



Meeting
Second Tuesday of each month
Van Matre Senior Citizens Center
1101 Spring Street
Mountain Home, AR

<http://www.ozarkearthscience.org/news.htm>
<http://www.ozarkearthscience.org>

September, 2011

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We are a member of the Midwest Federation of Mineralogy.

Sharon Waddell: Liaisons Officer - 417-256-8948

MWF Assistant Micromounter: Brenda Johnson

OBJECTS: To study and promote an interest in the earth sciences; Geology, paleontology, mineralogy, archaeology and the lapidary arts.

Meeting: On the second Tuesday of each month at 7:00 p.m. in the Van Matre Senior Citizens Center, 1101 Spring Street (Cooper Park), Mountain Home, Arkansas.

Dues: Active adults \$12.00 per year or family membership of \$20.00 per year. Junior membership is \$4.00 per year. Nonresident membership is \$8.00.

The President's Message

I can't believe that September is already here. I can already see some signs of fall though summer is still lingering. Certain birds that long ago went north have already returned, so I know we will have cooler weather soon, and we have several field trips that are in the planning.

Our show has come and gone and was a big success. All the dealers I talked with said they did real well in sales and was looking forward to returning next year. Though we did not make a huge profit we have a base and just getting to promote rock hounding and collecting to others who do not know about the hobby is well worth it to me. We had one couple who stopped by

The President's Message continued

because they saw our signs and were traveling through from the Baltimore area. When they left they had a large sack full of goodies. We also had many who drove fairly long distances just for the show; a one day type drive, and it makes one feel good to know that our advertising is doing so much good. I want to thank **Ernie Confer** and **Madelyn Anderson** for all the addressing and mailing that they did again this year, and each and everyone else who worked so hard to make this a success. It would not have come together if it had not been for you all pulling your load.

Like I said, we have many field trips in the working right now. I have been in contact with **Lois Larson** who is with the Parson, Kansas club, and she is putting together a two day field trip for us to go collect fossils, and possibly calcites, in Eastern Kansas.

Sharon Waddell has gotten us into the River Bluff Cave for an afternoon tour. This may be a once in a life time event, so I encourage everyone to take advantage of this. We will meet at the field house near the cave at 1:00 P.M., on September 11. The directions are as follows:

In Springfield, MO, take the James River Freeway west toward Republic. Follow it to Kansas Expressway and take it south. Make a right turn off of Kansas Expressway onto Republic Road. Go to the next light, (Cox Road), and make a left turn onto Cox. Follow Cox approximately three miles. Turn right onto Farm Road 190. Look for the Missouri Institute of Natural Science on the right. (There will be green signs directing you to it.).

The cost of this tour will be \$25.00 per person, but for the education of it all, it will be well worth it. We will be allowed to collect also above the cave near the field house, so if you want to collect fossils, bring your hammers and chisels along. Hard hats for the tour will be furnished by the tour guide.

We have others working on field trips for the near future, so make sure you attend the meetings for all the information on them. Now that it is cooling down, we are really hoping for nicer weather to where we can get out and about before it is too cold for going.

Again, thanks for all your help during the show. People like **John Olson**, who filled in at the front table at the last minute on Saturday are priceless. He is a new member and jumped right in and helped out. It is wonderful to know we have such nice people joining our club.

Brenda

The Minutes of the August 09, 2011 OESC meeting:

The meeting was brought to order at 7:05pm by Vice-President **Edward Hakesley**. President **Brenda Johnson** was absent due to another engagement.

There were two guests, **Lori Kollins** and **Joe Moore**.

A motion was made by **Gretchen Neal** and seconded by **Sharon Waddell** to accept the minutes from July's meeting.

The treasurer's report by **Dorothy Hess**: Club balance is \$1378.65 Motion was made by **Harvey Johnson** and seconded by **Gretchen Neal** to accept the treasurer's report.

Door prizes were won by **Madeline Anderson** and **Edward Hakesley**.

The winners for the raffle drawing were **A.J. Johnson** and **Tom Olsen**.

