



# Eastern Indiana Gem & Geological Society

# ROCK PICKINGS

May 2017

P.O. Box 1724 • Richmond, IN 47375 • [eiggs.weebly.com](http://eiggs.weebly.com) • [facebook.com/EasternIndianaGemGeologicalSocietyEIGGS](https://facebook.com/EasternIndianaGemGeologicalSocietyEIGGS)

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### Memberships:

Annual dues  
\$15 Individuals  
\$20 Families

### Please send dues to:

EIGGS  
PO Box 1724  
Richmond, IN 47375

**1** Next meeting: June 1, 6:30 p.m. at the clubhouse

## PRESIDENT'S MESSAGE

Hello Rock Hounds.

The restoration of the women's bathroom is close to complete. After the women's bathroom remodel is done, the closet above on the second floor and the hallway to the garage will be refurbished. The roof leak will be repaired when the weather cooperates.

We had a lot fun looking at everyone's rocks under the fluorescent lights -- some pretty cool stuff. Thanks to all for sharing with the rest of us.

Club Clean-up Day is June 10 from 9 a.m. - 2 p.m. We will have several tasks with varying degrees of physicality and skills. You can sign up for this event online at <http://eiggs.weebly.com/clean-up-day-june-10.html>. The club will provide drinks and pizza.

Our riding mower has probably come to the end of its life. If you know of a used mower for sale, please contact me or Dave Straw.



Mark

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Welcome, new rock hound!



Bryant Lucas Jones

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Clean-up Day, June 10



Marty Lucas takes care of some painting

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MSHA training, June 3



In conjunction with the Waseon, OH, show

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Feeling social? Join us.



Check out EIGGS on Facebook & Pinterest

# MEETING MINUTES: APRIL 6, 2017

MARY ANN MORSE, SECRETARY

## Members present

Mary Ann Morse, John Morse, Erna Jacob, Danny Spurgeon, Mark Lisota, Angela Shaffer, Hailee Shaffer, Marty Lucas, Jim Lucas, Lisa Morris, Judy Burton, Mona Jones, Estel Jones, Scott Gibson, Emily Gibson, Dave Straw, Cheryl Ellmann, John LaMont, Nikki Merrill, Joe Wirrig, Christina Schutte-Mitchell, Deb Chagares, Bill Wilson, Patrick Pierce, Nicole Pierce, Reagan Pierce, Emma Pierce, Nathan Pierce

Meeting was called to order by President Mark Lisota.

**Security:** There was suspicious activity Sunday evening (April 2) around cars parked at the shop. Be sure to lock cars and keep the front door locked. Don't hesitate to call police if you feel in danger.

**Scholarship:** The board has approved the naming of our high school scholarship. It is now the EIGGS, Charlene Reidenbach STEM Scholarship.

**Mower:** The riding mower is not working. Mark asked for volunteers to take a look at it. John Morse will do this.

**Club Clean-up Day:** June 10, 9 a.m. – 2 p.m. Please sign up online <http://eiggs.weebly.com/clean-up-day-june-10.html>. Lunch will be provided. A list of tasks is available on page 3.

**Trips:** Mike Manning will lead a trip to Flint Ridge on May 20. Details are in the EIGGS newsletter and website.

Blue Spring Caverns Tour – If anyone is interested, we can arrange a tour June 23 or 24. This is close to Bedford IN, and that is the weekend of the Bedford show.

**Repairs:** Nicole is doing roof repairs as soon as it stops raining. In the meantime, she has nearly completed women's restroom and closet walls and ceiling.

**Treasurer's Report:** April expenses were \$1373, including newsletter, utilities, repairs, and \$739 shop equipment. Income was \$136, including dues, shop fees, and soda. All show expenses have been paid.

**Show:** All dealers except one are returning next year. The one new dealer is expected to have a lot of larimar.

**Grab Bags:** Judy reported that we have only 50 left – that means we sold 300. On Clean-up Day we can work on breaking up rocks for tumbling for grab bags. We will need to make 250 bags for next year. The jewelry store that is closing in Yellow Springs on May 31 may be a source for bargain stones. Scott and/or Joe will contact them in early June.

**2 Rock Pickings: May 2017**



## *In loving memory of* **Charlene Reidenbach**

December 17, 1940 - April 23, 2017

*click [here](#) for the full obituary & online guest book*

**Raffle Prize:** Judy displayed a large piece of polished petrified wood and asked how club members felt about it as a possible raffle prize. Many members thought it might not be as attractive to people as something sparkly or containing crystals. Judy will try to sell it back and will keep an eye out for something else. If it cannot be sold back, we could use it for a second prize, but that makes the budget tight for another piece. Scott says that he can likely get a nice quartz crystal plate at the Bedford show. *[Update: Judy was able to return the piece at the Sharonville show.]*

**New Members:** Cheryl Ellmann and Christina Schutte-Mitchell were introduced.

**Centerville Arts & Crafts Show:** Danny Spurgeon announced that Centerville will be having Arts and Crafts shows on the 4th Saturday of each month from 12–dark, June through September. 10' x 10' booth space is \$10. The contact is Mindy Turner at American House Antiques. *(see page 7 of this newsletter for more information.)*

**Gift Certificates:** Jim Lucas reminded us that we still have gift certificates from Kingsley North. The suggestion was made that we raffle them off at the picnic.

**Auction:** Scott Gibson donated a large piece of jadeite that was auctioned to benefit the club.

Meeting was adjourned for a program on fluorescent minerals.



■ Mike Ragen and Susan Kuhlman help with club clean-up.

## 🔨 CLUB CLEAN-UP DAY, JUNE 10

### Mark your calendars & RSVP online soon

The first Clean-up Day of 2017 is Saturday, June 10. There will be a variety of jobs for all skill levels, so come on out and bring a friend or two! The workday will run 9 a.m. until 2 p.m. Refreshments will be provided.

Please **RSVP** online so that Mark knows how many people to expect. <http://eiggs.weebly.com/clean-up-day-june-10.html>

#### Suggested Projects

- Clean garage area & organize items
- Clean shop area & organize items
- Clean secondary garage
- Remove & discard all debris
- Clean up rock garden area
- Change saw oil
- Finish A/C trim work
- General yard work & weeding
- Remove granite headstone
- Work on grinder repair (Joe, John, Jim?)
- Clean up area around new cellar door
- Reinstall basement stairs under new cellar door
- "Waterproof" basement area where stairs go
- Complete new upstairs door project (deadbolt, framing, etc.)
- Fix new door to outside saw room (caulk, framing, fix locks)
- Remove side door to detached garage; turn it to open outward; add steel theft plate and deadbolt
- Replace light fixtures in meeting room
- Gutter work
- Scrape 2nd floor hallway and re-paint upstairs hall
- Put tables back on trailer in garage
- Remove plastic and insulation from garage ceiling (please wear appropriate clothing and bring gloves and a face mask)

### RSVP online for Clean-up Day

Please RSVP online so that Mark knows how many people to expect. <http://eiggs.weebly.com/clean-up-day-june-10.html>



## ROCK-A-BY, BABY: BRYANT LUCAS JONES



■ Naomi Jones and her newest rockhound, Bryant. ■ Jones family members take time out for a photo with their little brother. Xavier, Brittany Hall, Mikala, Israel, Briana, Bryant, Dakota & Faithe.

*Congrats,  
Naomi & Craig  
Jones*

#### Birthdate:

April 22, 2017  
3:44 p.m.

