



The Rockhound

Official Publication of the Gem & Mineral Society of the Palm Beaches, Inc.

www.gemandmineralsociety.org
February 2020 Volume 53 Issue 6

President's Message

Greetings!

It seems like each February, I spend some time talking about field trips, and why not? The weather is about as perfect as it gets for outdoor activities in Florida. So if you've got something going on that you'd like to share with the club, let us know! Otherwise, here's a few ideas...

Last month I talked about the EFMLS Conference coming up in March. This month, I'd like to talk about the SFMS (Southeast Federation of Mineralogical Societies) Rockhound Roundup 2020. This event will be taking place at the Spirit of the Suwanee Music Park in Live Oak (northern Florida), March 6th, 7th, and 8th. Unfortunately I am unable to attend due to a prior annual commitment, but I know several members of our club are attending. It looks like a great time, and a chance to meet up with rockhounds from 70+ clubs in the Southeast. More information can be found on the SFMS Facebook page, <https://www.facebook.com/Southeast-Federation-of-Mineralogical-Societies-317959434999844/>.

Don't forget that as our weather gets warmer, our northern friends are gearing up for their spring and summer seasons. Take a look at the William Holland and Wildacres schedules, including the programs sponsored by the SFMS and EFMLS. There are lots of opportunities to travel, meet new friends, and learn something new at the same time.

Finally, a bit of business: please remember that the annual membership renewal deadline is the end of this month. I know, it sneaks up fast! Online renewal is a quick and easy option, just visit our website at www.gemandmineralsociety.org, then click on "About." Click on "Membership Dues Online" in the drop-down list that appears, and fill out the information. Click the blue PayPal button on the bottom to pay, and then you're done! If you prefer, you can still submit your membership form (along with cash or check) at a meeting, the shop, or by mail.

Thank you for your continued support - you're all rockstars!

— Laura Simmons, President

Membership Meeting

Thursday, February 20
7:30 PM

4800 Dreher Trail North
West Palm Beach FL 33405
at the Multi-Purpose Center

Alan Meltzer: Aesthetic Collecting and Display

Alan will discuss his theories of collecting. For those who can't afford to dedicate entire wings of their mansions to their collections, we'll discuss how to find display space you didn't know you had.

We'll look at the content, lighting and organization of display cases. He will bring a selection of specimens to show how he built impactful specimen displays quickly and easily. The key to every great display is that every piece has to fill an aesthetic hole and we'll discuss different ways to do that.

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February Birthstone: Amethyst

Amethyst is the birthstone for the month of February, has been known since ancient times and has been mined in many places around the world. Amethyst was as valuable as diamond and ruby prior to the discovery of amethyst in Brazil in the early nineteenth century. Huge deposits of amethyst were found in Brazil as well as Uruguay and now the price of amethyst is modest. The photo of the cut amethyst is of a 5.43 ct stone that is offered for sale by Gemselect* a gem dealer in Thailand for \$38.01.

Amethyst is quartz with an impurity of iron. The iron substitutes for a small amount of silicon in the crystal. In amethyst the iron is oxidized by radiation to the +4 state which is unusual for iron. When amethyst is heated the iron is reduced to the +3 state giving yellow citrine. Often the citrine can be re-irradiated returning the stone to amethyst.

The deposits in Brazil that yield the large geodes mainly come from the Rio Grande do Sul state. This area had enormous lava outflows of basalt millions of years ago. Gas bubbles formed in the lava and it cooled trapping the gas and leaving a cavity. Over time

ground water containing silica was forced into the cavities depositing quartz. Usually agate deposits first then clear quartz and finally amethyst. The large geodes are called churches, cathedrals or grottos because they are long with a wide base and narrow top. Miners may spend as long as a week removing a large geode. It is removed (and kept) with a basalt casing around it to stabilize it. Once removed from the mine the geode is cut in half lengthwise. Cement is used to repair any cracks in the basalt and the crystals are polished.



Courtesy: Didier Descouens

References:

Gemselect: <https://www.gemselect.com/amethyst/amethyst-475878.php>

<https://www.megaessays.com/viewpaper/101778.html>

<https://cosmiccuts.com/blogs/healing-stones-blog/an-astonishing-behind-the-scenes-look-at-the-amethyst-cathedral>

Didier Descouens [CC BY-SA (<https://creativecommons.org/licenses/by-sa/3.0/>)]

-Article compiled by Richard Tracey



People join our club for many reasons. For Barbara Ringhiser, it's all about the gorgeous gemstones. She was first introduced to gems as a little girl, admiring specimens in museums. She grew up, went to college, and became a statistician, but the interest in gems was always there. Television shopping networks popped up in the 1980's, and that triggered her curiosity again. In the 1990's, Barbara started taking the courses with the GIA (Gemological Institute of America), and became a Graduate Gemologist. Then she studied with the equivalent British organization, the Gemmological Association of Great Britain, and earned her FGA certification there. She became a jewelry appraiser and joined the National Association of Jewelry Appraisers.

In 1999, Barbara joined the Gem and Mineral Society of the Palm Beaches and quickly became involved in club activities. She has served as President, 1st Vice President, 2nd Vice President, and Treasurer. You may recall that she served as Show Chairman for four years, and is still a member of the Show Committee. Currently in her role as 2nd Vice President, she schedules the programs for our monthly meetings. She also helps organize the yearly Steak Dinner and Auction.

On the regional level, Barbara has served as President and 2nd Vice President for our parent club, the Eastern Federation of Mineralogical and Lapidary Societies, and is currently the Past President. She is also the current Treasurer for the American Federation of Mineralogical Societies Scholarship Fund, which is the national club that oversees all the gem clubs in the United States. Her expertise in gemstones and all manner of gem club administration is a huge asset to our club!

Barbara's interest in gemstones inspired her to take some of the classes offered at our shop—cabbing, fused glass, and bead weaving. At Wildacres, she took classes in wire wrapping and Viking knit. While she enjoyed the classes, she admits that making jewelry is not her first passion.

Barbara continues to serve in whatever capacity the club needs her most. She encourages people to get involved... and also to get along, staying above the fray and not getting bogged down in personal disagreements. We have a pretty good club in that regard, don't we?

Thank you, Barbara, for your 21 years of service to the club, and we hope you'll be involved for the next 21 years.

Club Purpose

To associate persons of the Palm Beach area of Florida who are interested in earth sciences, to work together as an organization in the gathering, cutting, displaying, and studying of rocks, shells, artifacts, and any kind of scientific objects of interest to the individual and the organization, to promote community interest in these objects.

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UPCOMING EVENTS

February 23, The Villages, FL: **THE VILLAGES GEM & MINERAL SOCIETY'S 2020 ARTISAN SHOW.**
Sunday 10AM-4PM. Seabreeze Recreation Center, 2384 Buena Vista Blvd, The Villages, Florida 32162. Gems, minerals, slabs, many forms of jewelry, chains, charms, yoga pillows, drums and more. Raffles. Show Chair Diane Davis, (248) 770-2409 or jewelry16680@gmail.com.

