Observing and, in some cases, measuring these physical properties is the first and most important step toward identifying your rock

1 - Uniformity or no uniformity!

Does the sample have several different grains or very different grains sizes?

Does it have the same color throughout, or is it uniform with one color?

Does it have the same texture throughout?

Looking for discernable uniformity can tell you if the rock consists of a variety of minerals or a single mineral.

Here are two examples



Granite Pegmatite (Pegmatite is texture that describes the different sizes of minerals in this granite rock. Granite has three essential minerals, in it, Quartz, Feldspar and Mica. This granite is **not uniform** in grain size or mineral distribution.



The Oriskany sandstone has super **uniform texture** and uniformity of grain type. The grains are very well rounded. One can also see that this rock is comprised of 98% of single grains of quartz.



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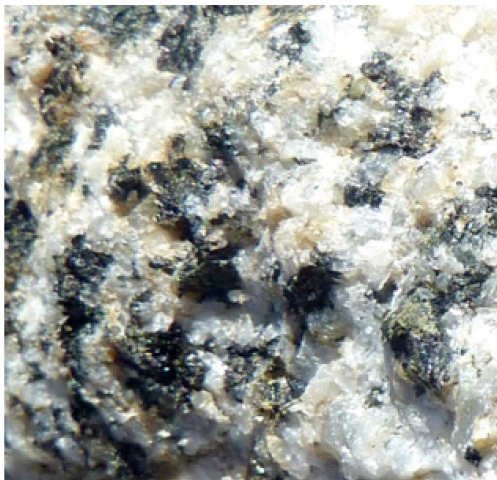
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2 – Color

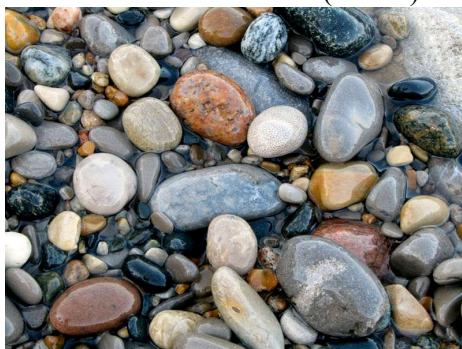
One of the first things you'll notice about any rock is its color. The color of a rock is often overrated when it comes to identification, but it is certainly an important characteristic that should factor into the identification process. Your rock may be one uniform color or it may have multiple colors. **Make note of every color you see, but you'll want to place the most emphasis on the most predominant one or two colors.** The different colors are due to the different minerals that your rock is comprised of, and by getting a rough estimate of the percentage of each color in your rock, you will be able to make some inferences about its mineralogical makeup later on in this process.

Sometimes the color of a rock can be deceiving. **Many people who are new to rock identification tend to lean too heavily on the color of a rock when trying to determine what it is.** Always remember that color is just one of many important physical properties and weigh it accordingly.

It's also important to make sure you're looking at a relatively **fresh surface** on your rock. Some rocks will appear very different on the outside than they do on the inside because the exterior has been weathered and altered by the elements. If possible, break off a small part of your rock to expose a fresh surface – especially if it looks heavily weathered on the outside.



Weathered (eroded) or fresh unweather surface



© geology.com

Reds, grays, black, white all varying colors within rocks indicating varying minerals and varying origin.



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Luster

Luster is a property that is more commonly used in the identification of minerals. It describes the way light reflects off of a surface and can be very useful for description and identification

In the case of your rock, we won't be using most of the terms and descriptions used for mineral identification. I just want you to **take note of how your rock generally seems to reflect light.**

The luster of a mineral is best observed on a surface that is free of moisture, dirt, tarnish, and abrasion. Geologists in the field usually carry a rock hammer to break rocks so that their true luster and color can be observed or to get a fresh surface. A fresh surface is usually not necessary when observing the luster of cleaned and cared-for specimens in a laboratory or classroom.