#### Weight:

7 lb 11.6 oz

#### Length:

19 1/2 inches

# WIRE WRAPPING WORKSHOP, JUNE 11

**What:** Wire-wrapping class

**When:** Sunday, June 11, 12-4 p.m.

**Who:** Club Members

**Cost:** \$ 30 plus supplies

**Supply List:** *Participants must bring their own supplies*

- Cabochon to wrap
- Square & half-round wire (see story for details)
- Flat nose pliers (no gator-teeth)
- Round nose pliers (no gator-teeth)
- Cutters
- Ruler
- Fine tip Sharpie marker
- Painters tape (blue is good)

The following would be useful, (but not necessary)

- Small file (a nail file)
- Polishing cloth
- Mouse pad
- Small knife or pick to lift wires
- Small dowel to flatten wires
- Bail gauge
- Nylon jawed pliers

**Register for this class online**

<http://eiggs.weebly.com/wire-wrap-workshop-june-11.html>

**W**ire-wrapping can turn your cabochons into wearable art. Learn the techniques to make pendants, earrings or other ornaments at a wire-wrapping workshop offered Sunday, June 11, from 12-4 p.m. at the EIGGS club house. (You may bring snacks or lunch.)

Deb Chagares will teach this members-only class. The class will cost \$30 per participant. Enrollment is limited to 15 people, so please register in advance. Register for this class online at <http://eiggs.weebly.com/wire-wrap-workshop-june-11.html> You may pay on the day of the class. You will need to bring your own supplies (*see list*). Deb will also have some extra tools available for participants to use.

Deb suggests purchasing craft wire from [www.ParaWire.com](http://www.ParaWire.com). They have low prices and a variety of colors to choose from. They do have a minimum order, so you might order with a friend. They ship very quickly, too.

Go to [ParaWire.com](http://ParaWire.com), then navigate to the Craft Wire/Shaped Wire section. You should purchase:

- 21-gauge **SQUARE** wire for framing your piece &
- 18-gauge **HALF-ROUND** wire for binding it.



pendants by Deb Chagares  
photos by Jim Chagares



## FLINT: HOT ROCKS

■ These Flint Ridge flakes show the dramatic contrast in color before and after heat treating. The flakes on the left are unaltered as they appear from the Flint Ridge quarries. The more colorful flakes on the right were altered by heating the preforms. Roy Miller uses an electric kiln to heat treat his flint. The process takes from three to four days before the preforms are removed from the oven. He programs the kiln to slowly heat 25 degrees per hour until it reaches a maximum of 500 to 550 degrees. He can control the temperatures close enough to bring out more of the yellows at a slightly lower temperature and more of the reds with a higher temperature. All of these flakes were quarried from Roy Miller's property which is part of the ancient Flint Ridge quarry complex in eastern Ohio. <http://lithiccastinglab.com/gallery-pages/roymillerheated-flakeslarge.htm>

**4 Rock Pickings: May 2017**



## MAY 20 TRIP: FLINT RIDGE, OH

**M**ike Manning will lead a field trip to Flint Ridge, Ohio, Saturday, May 20. Flint Ridge is a nearly eight-mile-long vein of high-quality flint located in eastern Ohio.

If you want to go, check the EIGGS web site for Mike's directions. <http://eiggs.weebly.com/flint-ridge-trip-may-20.html>

**Mike says:** To go to Flint Ridge, we will leave from the McDonalds on Rt. 202 (Huber Heights) near I-70 at 8 a.m.. If it is calling for some rain, I will still be going unless it is going to be thunderstorms all day.

We will travel to the Nether's farm. The drive time is about two hours from where we are meeting. It is just east of Columbus near Newark, Ohio. Maps can be given out the day of the trip.

The cost last year was 50 cents a pound plus a \$5 entrance fee. No minimum or maximum. You can make it in any vehicle. You just park the vehicle and get out to collect flint.

There will be some holes open to collect in or good flint can be picked up anywhere in the property. It is easy collecting unless you want to

get in the holes and dig on one of the flint ledges. You won't go home empty-handed.

Wear long pants and sturdy shoes. Also, gloves are a must since the flint is sharp. If you have a rock hammer, you can bring it to chip the flint. Some people bring more heavy equipment if they plan to attack the ledge (ie. sledge hammers, chisels, shovel, pry bar etc.), but this is not necessary.

If you plan to chip the flint, **MAKE SURE TO BRING AND WEAR SAFETY GLASSES OR GOGGLES.** I will have extra hammers with me you can use, but I do not furnish goggles. Bring a bucket or pack to put your treasures in. Some people like to wrap their good crystals in newspaper or paper towels.

Bring water to drink and a sack lunch. If we have enough people going, we can set up a table and have a shared lunch.

You can leave any time you feel like it. Once you find out how to get there, you can figure out how to return back to the interstate. There is a porta-potty on the premises.

If you have further questions, you can call me 937-681-0264 (cell) 937-552-4705 (home)



■ One mineral, three colors: calcite under incandescent light, longwave UV & shortwave UV.

## FLUORESCENT FACTS

from the *Fluorescent Mineral Society* <http://uvminerals.org/fms/minerals>

Of the 3,600 identified mineral species, over 500 of them are known to fluoresce visibly in some specimens. About 90% of those glow under shortwave UV light, while about 10% glow under longwave UV.

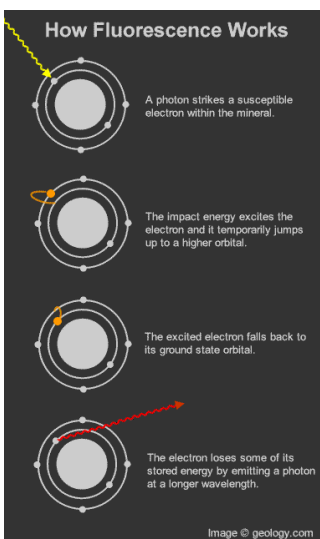
Light is a form of energy. To create light, another form of energy must be supplied. There are two common ways for this to occur, **incandescence** and **luminescence**.

**Incandescence** is light from heat energy. If you heat something to a high enough temperature, it will begin to glow. When an electric stove's heater or metal in a flame begin to glow "red hot", that is incandescence. When the tungsten filament in an incandescent light bulb is heated still hotter, it glows brightly "white hot" by the same means. The sun and stars also glow by incandescence.

**Luminescence** is "cold light" that can be emitted at normal and lower temperatures.

**Fluorescence** is a type of luminescence. An energy source kicks an electron of an atom out of its lowest energy "ground" state into a higher energy "excited" state; then the electron returns the energy in the form of light so it can fall back to its "ground" state.

**Phosphorescence** is a specific type of photoluminescence related to fluorescence. When exposure to radiation is stopped, fluorescent minerals stop glowing. However, a phosphorescent material does not immediately re-emit the radiation it absorbs. Excitation of electrons to a higher state is accompanied with the change of a spin state. Once in a different spin state, electrons cannot relax into the ground state quickly, so the material continues to glow after the light is turned off.



Ultraviolet Wavelength Range		
	Wavelength	Abbreviations
Shortwave	100-280nm	SW UVC
Midwave	280-315nm	MW UVB
Longwave	315-400nm	LW UVA

Most minerals do not fluoresce when pure. It takes certain impurities in certain quantities to make the mineral fluoresce. Such impurities are called **activators**. Different activators can make the same mineral fluoresce in different colors. Different minerals require different activators, and in different quantities.

There are also impurities called **quenchers**, notably ferrous iron, that can prevent fluorescence despite the presence of an activator. Because activators and quenchers may or may not be present in any given specimen, different specimens of the same mineral (especially from different locales) may vary in color and degree of fluorescence.

There are a few minerals that will fluoresce when pure. These are called **self-activated** minerals, and include scheelite, powellite, and several uranium minerals. Others suspected of being self-activated include benitoite, cerussite, and anglesite.

## Franklin, New Jersey FLUORESCENT CAPITAL

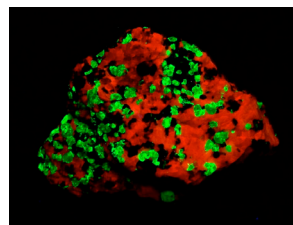
Franklin, New Jersey is known as the "fluorescent mineral capital of the world." Together with nearby Ogdensburg, it is the source of at least 260 minerals, of which at least 56 are fluorescent.

Many of these minerals are found nowhere else in the world. Many of the fluorescent are uncommonly bright.

Only the Franklin mine provided specimens with 5 or more different colors of equally bright fluorescence from as many minerals

in one specimen. Willemite and calcite specimens, glowing yellowish-green and orange-red, respectively, are the most common fluorescent from this area;

sometimes these combine with hardystonite (fluorescing deep blue-violet), clinohedrite (fluorescing orange), and maybe even esperite (fluorescing yellow) for a rainbow fluorescence.

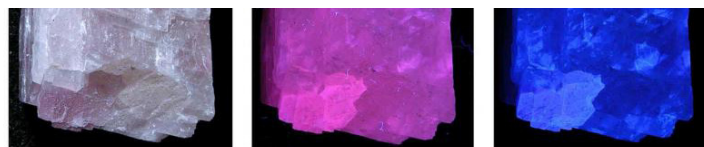


■ The black is franklinite, the red is calcite and the green is willemite.

Unfortunately, both the Franklin and Ogdensburg mines have been closed. The Sterling Hill mine at Ogdensburg, though the deep levels are flooded, has recently reopened as a museum. The

surrounding marble formations still supply many fluorescent specimens, but no more of the rarest combinations are found. *from the Fluorescent Mineral Society*

## TERLINGUA CALCITE



Ambient Light

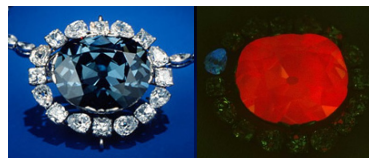
Long Wave Ultraviolet Light

Short Wave Ultraviolet Light

Calcite may fluoresce red due to lead and manganese or green due to uranyl ion traces. However, calcite from the mercury mines at Terlingua, Texas, and just across the border into Muzquiz, Coahuila, Mexico, is a favorite due to its unique properties. It fluoresces pink under longwave UV and bright blue under shortwave UV, with a uniquely bright blue phosphorescence after the UV lamp is removed. *from the Fluorescent Mineral Society* <http://uvminerals.org/fms/minerals>

## HOPE DIAMOND [www.sciencedaily.com](http://www.sciencedaily.com)

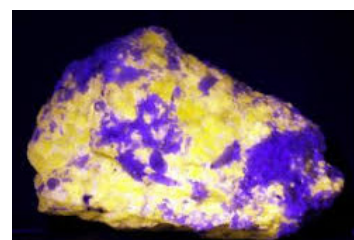
Shine a white light on the Hope Diamond and it will dazzle you with the brilliance of an amazing blue diamond. Shine an ultraviolet light on the Hope Diamond and the gem will glow red-orange for about five minutes.



This phosphorescent property of blue diamonds can distinguish synthetic and altered diamonds from the real thing, and it may provide a way to fingerprint individual blue diamonds.

## Wernerite illustrates "hot" concept THERMOLUMINESCENCE

Scapolite (wernerite) from Ontario and Quebec, Canada, fluoresces a vivid orange-yellow color under longwave UV, while shortwave UV inspires a long-lasting phosphorescence that can be markedly brightened by holding it under a running hot water faucet, illustrating **thermoluminescence**. *from the Fluorescent Mineral Society*





# INEXPENSIVE LIGHTS

Professional grade UV lights can cost hundreds, if not thousands of dollars. However, here are a couple inexpensive options to get you started!



\$35

## Shortwave light

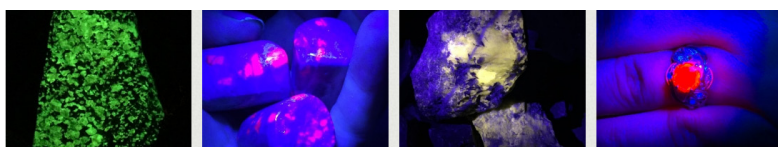
90% of all fluorescent minerals need a shortwave light source. This is not your standard "black light." [HomeScienceTools.com](http://HomeScienceTools.com) offers a \$35 dual long/shortwave light that several of our members recommend. It is low light and works best in dark conditions, but it is about the least expensive shortwave light you can get.



## Longwave light

About 10% of fluorescent minerals show up under longwave light. Inexpensive (\$5-12) longwave lights are readily available at a wide variety of locations such as Walmart, Meijer, Menards, Lowes, Amazon, etc. Be sure that they are labeled as UV lights and not just LED flashlights.

\$5-15



## ≡ GLOWING ≡ MINERALS & GEMS

Adamite	Benitoite	Dryhead Agate	Ruby	Wernerite
Alexandrite	Calcite	Fluorborite	Sapphire	(Scapolite)
Amber	Cancrinite	Fluorite	Septarian	Willemite
Angelsite	Cerussite	Nepheline	Sheelite	Zircon
Apophyllite	Citrine	Opal	Sodalite	
Aragonite	Diamond	Powellite	(Hackmanite)	
Autunite	Diopside	Quartz	Tremolite	

## 📖 MORE ITEMS TO CHECK OUT

<https://www.thoughtco.com/what-glow-under-a-black-light-607615>

✓ **White paper** is treated with fluorescent compounds to help it appear brighter. Sometimes forgery of historical documents can be detected by placing them under a black light. White paper made post-1950 contains fluorescent chemicals while older paper doesn't.

✓ Modern US **\$20 bills** contain a security strip near one edge that glows bright green under a black light.

✓ Many **body fluids** contain fluorescent molecules. Forensic scientists use ultraviolet lights to detect d blood, urine or semen.

✓ Manufacturers purposely include fluorescent additives in **antifreeze fluid** so that black lights can be used to find antifreeze splashes to help investigators reconstruct automobile accident scenes.

✓ Some of the **whiteners in detergent** work by making your clothing a bit fluorescent. Even though clothing is rinsed after

washing, residues on white clothing cause it to glow bluish-white under a black light. Blueing agents and softening agents often contain fluorescent dyes, too.

<https://sciencenotes.org/list-of-things-that-glow-under-black-light/>

- chlorophyll – glows red
- scorpions – glow blue or green
- Irish Spring soap – green
- Mr. Clean liquid cleaner
- most types of fishing line
- some plastics
- white paper – white or blue-white
- passports
- some cosmetics
- some animals, plants, and fungi
- petroleum jelly – glows blue
- uranium glass or Vaseline glass
- rock salt
- some flowers
- certain postage stamps
- highlighter pens – variety of colors
- cotton balls
- pipe cleaners – usually glow blue-white

## Go ahead, play with your food 🍴 FLUORESCENT FOODS

<https://sciencenotes.org/food-glow-black-light/>

**D**o you want food that glows in the dark? With the exception of certain types of phosphorescent fungi, edibles don't tend to glow. However, there are some foods that glow under a black light.

Here is a list of foods that glow and the color of the light that is produced. Tonic water glows the brightest. You can use it in place of water in certain recipes to make foods light up. Try it in white frosting, gelatin, & drinks. You can also add a bright glow to food by mixing in vitamin B12.