March 6-8, Live Oak, FL: **SFMS ROCKHOUND ROUND-UP.** See [Page 8](#) for information.

March 6-8, Clearwater, FL: **THE SUNCOAST GEM & MINERAL SOCIETY'S 50th ANNUAL GEM, JEWELRY & MINERAL SHOW AND SALE.** Fri 1 PM-6PM; Sat 10AM-6PM; Sun 10AM-5PM. Admission \$5 adults, \$4 students, free for children under 6. Banquet Masters, 13355 49th St N, Clearwater, FL 33762.

Looking to travel to one of the top gem and mineral shows in the USA? Check out the list here: http://www.geologyin.com/p/with-literally-hundreds-of-places.html?fbclid=IwAR2zcyjomNwYZ8VKpYZ-hEn_OORxz2gxau0VV3YwuiaDwjzIKxMOx8NOYG0#bcTficc7ksLdJi1q.99

A CALL FOR OUTREACH VOLUNTEERS

Feeling “connected” is important to all of us. Sometimes we get so involved in what we are familiar with that we forget about some of our co-members in our club. I am setting up an outreach to include more of our members to enjoy what we love to do and participate in more events. We want everyone to feel important and included.

If you are interested in being part of this outreach please contact **Dianna Ray** at **561/707-6753**—call evenings/weekends or text anytime.



It's Time to Renew for 2020

It's that time of the year!

Membership forms are available on the next page, and also at club meetings. Online membership signup and renewal is also available on the club website under the About menu.

www.gmspb.org



I'm a Rockaholic



on the road to recovery.

Just kidding.

I'm on the road to find more rocks!



Rick Call
Fish Carlo
Deborah Carson
Julie Gering
Margo Gilson
Jim Van Dam
Shir-Lee Rosenberg
Jeff Ursillo

Growing old happens. Growing up is a choice.
Happy Birthday.

SHELL FACTORY & NATURE PARK
16th Annual
FOSSIL FEST!
PRESENTED BY THE FOSSIL CLUB OF LEE COUNTY
Saturday, February 15th • 9am – 5pm
Live Entertainment 4 – 7pm
Silent Auction • Grand Prize Raffle • Vendors & Fossil Dealers
Games & Prizes • Free Fossil Museum & Exhibits • Kids Dig
\$1.00 Carousel Rides

FREE ADMISSION
– Shelly, Your Spokesplanner

2787 N. Tamiami Trail, N. Fort Myers, FL 33903
(239) 995-2141 • shellfactory.com

Scoring Eagle Zipline • World's Largest Shell Store • Free Jewelry • Collectibles • Year-Round Christmas Shop • The County's Largest Dog-Friendly Gift Store
Dinosaur Park • Bumper Boats & Paddle Boats • Seabirds Miniature Golf • Double-Dog-Dare-You Climbing Pole • Nature Park, Petting Farm
Close Encounters • 3 Activities • Cobra Slough • Hush Pizza • Game Room & Arcade • Over 30 Flavors of Fudge & Ice Cream
Northern Southerns Grill & Event Center • The Swamp Bar • Dogbones (Dog-Friendly) Cafe • Live Entertainment • Dolphin Room For Private Parties & Events
Puzzle Store • Kite Store • Post Office • Military Museum • Party House For Private Parties & Events • Shell Museum



This image is a handful of sand grains selected from a beach in Maui and are arranged onto a black background. The colors and shapes of these tiny grains of sand are surprisingly different and astonishingly beautiful, each with its own individual character. Magnified 100-300 times.

From sandgrains.com

Sunshine News

A big
"THANK YOU"
to
Angela Juliano
for her kind
donation.



Dealing with Metal Burrs

by Judy Freyer Thompson

Drilling holes can often leave behind sharp burrs. There are a couple ways you can remove them and leave your work smooth and safe.



INSTRUCTIONS

Drill holes can leave sharp edges on the reverse side. Not something you want in your jewelry.

One way to remove them is to use a metal file; this works if the metal is hard or you will be doing more fabrication to the piece.



What to do if you are finishing up a piece or the metal is soft? Load a pin vise with a size larger drill bit and gently use it like a countersink. Slowly drill from the back side, against the burr. The size larger bit will remove the offending burrs and won't compromise the diameter of the drilled hole.

From [wirejewelry.com](http://www.wirejewelry.com).

Would you like to get tips like this in your inbox every day? You can!

Sign up for daily wire jewelry tips at https://www.wirejewelry.com/pages/free_wire_jewelry_making_tips.html

wirejewelry.com

is a great resource for jewelry makers. They sell beads, gemstones, wire, tools, DVDs, cabochons, and findings. And they also offer a lot of free education—free patterns, free daily tips, a jewelry making blog, a forum to ask questions of the experts, and “How to” videos.

Check out their [Wire Jewelry Resource Center](http://www.wirejewelry.com) for techniques and advice on how to market and sell your creations.

25 Amazing Sites For Free Gemology Courses & Resources

From <https://beyond4cs.com/free-gemology-courses-and-resources/>

Barbara Smigel's Free Gemology Course

Barbara is an Emeritus Professor at the College of Southern Nevada where she has had many years of teaching experience. Thanks to her generosity, you can now have free access to the same teaching materials utilized by her students!

Visit the website: <http://www.bwsmigel.info>

Lesson example: [Magnification And What It Reveals](#)

Your Gemologist – Gemology, Gemstones, Minerals And More...

A free online gemology school and reference site with well-categorized tutorials. YourGemologist.com is one of the most comprehensive online resource for building up essential knowledge and know-hows.

Visit the website: <http://www.yourgemologist.com>

Lesson example: [The History of the Chelsea Filter](#)

Smithsonian National Museum of Natural History – Geo Gallery

The National Museum of Natural History (part of the Smithsonian Institution) offers a massive online gallery of minerals and gemstone photographs. There is also an useful search function which you can use to filter results by country origins, settings and more...

Visit the website: <http://geogallery.si.edu>

Image example: [Dispersion of Light From the Pearson Diamond](#)

Gem Val – Reference Values of Gems

If you are a collector, appraiser or trade personnel, GemVal will be a valuable web-based tool to help you estimate a gem's value. While the majority of pricing data can be accessed for free, you do require a paid subscription to access pricing data for certain gemstone types.

GemVal.com also offers handy features like the ability to study historical prices and regularly updated pricing data.

Visit the website: <http://www.gemval.com>

Price guide example: [Citrine: Average Retail Prices, Nov 2015](#)

University of California Berkeley – Gems And Gems Materials

Would you like to get a feel of how and what students in big-name universities learn?

Well, here's your chance to study and experience it for yourself. The department of Earth & Planetary Sciences of UC Berkeley has freely made their lecture notes and course materials available to the public.

Visit the website: <http://nature.berkeley.edu/classes/eps2/>

Lesson example: [Pyroxenes \(and amphiboles\), Tourmaline, & Garnet](#)

23 Amazing Sites For Free Gemology Courses & Resources (continued)

From <https://beyond4cs.com/free-gemology-courses-and-resources/>

GemSelect.com – Gemstone Information Center

This massive information center contains hundreds of in-depth articles arranged in alphabetical categories. In particular, I find the charts depicting gemstone characteristics to be very useful. Best of all, they can all be easily printed out for convenient referencing.

Visit the website: <http://www.gemselect.com/gem-info/gemstone-information-center.php>

Lesson example: [Reference Index Chart](#)

Gem Lab – Gemmological Research and Education

Created by John Harris, his website is hands-down the best Spectroscopy resource on the Internet. It's so good that I would go as far as to say it surpasses the quality of paid tutorials and courses. His lessons that are written in a clear and concise manner, making them really easy to understand even for the layman. On top of that, John's spectroscopy illustrations are very detailed and suitable for use as reference charts.

Visit the website: <http://www.gemlab.co.uk>

Lesson sample: [Diffraction Spectra of Zircon \(High Type\)](#)

Gemstone Magnetism

Kirk Feral's website covers everything about gemstone magnetism. It contains tons of reference charts and research work that isn't published anywhere else.

The website also has an indepth tutorial on how you can use magnetic wands as a testing method to identify various types of gemstones.

Whether you are a casual gem hobbyist, professional gemologist or a like-minded researcher, I'm sure you'll learn something useful and find this site interesting.

Visit the website: <http://www.gemstonemagnetism.com/index.html>

Lesson sample: [How to Use a Magnet for Gem Identification](#)

Gemology Project Wiki

A non-profit wiki database for people interested in gemstones and gemology. This website has a mix of basic gemology lessons and advanced tutorials which require an understanding of fundamental sciences.

Visit the website: <http://www.gemologyproject.com/wiki/index.php?title=Table Of Contents>

Lesson sample: [Luminescence – Phosphorescence](#)

23 Amazing Sites For Free Gemology Courses & Resources (continued)

From <https://beyond4cs.com/free-gemology-courses-and-resources/>

Real Gems

Created in June 2008, Real Gems is a non-profit project created to showcase gemstones, collector stones and other related information on a single website.

Visit the website: <http://www.realgems.org>

Lesson sample: [Crystal Systems And Examples](#)

Stone Group Labs LLC

A laboratory offering advanced gemological testing services and global consulting services to the trade. The "Published Works" section on their website consists of indepth journal articles about gemstones and testing techniques. Definitely worth checking out if you are a professional gemologist or appraiser.

Visit the website: http://stonegrouplabs.com/wp/?page_id=17

Lesson sample: [Bright Line Technique – Enhance Your Refractometer Readings](#)

University of Washington ESS 103 Minerals And Gems

The Department of Earth and Space Sciences provides full length lecture notes which can be downloadable in PDF format. The notes cover a range of topics like chemical composition and gemstone origins. The ample use of illustrations to explain difficult concepts helps in achieving better understanding.

Visit the website: <http://earthweb.ess.washington.edu/ess-103/>

Lesson sample: Halid And Sulfide Minerals

The University of Texas at Austin – GEO 347K: Gems & Minerals

Comprehensive gemology course notes on various gemstone types. These notes provide substantial coverage on mining sources and data on performing pricing and valuations. You can also browse through images of more than 6300+ gemological specimens which are neatly collated in 5 sub-collections here.

Visit the website: <http://www.geo.utexas.edu/courses/347k/default.htm>

Lesson sample: [Corundum](#)

Emporia State University – GO340 Gemstones & Gemology

Susie Aber has generously made the gemology course (44 lectures!) available for all to enjoy. The course notes are a goldmine of knowledge and cover topics like gemstone identification, testing methods to cutting and polishing roughs. In each set of lecture notes, there are citations provided to point you towards comprehensive readings.

Visit the website: <http://academic.emporia.edu/abersusa/go340/fileindex.htm>

Lesson sample: [Optical Properties](#)

23 Amazing Sites For Free Gemology Courses & Resources (continued)

From <https://beyond4cs.com/free-gemology-courses-and-resources/>

Field Gemology – A Travel Blog to the Mysterious Origins of Gemstones

Written by Vincent Pardieu, this travel blog takes you on a geological adventure with expedition reports from around the world. You can discover the origins of gemstones and gain insights to local mining operations through his blog posts.

Besides writing about his travel experiences, Vincent is also the author of several high profile journal articles; some of which can be conveniently downloaded on his website.

Visit the website: <http://www.fieldgemology.org>

Article example: [Lead Glass Filled/Repaired Rubies](#)

US Geological Survey

This official government website contains everything you need to know about the production of gemstones in the United States. Another resource of noteworthy mention is the National Minerals Information Center; where you can study statistics and gain information on the worldwide supply of, demand for, and flow of minerals and materials.

Visit the website: <http://minerals.usgs.gov/minerals/pubs/commodity/gemstones/sp14-95/contents.html>

Article Sample: [Chalcedony](#)

Canadian Institute of Gemology (CIGEM) – Gemology School

The CIGEM is one of the most prominent learning institute for professional gemologist training. Their quarterly newsletter, Gemology Canada, is highly recommended for people who are serious about a career in gemology.

The free resource we listed here is a curation of articles extracted from CIGEM's newsletter "Gemology Canada". I recommend bookmarking their "Lab Alert And News" section to keep up with the latest industry developments.

Visit the website: <https://www.cigem.ca>

Article sample: [Gemstone Inclusion Library](#)

Starla Turner – Youtube Channel

Starla has been a gemology instructor for more than 20 years and she's a star! In her easy to follow videos, her personality and teaching experience really shines through!

Visit the website: <https://www.youtube.com/user/starlatrwc/videos>

Video sample: [Describing Color in Gemstones](#)

23 Amazing Sites For Free Gemology Courses & Resources (continued)

From <https://beyond4cs.com/free-gemology-courses-and-resources/>

Gem Logic – Youtube Channel

This Youtube channel (created by FGA Gemmologist, Edward Mendelson) compiles and aggregates gemology related video tutorials. And it gets better... Edward has painstakingly categorized the videos into convenient playlists where you can immediately jump to specific topics!

Visit the website: <https://www.youtube.com/user/gemlogicorg/>
Playlist sample: [Diamond Video Playlist](#)

Awaken Crystals – Youtube Channel

A series of helpful video clips on gemstone identification, sterling silver testing and more... These videos show you some practical usage of common tools and testing techniques employed in the real world.

Visit the website: <https://www.youtube.com/channel/UCteeamcegaKj2enfLg3GsYw>

Video sample: [Gem Identification – Specific Gravity Made Easy](#)

Lotus Gemology

Their gemological articles are laden with beautiful pictures coupled with detailed explanations. What more can you ask for?

Visit the website: <http://www.lotusgemology.com/index.php/library/articles>

Article sample: [Heat Seeker – UV Fluorescence as a Gemological Tool](#)

Farlang Education Center

Access an amazing collection of antique and old book titles for FREE. Farlang has also developed an online reader for users to access out-of-print books in the public domain.

Visit the website: <http://farlang.com/books>

Ebook sample: [Diamonds And Precious Stones](#)

Swedish Gem LAB

This is a digitalized library of non-copyrighted gemological books where you can download files in .pdf format. If you are interested in studying gemstones from both scientific and historical perspectives, this is a treasure trove of knowledge that will literally take years to finish reading.

Visit the website: <http://gemology.se/chronology.html>

Ebook sample: [Dictionary of Gems And Gemology](#)

23 Amazing Sites For Free Gemology Courses & Resources (continued)

From <https://beyond4cs.com/free-gemology-courses-and-resources/>

Gemological Institute of America – News & Articles

Gemological Institute of America (GIA) is the world's most well-known laboratory and gemology school. Besides offering accredited courses, GIA also leads the forefront of gemstone research and grading services. Their news and articles section is an awesome resource that keeps you informed of the latest happenings. Also, the free gem encyclopedia offers many practical tips like a buyer's guide, photos and videos for interactive learning. Highly recommended stuff!

Visit the website: <http://www.gia.edu>

Article sample: [Iolite Quality Factors](#)

This information is reprinted with permission from the website <https://beyond4cs.com/>. Check out this website for lots of gemology information, especially the Four C's, which refers to the four most important qualities of diamonds.

Second Annual SFMS Rockhound Round-Up

A "Good Old-Fashioned Rock Swap" for members of SFMS Clubs

March 6-8, 2020
Spirit of Suwannee Music Park
3076 95th Drive Live Oak, FL 32060
(386) 364-1683
www.musicliveshere.com



For Buyers Only: The only cost to attend is the Admission Fee for the Park.
For Sellers: \$25.00 for a 10' x 20' 'booth' to be a Vendor, plus the Park Admission.

For more information, or to apply for a booth, please contact
Jerri Heer at jheerx6@aol.com.



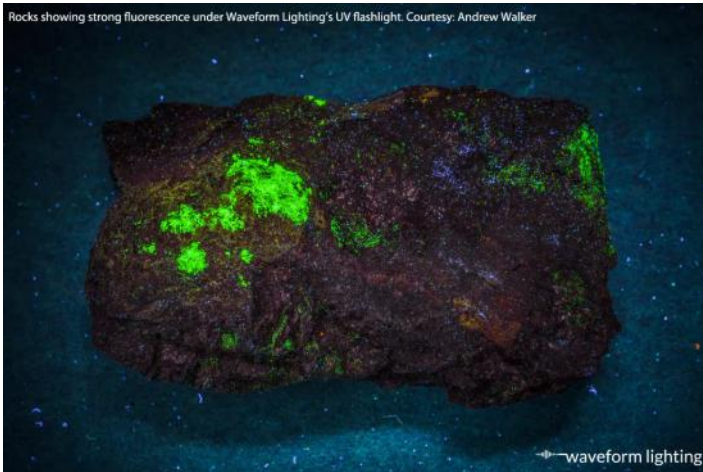
<https://www.facebook.com/events/spirit-of-the-suwannee-music-park/first-annual-sfms-rockhound-roundup/307301066630003/>

Everything You Need to Know About UV Flashlights

Reprinted from Hell's Canyon Gem Club BOULDER BUSTER Vol 55 Issue 2

UV flashlights are great tools for seeing and observing things that are normally invisible. But with so many choices and technical terms, it can be a bit confusing and challenging to know if you are making the right purchase. Read our guide to be assured that you're getting the best product!

What exactly is a UV flashlight?



A UV flashlight emits ultraviolet radiation - a type of light energy - that is not visible to the human eye. When ultraviolet light hits certain objects, they can fluoresce - a phenomenon similar to a bright glow. Many objects and substances such as paints, dyes, minerals, animals and body fluids exhibit fluorescence, which means that the presence of these things can be detected only when a UV light source shines on them. A UV flashlight takes the same shape and format as a standard white light flashlight, but instead of emitting white light, emits ultraviolet light. Virtually all UV flashlights use LED technology.

Should I get a UV flashlight for my application?

UV lighting has a wide variety of applications, but UV flashlights can be most useful in situations where portability and ease of use is important. UV flashlights are generally not strong enough to induce any chemical or physical reactions (e.g. curing) but provide enough UV light to observe fluorescence effects. Below are some use example cases of UV flashlights:

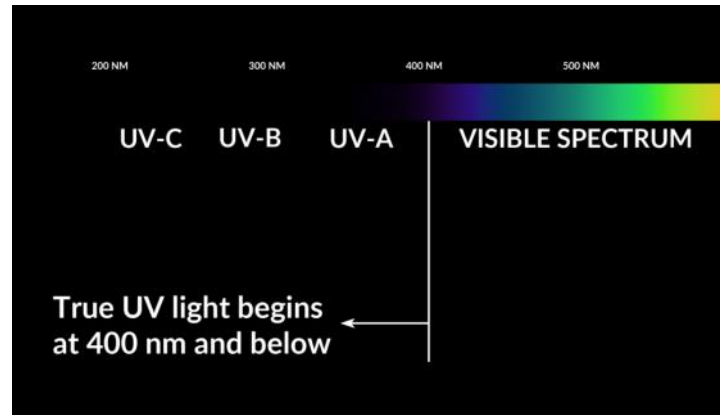
- Forensics & counterfeit verification
- Mineral & gemstone observation

- Checking for urine stains (e.g. pets) or other body fluids
- Searching for insects and reptiles

Does it matter which UV flashlight I use?

Because UV flashlights vary in their type and quality, it can be difficult to know if, and which UV flashlights will work for your particular use case without looking at the specifications. See below for things to look out for:

Get the correct wavelength. UV light is actually a general term for a wide range of UV wavelengths across the UV spectrum. Just like visible light is measured along a visible spectrum, UV light is also described along a spectrum using its wavelength, measured in nanometers (nm). When looking for any UV light, it is extremely important to know what wavelength (in nanometers, or nm) the light is emitting at.



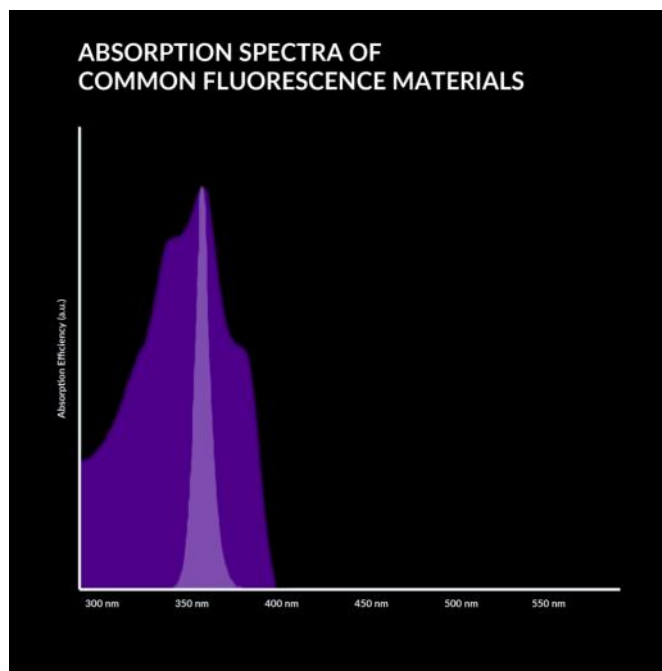
Why is the wavelength so important? Well, in short, to be useful, a UV light needs to induce fluorescence. Not all UV wavelengths are capable of producing sufficient fluorescence effects, so you could be completely missing the mark, by purchasing the wrong wavelength. Although optimal wavelengths can vary across materials and objects, most fluorescence is strongest in the wavelengths around 360 nm. Therefore, it is important that you purchase a UV flashlight with a wavelength at or near 365 nm - otherwise, the UV energy produced by the flashlight may be completely useless at producing the fluorescent glow you are looking for.