Luster is best observed under direct illumination. That allows the light that strikes the specimen to reflect to the eye of the observer. Proper examination includes moving the specimen (or the light source, or the head of the observer) through a range of angles to observe the full character of the luster.

Most rocks will fall under the category of 'dull' (no luster), but there are a few rock types that are easily identifiable based on glassy or slightly sparkly appearances

Other terms used to describe luster

Silky

Metallic Luster

Waxy

Vitreous luster (for minerals)



Obsidian with glassy luster

Next Month look for tip #3 - Grain Size & Shape, and Foliation or Banding, Layering



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Calendar of Events

July 17 th 2024	FGCG&M Society's Monthly Meeting
August 21 th 2024	FGCG&M Society's Monthly Meeting
September 18 th 2024	FGCG&M Society's Monthly Meeting
September 29 th 2024	preliminary schedule for the Tri-county Picnic per Kathryn Foster (KC)
October 16 th , 2024	FGCG&M Society's Monthly Meeting At this meeting, the club will open the officer and board of director nominations to the club membership.
November 20 th 2024	FGCG&M Society's Monthly Meeting At this meeting the club will accept Officer and Board of Directors nominations from the floor, close the nomination process, create the slate of candidates and start election procedure
December 18 th 2028	FGCG&M Society's Monthly Meeting & Christmas Party Seven (7) days prior to the December meeting ballots are due. The new Officers/Board of Directors, for the upcoming year, will be announced at the December meeting.



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2024 Snack Volunteers

June Ernie & Tove Ashurst
 July Stephanie Struss
 August Ariel Helman
 September Julio Lopez
 October Beverly Norona
 November Marlene Flores
 December Christmas Party – No Volunteer(s) needed
 Please contact Ariel Helman @ 305-335-4405 for changes.

Club Info:

Club's Email: fgcgms18@gmail.com
 Club's Website: <http://www.fgcgms.com>
 Federation Website: <http://www.amfed.org/sfms>
 Mailing Address: 8783 NW 142 Lane, Miami Lakes, FL 33018

List of Officers:

Function	2 nd Function	Name	Phone Number	E-mail Address	2 nd E-mail Address
President	Database Manager	Julio Lopez	786-603-8081	juliolp2059@gmail.com	juliolp2059@aol.com
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Shop Foreman	Program Committee	Lucas Bush	954-588-6323	snugglefish22@gmail.com	
Secretary	Program Committee	Susan Anderson	954-559-9198	poochiepawlor@aol.com	poochiepawlor@aol.com
Treasurer		Beverly Norona	954-205-5815	bevn12345@aol.com	
Sunshine Chair		Mirtha Rimarachin	954-948-7657	mrmarac88@gmail.com	
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Refreshment Committee		Ariel Helman	305-335-4405	arielh305@gmail.com	
Game Master / Quiz Committee		Dick Haliburton	954-249-0365	dickhaliburton@gmail.com	
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Newsletter Committee		Jeffrey Gross	954-987-0645	jgrossarchitect@gmail.com	



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Advertisers:

Ye Olde Rock Shoppe

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The Art School: Offers classes in precious metal clay, metals fabrication, cabochon cutting, enameling and other art jewelry related subjects, as well as drawing, painting, clay and pottery, photography and more.
www.bocamuseum.org/theartschool or
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IF YOU HAVE ARRANGED A SPEAKER FOR THE CLUB MEETING, PLEASE BE SURE ALL OF THE INFORMATION NOTED BELOW IS INCLUDED.

Email the form to the newsletter editor at juliolp2059@gmail.com

Month the speaker will be speaking:

First Name

Last Name

Title or Self Identifier: (for example rock hound, Geologist, whatever the person calls him/herself.)
(no more than five words)

Type self-description here:

Title of Program:

Short paragraph on content of presentation:

Biographical information on presenter:

Phone number of speaker in case further information is needed:

Name of person submitting this form: