

The CHIP & LICK newsletter



VOLUME 54, NUMBER 8

October, 2008



Purpose and Memberships

The objectives of the Miami Valley Mineral and Gem Club are:
To promote interest and increased knowledge in the fields of mineralogy, geology, and the lapidary arts.
To further the art of mounting and setting stones.
To encourage the collecting, identifying and displaying of specimens in these fields.

The annual dues are \$10.00 for an individual membership, \$15 for a couple, or \$17 for a family membership.

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This club is a member of the Midwest Federation of Mineralogical and Geological Societies (MWF), which is a member of The American Federation of Mineralogical Societies (AFMS). **MEETINGS:** Second Sunday of the month except July and August.

PLACE: Small Business Development Center, 300 E. Auburn Ave., Springfield, OH 45505. Phone: 322-7821

TIME: 2:00 P.M.

Editor: Tom Bolka
2275 Caestrano Dr.
Xenia, OH 45385

WEB SITE: www.mvmgc.org

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MIAMI VALLEY MINERAL AND GEM CLUB, INC.

2008 OFFICERS

President	Tim Fosberg	849-4471
Vice President	Andreas Ruben	390-2081
Corresponding Secretary	Katrin Ruben	390-2081
Recording Secretary	Phil Lind	408-3744
Treasurer	Joyce Perry	372-8228
Editor	Tom Bolka	372-3365
Librarian	Joyce Perry	372-8228
Curator-Historian	Tim Fosberg	849-4471
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Trustee (2006)	Becky Dobbs	372-9022
Trustee (2007)	Hugh Fulton	322-1021
Trustee (2008)	Hugh Fulton	322-1021
Trustee (2009)	Udean Babyak	

2008 COMMITTEES

Anti-Litter	All Members
Canceled Stamps	Kay Faux
Chaplain	Udean Babyak
Field Trips/ Safety	Phil Lind
Field Trips/ Safety	Tom Bolka
Field Trips/ Safety	Clyde Spencer
MWF Liaison	Hugh Fulton
Photographer	Andreas Ruben
Program	Andreas Ruben
Refreshment	Joyce Perry
Scholarship	Joyce Perry
Show Chairman	
Spring Banquet	Udean Babyak
Sunshine	Joyce Perry
Swap	Hugh Fulton
Webmaster	Katrin Ruben
Christmas Party	Katrin Ruben

Special club-member news!

October Birthdays

Sharon Fosberg Oct 03

October Anniversaries

None

Thanks to all who helped out with the Culture Fest.



Happy Halloween!

Mineral of the month – Rhodochrosite



Rhodochrosite is a manganese carbonate mineral with chemical composition $MnCO_3$. In its (rare) pure form, it is typically a rose-red color, but impure specimens can be shades of pink to pale brown. The streak is white. Its Mohs hardness varies between 3.5 and 4. Its specific gravity is 3.5 to 3.7. It crystallizes in the trigonal system. The cleavage is typical rhombohedral carbonate cleavage in three directions. Crystal twinning often is present. It is transparent to translucent with refractive indices of $n_{\omega}=1.814$ to 1.816, $n_{\epsilon}=1.596$ to 1.598. It is often confused with the manganese silicate, rhodonite, but is distinctly softer. Rhodochrosite forms a complete solid solution series with iron carbonate (siderite). Calcium, (as well as magnesium and zinc, to a limited extent) frequently substitutes for manganese in the structure, leading to lighter shades of red and pink, depending on the degree of substitution. It is for this reason that the most common color encountered is pink.

Rhodochrosite occurs as a hydrothermal vein mineral along with other manganese minerals in low temperature ore deposits as in the silver mines of Romania where it was first found. Banded rhodochrosite is mined in Capillitas, Argentina. Catamarca, Argentina has an old inca silver mine that has produced fine stalatitic examples of rhodochrosite that are unique and very attractive. Cut cross-sections reveal concentric bands of light and dark rose colored layers. These specimens are carved and used for many ornamental purposes.

