



Smoke Signals



Gem & Mineral Club

August 2011

Club Activities –

August Picnic – Sunday the 21st. At Mike Shumate's near Hamilton, IL

Please bring a covered dish to share. Mike has gotten some good rain this year so hopefully we will be able to have some good hunting. In addition to hunting the creek bed Mike also has a lot of rocks – including geodes and Missouri Drusy that can be purchased at a good price. Bring your rock hounding tools if you intend to hunt for geodes! Please be at the meeting spot at 9:30 AM SHARP. We don't want anyone left behind.

Directions:

IL side - Take highway 67 south to highway 136 West to Hamilton IL. In Hamilton there is a Dairy Queen on the left side of the road.

IA side – Take highway 61 south **down thru** Keokuk – cross the bridge into IL – make a right onto highway 136 to Hamilton, IL. In Hamilton there is a Dairy Queen on the right side of the road.

This is where we will meet at 9:30am. We will then lead everyone to Mike's. Drive is an estimated 2 ½ hours from Quad Cities.

We will also be having our monthly meetings at Hauberg starting up again in September.

Meeting Tuesday September 20th: Hauberg Civic Center, Rock Island, IL 6PM.

This month we will be holding nominations for 2012 Board. Elections will be held at our Oct meeting. Our 3 year Director chair will be open and we will be in need of someone to fill that position. All positions will be open for nominations so if you are interested please let us know. A nominating committee will be created prior to the meeting. If you would be interested in serving on this short term committee please let me know – Kellie Moore.

Newsletter Notes:

As our newsletter strives to continue to provide useful/entertaining information monthly we are always in need of articles and filler. So, if anyone has stories, articles, puzzles, shows, etc. to go in the newsletters please either e-mail them to kalsinean1@aol.com or call me at 563-445-3034. I would love to hear from you. The more input we can get from members the quicker and more frequently we can get the newsletters out. It has been tough to do over the past few years due to lack of input by our members. If you would like to write an article and do not have access to e-mail please write it down and mail it in. Send to Kellie Moore 718 Franklin Ave, Davenport, IA 52806. I will type them in to be used for upcoming newsletters. I am also trying to do book reviews, websites of the month, etc. If you know of a good book or website please let us know. Subject matter in all things should be Rock, Fossil, Mineral, Jewelry related.

Workshop:

Weekends are kinda packed this month – but that does not mean we cannot have some workshop time here and there. What this means is – rather than a group setting we will be doing one on one this month. Please give Craig or I a call to schedule what you would like to do. I am available evenings during the week if someone would like to learn wire wrapping, beading, etc. Please give us a call. 563-445-3034. We live in North Davenport. We can give address and directions when you schedule your lesson.

Upcoming events:

Aug 27-28th. Peoria Annual Gem, Mineral and Fossil Show. Grand Hotel 4400 N Brandywine Dr. Peoria, IL 61614. Sat 10-5, Sun 11-5. Come enjoy this family show. For more information contact: Jim Travis 309-645-3609, boatnik@aol.com

Photographing Minerals by Charles Calkins

It is common for a mineral collector to want to document his collection for cataloging purposes, insurance, or simply for show-and-tell. Collections can be presented on the Internet via web hosting providers, or using services such as Mindat (<http://www.mindat.org/>) which encourage members to contribute to their mineral database. Mineral photography does not need to be a challenge, and good images can be obtained with a consumer-grade camera and basic setup.

Photographing small mineral specimens falls under the category of “macro photography” because the final image is often as large as, or larger than, the sample itself. Jeffrey Scovil (<http://www.scovilphoto.com/>), Associate photographer for the *Mineralogical Record* and *Rocks and Minerals* magazines, is likely the best-known photographer in this area. He has described his techniques in *Photographing Minerals, Fossils, & Lapidary Materials* (ISBN 0-945005-21-0), a definitive work on obtaining excellent images. Good images can be obtained, however, with simpler setups (mine is shown in Figure 1), provided that certain issues, described below, are kept in mind. Although all of these issues apply to digital photography, many affect film photos too.

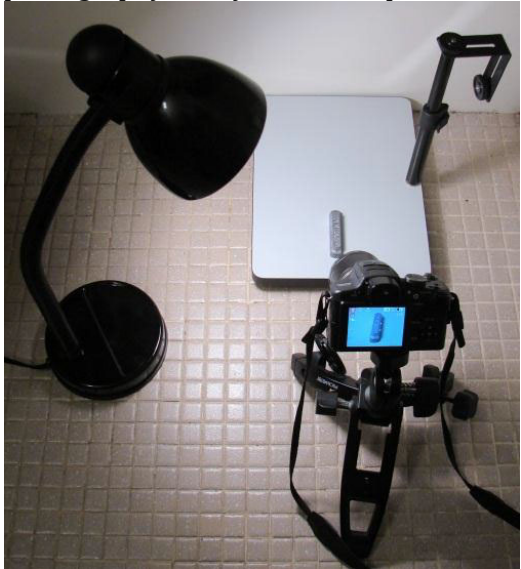


Figure 1 – Photography setup

Lighting: Specimens need to be well-lit, but a direct light must be diffused. Otherwise, specimens will have bright highlights or look unnaturally flat. Figure 1 shows direct light provided by a frosted daylight bulb. Room lights are also used so shadows are filled in with ambient light. I have found that a windowless bathroom, with overhead lights near the ceiling, is a

good place for taking photos. Lighting can be controlled, and the bathroom tile diffuses much of the light so the lighting of the sample is not harsh. Bouncing light off of white paper or Styrofoam, or placing a lamp behind translucent material, can also diffuse light well enough for a good image. Even with good lighting, however, the angle of the specimen may need to be adjusted to avoid glare, to accentuate a crystal facet, or the like.

White balance: Setting a camera’s white balance properly for the lighting conditions is essential. Light can be “warm” or “cool,” producing reddish or bluish tints, respectively, in photos. Some cameras are also susceptible to shifting color due to fluorescent lights. While the eye can perceive a white object as actually white under a wide variety of lighting conditions, a camera is often fooled. Digital cameras have an automatic white balance setting that generally works well in sunlight, but frequently has trouble when other types of light are used. The white balance can be set using a neutral gray card or a special purpose device such as the WhiBal

(<http://www.rawworkflow.com/whibal/>). The copy is placed in the same position as the sample that is to be photographed, and the camera’s white balance is adjusted. With a correct white balance, the color of the mineral sample will appear correct in the photograph.

Camera support: For a sharp image, the camera must be firmly supported. Figure 1 shows a camera stand with a gray base. The camera can be mounted on the black post so it can face straight downward. This works for some samples, but the best view of a sample is not always from directly above. Also, a stand like this may place the camera too close to a sample for the camera to be able to focus properly, especially if any magnification is used. In Figure 1, the camera is mounted on a mini-tripod that allows great freedom in the camera adjustment. Not only can the camera be adjusted to any angle, but the tripod can be placed at any distance from a specimen. Here, the sample is viewed at an oblique angle from a greater distance than what would be possible if the camera stand were used. The neutral gray base of the camera stand makes a good background, though.

Depth of field: Depth of field refers to the range of distance that is in focus. “Zooming out” to show the widest view yields the greatest depth of field. “Zooming in” to magnify an area narrows the depth of field. Figure 2 demonstrates this. On the left, the camera is zoomed completely out (1x magnification) and the Doe Run lead pig is completely in focus. On the right, fully zooming in (18x magnification) to the

D of the word DOE produces a close-up image of the D and O, but E and RUN are out of focus. A good image balances the close-up view with how much of the sample is in focus. Focus stacking (http://en.wikipedia.org/wiki/Focus_stacking), where many images are combined to yield a greater depth of field, is a way to address this issue. (Editor's note: digital cameras generally have much greater depth of field than film cameras.)



Figure 2 – Depth of field

Macro mode: Macro mode, generally indicated by a flower symbol, allows an object that is very close to the camera to be in focus, so it is often needed for photographing small mineral specimens. For instance, the digital camera shown in Figure 1 is a Panasonic Lumix DMC-FZ35. When not in macro mode it cannot focus on an object that is closer than 30 cm. However, in macro mode, the minimum focusing distance is only one centimeter. Increasing magnification (zooming in) also increases focusing distance. Therefore, zooming in may require the camera to be moved away from the subject, reducing the magnification effect. For the FZ35, in macro mode, using the full telephoto zoom of 18x increases the minimum focusing distance to one meter.

Close-Up lens: The minimum focusing distance can be reduced by attaching a close-up lens to the camera. For example, the camera in Figure 1 has the Panasonic DMW-LC55 close-up lens attached, which reduces the focus distance by a factor of 3. So, with this lens, in macro mode, using the full telephoto zoom of 18x, an object can be as close as 33 cm, making the subject appear much larger than it would otherwise.

Software: It is important to capture the best image possible with the camera, but software can modify the raw image to fix flaws and produce a final image. A multitude of free programs such as Paint.NET

(<http://www.getpaint.net/>), GIMP (<http://www.gimp.org/>), and RawTherapee (<http://www.rawtherapee.com/>) provide alternatives to more-expensive programs such as PhotoShop (<http://www.adobe.com/products/photoshop>). With these programs, photographs may be rotated, cropped, sharpened, and/or re-sized. Also, without modification, photos of specimens with bright colors may appear washed-out, especially if strong, localized lighting is used. Increasing the image saturation by 10% or so with software improves the image so it more accurately represents the original sample.

Image quality: When processing photos, it is helpful to work with high quality images. Use the highest-quality file format your camera provides whenever possible. To save memory space, a consumer-grade camera typically discards information when it converts images into a JPEG format. When using TIFF or RAW formats, generally, no information will be lost. Also, while JPEG is limited to 8 bits per color channel (256 shades each of red, green and blue), TIFF or RAW may use 12 bits per channel (4096 shades) or more. The greater the color depth, the greater freedom available for correction after the image is taken.

Image size: As with quality, images should remain at the size they are obtained from the camera while they are being processed, and only reduced in size, if needed, once image processing is complete. A large image can always be reduced in size, but a small image made larger will look blocky. One measure of image size is the number of pixels it contains. The FZ35, for instance, captures images that are 12 MP (megapixel), 4000 x 3000 pixels. If printed by a 300 DPI (dots per inch) printer, this would yield an image 13.3x10 inches in size. While this is a good resolution for printing a poster, it is too large for Internet presentation. For instance, Mindat reduces images to no more than 1024 pixels across for the primary image display. Considering that a standard computer monitor's resolution isn't much larger, this is reasonable – the image will fill most of the screen. Figures 3, 4 and 5 show examples from my collection, taken with the setup shown in Figure 1. More photos can be seen on my page on Mindat (<http://www.mindat.org/user-10785.html>). (Editor's note: the format of Rock Lore does not permit us to do justice to Mr. Calkins' beautiful pictures. Especially if you receive the paper version, please look for larger-format versions of these photos at StLRockClub.com.)



Figure 3 – Vivianite



Figure 4 – Wulfenite



Figure 5 - Rutile on Hematite

Via Rock Lore – Volume 57, Number 3 March 2011

Book Review by Kellie Moore

This book is published by Interweave. I would also like to mention that I purchased the version with DVD included. That was part of its charm.

Wirework – An illustrated Guide to the Art of Wire Wrapping. By Dale “Cougar” Armstrong



This book provides a variety of techniques to do some of the more polished wire wrapped pieces. Dale actually gives step by step instructions from the basics on up. It is a good book for both new people who have never wire wrapped to those who have more experience who want to learn more. It includes a DVD where the author shows you some of these techniques herself. I found this book to be great for me to learn some new things.

Websites of the Month

<http://www.interweave.com/>

Of interest for our hobby would be the section on books – more specifically on Jewelry making. This website features books for sale, Author interviews, and short instructional lessons. It also has links to join a couple of websites that we will talk about in upcoming newsletters – Beadingdaily.com and Jewelmaking.com.

<http://www.thebombaybazar.com/>

This is a good company to get lapidary equipment from. Their prices are right and deliver is typically really fast. My Husband Craig orders a lot of his equipment and supplies from them.

<http://www.fossilsforkids.com/>

This website is dedicated to providing fossil education, information and fun for kids of all ages.

Questions will be answered, fossils will be found and you'll have fun in the process. So point, click the "enter" button and let the adventure begin!

Mazon Trip Provides Fossil Hunting Delights

Article by Steve Brusatte

I love paleontology. Do you find anything odd about this statement? How about this one-I love paleontology and I am a teenager. Or, how about this: I am transforming my teenager paleontology love into a book. Is there anything unusual about that? Please, hold the laughs! The project is a very serious one, one that I never thought, in my wildest dreams, that I would get involved in! The book, which depending on if we get a suitable publisher, should debut around the summer of 2001. It will focus on the contributions of modern paleontologists and will provide a fun, easy way to teach interested children about the fascinating field of paleontology.

