

Nittany Mineralogical Society Bulletin



Nittany Mineralogical Society, Inc.
P.O. Box 10664
State College PA 16805



December, 2011

Visit our web site: www.nittanymineral.org

Editor (see page 8):
David C. Glick

December 21st event:

Holiday Dinner at Hoss's - Please Sign Up by Dec. 12 -

by David Glick, NMS President

Our annual December meeting/ social event will be held Wednesday, December 21st at 6:00 p.m. in a private room at Hoss's Steak & Sea House restaurant, 1450 North Atherton St., State College PA 16803. Please RSVP to NMS Secretary Ellen Bingham at 814-234-4532 or emb22@psu.edu by **Monday, December 12**. Guests, junior members and their families, non-members and prospective members are welcome; please RSVP to Ellen.

NMS will pay for some appetizers for the group. Individuals will then order their dinners from the menu; there will be separate checks which will include 18% gratuity. The menu should be as shown at (these links are also on our own web site, www.nittanymineral.org): <https://www.statecollege.com/dining/613/hosss-steak--sea-house/> or <http://www.hosss.com/menu/> (choose the various sections on the right side). Almost all dinner entrees include Hoss's salad bar (it's extra with the sandwich menu).

We'll have time before and after dinner to socialize. We won't have a formal meeting or program, but we'll have some door prizes, and John Passaneau will unveil the NMS 2012 poster of a Pennsylvania specimen which he photographed. As always, feel free to bring a mineral specimen or lapidary project to show to everyone. Please come and join us for an enjoyable evening!



Unfortunately, it did not work out to have members selling their wares at the December social this year. The Board hopes to resume that possibility next year, at the December social or at some other venue. *



Junior Rockhounds meet December 21st

Junior Rockhounds are meeting at 5:00 p.m. on the third Wednesday of the month, December 21st, in room 118 Earth & Engineering Sciences Building (directions are on our web site). Juniors and their families are invited to the dinner at Hoss's which follows (see article at left); please sign up by December 12.

We will announce the January schedule on the web site and in this Bulletin when it has been decided.

Each month's Junior Rockhounds meeting has a new topic or topics with fun, hands-on learning for the kids. We encourage those who attend to become NMS members, but it's not required. Just \$7.00 covers a whole year (through October 2012) of student membership. Parents may get a lot out of the meetings, too! Check the web site for news, or contact Dr. Andrew Sicree (see page 8).
- Editor

NEWS FROM THE FEDERATIONS

Nittany Mineralogical Society, Inc., is a member of EFMLS, the Eastern Federation of Mineralogical and Lapidary Societies, and therefore an affiliate of AFMS, the American Federation of Mineralogical Societies. We present brief summaries here in order to encourage readers to see the entire newsletters.

The **EFMLS Newsletter** is available through the link on our web site www.nittanymineral.org or remind Dave Glick to bring a printed copy to a meeting for you to see.

The December issue provides information on the 2012 Wildacres Workshop sessions, including the availability of two scholarships for club members who have never attended. The application form is on page 20. There's a new Wildacres web site at <http://efmls-wildacres.org/> President RJ Harris writes about reaching youth through the methods that they (and teachers) use. The Junior Activities article [reprinted on page 2 of this Bulletin] discusses three "Must-do's" for every mineral collector to keep their specimens undamaged and identified. The safety article discusses ways to get the word out about safety. Tickets for the AFMS Endowment Fund Drawing are available for \$5 each or 5 for \$20.

The **AFMS Newsletter** is available by the same methods, but the December issue has not come out yet.

Please see the web sites for the complete Newsletters. There's a lot there!
- Editor

THE THREE "MUST DO'S" FOR EVERY MINERAL COLLECTOR

by Darryl Powell, EFMLS Jr. Activities Chair
from EFMLS News, December 2011

A lot of mineral collectors love to dig and save their best specimens. They also like to go to mineral shows and buy specimens. Sometimes, they find or buy *very* nice and *very* expensive specimens. Some of us collect nice, inexpensive specimens that simply make us happy. No matter what kind of mineral collection you have, there are 3 things you **MUST** do. If you do these things, you will take better care of your specimens, you will have a higher quality collection overall, and you will simply have a more rewarding collecting experience. Here are the three "Must Do's" for all mineral collectors.