Its main use is as an ore of manganese which is a key component of low-cost stainless steel formulations and certain aluminium alloys. Quality banded specimens are often used for decorative stones and jewelry. Due to its being relatively soft, and having perfect cleavage, it is very difficult to cut, and therefore rarely found faceted in jewelry.

It was first described in 1813 in reference to a sample from Cavnic, Maramureş, present-day Romania. According to Dimitrescu and Radulescu, 1966 and to Papp, 1997, this mineral was described for the first time in Sacaramb, Romania, not in Cavnic, Romania. The name is derived from the Greek word for *rose-colored*.

Colorado officially named rhodochrosite as its state mineral in 2002 based on a proposal by a local high school (Platte Canyon High School in Bailey, Colorado). The reason for

this lies in the fact that while the mineral is found worldwide, large red crystals are found only in a few places on earth, and some of the best specimens have been found in the Sweet Home Mine near Alma, Colorado.

Rhodochrosite and silver mining

Manganese carbonate is extremely destructive to the amalgamation process used in the concentration of silver ores, and so until quality mineral specimens became highly sought after by collectors, they were often discarded on the mine dump.

(From wikipedia website)

Formation of Geodes

(From Mama's Minerals website)

Geodes are the mysterious treasure-boxes of the geological world. Undistinguished lumpy balls of rock from the outside, they often reveal crystal-lined interiors when cut or broken open. The crystals are most often clear quartz, although they are sometimes amethyst or calcite. Rarely, crystals of pyrite, sphalerite, and other minerals may also be found. Geodes may be less than an inch in diameter, though some, like the Brazilian amethyst cathedrals, can be several feet across.



But some geodes, commonly referred to as duds, are empty. Others are solid crystal, or nearly so; these are called nodules. There's no way of telling what you will find in a particular geode from looking at the outside, although nodules are noticeably heavier than hollow geodes.

Geologists don't agree on the exact processes involved in the formation of geodes. Given that geodes form in both volcanic and sedimentary rocks under very different conditions, the subject is a complex one. But the most common theory is that geodes form inside already existing hollows within the rock. In the case of volcanic rock these hollows are the result of gas bubbles in the molten flow. Cavities in sedimentary rock may be the result of concretions, of an expansion in the rock due to internal fluid pressure, or of the dissolving out of earlier material by groundwater – or any combination of these causes.

Groundwater laden with silica and other minerals fills these hollows. Over thousands of years minerals precipitate out of the water, leaving a silica gel on the interior walls of the cavity that hardens into rock as it dries. The first layer is usually chalcedony, a strong, crypto-crystalline form of quartz. As this process of mineral precipitation reoccurs over and over, later layers form distinct, inwardly pointing crystals. Geodes that are empty missed these later cycles. When a number of geodes are found together in a layer of rock, often it's the ones at the top – ones that were often above the level of the groundwater -- that are duds.

A similar process of mineral precipitation can create crystal-lined cavities called vugs. The difference between one of these cavities and a geode is that the outer layer of a vug is not durable enough to survive weathering, so it disintegrates when exposed rather than forming a ball of rock with a crystalline mystery at its heart.

UV Light and Fluorescent Minerals

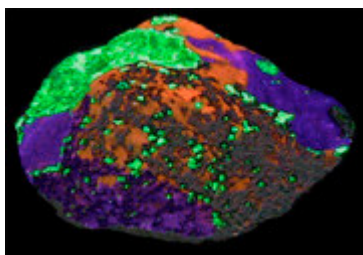
(From Mama's Minerals website)

Ultraviolet (or UV) is light with wavelengths shorter than that of visible light, measuring from about 25nm (nanometers) up to 400nm. Although we can't see ultraviolet light, when visible light is dim or absent we can see ultraviolet's brilliantly colorful effect on fluorescent minerals.

The ultraviolet range of light is divided into four categories: far ultraviolet (25nm to 250nm); short-wave (250nm to 300nm); mid-wave (300nm to 350nm); and long-wave (350nm to 400nm). Of these, short-wave and long-wave UV are the ones of most interest to collectors of fluorescent minerals. Ninety percent of these minerals respond most strongly to short-wave radiation, though a respectable number respond to long-wave (also known as black light). Some minerals respond to both, and the different colors brought out by the two wavelengths can help identify a specimen.