### Foods That Glow Under Black Light

- tonic water (bright blue because of the quinine in it)
- vitamin B12 (bright yellow)
- cooking oil (yellow to greenish-yellow)
- olive oil (orange)
- eggs (shell is dark violet-red, egg white is bright pale yellow)
- honey (golden yellow)
- turmeric (bright yellow)
- pineapple (vivid blue fruit, mostly reflected light, outside doesn't glow)
- ketchup (yellow – not bright)
- milk (pale yellow)
- vanilla ice cream (yellow)
- yogurt (yellow for vanilla, possibly pink for flavored)
- banana spots  
(blue ring around spots, some color if you cut the banana)
- sliced lettuce or other greens (dull red from the chlorophyll)
- sliced peppers (dull red)
- sliced squash (yellow)
- some energy drinks (if they have enough B vitamins)

### Foods That Reflect Black Light

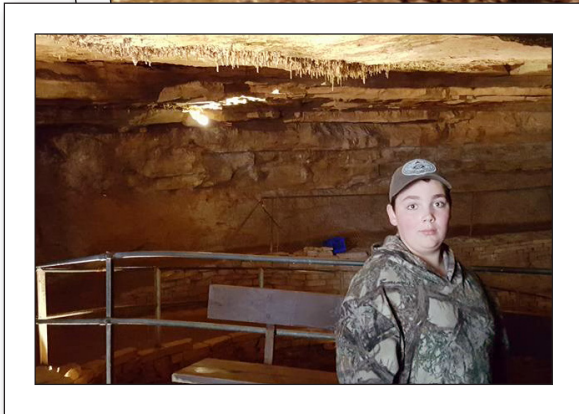
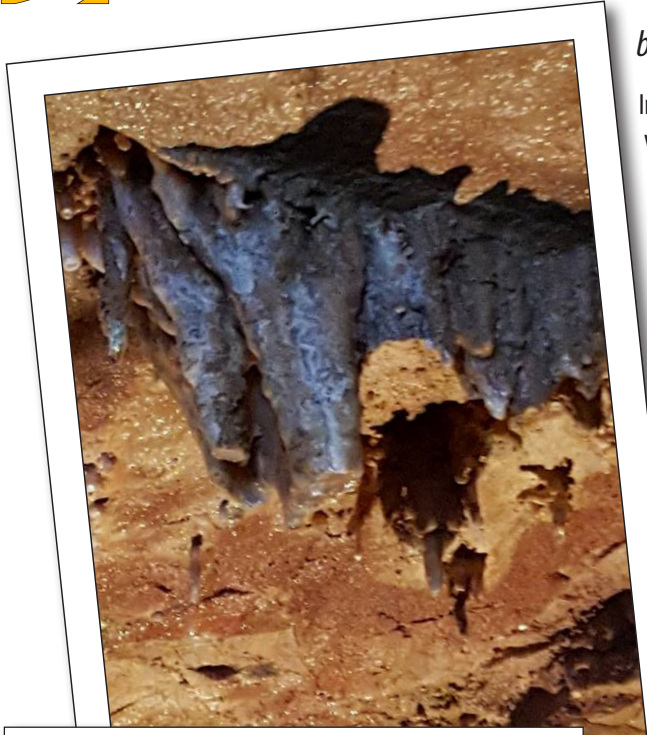
Most white foods (except for egg whites) don't glow or fluoresce under black light, but they do reflect back the light so they appear bright blue or purple. Examples of reflective foods include:

- marshmallows
- white bread
- pasta
- rice
- potato chips
- tortilla chips



# ON THE ROAD: BLUESPRING CAVERNS

by Jamie Terhaar



photos courtesy of Jamie Terhaar

In early April we were able to visit the Bluespring Caverns in southern Indiana. As you walk to the building it is not much to look at. I caught myself wondering, "Why are we here?" and, "It is way too early in the morning for this."

Once inside the building, there were many rocks and stones and items that could be bought. We purchased our tickets and waited outside in the brisk breeze. I again contemplated life and why we were here, while my husband and son were exploring.

A guide came and we started down a walkway into the earth. It did not look like much from the outside, yet once we entered the cave I was amazed! The walls were beautiful, and you could hear the sound of water rushing around you.

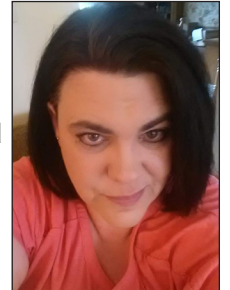
We went down into the boat and started our adventure. The guide was very knowledgeable and let us know about the history of the cave and how it came to be. The story says that a farmer owned the land and there was a pond there. One morning his child went out and the pond was gone. In its place was a huge hole and, of course, ...the cavern.

While underground, in the boat, it is a different world! There were frogs and fish -- all white in color due to lack of sunlight. We saw blind crayfish and blind cavefish. We visited during the early morning and it had been wet, so the sounds of the water running in the cave were almost deafening at times.

The echoes of the cave and the darkness was amazing. At one point the guide turned the lights off, and we were in complete darkness. It gave me a glimpse into what a blind person may feel -- I felt scared, yet excited all at once. Of course, Johnathon and John were talking and laughing.

If you take this tour, wear a light jacket and good gripping shoes. The walk down and up from the cavern is slippery and kind of steep, but well worth the trek! There were so many things to see and experience in the cavern.

This is a definite must do for families or even adults wanting a new experience. We are now converted into caveaholics! We have our cavern pass and now have tickets to other caverns in Indiana to visit.



Do you have photos or "rock adventures" to share? If so, please e-mail [ELGGSnews@gmail.com](mailto:ELGGSnews@gmail.com)



## CENTERVILLE CRAFT FAIR OPPORTUNITY

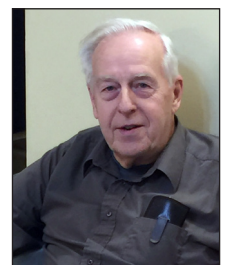
by Danny Spurgeon

During the last Club meeting I mentioned that Centerville, IN, will begin having a monthly community festival in June, including antiques, farmers & flea market & hand-crafted goods followed by free concert in Maplewood Park.

It will be held on the 4th Saturday of each month from June through September. For those club members who are interested in a place to display and sell their hand-crafted items, space is available on the west side of North Morton Ave. in a fenced in lot directly across from the Centerville Park.

It costs \$10 to rent 10'x10' space for the day. The start time for the festival is 12 p.m. Set up is before that.

Information is available from Mindy Turner at American House Antiques. Phone 765-914-4228





# JUNE 23 OR 24 FIELD TRIP: BLUESPRING CAVERNS

Register online for this trip.

<http://eiggs.weebly.com/bluespring-caverns-june-23-or-24.html>

It isn't every day that you can explore both a cavern AND a rock show in the same day. A trip to the Bedford, Indiana, gem and mineral show June 23-25 would give you the chance to do just that since Bedford is also the home of Bluespring Caverns.

If a group from the club wants to go, we could arrange carpools and book a group tour. If anyone wants to go, let's discuss it at the June meeting. If we have 12 or more, we qualify for the group rate. You can register online under the events tab at [eiggs.weebly.com](http://eiggs.weebly.com)

Bluespring Caverns contains 21 miles (34 km) of surveyed passages. It has the longest known subterranean river in the United States with approximately three miles (4.8 km) of navigable river.

Visitors can take a one-hour river cruise through the cave where they will observe rock formations and the wildlife, including the rare sightless Northern Cavefish, which is abundant in this cave system.

The cave and adjacent museum are open daily from 9 a.m.-5 p.m. and tours run nearly every hour.

Ticket prices are regularly \$18 for adults and \$10 for children ages 3-18. Children under age 3 are free. Groups of 12 or more can take advantage of a group rate with \$14 adult tickets and \$8 children's tickets.

There is a somewhat steep 400' walk both into and out of the cave. The temperature in the cave is 52 degrees, so a jacket is recommended.

According to Wikipedia, "The cave system was discovered as early as the 19th century. Up until 1913, the entrance used was the exodus of a spring which drained into the White River. However, a dam completed in 1913 on the White River closed off this entrance. In 1940, a second entrance was created after a severe storm passed through the area. A small pond on the farm of George Colglazier vanished overnight, becoming a sinkhole, and the present



Visitors enjoy a boat tour through Bluespring Caverns. <http://www.indianacavetrail.com/>

day entrance into the cave system.

Soon word of the new opening to Bluespring Caverns spread and the Colglazier family welcomed visitors from around the world as people descended on the small farm to explore the caverns.

The cave was formed in two types of limestone, Indiana and St. Louis, separated by a thin layer of shale.

Bluespring Caverns are one of four show caves in Indiana. The other three are Marengo Cave, Wyandotte Caves, and Squire Boone Caverns. Twin caves, located in Spring Mill State Park, about 15 minutes south of Bluespring Caverns, near Mitchell, Indiana offers a 20-minute boat tour into the cave which goes back about 600 feet (180 m). Twin Caves is owned and operated by the state of Indiana and the Indiana Department of Natural Resources."