1. Number your specimens and keep a list.

When you buy, find or trade for a new specimen, immediately put a number on it. Some people write or print numbers on paper and glue them on the underside of the specimen. Some people paint a small dot of white paint on the specimen where it can't be seen and write the number on it with a permanent marker. Then, in a notebook, on your computer or both, make a list. Your list should include the number, the name of the mineral, and where it was found. For example:

1. Calcite -- Ilion, New York
2. Fluorite – Cave-in-Rock, Illinois
3. Quartz – Hot Springs, Arkansas

Now, when you or someone else picks up a specimen and doesn't know what it is, you can find the number, go to the list and learn this basic information.

2. Keep a detailed record of each specimen.

One goal of a serious, careful mineral collector is to keep as much information about each specimen as possible. On your computer, create for yourself a "Specimen Record" sheet. On this sheet include all of the following information:

- Mineral name; locality (that is, where it was found)
- was it a gift, purchased, traded or self-discovered; if a gift, who gave it to you?; if purchased, record the price and who you bought it from; if traded, what did you trade for it?;
- who actually dug or mined the specimen?;
- the date the specimen was found;
- list any previous owners and with this the number each owner gave to the specimen;
- mineral color;
- crystal form;
- any other special information you may want to include, especially historical information.

3. Store your specimens in a safe place.

Please don't just dump your nice specimens on a shelf, table top, or in a drawer. Treat them carelessly and you will damage them. If you like to look at them, place them – carefully – on a desk top or shelf. Always keep

each specimen two or three inches away from the other specimens. The goal here is that the specimens don't get damaged. A damaged specimen is less beautiful to look at and is also less valuable than an undamaged specimen. Some collectors like to put their specimens away safely in a box or a piece of furniture with drawers. This is what collectors call a "cabinet." If you would like a cabinet for your specimens, go to yard sales and buy a piece of furniture that has many drawers in it. You can paint it any color you like. You can even paint mineral pictures or glue mineral pictures to the outside of the cabinet. Then, line the drawers with a layer of foam, then a layer of soft pillow filling, and then cover it all with a nice piece of soft fabric. Then, place your specimens in the drawer on top of the fabric. It is like they are sitting on a safe pillow. Always remember not to put the specimens too close to one another or they will bump into each other and they will get damaged. Place your specimens at least two inches apart from each other. When you open the drawers to see or show off your collection, open them slowly and carefully.

If you follow these three steps, you will find that building a mineral collection is very, very rewarding. In the process you will be building an important and valuable collection. It will be "valuable" meaning it will be worth more money. It will also be more "valuable" because it will be able to teach you, and others, much more about the mineral kingdom and mineral collecting.

And you will find much more enjoyment in the mineral hobby, too.

Until December, blessings and best wishes to you all.

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For sale / trade: Equipment & Materials

For sale: Rock cutting oil (food grade clear mineral oil). Up to 10 gallons available. \$12 / gal. Contact Jim Garthe at jwg10@psu.edu or call 814-667-2409.

For sale: Highland Park lapidary saw, Model E4, 8" diamond blade, mounted on a stand, ready to use. Contact Willard Truckenmiller, phone 814-625-2531 (9:00 a.m. to 9:00 p.m.) or e-mail jowilltruck@aol.com

For sale: Large mineral collection; will sell all or part. Tumble polisher with three 12-lb. and one 6-lb. drum plus grits, polishes and pellets. My phone number is (570) 672-2325. Leave a message if I'm not in.

For sale: Jade in various types & colors; mostly rough, plus some slabs; some fine Coober Pedy opal. Also equipment and jewelry making supplies from jewelry studio and production shop. Contact Daniel G. Reinhold in Mill Hall, PA; phone 570 726-8091 after lunch every day, or e-mail: dreinhold1@comcast.net *

GEODES

by Bob Carnein

Lake George Gem and Mineral Club, Colorado
from LGGMC Club News, March 2010

Dr. Carnein was an active member of NMS when he lived near Lock Haven, PA. We thank him for permission to reprint this two-part article. - Editor

Introduction. Geodes are one of those things that often jump-start a life-long interest in minerals and gems. Kids and adults get a thrill out of cracking or sawing an ordinary looking rock and being the first to see what's inside. Even advanced collectors can get a kick out of finding some rare mineral nestled among the more common quartz or calcite crystals in a "typical" geode.

Geodes are found at many localities, in both igneous and sedimentary rocks. The two rock types reflect two quite different modes of origin for them. In this two-part paper, I will introduce those origins and summarize the minerals that occur in each.