Ultraviolet light has many uses other than causing colorful displays in fluorescent minerals. Short-wave, mid-wave, and long-wave UV are vital in numerous laboratory applications, such as chromatography and the analysis of biological samples. Short-wave and mid-wave UV kill many bacteria, and so are used in sterilization, as well as for a variety of medical treatments. Carpet cleaning companies use long-wave UV to locate pet urine stains (you can do this too, using a bottomless box or black drape to provide the necessary darkness). Security, forensic, and industrial quality control applications for ultraviolet light are common.

Fluorescent Minerals



Under the rays of a UV lamp many ordinary items fluoresce: teeth, white shirts, many inks and plastics, crankcase oil, some woods -- even scorpions, a fact which has caused problems for more than one prospector who was out hunting the desert at night! But it is the response of fluorescent minerals that excites the interest of collectors. Calcite, which is often a dull white in ordinary daylight, may fluoresce red or orange red, pink, or green. Fluorite is pretty on its own, but really comes alive under UV: bright pale yellow, deep green, blue-green, blue, violet-blue, red-violet, orange, cream, and bluish white.

The fluorescent color variations displayed by a mineral are generally due to impurities known as activators. The activator (or activators, in some cases) absorbs ultraviolet radiation, and in reaction emits a combination of visible light (color) and minute amounts of heat. The activator manganese makes calcite fluoresce red or orange-red; fluorite, a deep green; and fluorapatite, yellow. The uranyl ion makes most minerals in which it is found fluoresce some shade of green.

Sometimes the activator electrons get stuck in their high-energy state, and the mineral will continue to glow after the UV light is switched off. This is called phosphorescence. The variety of Willemite found in Franklin, NJ is an excellent example of a mineral that is both fluorescent and phosphorescent, but there are many others. Calcite is often phosphorescent. Applying heat to some UV-charged minerals (by holding them briefly under a hot water tap, for example) will make the phosphorescence even more dramatic.

How UV Lamps Work

The lamps used for this hobby (or passion!) are similar in appearance and function to ordinary fluorescent lights -- glass tubes filled with argon gas and a little mercury. Electrical current causes the mercury to emit ultraviolet light. In the ordinary fluorescent lamp, a coating on the inside of the tube turns this into visible light. Short-wave tubes are uncoated, and made of a special quartz or high-silica glass, as most kinds of glass block short-wave transmission. Long-wave tubes are regular glass coated with a long-wave-emitting phosphor instead of a visible light-emitting one.

Both short-wave and long-wave tubes require filters to block the small amount of visible light the tubes would otherwise produce. Short-wave tubes use a separate filter, which must be made of a specialized kind of glass (one of the factors that makes short-wave lamps more expensive than long-wave ones). Some long-wave tubes incorporate the filter as part of the glass, while others use a separate, inexpensive filter.

Collecting Fluorescent Minerals



Often the most satisfying way of acquiring specimens is to find them yourself. One good way to start is to join a local rock club. If none is available, or you prefer to go it alone, a good book on fluorescent minerals, combined with a rockhounding guide to your area can get you started. Always be sure that you know the status of the area where you plan on collecting, and get permission when it is needed! A good resource for both the beginning and the experienced prospector is the Fluorescent Mineral Society.

Small handheld 4 watt UV lamps are convenient and easy to carry. They are a good place to start when you are new to the hobby. The larger 6 watt handhelds will be more satisfying to the committed prospector, as they will trigger fluorescence in specimens from several feet away, a great boon when you are out hunting at night. Multiband or combo lamps allow the user to switch between short-wave and long-wave light. This can provide a significant savings in the cost of your equipment, though some decrease in ultraviolet output can be expected.

Most of the other tools useful to the UV mineral prospector are standard rockhounding tools: hammers, chisels, pry bar, field bag, safety equipment, and the like. Safety glasses or goggles are particularly useful, as they will protect your eyes from short-wave radiation as well as flying rock chips. A good flashlight should go into your field bag or pocket along with your UV lamp(s) for night trips, of course.