Angie Shaffer

## REMINDER: LAPIDARY LAB USAGE & HOURS

***To use equipment you are required to attend at least SIX regular club meetings a year.***

*Participants must be trained in proper equipment usage & re-certified when required.*

*There is a \$2 fee per lab session for equipment usage & maintenance.*

*Please remember to use the sign-in book.*

**Tuesdays** 6-8 p.m.

Tuesday is the weekly training lab -- perfect for beginners and those with intermediate skill levels since there are experts on hand to help teach basic and advanced skills.

**Thursdays** 6-8 p.m.

For those who have satisfactorily completed their 3-cab training, the lab is usually open on Thursdays. Call or text Lisa Morris in advance to be sure someone will be there. Her number is 765-960-6474.

**Sundays** 6-9 p.m.

For those who have satisfactorily completed their 3-cab training, the lab is usually open on Sundays. Call or text Missy Killion in advance to be sure someone will be there. Her number is 765-960-7635.





# LIMESTONE MONTH EVENTS

The first commercial quarry on record was opened in 1827 near the town of Stinesville, approximately 20 miles west of Bloomington. Since then, Indiana's limestone industry has grown to supply the majority of all high-quality building-grade limestone used in the United States. Additionally, the culture and heritage of limestone has permeated the area around the rich deposits of the high-quality stone, known as Salem Limestone.

The Indiana limestone industry developed primarily in and around the towns of Bedford and Bloomington in an area of south central Indiana roughly 10 miles wide and 35 miles long, known as the "Stone Belt," which contains what geologists have identified as the Salem Limestone Formation. The Salem Formation is exceptionally deep - over 90 feet thick in some places. It is considered to be prime building limestone because of its extreme durability. It is also distinct in the world in its capacity for carving, due to its ability to accept and retain fine detail. In the Stone Belt, limestone has been quarried out of the ground in huge blocks that can weigh up to 20 tons or more, taken to a mill where the stone is sawed, planed, turned by a lathe or cut into any shape.

Limestone Month, a celebration of southern Indiana's limestone heritage was created in 2007. Special events throughout the month of June include limestone quarry tours, architectural walking tours, carving workshops, exhibitions and other special activities throughout Monroe and Lawrence Counties. See our calendar for more information about Limestone Month events, browse through the site for interesting facts and stories about limestone, or contact the Lawrence County or Bloomington, Indiana Convention & Visitors Bureaus to request more information about the home of Indiana limestone. SOURCE: INDIANA LIMESTONE INSTITUTE <https://www.visitbloomington.com/limestone/>



### STATE HOUSE QUARRY TOUR

June 3, 2017 | McCormick's Creek State Park

Learn about the geologic history of Indiana limestone on a guided tour of the State House Quarry at McCormick's Creek State Park with Dr. Todd Thompson, State Geologist and Director of the Indiana Geological Survey. The State House Quarry supplied stone for constructing the Indiana State Capitol... [Learn more](#)

<https://www.visitbloomington.com/event/state-house-quarry-tour/34504/>

### IU CAMPUS LIMESTONE ARCHITECTURE TOUR

Dates vary between June 2, 2017 - June 23, 2017 | Sample Gates

Explore the unique limestone architecture of the beautiful Indiana University campus with a tour lead by Brian Keith, a senior scientist at the Indiana Geological Survey. You'll be amazed at the styles, techniques and artistry represented on campus. The tour will start at the Sample Gates (at the... [Learn more](#)

<https://www.visitbloomington.com/event/iu-campus-limestone-architecture-tour/34500/>

## Limestone: Indiana's State Stone

From the Late Cambrian to the Middle Mississippian—480 to 330 million years ago—Indiana was covered by a shallow ocean. During that time, the central United States was also located near the equator, so this ocean was warm, making it ideal for marine life. Invertebrate bryozoans, brachiopods, corals, and echinoderms (especially crinoids) flourished in the tropical waters. The calcium carbonate shells and other hard body parts that they left behind formed into thick deposits of limestone.

It is this limestone that is a vital economic resource to the state. When cut, crushed, ground, or heated, limestone fills our needs for aggregate, building stone, cement, filler, flux, lime, and many chemical products. When quarried and carved, limestone is used for dimensional building stone. It is small wonder that Salem Limestone is the official state stone of Indiana.





# ON THE ROAD: FEDERATION CRAFT WORKSHOPS

by Valerie J. Meyers, MWF Bulletin Editor

Two regional federations of the AFMS are holding week-long workshops this summer and fall.

While members of those federations have top priority in making reservations, other members of AFMS and the general public are also invited.

The Southeast Federation will be holding three workshops at Wildacres Retreat in North Carolina near Little Switzerland. The dates are July 23-29, August 21-27, and September 18-24; the July workshop will coincide with five big gem and mineral shows in the area of Franklin, North Carolina.

Among the many topics at these workshops will be wire, metals and fire, chain maille, bench building, and soapstone and wood carving. For more information about these four workshops, go to <http://sfmsworkshops.com>.

The Eastern Federation will also be holding a workshop at Wildacres Retreat September 4-10. The speaker in residence will be Dr. Timothy Morgan, whose specialty is gemstones. Classes will include chain maille, faceting, intarsia, silversmithing, and wire wrapping. For more information, go to <http://efms-wildacres.org>.



Janice Wald Freidman, <https://www.flickr.com/photos/wildacresretreat/16580837878/>

## DO YOU HAVE SUGGESTIONS FOR EIGGS CLASSES OR WORKSHOPS?

Several new members have been asking about classes or workshops. Summer is busy for everyone, but fall is a great time to either teach or take a class.

In order to plan for classes, we need to know what you are interested in. What do you want to learn? What would you like to teach?

In the past year, Deb Chagares taught wire-wrapping, Danny Spurgeon taught two Viking weaving sessions, and Mary Ann Morse taught members to make gemstone trees.

Naomi Jones might be persuaded to teach a wire-weaving class or two. Perhaps Marty Lucas would teach club members to make tree of life pendants or Joy Ingerman could teach beading basics?

If there is a skill you would like to learn, please send a request to [EIGGSnews@gmail.com](mailto:EIGGSnews@gmail.com), and we will try to find a club member to teach it.

If you have a skill you would like to share with the club, again, please e-mail [EIGGSnews@gmail.com](mailto:EIGGSnews@gmail.com) so that we can arrange for class times, supplies and registration.



Wire weaving, Naomi Jones



Tree of life pendant, Naomi Jones



Gem tree, Mary Ann Morse



Viking weaving, Danny Spurgeon



Wire-wrap, Deb Chagares



# MINE SAFETY & HEALTH TRAINING OFFERED JUNE 3 IN WAUSEON



This is the mine safety program presented by the Mine Safety & Health Administration. If you are interested in field trips to active mines and quarries, this training is often required. This training session is held in conjunction with the State Line Gem & Mineral Society's annual show.

There is a \$30 fee to take this MSHA course taught by Joel Vicary. To register for the course, contact show chairman Sherm Kardatzke at [sakardatzke@mcom.com](mailto:sakardatzke@mcom.com) or 517-673-5487.

**MSHA Training:** June 3—WAUSEON, OH: Fulton County Fairgrounds Junior Fair Building in Wauseon, OH: MSHA training will be offered Saturday, June 3, 2017, from 10 a.m. to 3 p.m. at the Fulton County Fairgrounds in Wauseon, Ohio. The Fairgrounds are located at 1814 SR 108. It is located south of Hwy 20 on Hwy 108, just north of the Ohio Turnpike off Exit 34, west of Toledo, OH and just south of the Michigan State Line.