Here are some things that most geodes have in common:

- **Shape:** often more or less spherical, but they may be flattened or elongate. Note, however, that fractures or veins lined with crystals are not geodes. For example, the hollow, crystal lined cavities of Crystal Peak are normally called *vugs*.
- **"Hollowness":** We usually think of geodes as hollow and lined with crystals. However, at some localities, although they started out hollow, 90% or more of them are completely filled. Some people call such an item a *nodule*; these may be filled with agate or with intergrown quartz crystals.
- **Lining:** Most geodes are lined with chalcedony (microcrystalline translucent quartz) or agate.



An agate nodule (Agate-Nodule.com)

- **Mineral Filling:** Dozens of different minerals occur in geodes, but the most common are quartz and calcite.

Geodes in Igneous Rocks. Igneous rocks form from *magma* (molten material beneath the Earth's surface). Because magma originates beneath the surface, it forms under intense pressure. This allows the hot magma to dissolve various compounds that would convert to gases if they were nearer the surface, where the pressure is lower. These compounds are collectively called *volatiles* (pronounced voll'-uh-tills). The volatile compounds remain dissolved as long as the pressure is maintained, much as the carbon dioxide in a bottle of Coke or beer remains dissolved until you pull the tab or pop the cap.

Where do volatiles come from, and what are they made of? The commonest volatile in magma is water. There are three major sources of this water. Unfortunately, this gets a little complicated, so please bear with me.

(1) Scientists think that, when the Earth formed, it was consolidated from a cloud of rock particles, dust, and frozen gases (called a *nebula*) that formed from exploding supernovas that went through their "life cycle" earlier in the history of the universe. Thus, Earth (and the Sun and other planets) probably started out as a homogeneous mass of mixed debris, rather than having the layered structure (crust, mantle, and core) that we see today. As the dust and gas consolidated and compacted to form the proto-Earth, it heated up.

Heating occurred for several reasons. **First**, the nebula contained some radioactive isotopes (as the Earth still does today). These release heat as they break down to form stable daughter products. **Second**, compaction of a cloud of particles causes heating, due to friction. A similar process occurs when you blow up a balloon. **Third**, we think that, within the first 100 million years



Nodule filled with coarsely crystalline quartz



Agate lined geode (Manchesterminerals.co.uk)



Calcite crystals in quartz geode (sfgms.org)

or so of the Earth's history, a near collision or glancing blow by another planetary body split the Moon off to form a separate body. As the Moon moved away, it would have exerted huge tidal forces that "kneaded" the proto-Earth, adding to the heat generated by compaction and the breakdown of radioisotopes. Eventually, it's estimated that about one-third of the early Earth's interior melted.

During this melting, the originally homogeneous proto-Earth underwent a profound, and maybe catastrophic, reorganization. Molten iron and elements with a chemical affinity for iron (including, probably, sulfur) migrated rapidly into the deep interior, forming Earth's core. While this was happening, other, mainly low density elements and compounds (especially silicon, aluminum, oxygen, potassium, sodium, carbon, water, and others) worked their way toward the surface, forming a primitive crust and atmosphere. At about the same time, the Sun underwent a tremendous ignition and expansion, blowing most of the lightest volatiles (hydrogen, helium) away from the newly forming inner planets (Mercury, Venus, Earth, and Mars). This is why the inner planets have higher densities and a "rocky" composition, compared with Jupiter, Saturn, Uranus, and Neptune.

Some of the water that was present when the proto-Earth formed is still making its way upward and outward from Earth's interior. Such "*juvenile*" water can be incorporated into magma bodies. However, there is another, much more important source of magmatic water, and that is the world ocean.

(2) Along the west coast of South and Central America and parts of North America, the crust of the Pacific Ocean floor slowly slides back into the Earth's interior along *subduction zones*. As the relatively cold, brittle ocean crust bends and stretches under the edge of the continent, it fractures, causing sometimes devastating earthquakes (think of the recent magnitude 8.8 quake in Chile, for example). Water saturated marine sediments

are dragged down with the ocean crust, and the result is that water that originally escaped to the oceans from Earth's interior ends up recycling back into the mantle. When the subducting plate with its piggy-backed water saturated sediment layer reaches a depth of 250 km or so, it begins to melt. Much of the water and sediment is incorporated into the newly formed magma. Because the magma is hot and water rich, and because it formed partly by melting of sediments (which are rich in light elements), it is buoyant and rises toward the surface, eventually breaking through to form volcanoes. That's why volcanoes line the western margin of the Americas, and why such volcanoes tend to be rich in volatiles (and are especially dangerous to people living nearby).