Fabulous refreshments were provided by **Madeline Anderson** and **Ernie Confer**.

The presentation for the evening was provided by **Edward Hakesley**: *Fluorite: Illinois Fluorite Story, Remember the Past*. It was an interesting story with pictures of the different mines, and what the areas are like today.

Edward Hakesley stated we still need help to set up and break down for the show August 26, 2011. We will start Friday night at 5:00 P.M. and continue at 6:00 A.M. Saturday. The club is still short 1 six foot table. Anybody who can help, please lend a hand. **Sharon Waddell** stated she was notified that one vendor would not be able to attend but she had been able to fill the slot with 2 other vendors. A motion was made by **Sharon Waddell**, and seconded by **Edward Hakesley**, to refund the booth fee to the vendor who was unable to attend because the money had been recouped by other vendors.

Sharon Waddell discussed her recent field trips and shared information concerning Cave Springs Park, which reopened in the summer. If the club decides to go as a group we could get a discount. Tentative plans were made to visit River Bluff Cave in Springfield Missouri in September. Cost of admission is \$25.00; anyone who is interested needs to contact **Sharon Waddell**. Sharon will let the club know if cameras are allowed. **Sharon** is also considering a field trip to the Great Salt Lake Flats in Oklahoma, scheduled for Labor Day weekend in September: individuals interested can email her.

Show and Tell was presented by **Sidney Johnson** with **Sharon Waddell** exhibiting some items she purchased at an auction, along with some pieces from Illinois.

August 2011 Financial Report

Dorothy Hess, Treasurer

Last Report Balance: (July 11, 2011) \$ 1,462.43

Transactions for the Reporting Period: (July 11, 2011 – August 8, 2011)

Income:

Raffle sales	Total	\$ 16.00
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Expense:

Cash for August raffle/spin & win bags	\$ 60.00
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Publish Aug club newsletters	\$ 9.83
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Aug club website fee	<u>\$ 29.95</u>
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Total	\$ 99.78
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Check Book Balance as of August 8, 2011: \$ **1,378.65**

Our program this month will be: **Yosemite**, from the "How the Earth was formed" series, and the Show-and-Tell table will be specimens from the Vulcan Quarry.

Refreshments will be by Mark Medley this month.

You need to check the expiration of your hard hats. YES, they do have expiration dates. If yours is very old, please purchase a new one. They can become soft and let objects easily penetrate if hit from above.

From the Safety Desk of A. J. Johnson

BUGS AND VARMINTS

by Mel Albright (AFMS Safety Chair)

http://www.amfed.org/a_safetyAFMS1.htm#Bugs

Whenever we go rock hunting, we should remember that we're going into someone else's world.

Who's? Well, we really don't know. It might be some snake, some bug, some plant, or, even, something really big - like a bear. So, how do we prepare to be friendly - or at least not to make something mad?

Often, the best thing to do is simply not to go there. If there's poison ivy or poison oak or poison sumac around, go somewhere else. By the way, can you recognize all or any of these that thrive in your neck of the woods? If not, best get someone to show you. Believe me; it's better than finding out the hard way. As a kid, I spent 2 weeks of my life in bed from poison ivy.

What about snakes? First, remember most are not poison. Second, remember that some are. Third, find out the difference. In the United States, they state that there are only a few - rattle snakes, cottonmouth snakes, coral snakes and copperheads. Believe it or not, the snake would rather not bite you. If they don't feel threatened, they'll leave you alone. So, when in snake country, there are a few rules: Do not walk fast; Look before putting your foot down; Don't jump or step over stuff- logs, rocks, etc.; Don't reach into dark places before you look to be sure no one's there; Don't put your stuff on the ground where it might provide cover for a snake. And remember, a rattle snake does NOT always rattle first!