**Danny S.**  
Interests: lapidary; Viking weaving; enameling; wire-wrapping; dichroic glass  
Want to learn: Favorite stones:

**Clarence S.**  
Interests: faceting  
Want to learn: Favorite stones:

**Linda S.**  
Interests: Want to learn: Favorite stones:

## Updated EIGGS WEB SITE

Home	History	Show	Events	Scholarship	Join	Members
			Upcoming Shows			
			Upcoming Events >	Flint Ridge Trip May 20		
			Past Events >	Spring Knap-In May 26-28		
				Limestone Month Events - June		
				Limestone Tours		
				Statehouse Quarry Tour June 3		
				MSHA Training June 3		
				Clean-up Day, June 10		
				Wire-wrap workshop June 11		
				Bluespring Caverns June 23 or 24		
				Fossil Symposium Aug 13-14		
				Digging the Past! Sept 9		
				Fall Knap-In Sept 1-3		

For the past couple issues, I've been encouraging everyone to check out the updated [EIGGS.weebly.com](http://EIGGS.weebly.com) website.

It is the best way to get updated information about shows and upcoming events. The newsletter comes out once a month, but the website can be updated almost instantly. The content is changed several times a week as new events are added.

Check it out to see what the site offers.

Upcoming events (*field trips, workshops, tours, etc.*)

Upcoming gem & mineral shows

RSVP & reservation forms for classes and trips

Resources

- Clubs & Groups
- Trip Ideas
- Places to buy slabs, cabs, rough rock, etc.
- Tutorials
- Education Resources

Club Information

- Member Info (*please update your information!*)
- Newsletter archives
- Suggestion box
- Club rules and bylaws



You can also update your e-mail address or address there, if you like. Home & e-mail addresses will not be posted on the site due to privacy concerns.

If you need the login for the Members Portal, e-mail Lisa to get it [EIGGSnews@gmail.com](mailto:EIGGSnews@gmail.com). We can't post it here since other clubs receive this newsletter. We can't post it on the Facebook closed group because there are non-members in there as well.

Be sure to hit the "like on Facebook" link on the home page while you are there. Keep checking back since new content is added every week!

**Limestone Month Events**

Register here for upcoming events

FLINT TRIP CLEAN-UP DAY WIRE-WRAPPING CAVE TRIP

**Upcoming & Recent Events**

2018 Show Countdown

Welcome to the Eastern Indiana Gem & Geological Society website. Please explore these pages to see information about our upcoming and past events.

Upcoming events

Flint Ridge Trip  
Saturday, May 20  
All day  
Read more...

A trip to Bluespring Caverns in Bedford, IN, is being planned for club members June 23 or 24. Click on the photo for more information.

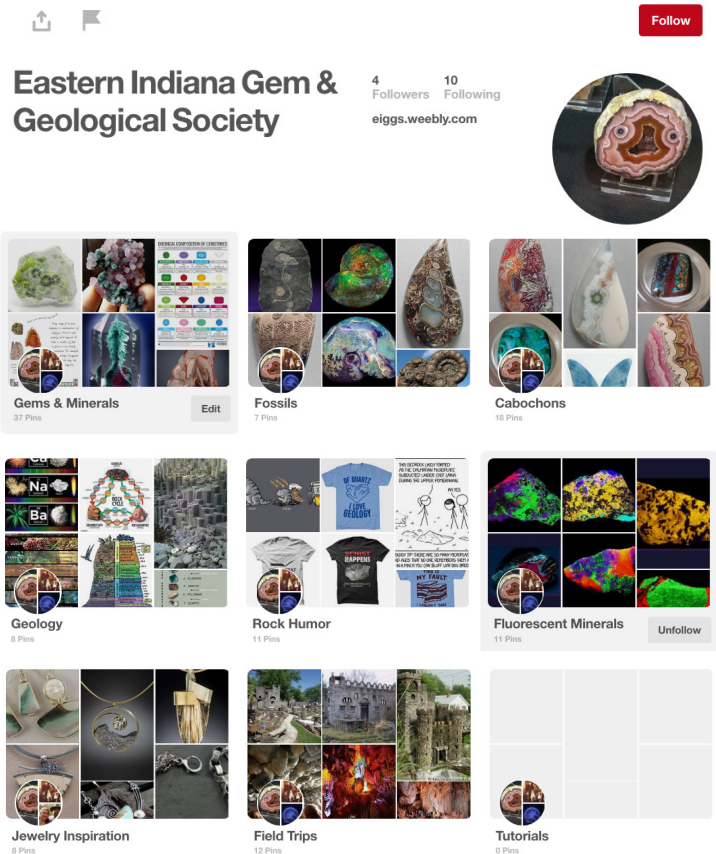
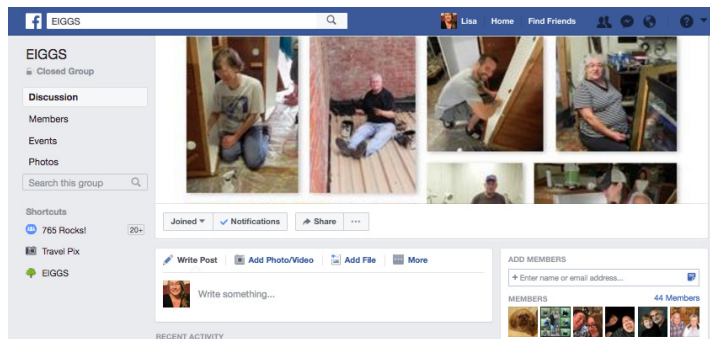
# STAYING CONNECTED VIA FACEBOOK & PINTEREST

If you are a social media junkie, then please remember that there are a variety of ways to interact with your friends from EIGGS.

**Facebook:** If you haven't joined the closed EIGGS Facebook group, please do so now. News about club events and classes is usually posted there first. Club members also post great tutorials, online deals, equipment sales, tips and life events. Look up the EIGGS group.

**Pinterest:** EIGGS has a brand new Pinterest account. If you are a Pinterest fan, you know how addictive it can be. There are a wide variety of boards to post to. <https://www.pinterest.com/EIGGSRichmond/>

**Web site:** Ummm... Have I mentioned [eiggs.weebly.com](http://eiggs.weebly.com) lately?



large crystals

## Calcite

Indiana is well known for its limestone, but did you know that limestone is made primarily of the mineral calcite ( $\text{CaCO}_3$ )?

Most people think of limestone as a nondescript, mostly gray rock, but the mineral calcite can have many different forms and colors. The minerals in limestone usually are tiny and not easily seen with the naked eye. When calcite forms visible crystals, they are often six-sided (hexagonal). Most of the calcite found in Indiana is either colorless or shades of yellow and brown. Quite often calcite will engulf other minerals as it grows, and in Indiana, calcite crystals with inclusions of pyrite, marcasite, and other minerals are fairly common. World-class specimens of calcite and other carbonate minerals have been found in Indiana. Some very large crystals (more than 2 feet long) have been found.

Calcite has properties that make identifying it easy. First, if the calcite is in crystal form, look at the broken parts of the crystal. Calcite has planes of weakness that allow a crystal, when broken, to split along those planes, leaving a smooth, polished-looking face. These planes are called "cleavage faces." Calcite has three directions of perfect cleavage so that a crystal, no matter what it originally looked like, may be broken into a rhombohedron (a slanted cube). Calcite will also fizz if exposed to a drop of vinegar or other weak acid. Because it is a relatively soft mineral, it can be easily scratched with a knife. A rare phenomenon called "double refraction" occurs when the atomic structure of the crystals align so that when light passes through the crystal, a doubling of the image appears.