Because of the trends in LED manufacturing, higher wavelength LEDs are easier and more cost effective to

Everything You Need to Know About UV Flashlights (continued)

manufacture. As a result, 415 nm (visible, violet light) LEDs and 405 nm (borderline visible violet light) are often used as "ultraviolet" LEDs. If a seller or manufacturer does not list the wavelength used - be careful - as they could very well be using a violet or purple LED that is not a true UV light source. A common wavelength option is 395 nm. Strictly speaking, these are considered to be ultraviolet LEDs when we use the definition of < 400 nm to define UV. But because these LEDs are so close to the 400 nm cut-off, they still emit much of their energy as violet light. As a result, many objects will be illuminated in a dull violet color, without providing enough lower-wavelength UV light to induce fluorescence.

Does it provide enough power? Even the correct wavelength of UV light can be useless if there simply isn't enough of it. In other words, you need to make sure you have both quality (good wavelength) and quantity. But how do you know how much UV light is being emitted? Unfortunately, this is a tricky specification that most products do not list. Unlike white flashlights that use the lumens metric to describe brightness, because UV is invisible, this measure does not apply. Although there are ways to measure UV light, this may not be too practical when shopping for UV flashlights, as most manufacturers will not provide much information. Generally, two aspects of a UV flashlight's design will dictate how much UV light it can pump out. The first is the power consumption, usually rated in watts. Most smaller flashlights will run at 1W or so, while larger flashlights may run at 3W or more. Don't be fooled by the LED quantity - just because there are more LEDs does not necessarily mean that there is more power. What matters is the total power - 1 LED running at 3 watts is more power than 3 LEDs running at 0.5 watts each. The second aspect is LED efficiency. Not all LEDs convert the same ratio of electrical energy to UV light energy, and this can play



an important role in determining the amount of UV light energy is ultimately emitted. A low efficiency LED can mean that even a high power UV flashlight is not actually producing much useful UV light output. It isn't easy to determine UV LED efficiency, but generally, look out for lower-priced UV flashlights, as the LED chip is typically the most expensive component in a flashlight, and low efficiency values are typically the result of low-cost or overdriven LED chips.

How is it powered? Many UV flashlights can be powered via disposable AA or AAA batteries. This is often the

lowest-cost and practical approach for occasional, light use - if, for example, you only use it for several minutes at a time to check for pet urine. What if you expect more rigorous or extended use? You may want to consider a rechargeable option. The most common battery type is called the 18650, a rechargeable lithium ion battery. 18650 batteries can hold up to 2500 mAh (at 3.6V) or more, which is equivalent to approximately 3-4 of the disposable AA battery type. By utilizing a rechargeable battery pack, you will save on long-term battery costs. Many UV flashlights will also include a USB or similar charge port for rechargeable batteries. 18650 batteries come in two variants - protected and unprotected. A protected 18650 cell includes an integrated circuit that protects the battery from overheating, exploding or leaking. Although protected batteries do cost a bit more, the risk of an exploding battery caused by a lack of circuit protection could mean the difference between a house burning down, or a bodily injury occurring or not.

Is UV light from a UV flashlight harmful or dangerous?

Disclaimer: The content published below is for informational purposes only. It is not intended to be a substitute for professional medical advice and should not be relied on as health or personal advice. Always seek the guidance of your doctor or other qualified

Everything You Need to Know About UV Flashlights (continued)

health professional with any questions you may have regarding your health or a medical condition. Never disregard the advice of a medical professional, or delay in seeking it because of something you have read on this website.

UV light is often portrayed in the news and media as harmful, so you may be concerned about whether or not UV flashlights are safe. The short answer is, they are generally safe as long as you follow some common sense rules, which we discuss below.

But first, it is important to understand the risks behind UV light and where UV flashlights sit in terms of those risks. Just as we discussed that wavelength and power are the determinants of how strong fluorescence effects are, the risks and danger of UV light are also dependent on wavelength and power.

We receive significant amounts of UV-A (315-400 nm) and UV-B (280-315 nm) from the sun. UV-B wavelengths are shorter, and are therefore more harmful. Most of the risks associated with excessive exposure to sunlight (sunburn, eye irritation and cancers) are a result of UV-B wavelengths. Because UV flashlights emitting at wavelengths 365 nm or higher are emitting in the UV-A range, they can be thought of as being less harmful than the UV-B wavelengths.

Generally speaking, the overall amount of UV light emitted from a UV flashlight is also much less than what you would find outdoors on a sunny day. Natural sunshine has about 32 watts of UV energy per square meter, which is more than 30 times the amount of UV energy emitted by a 3W UV flashlight (assuming a 30% efficiency value).

While we see that a UV flashlight's potential for harm is much smaller than natural sunlight, we also cannot completely dismiss the potential for danger and harm in a UV flashlight, either. To further reduce these risks, there are certain steps that can be taken. First and foremost - never look directly into the UV flashlight. UV light is invisible, and does not induce the same natural reaction to squint or look away, the same way we would if we were to look directly into a white flashlight. Just because it doesn't appear bright, doesn't mean that it's not emitting lots of UV light. Be sure to keep the UV flashlight away from children or anyone who is not aware that the flashlight emits UV light.

If you are still a bit uncomfortable about the safety

aspects, you can take further steps to further protect yourself, just as you would out in bright sunshine. For example, you may want to purchase UV-blocking safety goggles or sunglasses, which will help reduce the amount of UV light from hitting your eyes. When using the UV flashlight, you can also try to avoid shining the light directly onto bare skin, and wear long-sleeve clothes. And, as a practical matter, keep the UV flashlight turned on only as long as is necessary.

Education - Most people don't understand the Rockhounds' fascination with "rocks", much less with rocks in the dark. Their only contact with fluorescence was in the '60s at some rock concert. A well designed Fluorescent Mineral display can be appreciated by anyone, but more so if the fundamentals behind it are easy to explain.