(3) Subduction is by far the most effective way to get water into magma. However, there is a third way to do this. Water is, of course, a common filling in fractures, pores, and other openings of rocks near the surface of the continents. We call this kind of water *groundwater*. When we drill a water well, our goal is to reach the zone where the openings are water saturated (the *water table* separates this zone from the unsaturated zone above). If magma works its way upward through the crust, it may incorporate some of this groundwater into the other molten materials. Such *connate water* is probably a constituent of most volcanic rocks. Its importance varies greatly from place to place.

So, how does all of this relate to geodes? As magma containing water (and other volatile compounds) works its way upward, eventually, the pressure is reduced to the point where the volatiles separate from the rest of the magma. The volatiles may escape rapidly (in Mt. St. Helens, the result was a steam "explosion"), or they may remain entrapped in the crystallizing lava.

In the latter case, bubbles (called *vesicles*) may remain when the rock solidifies. These vesicles may be quite large (an amethyst geode in Pittsburgh's Carnegie Museum of Natural History is more than 5 feet across, and a web search found some up to 12 feet long) and may become "stretched" as the lava moves during solidification. Many of the Brazilian amethyst geodes that one sees at mineral shows are tube-shaped because of this stretching and flattening.

Most scientists don't think such bubbles convert directly into geodes. Instead, a multi-stage process probably is involved. First, as the lava cools and shrinks, cracks may form, providing pathways for groundwater to migrate through the rock. Some kinds of volcanic rock (e.g. tuff) are especially easily dissolved by groundwater, so the circulating water (which may be hot if the volcanism occurred recently) leaches silica and other compounds, carrying them downward. The water and dissolved minerals enter the vesicles either by diffusion or by following fractures that intercept the openings. Within the bubble, silica may first form a gelatinous material that adheres to the interior surface of the space. The silica, along with other dissolved materials and some water, is deposited in layers, first chalcedony and agate and then quartz crystals, eventually sealing the cavity from further invasion by groundwater.

The change from deposition of chalcedony to formation of quartz crystals may have to do with changes in the temperature and silica saturation of the contained solutions. Eventually, the silica may be used up, leaving a water filled opening at the center of the geode. This water drains away or diffuses as weathering and erosion bring the rock closer to the surface. Rarely, geodes may contain residual water and a gas bubble (these are called "*enhydros*") when collected.



Agate Enhydros (Rocksinyheadtoo.com)



Large Brazilian Amethyst Geode

In next month's newsletter, we'll look at a completely different origin for geodes that occur in sedimentary rocks. For more information, I recommend the following book, which is relatively nontechnical and has great illustrations:

Cross, B.L., and J.C. Zeitner, 2006, *Geodes: Nature's Treasures*: Baldwin Park, CA, Gem Guides Book Co., 292 p.

Hunting Fossil "Bugs" in Utah

by Donald Baumgartner

Lincoln Orbit Earth Science Society

From: *LOESS Bulletin*, 12/2010

(9th Place – AFMS Original Adult Articles Advanced)

Our host Jake Skabelund and staff of the American Trilobite Suppliers, planned for everything and spared no expense to make this experience safe, memorable, and rewarding for all 60 fossil collectors from California, Illinois, Indiana, Michigan, Missouri, Ohio, and other states. They scoured the area for potentially rich trilobite outcrops to quarry (6 quarries in all, most brand new) obtained all necessary government permits to lease the land and paid the fees, hired locals with heavy machinery to expose the trilobite layers below ground, rented several port-a-johns (even with solar lights to find them in the dark), provided hand-wash stations, enticed a rock hunting equipment dealer to be on site to sell tools if needed, and arranged for a rock table saw for free use to cut down slabs. They even offered attractive T-shirts and caps for sale. I was really impressed with the planning, preparations, and accommodations.

Looking around, I was "not in Kansas (err Chicago) any more". This is the desert, in July. Sunny, cloudless skies, no trees, no shade, no bushes, rocks and cactus, and very hot (in upper 90s to over 100 daily). Needless to say, heat exhaustion and heat stroke is a clear and present danger. You cannot cool down in the dry desert because any sweat evaporates immediately. Water, water, and more water is the key to survival, and the Jam staff were well prepared. They did not want any fossil nuts dropping dead and becoming fossils themselves.