One may ask why I, a teenager from Illinois, became interested in, of all fields, paleontology. There are a few major reasons. One of these reasons is Mazon Creek. This famous fossil biota meanders only about 25 miles from my home, in Ottawa. I recently took a field trip to this area on April 25.

It was a warm, sunny Sunday morning. I woke up very early, gathered my fossil gear, and boarded the van that would take us to the tradition rich fossil outcrops. My family, a group of friends, and I arrived at about 8:00, and immediately rushed to the first site on our trip, the shores of the Commonwealth Edison cooling lake. This site was a bit disappointing. As soon as we arrived, our guide pointed out to us that a group of unauthorized collectors had scoured the grounds the previous day. Therefore, not much was left. We quickly realized that he was correct. It took us about 45 minutes before we located our first concretion, on a hill dubbed Insect Mountain. By the time we left we had uncovered five. Still, the site disappointed us and we were eager to move on.

The reason for our eagerness was simple. The next site was a spoil pile left by a strip mining company. These spoil piles have historically yielded numerous new specimens. Not only that, but it was on private property, and no collectors were permitted unless they were on a Mazon Creek Project field trip, and we were! After our arrival we immediately began to locate loads of interesting and astonishing fossils. We found about 20 concretions in an hour, four times the amount we found in three hours at the other site! We also found parts of 7 jellyfish.



Example of Jelly fish fossil

The find of the day was made by my brother and mother. While exploring a crevasse in the pile, they picked up half of a naturally weathered concretion. Our guide quickly identified it as the best jellyfish specimen he had seen all day. The fossil belonged to the species *Essexella asherae*. Though jellyfish are common at Mazon Creek, they are virtually nonexistent in the fossil record, due to their soft bodies. Since fossilization in these odd animals is rare, we treasured our specimen dearly! Our guide realized that there was still another half of the fossil, so he rushed over to the crevasse and, as soon as he arrived there, he located it. We pieced the two jigsaw puzzles like pieces together and for the first time in millions and millions of years the glory of the jellyfish was revived.

We had to leave the site too quickly, though. We departed for home with a bucket full of concretions and fossils. When we arrived back at our house, I began to sort the rocks and for the first time realized the diversity of our finds. Even though our bucket full of fossils provided many delights, I do have to say that the jellyfish was the find of a lifetime, at least for me. It is unlikely, for now, that a teenager from Illinois is going to uncover a dinosaur or mammoth or prehistoric bird, or even a prehistoric fish. While it may not mean much to skilled and professional collectors, the find meant the world to me. We are currently in the process of cleaning it, and it should be ready for "mounting" in our fossil collection soon!

So, in hindsight, I urge all of you to collect at Mazon Creek. Most of you probably have, actually. But, if you have not, it is a must for any rock or fossil fan in Illinois. My trip to Mazon provided fossil hunting delights, and I guarantee that yours will provide the same.

**Steve Brusatte, 15, is from Ottawa, IL. For more information on his book, e-mail him at brusatte@theramp.net. You can also visit his site at <http://www.geocities.com/CapeCanaveral/Galaxy/8152>*

Mazon Creek Fossils Cont.



Example of fern fossil.



Notes from Kellie:

Craig and I have tried hunting these fossils. You really have to know what you are looking for. And I will tell you the public sites are pretty near collected out. Some still collect on their own private properties in the area. For the most part what you find in the public areas are the jelly fish fossils. For those who rather do the easier – buy at a good price – hunting – The March/April Fossil show in Macomb, IL is the place to go. We will mention the show in our newsletter when we get closer to show time and have the exact date for you.

A lesson also learned from those who hunt with great success: How to crack that rock to reveal the fossil within.

The secret is you need to first soak you rocks in a bucket of water – overnight is best. After a good soak remove them from the bucket and immediately place them in the freezer – again - overnight. When you remove them from the freezer they should have split right where the fossil is. Why? Because, the water soaks into the rock penetrating the fracture/weak point the most. Then when you freeze the rock the water expands and pushes the two halves a part right where you want it to. How is that for physics!