Then there's bugs and spiders who can be unfriendly - scorpions, black widows, fiddle-backs, and the like. Again, a few simple rules will cover you - Don't reach into a place before looking into it. Don't put one hand down to support yourself while doing something else without checking out where it's going. When you reach under something, you are reaching into the bug's domain. Turn it over instead. Shake out any shoes, clothing, bed rolls, or whatever before putting yourself into them. Never say that some place is too tight for a bug. You'd be amazed at what a small crack a scorpion can sneak through (and loves to do so). I got a fiddleback bite one time by sitting on my garden tractor. The spider was under the seat! Now I look first.

Safety continued -

Then there are the nuisance bugs - ticks, chiggers, no-see-ums, gnats, mosquitoes, and the like. Here, the best way is to be prepared. Use bug repellent BEFORE venturing out. Dust your ankles with flowers of sulfur. Don't wear floral or sweet scents. Wear shirts with sleeves and long pants. Bees, wasps, hornets, and bumble bees are usually highly visible. Watch for them! Remember, that hole in the ground might be the entrance to a bumble bee nest! Also, remember that many soft drinks are attractive to them and they can and do land on your pop can - even while you're holding it.

Finally, consider the bigger stuff - bears, skunks, and their neighbors. Be noisy, talk and rattle, and look ahead and they'll be no problem. One exception - if you see ANY wild animal that doesn't seem afraid or, even, approaches you, try your very best to avoid them. THEY MIGHT BE RABID! If you see a nocturnal animal wandering around in the daylight, there again is a good chance that it is rabid. In my area, that is especially true for skunks, possums, fox, and raccoons. Check with the agricultural or wildlife people in your area if you are not sure what wild animals might be rabid.

Bench Tips from Brad Smith at www.groups.yahoo.com/group/BenchTips/
or www.facebook.com/BenchTips [Used with permission.]

BALL BURS

I use ball burs quite a bit for carving and for cleaning up bits of solder that need to be removed. Ball burs seem to be more controllable than other cutting burs. They're less apt to grab and walk over your piece leaving nasty scars. And I've found that size matters. The large 8-10 millimeter size is a useful size for carving off bulk material while the small half millimeter or less size can be used at high speed for signing your name on the back of the piece.

DEBURING A HOLE

When you drill a hole, there's usually a burr produced on the underside of the metal. Typically you would then file or sand this smooth, but doing so will put scratches on your piece that will take time to polish off. A quick way to remove the burr is to grab a drill that's about three times as large as your hole. Simply twist it in the hole to cut off the burr. I usually do this by hand but if you have many holes to do put the drill into a holder like a pin vice.

Website of the Month

A big part of the fun of collecting minerals (and fossils too, for that matter) is trying to identify what you have collected. There is a tendency to pick up crystals and rocks with pretty colors, but often that black rock you just stepped on has the most interesting history and pedigree. The foundation of mineral collecting is identification.

The internet offers several mineral identification charts and keys and in truth, the use of two different keys on the same mineral may give you two different answers. It is very like the experience of show and tell at the CIMS meeting: you will hear varying opinions about what a mineral is or might be.

This month's recommended web site takes you to "Mineral Identification Key" written by Alan Plante and Donald Peck. It includes the make up of a basic mineral identification kit, definitions of the terms used to classify minerals, and deep and detailed key of minerals to step through. The authors point out that minerals can take rare colors, and that all of the characteristics need to be taken into account while using the key. Check it out and happy exploration in your collection. If you find some surprises in your collection, bring them to the meeting for show and tell. http://www.rockhounds.com/rockshop/mineral_id/ or search on "mineral id_key."

Via the Nugget, September, 2011

Editor's note: Ed Hakesley has put together a very interesting and educational program on how to identify minerals in the field that he plans on giving for our November program. Please plan to attend and learn some useful, inexpensive tips on stuff to carry with you to help you identify what you are finding.

CITRINE, THE "BROWN AMETHYST"

Citrine is a yellow to orangish-brown-colored quartz of gem quality. Its name is derived from the French word citron, which means lemon, and naturally occurring citrine tends to be a pale yellow.