Some way of creating a dark space for testing possible fluorescent specimens is necessary when prospecting during daylight hours. Commercial viewing bags are available, though a black plastic sheet does a pretty decent job and is both lightweight and inexpensive.

When wrapping your prizes (which you should always do before you put them in your field bag, to protect them from getting banged up), either wrap them first in plastic wrap, or be sure that you've tested the newspaper you plan to use with your short-wave and long-wave lamps, for fluorescent dyes.

Remember when you're collecting at night to be careful to not pick up any prettily glowing scorpions!

Hints for Using UV Lamps

Handheld UV lamps run on 12 volt DC, or direct current. In practical terms this means one of the filaments in the tube will wear out before the other. If you reverse the tube when the output begins to dim, you can extend its life.

Another thing to keep in mind -- a safety suggestion this time -- is that short-wave UV is the wavelength that causes sunburn. While it is very hard to get enough exposure from a hobbyist's lamp to burn skin, looking directly into a short-wave light for an extended period of time can certainly cause temporary damage to your eyes. Avoid this!

Displaying short-wave specimens is safe as long as you have them behind glass (but not in a fish tank! Fish have no eyelids, and thus no protection at all from being burned by the short-wave radiation).

Much of the information in this article comes from *Ultraviolet Light and Fluorescent Minerals*, by Thomas Warren, et al.

A little Humor!!!

(From Rd.com)



"It's simple. My nurse blindfolds me, I spin around a few times, and then I try to reattach your tail."

Fieldtrip Report

Several members of the club traveled to Vandalia after the September meeting to look over a collection being sold by an older rockhounds' family. Several boxes of nice lapidary material and mineral specimens were purchased. It was a trip to be remembered because our members had to drive through Hurricane conditions to get there. What we all won't do for some rocks!

Meeting minutes

MIAMI VALLEY MINERAL & GEM CLUB MINUTES

September 14, 2008

The meeting was called to order by the president, Tim Fosberg. There were 10 members present and no visitors.

Udean gave a meditation reading. It was entitled "Fresh Start".

Minutes were read and accepted.

Treasurer's report was read and accepted. We have \$333.58 in the treasury at this time.

The Librarian reported that there is no new news.

The sunshine committee reported that Joan Fulton is recovering from Knee surgery. We have sent a get well card.

The web page was reported to be up to date.

The field trip committee reminded the group how important it is to take the annual mine safety course. We had 11 field trips this year that only 5 members were eligible to go on and only 3 were able to make to trips.

As usual our Liaison, Hugh Fulton presented a very nice account of the various newsletters, brochures and other documents received from other clubs. All were placed at the front of the room for further examination. .

Old Business:

The error on the MVG&M culturfest information was brought up again and we made sure that all available members signed up to help with the booth. The Culturefest is on the 27 of September (11 am to 7 pm).

We were reminded that the Midwest Federation has various articles for sell including T-shirts.

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New Business:

We received a "Certificate of Appreciation" from the Midwest Federation for 55 years of club activity.

The program for November is a trip to Wittenberg University's geology department and Phil ask if we could invite the Dayton club to participate so that we might have a larger group. It was agreed and Andreas will inform Phil and Clyde as soon as the trip is finalized was that they could inform the Dayton club.

The meeting was adjourned for refreshments; followed by the silent auction and a trip to Vandalia to check out a mineral collection that is being sold off.

Submitted by Secretary

Philip Lind.