Outside of Mazon Creek Fossil

Websites about Mazon Creek Fossils:

http://www.museum.state.il.us/exhibits/mazon_creek/about_mazon_creek.html

<http://mazoncreekfossils.typepad.com/>

2011 Officers and Directors

President	Kellie Moore	(563) 445-3034
Vice President	Bret Henderson	(309) 626-0107
Treasurer	Teresa Falk	(309) 786-4196
Secretary	Diane Preslar	(309) 786-1523
Director (3-year)	Craig Moore	(563) 445-3034
Director (2-year)	Vickie Pearson	(309) 762-7605
Director (1-year)	Linda Maro	(309) 797-3275

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Displays	Bret Henderson	(309) 626-0107
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Historian	Vacant	
MWF Liaison	Vacant	

The purpose of this non-profit organization is to promote interest in collecting, studying and working with gems and minerals and fossils. Organized in 1955, the Black Hawk Club joined the Midwest Federation of Mineralogical & Geological Societies in 1959. It is also a member of the American Federation of Mineralogical Societies. Meetings are held on the third Tuesday of every month, September through May at 6:00P.M. in the Hauberg Civic Center, 1300 24th Street, Rock Island, IL. Picnics are held at various locations during June, July, and August. Annual Dues: Individual Membership: \$15.00, Senior Couples: \$12.00, Senior Individual: \$10.00, Family: \$20.00.

Contributions: Submissions (announcements, photographs, notes, letters, articles, etc.) are actively solicited from BHGMC members. Copyrighted material submitted for publication must be accompanied by a written release from the copyright holder. All material submitted is subject to editing. Unless previously arranged, all submissions become property of the Black Hawk Gem & Mineral Club, Inc. When requested, original and personally-written articles will be published with a copyright notice in the author's name, otherwise all submissions will be published without individual copyright. No anonymous submissions will be considered; however, the submitter's name will be withheld or a pseudonym may be used at the submitter's request. The deadline for all submitted work is the 20th of the month before it is to be published. Late and/or unused entries may be published in later issue.

Editor: Kellie Moore 718 Franklin Ave, Davenport, IA 52806.

Disclaimer: The conclusions and opinions expressed in *Smoke Signals* are those of the authors and do not necessarily represent those of the Officers, Editor, or members of the club.

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www.blackhawkgemandmineralclub.com

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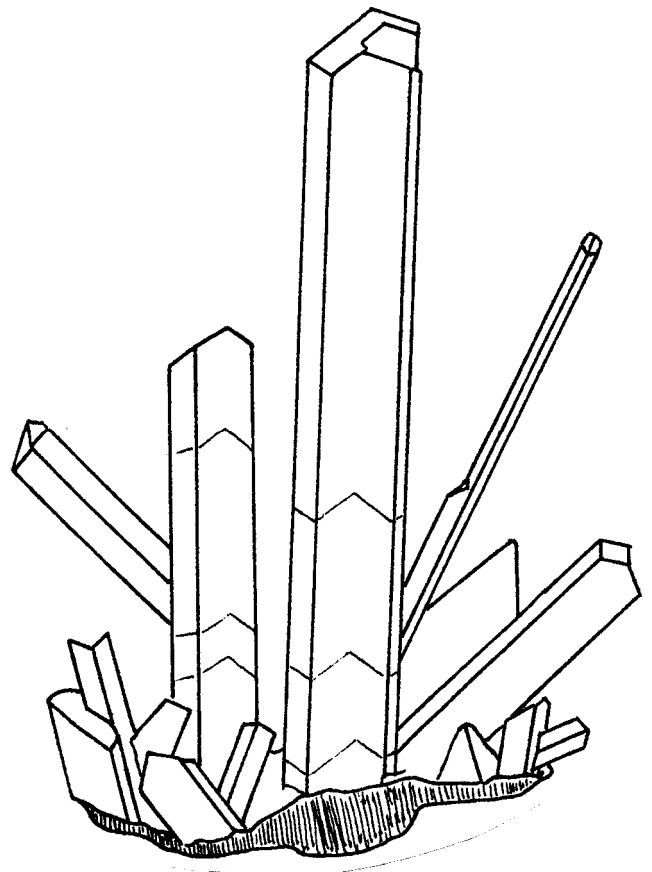
Midwest Federation of Mineralogical & Geological Societies

<http://www.amfed.org/mwf/>

American Federation of Mineralogical Societies

<http://www.gaminal.org/afms.htm>

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**Blackhawk Gem & Mineral Club
Kellie Moore
718 Franklin Ave
Davenport, IA 52806**