Source: Indiana Geological Survey, outreach cards: <https://igws.indiana.edu/referencedocs/>



cleavage fragment



double refraction

# UPCOMING SHOWS

<http://eiggs.weebly.com/other-upcoming-shows.html>

**May 20-21—ST. JOSEPH, MI:** Annual show; Blossomland Gem & Mineral Society, Lake Michigan Catholic Elementary School; 3165 Washington Ave.; Sat. 9-6, Sun. -; Free Admission; This is a non-profit annual gem, mineral and fossil show. There will be children's activities, multiple artisans, demonstrations in polishing, silversmithing, wire-wrapping, located on the beautiful shores of Lake Michigan. Come and make a weekend of it!; contact Pam Kriegsmann, Stevensville, MI, (630)-779-8258; e-mail: [kriegsmann@sbcglobal.net](mailto:kriegsmann@sbcglobal.net)

**May 20-21—NORTH OLMS TED, OH:** 49th annual Rock-a-Rama Jewelry, Gem, Crystal, Fossil and Mineral Show sponsored by the Parma Lapidary Club. North Olmsted Soccer Sportsplex; 31515 Lorain Ave.; Sat. 10-5, Sun. 10-5; Admission \$6; Gems, minerals, beads, fossils, live demos, cracking geodes, kids corner, gem mine, silent/Chinese auctions, door prizes, exhibits and more; contact Suzanne Zaborowski, 2130 W 110th, Cleveland, OH 44102, (216)-352-3427; e-mail: [Parmalapidary@yahoo.com](mailto:Parmalapidary@yahoo.com); Web site: [www.parmalapidary.com](http://www.parmalapidary.com)

**June 3-4—MANSFIELD, OH:** Annual show; Richland Lithic and Lapidary Society, Richland Country Fairgrounds; Art & Crafts Building, 750 N. Home Road; Sat. 10-6, Sun. 11-5; Adults \$5, Seniors \$4, Children 6-16yrs \$3; GEODES: It's What's Inside That Counts. The Richland Lithic and Lapidary Society, Mansfield's own mineral and fossil club, will have their annual show. The show will have quality dealers selling beads, jewelry, minerals and fossils. Silent auctions run hourly both days. We will offer geode breaking, hourly door prizes, and demonstrations. The show will be held in the Arts and Crafts building at the Richland County Fairgrounds.; contact Tom Kottyan, (419)-562-1152; e-mail: [themineralhouse@netzero.net](mailto:themineralhouse@netzero.net); Web site: <http://rlls.webs.com/>

**June 3-4—MARION, KY:** Annual show; Ben E. Clement Mineral Museum, Fohs Hall; 201 North Walker St; Sat. 9-5, Sun. 9-4; Donations; The show will feature vendors, hourly door prizes, silent auctions, Indian Artifact Display, Children's Activities sponsored by Farmer's Bank & Trust of Marion, and for a fee there will be museum tours and mineral digs.; contact Tina Walker, P.O Box 391, Marion 42064, (270)-965-4263; e-mail: [beclement@att.net](mailto:beclement@att.net); Web site: [www.clementmineralmuseum.org](http://www.clementmineralmuseum.org)

**June 2-4—WAUSEON, OH:** Annual show; State Line Gem & Mineral Society, Fulton County Fairgrounds; 8514SR108; Fri. 12-6, Sat. 10-6, Sun. 11-4; Adults \$4, Seniors/Students \$3, Children under 12 free; Come join us at the Fulton County Fairgrounds Junior Fair Building for our 56th Annual Show. We are proud of our show boasting in demonstrations, silent auction, door prizes, mine safety class by Joel Vicary, soap stone carving class by Sandy Cline. We will be giving demonstrations on cutting and shaping cabochons, wire wrapping, scrimshaw by Don Baker, flint knapping, kids activities, and geode cracking with geodes from Indiana, Morocco, and Mexico. There will be rough material for those who start from scratch, cabs and beads for those who just put their personal touch on their art, and finished pieces for those who just appreciate the finished pieces of jewelry.; contact Glenda Gafner, (517)-403-6310; e-mail: [ggafner@frontier.com](mailto:ggafner@frontier.com); Web site: [statelinegms.com](http://statelinegms.com)

**14 Rock Pickings: May 2017**



**June 16-18—CINCINNATI, OH:** Sharonville Gem, Jewelry & Mineral Expo. Sharonville Convention Center Meeting Rooms 201-204' 11355 Chester Road; Sharonville, OH 45246. Friday & Saturday 10 a.m.-6 p.m. Sunday 11 a.m.-5 p.m. General admission: \$3. Gems, Minerals, Jewelry, Crafts, Beads & Door Prizes.

**June 23-25—BEDFORD, IN:** Annual show; Lawrence County Rock Club, Lawrence County Fairgrounds; Hwy. 50 West; Fri. 10-6:30, Sat. 9-6:30, Sun. 10-4; Free Admission; 52nd Annual Gem, Mineral Fossil Show - Sponsored by the Lawrence County Rock Club. Free demonstrations, variety of gems, jewelry, minerals, fossils, beads, rocks, lapidary, rockhound and prospecting supplies. 4-H and science project materials. ; contact Michael Tweedale, (812)-675-6034; e-mail: [imettweedy@yahoo.com](mailto:imettweedy@yahoo.com); Web site: [www.lawrencecounty-rockclub.org](http://www.lawrencecounty-rockclub.org)

**Aug. 5—ISHPEMING, MI:** Annual show; Ishpeming Rock and Mineral Club, Ishpeming Elks Club; 597 Lkae Shore Dr.; Sat. 9:30-4:30; Free Admission; Ishpeming Rock and Mineral Clubs 42th Annual Gem and Mineral Show. There will be a kids' area, silent auction, hourly prizes, raffle, demonstrations. Cracker Barrel session Saturday evening at 7pm; live mineral auction, raffle, program; contact Ernest Johnson, 1962 W. Fair, Marquette, MI 49855, (906)-228-9422; e-mail: [ejohnson@nmu.edu](mailto:ejohnson@nmu.edu); Web site: [www.ishpemingrocks.org](http://www.ishpemingrocks.org)

**Aug. 18-20—SOUTH BEND, IN:** Annual show; Michiana Gem and Mineral Society, St. Joseph County 4-H Fairgrounds; 5117 South Ironwood Rd., Esther Singer Building; Fri. 12-7, Sat. 10-6, Sun. 11-5; Adults \$3, Students ages 6-12 \$3, Children under 6 free; Michiana Gem & Mineral Society 54rd Annual Jewelry, Gem, Mineral & Fossil Show and Sale. Gem, fossil, mineral and jewelry dealers, lapidary arts demonstrations, exhibits, Kid's Korner, and silent auction; contact John Davis, (574)-232-8823; e-mail: [sumu95@hotmail.com](mailto:sumu95@hotmail.com); Web site: [www.michianagms.org](http://www.michianagms.org)

**Sept. 8-10—GREENFIELD, IN:** Annual show; 500 Earth Sciences Club, Hancock County 4-H Fairgrounds; 620 N. Apple Street; Fri. 10 a.m-7 p.m., Sat. 10 a.m-7 p.m., Sun. 10 a.m.-4 p.m.; Free admission; Dealers and swappers in fossils, minerals, gems and jewelry and lapidary equipment plus silent auctions, door prizes and much more. Kids activities, demonstrations, educational displays and programs for all. Contact Cheryl Hamilton, 3507 Luewan Dr., Indianapolis, IN 46235, (317)-897-3369; e-mail: [chamilton1951@gmail.com](mailto:chamilton1951@gmail.com)

# 2017 SPRING Flint Ridge Knap-In

Friday, May 26th, 9 - 5  
Saturday, May 27th 9 - 5  
Sunday, May 28th 9 - 2

Held at the  
Flint Ridge Ancient Quarries  
& Nature Preserve  
7091 Brownsville Rd  
Glenford, OH 43739



## Everyone is Invited!

Come and join us for a fun and educational weekend. Witness craftsmen and artisans demonstrate how to make arrowheads, spears, stone tools, bows, atl-atls, stone pipes, cordage as well as other items from hide and bone. Take a nature walk through the woods on the park trails and see the remains of the ancient quarry pits left behind by the native people. Then take a tour of the museum to learn about the the rich history and geology of Flint Ridge.