FAQ – BUYING A UV FIELD LAMP

In the last couple of years there have been several new manufacturers and suppliers of portable UV lamps – great news for the Glowhound's hobby. But, I have not seen an independent comparison of lamps, and the advice I see coming from some manufacturers is (in my opinion) misleading and downright dishonest. I don't have the time or resources to devote to actually testing each lamp out there and providing a side-by-side comparison, but I do have the ability to point out what you should look for when buying a field lamp. That is the purpose of this FAQ – What to look for in buying a field lamp. Please keep in mind that I only have used two lights: the SuperBright made by UVsystems and the Way Too Cool line of lamps. I have no field experience with any other lamp. I do build my own lamps for use in the field and at home (picture above), but I do not sell lamps – thus I do not have a hidden agenda. I believe that competition is good for our hobby and hope that eventually someone will figure out how to build a good cheap lamp so that everyone can afford to enjoy these wonderful glowrocks as we do. (I reviewed two of the top manufacturer's lamps here.)

Q: What are the most important factors in considering a specific model lamp for field use?

A: A lot depends on the individual. Cost, weight, brightness, reliability and power consumption are the main concerns I would have when buying a portable lamp for field use.

Q: What do these lamps cost?

Everything You Need to Know About UV Flashlights (continued)

A: They range from cheap to expensive. It's up to you to shop around but there are some basic facts that Red Sodalite – SW (with chkalovite, uranyl green, unknowns – phosphorescent) BOULDER BUSTER Volume #55 Issue #2, 2020 10 you should be aware of. All lamps use a Hoya 325c filter which is probably the most expensive component in the lamp. They all use a UV bulb, and they all have a ballast/inverter. These three items should cost each manufacturer pretty much the same – so if they have a bigger filter, or two lamps, or more watts (higher power) the costs will increase accordingly. When comparing costs make sure you compare the filter area and lamp wattage.

Q: I've seen a person selling an unfiltered shortwave light for mineral use on Ebay – cheap – and he claims it "outshines" all other "filtered" units.

A: HOGWASH!!!! That lamp is useless. UV tubes put out a tremendous amount of visible light. This light overwhelms the UV and washes out the fluorescent response of almost all minerals. You may be able to see the response of a very bright Willemite/calcite from Franklin but I can't think of too many more minerals that you will be able to find with an unfiltered light. This is either a scam or a terribly misinformed seller – do not buy an unfiltered light.

Q: How are these lamps powered?

A: Portable field lamps require portable power. That means a battery; the most common being a 12VDC lead acid battery (the same type of battery used in your car, only a little smaller). Batteries are rated in Amp Hours (AH). The battery typically sold for use with the Superbright is a 7AH battery. This means if the Superbright uses 1 amp per hour, the battery "should" keep it lit for 7 hours (it doesn't really work that way because a lead acid battery dies slowly as it is being used, and when the voltage drops below 10 volts, the lamp shuts down). You may get 4 or 5 hours use out of the battery. (BTW – take a look at the NiMH battery packs being offered on Ebay – they are half the weight and twice the power of a lead acid battery - or better yet, look into LiFE technology).

Q: Some manufacturers sell an "Inverter" and a battery to use their lamp in the field – what does that mean?

A: (Disclaimer - I prefer a battery-operated lamp, but my DIY section shows a lamp using an inverter. If you want to save some \$\$\$ and are willing to deal with the expense/hassle of an inverter, it's a good way to go. But battery lamps are better, but also beyond the

technical capability of most DIY'ers.) That said, an inverter uses a battery to generate 110vac (house current). The lamp manufacturers who recommend this solution mean they have not taken the time (or trouble) to design a lamp for operation on 12VDC. They're using a "cop out" by asking you to buy not only the heavy clunker 12VDC lead acid battery, but now an extra piece of equipment to turn that battery voltage into 110vac so their lamp will work in the field. Why is this bad? Several reasons; first, it's an extra piece of gear to carry around, secondly another thing to break while in the field, and third – it is a terribly inefficient use of battery power. An inverter consumes power just like anything else. It takes battery power to turn that good ol' 12vdc into that nasty 110vac. Every inverter does this differently, and how good they are at it is called "efficiency". As you might expect – efficiency is the term inverter companies use to compete with each other. The higher the efficiency the better the inverter. But – it's all hogwash. It'll be real hard to figure out the true efficiency of an inverter for a given load without actually testing it. Some claim as high as 90% efficiency but I would use 70% as a good rule of thumb. This means that 30% of the battery power (amps) is used just by the inverter to "make" 110vac. So, if you have a 10AH battery (puts out 1 amp for 10 hours), it will really only put out 7 amps because the other 3 amps are used to run the inverter. Short story – inverters eat up valuable battery power. Only buy a lamp that has a DC input.

Q: What should I look for in weight?

A: That's up to you! I do most of my prospecting in the mountains of Greenland. Every ounce matters! I have no choice with my lamp – it works and it weighs. But I do have a choice in batteries. I have long ago thrown out my clunky lead acid battery and replaced it with much smaller, more powerful and much lighter NiMH battery packs, subsequently replaced by LiFE technology. But the battery is the most important factor determining weight.

Q: Every manufacturer has a different claim about brightness – what's the real story?

A: This is a hard one to answer without actually testing each lamp to prove/disprove the manufacturer's BOULDER BUSTER Volume #55 Issue #2, 2020 11 claims. Seems like a hobby organization ought to tackle this one – it would be a great service to their membership. But – there are some common sense rules

Everything You Need to Know About UV Flashlights (continued)

you can apply. Wattage of the lamps indicates brightness. The more watts, the brighter the lamp. Some manufacturers "overdrive" their lamps (stuff more power into them than the lamps are rated for). It's sort of like pulling a boat with a car instead of a truck – you can do it, but the car will fall apart a whole lot quicker than normal. Same with the lamp. For the record – that's ok in my book. I'd rather have a bright light where I have to replace the bulb more often, but it helps me find more glowrocks. (Some may use two lamps instead of just one – same story – just add up the watts and compare). But, it's even a little more complicated than that; it's not a simple matter of brightness (watts). You also have to factor in the type of reflector used and the design. A 13 watt lamp with a properly designed reflector would most likely outperform a 25 watt lamp with no reflector (or one that has a UV coating preventing it from reflecting UV). Worse - watts refers to the power consumption and really has nothing to do with the UV output of the lamp (that's buried deep down in the specs of each individual lamp - something UV light manufacturers don't even talk about).

Q: Anything else to consider when it comes to brightness?

A: Filter area – the larger the filter area, the more UV light is gonna get out! Buy the lamp with the largest

filter area. Sadly, because the filter is the most expensive component in the lamp, that lamp will most likely be the most expensive to buy. If it's not, wonder why....

Q: I use my light at night on rocky terrain and fall down a lot. What should I look for in a good field lamp?

A: Reliability and ruggedness: Large filter area, but figure out some way to protect the very expensive filter glass so when you trip and fall, the glass has a chance of surviving.

Q: Should I get three different units – one for SW, one for MW and one for LW?

A: Sure, if you've got an unlimited budget and an SUV that's gonna carry you directly to your collecting spot. Real world: why does anyone need anything other than shortwave? I can't think of many minerals that only lights up under MW or LW (perhaps ruby - but you don't need a lamp for those). If it lights up under SW I will most likely carry it home. Then I'll check it out under LW and MW; maybe get a nice surprise. Why carry other lamps? Why spend extra money for combo lamps? If you really think you need LW, check out one of the LW LED flashlights. They work fine for LW minerals if that's all you're looking for – and are dirt cheap! This FAQ and lots of other info at this link-- [Miner Shop](#)

Amethyst Mining in Brazil

There's a fascinating online article about amethyst mining, but it's fifteen pages long, which is just too long to reprint in the Rockhound.