However, most of what is on the market is actually lower-grade Brazilian amethyst that has been heated to about 500 degrees centigrade, or 932 degrees Fahrenheit, this citrine tends to have more of an orange or red caste. Both amethyst and citrine get their coloring from the presence of iron in the quartz, the process of heating the amethyst reduces the oxidation state of the iron impurities and fades the purple coloring. Since citrine is so closely associated with amethyst, it is sometimes possible to find both colors in the same stone. When this happens, you have a gem that is called ametrine. It is often faced so that the resulting gemstone is a 50/50 mix of the citrine and amethyst, making for a very showy piece indeed. This particular gemstone has only been on the market for about 30 years. Citrine stands as a gemstone in its own right, however, as one of the most valuable and popular of the quartz gems. It is listed both as the November birthstone and the anniversary gemstone for the 17th year of marriage. Because of its availability

CITRINE continued -

and affordability, it is also a popular alternative to the more expensive topazes, yellow sapphires, and yellow diamonds. Despite its beauty, citrine does have a few drawbacks. Because it has already undergone some natural alteration, its coloring is somewhat unstable, and prolonged exposure to sunlight can fade it, giving it a pale, washed-out appearance. Despite its hardness, it is somewhat brittle, and can be scratched fairly easily. Also, in determining the true value of a particular stone, it is not possible at this time to determine whether or not the citrine was synthetically heated. You don't have to worry about being duped with truly synthetic citrine, though; it's too expensive to produce. Finally, a few technical notes: citrine's chemical composition is SiO₂ (silicon dioxide) with minor Fe³⁺ impurities causing the coloration. Citrine has a hardness of 7, a conchoidal fracture, a white streak, no cleavage, and a vitreous luster. It is transparent to translucent. The crystal structure is macro-crystalline, which means that you can see the individual crystals with the naked eye, as opposed to cryptocrystalline, which means that you cannot discern the individual crystals unaided. The shape of the crystals is hexagonal. Citrine most commonly occurs as protruding clusters of crystals on a geode base, with an igneous origin. It can also occur as massive and crusty or as singular terminated crystals.

Bibliography:

~ Amethyst Galleries, Inc., "Citrine, the Yellow and Orange Variety of Quartz,"

<http://mineral.galleries.com>

~ Eid, Alain, 1000 Photos of Mineral and Fossils, Barron's Educational Series, Hauppauge, NY, 2000.

~ Friedman, Hershel, "Citrine: Yellow to Brown Variety of Quartz," 2003. <http://www.minerals.net>

~ Gem and Mineral Miners Inc., "Citrine: Mineral Information Page," Jan. 14, 2001.

<http://wwwmineralminers.com>

~Jewelry Mall, "Citrine," 1999.

<http://jewelrymall.com>

~Post, Jeffrey E., The National Gem Collection, Harry N. Abrams, Inc., New York, 1997.

Via: T-Town Rockhound, July 2004, via Rock Lore, Nov 2005

Via the Arkansas Rock Hound News

If electricity comes from electrons, does morality come from morons?

Do illiterate people get the full effect of Alphabet soup?

Via the Arkansas Rock Hound News



Amethyst: Ontario's Provincial Mineral

Amethyst is one of the oldest recorded gemstones in history. Many ancient Egyptian tombs, dating back thousands of years had articles of jewelry with amethysts set in them along with rubies and emeralds.

The legends of amethyst

According to Greek legend, the god Dionysus, angered at an insult, vowed that he would set his tigers on the first person to cross his path. This happened to be a young girl named Amethyst, on her way to worship at the shrine of the goddess Diana. When the tigers sprang at her she cried out to Diana to protect her. The goddess turned the girl into a rock crystal so the tigers couldn't harm her. Dionysus then felt so sorry for his cruelty that he poured out an offering of wine to the hapless maiden and this gave the crystal a purplish hue. Out of this legend arose the belief that this crystal, amethyst, had the power to prevent drunkenness. For this reason the Greeks used to drink their wine from amethyst cups, or from cups containing amethyst. Even today some people believe if they wear an amethyst they can drink freely without becoming intoxicated. A strong sensitivity to the power of suggestion, and a small thirst would be of aid in this belief. I don't think it would work in a breathalyzer though!