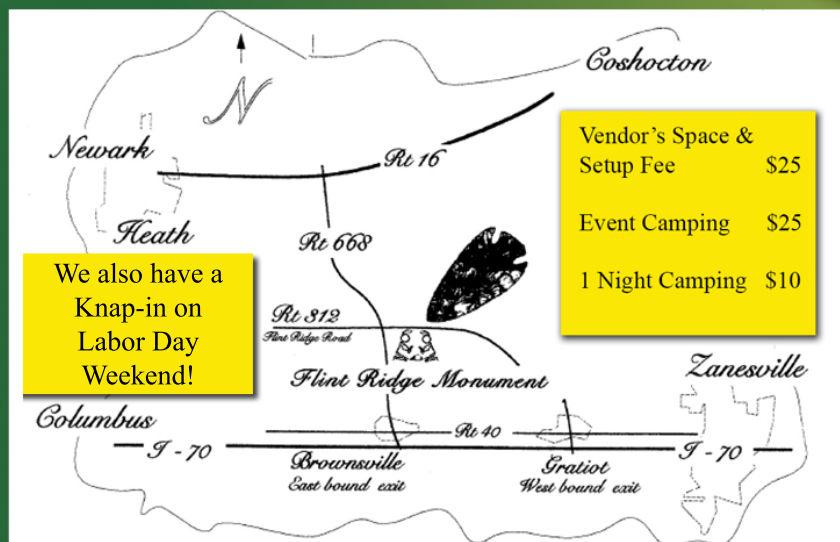
Roy Miller 330-473-7041 [roy@RoyMillerFlintRidge.com](mailto:roy@RoyMillerFlintRidge.com)

Phil Love 419-683-1024 [PHLove@live.com](mailto:PHLove@live.com)

Glenn Witchey 330-329-7501 [glenn\\_wit@yahoo.com](mailto:glenn_wit@yahoo.com)

Carl Smith 330-340-4681 [casmith7384@gmail.com](mailto:casmith7384@gmail.com)

For more  
information contact  
one of our Board  
Members



Admission is \$5.00  
per vehicle which  
includes free  
Museum Admission

Hosted by: The Flint Ridge Lithic Society in conjunction with the Licking Valley Heritage Society.

# GEM, MINERAL, JEWELRY, BEAD, & FOSSIL SHOW

Saturday, June 3 from 10 am till 6 pm  
 Sunday, June 4 from 11 am till 5 pm

## Show Theme **GEODES**



IT'S  
 WHAT'S  
 INSIDE  
 THAT  
 COUNTS



Sponsored by Richland Lithic & Lapidary Society

**SILENT  
 AUCTIONS  
 RUN HOURLY  
 BOTH DAYS**

**12  
 QUALITY  
 DEALERS**

**GEODE BREAKING,  
 HOURLY DOOR  
 PRIZES,  
 DEMONSTRATIONS**

**Richland County  
 Fairgrounds  
 Arts and Crafts  
 Building  
 750 N. Home Road  
 Mansfield, Ohio  
 44906**



Website: [WWW.RLLS.WEBS.COM](http://WWW.RLLS.WEBS.COM)

**Admission**

Adults . . . . . \$5.00  
 Seniors . . . . . \$4.00  
 Children 6-16 . . \$3.00  
 Children under 6 . Free  
 Scouts in Uniform Free

**Further information  
 please call  
 Tom Kottyan  
 (419) 562-1152**





## **State Line Gem & Mineral Society**

### **56<sup>th</sup> Annual Rock, Mineral & Jewelry Show**

Fulton County Fairgrounds  
Inside the Junior Fair Bldg  
8514SR108, Wauseon, OH 43567  
North off Ohio Turnpike on Exit 34 or South of Hwy 20 on SR108

**June 2nd, 3rd, & 4<sup>th</sup> 2017**

Friday 12PM to 6PM  
Saturday 10AM to 6PM  
Sunday 11AM to 4PM

Rough Material  
Finished Jewelry  
Fossils

Beads & Findings  
Slabs  
And More

#### **DEMONSTRATIONS**

Cabochon Cutting  
Beading & Wire Wrapping  
Geode Cracking

#### **CLASSES**

MSHA Mine Safety Class  
by Joel Vicary

#### **Featuring**

**SILENT AUCTION - DYNAMIC DISPLAYS**

Air Conditioned Comfort

Daily door Prizes

Raffle to build our Scholarship Fund

Held at 2PM Sunday, need not to be present to win  
Food, Drinks, Snacks and Wonderful Desserts available

#### **Show Chair**

**Sherm Kardatzke**  
[sakardatzke@mcom.com](mailto:sakardatzke@mcom.com)  
(517) 673-5487

#### **Co Chair**

**Glenda Gafner**  
[ggafner@frontier.com](mailto:ggafner@frontier.com)  
(517) 403-6310

#### **ADMISSION**

Adults \$4.00, Seniors & Students \$3.00, Children 12 & under FREE

**Present this Coupon for \$1.00 off Regular Admission**

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52<sup>nd</sup> Annual

# GEM MINERAL FOSSIL SHOW

Sponsored by Lawrence County Rock Club, Inc.

Website: [www.lawrencecountyrockclub.org](http://www.lawrencecountyrockclub.org)

**JUNE 23, 24 & 25, 2017**

**FREE DEMONSTRATIONS-PUBLIC INVITED**

**Wide Variety of Gems, Jewelry, Beads,**  
**Minerals, Fossils, Rocks, Gifts, Lapidary**  
**Supplies, Rockhound & Prospecting Supplies,**

**4-H Project Material,**  
**Science Project Material**

Show Schedule- EDT

Friday 23<sup>rd</sup> 10:00 AM to 6:30 PM

Saturday 24<sup>th</sup> 9:00 AM to 6:30 PM

Sunday 25<sup>th</sup> 10:00 AM to 4:00 PM

Saturday 24<sup>th</sup>

Mine Quarry Safety Training - 9:00 AM

I.S.P. - INDIANA SOCIETY OF PALEONTOLOGY - 2:00 PM

**Held: Lawrence County Fairgrounds,**  
**Southwest of Bedford, IN**

**Directions:** From the Junction of Hwy 37 and Hwy 50  
SOUTH OF BEDFORD, go west on Hwy 50 W for 0.6 miles,  
turn right into Fairgrounds.

**FOOD SERVICE ON GROUNDS - DAILY SILENT AUCTIONS**

For additional information call:

812-675-6034

**FREE**  
**ADMISSION**

**FREE**  
**ADMISSION**

Not  
Responsible  
For Accidents

Not  
Responsible  
For Accidents



ROCK and MINERAL CLUB  
64 Years & Still Collecting  
1953-2017

# 42nd ANNUAL Upper Peninsula Gem and Mineral Show



**Saturday, August 5, 2017**

**9:30 am -4:30 pm** (Eastern Daylight Saving Time)

**Ishpeming Elks Club**

597 Lakeshore Drive, Ishpeming, Michigan

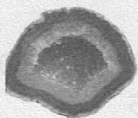
*Dealers - Kids Area - Silent Auction - Crackerbarrel*

*Displays - Gems - Minerals - Fossils - Jewelry*

There will be working demonstrations throughout the day  
along with **HOURLY** door prizes.



**FREE Admission • Door Prizes**



Field Trips: Friday, Sunday and Monday




Space available by **RESERVATION ONLY** for selling or swapping.  
Outside \$30/space - inside \$55 per 8 lineal feet

Sponsored By: The Ishpeming Rock and Mineral Club  
For more information [showinfo@ishpemingrocks.org](mailto:showinfo@ishpemingrocks.org)  
[www.ishpemingrocks.org](http://www.ishpemingrocks.org)

TRAVEL  
MARQUETTE

**NOT RESPONSIBLE IN CASE OF ACCIDENTS**

See Reverse 

**Eastern Indiana Gem & Geological Society**

PO Box 1724

Richmond, IN 47375

Club meetings held  
on the first Thursday  
of every month, 6:30 p.m.