“Brazil is currently the leader in overall production of amethyst. This article describes the author's visits to three of Brazil's most important mining areas: Marabá, Pan de Açúcar, and Rio Grande do Sul. Each represents a different geologic environment and, therefore, a variety of mining methods are used. In Marabá and Rio Grande do Sul, much of the amethyst is heat treated to become citrine.”

[DOWNLOAD THE AMETHYST MINING PDF](#)



Gem and Mineral Society of the Palm Beaches, Inc. Membership Application

Check ONE Only: *

- ___ \$20.00 - Individual Membership - Any single adult 18 years of age or older
___ \$30.00 - Family Membership - Two adults, all minor children & students up to age 21 in household.
___ \$10.00 - Junior Membership - A child under the age of 18 joining with the permission of a parent or guardian.

Check ONE Only:

- ___ New Membership
___ Renewal Membership

Please provide us with your name(s), address, telephone number and email address (if you have one). We need a mailing address and telephone number for contact purposes. Any information provided will be kept private and secure and will not be shared with any outside persons, organizations or entities. Members information may be published in the annual Society Roster for the sole distribution to other Society members.

NAME: _____ Month & Day of Birth: _____

SPOUSE OR PARTNER: _____ Month & Day of Birth: _____

ADDRESS _____

CITY, STATE ZIP _____

HOME PHONE _____ CELL PHONE _____

SPOUSE'S PHONE _____ CELL PHONE _____

EMAIL ADDRESS _____

SPOUSE'S EMAIL _____

Family Membership additional names (year of birth required for children under the age of 18)

CHILD'S NAME _____ mm/dd/yyyy of Birth _____

CHILD'S NAME _____ mm/dd/yyyy of Birth _____

CHILD'S NAME _____ mm/dd/yyyy of Birth _____

CHILD'S NAME _____ mm/dd/yyyy of Birth _____

(Minor's Information required so that we may include them for Eastern Federation Dues and third-party liability insurance.)

By signing below, I hereby submit my application for membership into the Gem and Mineral Society of the Palm Beaches.

Signature _____ Date: _____

Amt. Enclosed: _____	
<input type="checkbox"/> Cash	<input type="checkbox"/> Check
Check # _____	
Date Received: _____	

February

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Open Shop 10-2 General Work CABBING CLASS 11-2
2	3 Open Shop 10:30AM - 5 PM General Work Samantha 631/764-6556	4	5 BOARD MEETING 7:00 PM	6 Open Shop 12:30-3:30 PM General Work Dennis 561/255-0292	7 Open Shop 6-9 PM General Work Susan 561/293-1298	8 Open Shop 10-2 General Work CABBING CLASS 11-2
9	10 Open Shop 10:30AM - 5 PM General Work Samantha 631/764-6556	11	12	13 Open Shop 12:30-3:30 PM General Work Dennis 561/255-0292	14 Open Shop 6-9 PM General Work Susan 561/293-1298	15 Open Shop 10-2 General Work Lee 561/389-8584
16	17 Open Shop 10:30AM - 5 PM General Work Samantha 631/764-6556	18	19	20 Open Shop 12:30-3:30 PM General Work MEMBERSHIP MEETING 7:30 PM	21 Open Shop 6-9 PM General Work Susan 561/293-1298	22 Open Shop 10-2 General Work Lee 561/389-8584
23	24 Open Shop 10:30AM - 5 PM General Work Samantha 631/764-6556	25	26	27 Open Shop 12:30-3:30 PM General Work Dennis 561/255-0292	28 Open Shop 6-9 PM General Work Susan 561/293-1298	29

MARCH

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4 <div style="background-color: green; color: white; padding: 2px; font-weight: bold;">BOARD MEETING 7:00 PM</div>	5 Open Shop 12:30-3:30 PM General Work Dennis 561/255-0292	6 Open Shop 6-9 PM General Work Susan 561/293-1298	7 Open Shop 10-2 General Work Lee 561/389-8584
8	9 Open Shop 10:30AM - 5 PM General Work <div style="background-color: green; color: white; padding: 2px; font-weight: bold;">SHOW CMTE MEETING 7:00 PM</div>	10	11	12 Open Shop 12:30-3:30 PM General Work Dennis 561/255-0292	13 Open Shop 6-9 PM General Work Susan 561/293-1298	14 Open Shop 10-2 General Work Lee 561/389-8584
15	16 Open Shop 10:30AM - 5 PM General Work Samantha 631/764-6556	17 <div style="text-align: center; color: green; font-family: cursive; font-size: 1.2em;">Happy St. Patrick's Day!</div>	18	19 Open Shop 12:30-3:30 PM General Work <div style="background-color: green; color: white; padding: 2px; font-weight: bold;">MEMBERSHIP MEETING 7:30 PM</div>	20 Open Shop 6-9 PM General Work Susan 561/293-1298	21 Open Shop 10-2 General Work Lee 561/389-8584
22	23 Open Shop 10:30AM - 5 PM General Work Samantha 631/764-6556	24	25	26 Open Shop 12:30-3:30 PM General Work Dennis 561/255-0292	27 Open Shop 6-9 PM General Work Susan 561/293-1298	28 Open Shop 10-2 General Work Lee 561/389-8584
29	30 Open Shop 10:30AM - 5 PM General Work 631/764-6556 Samantha	31		31 Open Shop 12:30-3:30 PM General Work Dennis 561/255-0292	31 Open Shop 6-9 PM General Work Susan 561/293-1298	

SHOP TALK

Open Shop Schedule

Open shop is available for members use only, but visitors are welcome to stop by during open shop hours. Open shop fees are \$5.00 for the first 3 hours and \$7.00 for time over three hours.



Important! Members must complete a 6-class Certification Class before using the cabbing equipment. This class runs for six consecutive weeks for 3 hours each week to provide safety instructions and cabbing techniques. If you received training elsewhere, you will still need to demonstrate your proficiency before using shop equipment. For information on cabbing certification please call Susan Cairl @ 561-293-1298.

Open Shop Hours:

Mondays 10:30am - 5:00pm, Samantha Lazzaro, Shop Steward - 631-764-6556

Thursdays 12:30pm - 3:30pm, Dennis Rietwyk, Shop Steward - 561-255-0292

Fridays 6:00pm - 9:00pm, Susan Cairl, Shop Steward - 561-293-1298

Saturdays 10:00 am-2:00 pm, Lee Miller -561-329-8872

NEW: We no longer ask you to call the shop steward before coming to the shop. If shop hours are listed on the calendar, the shop will be open. Phone numbers are listed in case you have a question for the shop steward.