Amethyst is the birthstone for the month of February and its meaning is sincerity.

How was amethyst created?

Amethyst is a variety of quartz, a transparent, glassy mineral formed when silica solutions crystallized in the veins and cavities of rock. This action took place over millions of years. It is silicon dioxide, hexagonal in form - that is a crystal with six sides. The colour ranges all the way from deep purple to reddish violet and very pale tints of mauve. It has a hardness of 7 on the Mohs' scale and a specific gravity of 2.7. It has a vitreous lustre and conchoidal fracture with no cleavage. That means, like quartz, it will break in the same way that glass breaks. It is insoluble in all acids except hydrofluoric. For the faceters, It has double refraction and a low index. It is thought that the colour in amethyst comes from manganese and titanium with a small amount of iron in the crystals but iron is regarded as the major factor in the development of the amethystine colour. In the opinion of some researchers, replacement of some silicon by iron in the regular

Amethyst continued

crystal structure, followed by irradiation allows the colour to develop. In many crystals there is less than one iron atom for every 10,000 atoms of silicon and oxygen. Minerals which owe their colour to foreign particles are known as allochromatic. Allochromatic minerals can often have their colour changed by heating, X-rays or ultra-violet rays and they may bleach in the sunlight.

Amethyst has the property of transmitting two colours, which is called dichroism; the colours are bluish violet and reddish violet. Heat treated stones do not show dichroism. So heat treated stones can be identified from those of natural colour. The change in colour upon heating is not always predictable and stones from different sources may behave differently. When exposed for a short time to a gentle red heat, in a mixture of sand and iron filings, amethyst loses any dark coloured patches it may have had. If it is given prolonged strong heating to redness, the colour is changed to brownish yellow. Heat treating amethyst to a golden yellow colour is extensive done and nearly all yellow quartz marketed today is heat-treated amethyst. It should not be confused with topaz or with citrine, the rare true yellow quartz. The names given to yellow heat-treated amethyst are citrine, yellow quartz, quartz topaz and topaz quartz. The yellowish brown and reddish brown amethysts are known as 'Palmyra topaz' and the more reddish brown stones are known as Madeira topaz and Spanish topaz. The habit of amethyst is interesting. It prefers to form in groups of crystals which have about the same size, and show nothing but points or pyramidal tops on the surface. These groups are referred to as crystal aggregates.

Ontario, Canada's official mineral

On May 14, 1957, Amethyst was named Ontario's official mineral. Found in many areas around Thunder Bay, seeking it out is becoming a major attraction for tourists visiting the Superior area of Ontario. The semi-precious gemstone can be purchased in many sizes and shapes at numerous outlets in the district. Why is the mineral so popular? A gemstone's beauty is related to its colour, transparency, and reflective properties. Amethyst rates high as a gemstone because of its beauty, durability and its comparative rarity. Other locations for significant deposits in the world are Brazil, Sri Lanka and the Ural Mountains of Russia. The deposits in the Thunder Bay area contain faceting grade stones.

In Ontario, amethyst occurs in seams and vugs in faults running east to north easterly in Pre-Cambrian granites and ancient sedimentary rocks estimated to be over one billion years old. It is a magma occurrence where from four to seven intrusions of hot waters over millions of years slowly cooled to create the beautiful crystals. It is sometimes covered with a layer of jasper or hematite, which will be various shades of red or brown. The Thunder Bay Amethyst Mine is the largest in North America (1988). Amethyst was first discovered in Ontario in 1955 as a result of a tractor road being built to a forest lookout tower. Amethyst production started in 1960 at the Thunder Bay Amethyst Mine and has continued since that time.

Rockhounding for amethyst

Most of the sites for amethyst in Ontario are within a half hour drive of Thunder Bay and are close to paved highways. Because it is surface-mined, it is not necessary to descend into mining shafts to find amethyst. As when rockhounding anywhere, be sure to wear your safety boots, sturdy and appropriate clothing, and take along your work gloves, tools and a water bottle.