Regional Events

October

10-12: WARREN, MI. Michigan Mineralogical Society 64TH ANNUAL GREATER DETROIT GEM, MINERAL, FOS-SIL, AND JEWELRY SHOW. Macomb Community College (South Campus) Expo Center, Building. P, 14500 E. 12 Mile Road. Fri. 9:00-7:00, Sat. 10:00-7:00, Sun. 11:00-5:00. *Michigan's largest mineral show for 63 years!* 50+ choice dealers offering minerals, fossils, gems, cutting rough, jewelry, beads, and lapidary supplies from the nation's best suppliers. Displays by Smithsonian Institution, Carnegie Museum, Royal Ontario Museum, Cranbrook Institute of Science, A. E. Seaman Museum, Cincinnati Museum, Kent State University, Wayne State University, and University of Waterloo. Also demonstrations by the **Monroe County Gem and Lapidary Society**, noted private collectors, and Michigan Mineralogical Society members. There will be book signings, a silent auction by the Carnegie Museum, and FREE mineral and fossil ID. Suggested donation: Adults \$7; Seniors \$4; Children (5-17) \$3; Scouts in Uniform \$2; Three Day Pass \$10. FREE lighted parking. CONTACT: Carol Werner, 3401 Briarhill Road, Hartland, MI 48353, (248) 887-3906, briarhillwerner@comcast.net, or visit the club web site at www.michmin.org.

17-19: FT. WAYNE, IN. Three Rivers Gem and Mineral Society 47TH ANNUAL ROCK, MINERAL, FOSSIL, JEWELRY AND LAPIDARY SHOW AND SALE. Allen County Fairgrounds, 2726 Carroll Road. Fri. 10:00-7:00, Sat. 10:00-7:00, Sun. 10:00-5:00. Theme: "Fossils of Indiana." There will be 13 dealers, displays, working exhibits, silent auctions, door prizes, a fluorescent room, grab bags, and kid's games. Admission: Adults \$3, Seniors 55 yrs+ \$2, Students \$1, Children under 12 and Scouts in uniform FREE. Parking is FREE! CONTACT: Michele Yamanaka, 4336 Charter Lane, Ft. Wayne, IN 46815, YamanakaM@cs.com.

18-19: CLIO, MI. Flint Rock and Gem Club 41ST ANNUAL GEM, JEWELRY AND MINERAL SHOW AND SALE. Carter Middle School, 300 Upland Drive. Sat. and Sun. 10:00-5:00. 10 dealers offering rough rock, finished jewelry, minerals, fossils, beads, findings, etc. Demonstrations will include silversmithing, minerals, faceting, wood carving, jewelry making, wire wrapping, and cabochon making. A Kids Table will have a Fossil Sand Dig, and FREE Mineral Identification Cards with attached minerals! Also, a fluorescent display, door prizes, daily and hourly drawings, and raffles of 20-24 quality jewelry pieces, top value \$150! Admission: Adults \$3 (\$2 with flyer), Children 6-18 years \$1.50, under 6 FREE. CONTACT: Ed Hearn, (810) 687-2339, edleo324@comcast.net or visit our web site at www.flintrockandgem.org.

25-26: CUYAHOGA FALLS, OH. ANNUAL FALL GEMBOREE. Emidio & Sons Expo Center, 48 E. Bath Road. Sat. 10:00-7:00, Sun. 10:00-6:00. *Co-sponsored* by the **Akron Mineral Society** and the **Summit Lapidary Club**. There will be vendors selling minerals, rocks, gems, and jewelry. Demonstrations will include cabbing, faceting, creating gem trees, beading, and silversmithing. There will also be exhibits, silent auctions, door prizes, a Gem Mine, and food service. Admission: Adults \$4, Seniors (55

and over) \$3, Students (High School and College) \$3, Children (5 and under) FREE! Also, FREE parking! CONTACT: Warren Salchak, 242 Monroe Avenue, Cuyahoga Falls, OH 44221, (330) 928-0181, or Carl Miller, (330) 633-4250. For additional information, go to www.LapidaryClubofOhio.org.

25-26: EVANSVILLE, IN. Evansville Lapidary Society 42ND ANNUAL GEM, MINERAL AND FOSSIL SHOW. Washington Square Mall, 5011 Washington Avenue. Sat. 10:00-9:00, Sun. Noon-5:00. There will be 13 vendors offering gems, jewelry, minerals, and geodes. The Junior Rockhounds will have a booth *plus* games for children. The USI Geology Club will be running "How Volcanoes Work" and other geology games. There will be displays of club members' work. Don't miss the silent auction and the club booth! Several door prizes will be given away daily! Admission: FREE, plus FREE parking! CONTACT: Ruth Reisinger, (812) 424-7618.