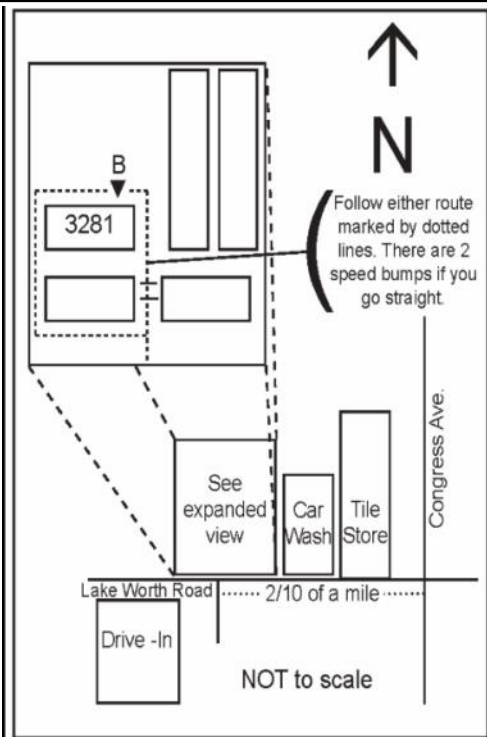
Shop Report

Open shop is available for lapidary, metal work, enameling, fused glass, classes and to use the library. You must be certified to use the kiln! For kiln certification and classes, please call Samantha Lazzaro.

At the present time, kiln use is limited to Monday Open Shop Hours. For beginning silversmith classes, please call Laura Simmons. Additional classes will be announced as they become available. When visiting the shop please know:

- ◆ You will be asked to sign a one-time liability waiver and be given a copy of the shop rules
- ◆ Always sign in and out of the log book and complete the information on the sign in sheet
- ◆ Drinks and food are permitted in the outer room only
- ◆ There is no fee to use the library or reference videos available in the shop

The street address of the shop is:
3281 Lake Worth Road, Suite B, Lake Worth, FL 33461



AVAILABLE CLASSES

CLASS	INSTRUCTOR	COST	DATE/TIME/NOTES
◇ Introduction to Chainmail ◇ How to Use the Jumpringer ◇ Introduction to Metalsmithing ◇ Viking Wire Weave	Laura Simmons 407/234-0444	\$30 + \$10 materials fee \$10 + \$5 materials fee \$50 + \$30 materials (copper) or \$60 materials (silver) \$30 + \$15 fee	Contact instructor to arrange.
Cabochon sessions Six 3-hr sessions	Susan Cairl 561/293-1298	\$75 + \$20 materials fee	Contact instructor to arrange.
Cold Connections Class Series: ◇ Explosion Pendant ◇ Fold Forming Bracelet w/Beveled Stone Setting ◇ Scrapbook Bracelet (rivets) ◇ Metal Etching & Air Chasing Bracelet ◇ 3D Pendant w/Druzy Stone Slice NEW!	Arlene Lazzaro 516/810-3495	\$40 + \$35 materials fee \$40 + \$35 materials fee \$40 + \$35 materials fee \$40 + \$40 materials fee \$40 + \$40 materials fee	Contact instructor to arrange.
Enameling	Samantha Lazzaro 561/372-2359	\$40 + \$50 materials fee	Contact instructor to arrange.
Flat Lap	Susan Cairl 561/293-1298	\$40 + \$10 supplies fee	Contact instructor to arrange.
Gem Tree	Dianna Ray 561/707-6753	TBD	Contact instructor to arrange.
Metalsmithing: ◇ Alien Prong Ring	Arlene Lazzaro 516/810-3495	\$40 + \$15 materials fee	Contact instructor to arrange.
Wire Fan Bracelet Class	Debi Kachman 561/568-8736	\$30 + \$20-50 materials fee (depending on metal) OR supply list can be provided	Contact instructor to arrange.
Wire Sculpture Class	Debi Kachman 561/568-8736	\$30 + \$20-50 materials fee (depending on metal) OR supply list can be provided	Contact instructor to arrange.

The Rockhound

Official publication of the Gem & Mineral Society of the Palm Beaches, Inc.

MEMBERSHIP DUES

Junior Membership—\$10.00
(Under age 18)
Single Membership—\$20.00
(Over age 18)
Family Membership—\$30.00
(Includes 2 adults and children under age
18 in a single household)

*Membership expires on December 31st
each year and is due by the end of
February of the new year.*

To renew your membership, make your
check or money order to:

Gem & Mineral Society of the Palm
Beaches, Inc. and mail to:

Membership Coordinator
Gem & Mineral Society
P.O. Box 18095
West Palm Beach, FL 33416-8095

NAME TAGS

Available from:
Ace Marking Devices (\$12.00)
3308 S. Dixie Hwy.
West Palm Beach, FL 33405
561/833-4073

SHOP FEES

Up to 3 hours shop time - \$5
Over 3 hours shop time - \$7

SEE CALENDAR FOR OPEN SHOPS

SHOP STEWARDS

Head Shop Steward:
Susan Cairl 561/293-1298

Laura Simmons 407/234-0444
Dennis Rietwyk 561/255-0292
Samantha Lazzaro 561/372-2359
Lee Miller 561/329-8872

Shop Phone:
561/585-2080

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Membership*	David Taylor	561/644-1888
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Webmaster*	Richard Tracey	561/318-6891

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Jr. Rockhound Program	Mitchell Turk	561/506-4655
Librarian	Shop Steward on Duty	
Programs	Barbara Ringhiser	561/379-4307
Raffle Coordinator	Laura Simmons	407/234-0444
Refreshments	Arlene Lazzaro	516/810-3495
Sunshine Committee	Jenny Wright	561/634-1427
Social Events	Open	
Webmaster	Richard Tracey	561/318-6891

*Denotes a Voting Member of the Executive Committee.

WEBSITE

www.gemandmineralsociety.org or www.gmspb.org

Club Email Addresses

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president@gmspb.org
show@gmspb.org
vendorinfo@gmspb.org
webmaster@gmspb.org

Link to our smile.amazon.com account:

[http://smile.amazon.com/ch/59-6196330](https://smile.amazon.com/ch/59-6196330)

The Gem & Mineral Society of the Palm Beaches, Inc. is a 501 (c) (3) corporation and a member of the Eastern and Southeastern Federations of Mineral and Lapidary Societies, and is affiliated with the American Federation of Mineralogical Societies. Monthly meetings are held on the third Thursday of the month except for December, which is held on the second Thursday. Meetings start at 7:30 PM at the former Garden Club building (across from the Science Center), 4800 Dreher Trail North, West Palm Beach, FL 33405.

The opinions, beliefs and viewpoints expressed by the various authors in this newsletter do not necessarily reflect the opinions, beliefs and viewpoints of the Gem and Mineral Society of the Palm Beaches ("GMSPB"). GMSPB does not verify any claims made for accuracy, and is not responsible for the views expressed. Nothing contained herein constitutes any sort of professional advice, including but not limited to legal, medical, or financial advice. Any action you take based on information published in The Rockhound is strictly at your own risk.

Send comments or submissions to laurajeanphillips@gmail.com