Amethyst continued

Some locations worth exploring

The original Thunder Bay Amethyst Mine property of over 1700 acres on Elbow Lake is located 7 km (4.5 miles) north of Highway 11-17. Turn at East Loon Lake Road. Amethyst Mine Road has a steep incline at Mile Three (5 km) where visitors should use low gear and great care to negotiate a switchback hill. Trailers and other large vehicles should be parked in the lot at the base of the hill. A photogenic working mine, there is also a rock gift shop, rock picking areas, amethyst dumps, amethyst mine museum and parking facilities. Mine walking tours are available. Inquiries are invited. There is an entrance fee. Visitors are welcome to the amethyst manufacturing facility in Thunder Bay, near the City Hall and the Tourist Bureau. Diamond Willow Amethyst Mine, operated by Gunnard Noye's, Road #8, Pearl Dorion Amethyst Mine, operated by E.J. "Ted" Williamson, 8 km northeast of Pearl Ontario Gem Amethyst Mine, operated by Peter Marino, 8 km northeast of Pearl Little Bear Amethyst Quarry, operated by Rich and Bonnie Paterson, 43 km along Little Bear Quarry Road. Ontario Retail Outlets for Amethyst: Amethyst Cave, Thunder Bay Castagne's Rocks & Minerals, Thunder Bay Dave's Amethyst Rock & Gem Shop, Thunder Bay Don-Arts Crafts, Thunder Bay Jellystone Park Camp Resort, Pass Lake Mineral World, Kakabeka Falls Stillwater Campground, Nipigon Visitors planning to visit the area may want to contact a member of the Thunder Bay Lapidary Society Inc. P.O. Box 372, Station F, Thunder Bay, Ontario P7C 4V9.

References:

Ontario Div. of Mines, Ministry of Natural Resources,
Geological Guidebook No. 5, Amethyst Deposits of
Ontario; Castagne's Rocks & Minerals brochure;
Thunder Bay Amethyst Mine Panorama brochure.
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Marilyn Fraser 4silver@pathcom.com

Via SCRIBE, July-September, 2011

Photo's from the 2011 Gem & Mineral Show via Sid Johnson



Dorothy Hess & Ed Hakesley



Ernie Confer & Madelyn Anderson



Marvin Dahman



Some of the crowd



Brenda & Harvey Johnson



Sharon Waddell



One of the spin-and-win winners



And a sampling of the beautiful specimens that were for sale on the tables.



Once again, thank you to all who took part in making this show a success. We will start planning our next year's show very soon. Please be open to making suggestions for improvements, additions and helping in any way. Without all of you it would not be possible.

Dates to Remember

September:

16-18, Lincoln, Missouri: Mozarkite Society of Lincoln Gem, Mineral, & Jewelry Show and Swap Lincoln City Park. For more information contact Ted Bolich (660)890-4983

17: ROCKFORD, IL. The Rock River Valley Gem and Mineral Society's "If It Deals with Rock & Mineral Swap Meet"; Odd Fellows Hall, 6219 Forest Hills Road; Sat. 9:30-3:30; \$20 donation 10x10 space; Rain or Shine; Contact: Dave Reese, (815) 885-1410; dmreese56@hotmail.com.

23-25: WELDON SPRING HEIGHTS, MO. Closeout of Weldon Spring Rock Shop; 25 Weldon Spring Heights Drive; Fri., Sat., Sun. 9-5; Contact: (636)300-9698.

23-25: JOPLIN, MO. Tri-State Gem & Mineral Society presents Rock-a-Thon 13th Annual Gem & Mineral Expo; Joplin's Memorial Hall, 212 West 8th; Fri., Sat. 9-6, Sun. 9-3; 417-623-1180.

24-25: COLUMBUS, NE. Loup Valley Gem & Mineral Society's Annual Show; Knights of Columbus Hall, 3115 6th St.; Sat. 9-6, Sun. 10-5; Contact: Ben Vrana, 3576 Linden Dr., Columbus, NE 68209, (402) 563-3265, bvrana@cablene.com or mlempke68601@yahoo.com

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