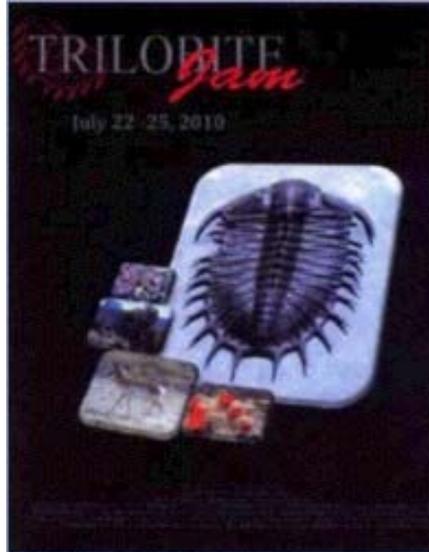
Hourly, Jam staff visited each quarry by ATV to check people with water supplies. "It's even too hot for rattlesnakes" as the Jam experts told us - now that's hot! One thing good about desert fossil collecting is that you do not have to worry about a sudden rainstorm spoiling your plans, and mosquitoes and the pesky deer flies are nonexistent. I definitely over-packed roc- tool-wise for this trip, as I really did not know what to expect. All you need are comfortable clothes (long pants of course), a hat, sunscreen, knee pads, boots, water jug, your Estwing, newspaper to wrap fossils, buckets, flats for fossil storage, a large special pry bar to peel-up the rock layers, and a special iron blade sharpened at one edge to split the layers. While good at home on hard Silurian limestone, sledges, chisels, and safety glasses can be left at home. It's all about splitting the rock layers in the

hope of finding trilobites, revealed as positive and negative halves. While one person recommended bringing a tent/canopy as a sun shield, I never used it, as it was impractical with the desert dry wind gusts that came suddenly out of nowhere. The special pry bar and most important iron blades were nothing I ever saw in the Midwest and are not available in hardware stores (I looked). However, the rock hound equipment supplier at the Jam has these (Geological Tools and Outfitter, phone 435/225-6421).

The trilobite collecting was not as dreamed. They were not all over the place and actually were hard to find at most of the quarries after splitting sheets of rocks. The Bathyriscus and Wheeler quarries were the best for me. These rock layers split rather easily using the iron blades. I would estimate that maybe 1-2 complete trilobites per hour could be found from the hard labor in the desert sun. Did I say it was hot! Yes, I did collect a few complete trilobites and lots of parts in two full days. My greatest finds, though, were the other rarer

Cambrian fossils, such as a couple *Golgia*, occasional small early brachiopods, a huge phyllocarid, and a large *Tuzia*. I only collected at the Jam for two days of the four potential. The long dusty drive (2 ½ hours each way), and desert sun and heat really took a toll on this ageing body, which made fossil hunting rather unbearable after 2-3 hours. Although maybe a contributing factor was the antibiotics I was taking at the time, with label warnings of "stay out of the sun," stupid. What we risk for that perfect fossil. Well, at least there were no biting flies to worry about. No insects at all, so leave the bug repellent at home.

While in the area of Delta, a public fee fossil quarry worth visiting is U-Dig. This mid-Cambrian trilobite quarry is famous among fossil nuts for its trilobite *Elrathia kingi*. It is rather easy to get to, but the trip from Delta is long - about 50 miles out of Delta, west on a paved road and another hour's slower drive for 10 miles on an increasingly degraded, dusty desert gravel road to the quarry. The turn-offs are rather well marked. You can just show up, but before you go, I recommend a visit to the small U-Dig "Bug House" (ph. 435/864-3638) in Delta to verify the quarry hours, directions, and access. Be aware that the quarry is closed on Sundays. While at the store, buy your souvenir U-Dig T-shirt. The Bug House also carries a small selection of fossils for sale. The Bug House is hard to find, though (specific directions at end of article). Yet another public access, nearby trilobite quarry is A New Dig, but I did not have time to try this one, and another collector said that it was closed (may have to call ahead for an appointment).



The only other fossil store in Delta is West Desert Collectors (ph. 435/864-2175), off Main street, north side of the street, next to the hardware store. While the largest supply of fossils for sale in town, it has no great diversity, but ask to see the back where they have much more. Overall, there is a pitiful representation of fossil stores in Delta, for being one of the major Cambrian trilobite locations in the U.S.

Many side diversions exist in Utah. One I highly recommend is Moab, in the southeast part of the State. More desert, but Arches National Park is scenic, and the rock shop in Moab is not to be missed. If you're into dinosaur bones and petrified wood, this store has plenty, in large sizes and cheap. Yet another day side-trip is The Dinosaur Discovery Site in the southwest corner of Utah. They are supposed to have a great museum on dinosaur trackways, with day tours, but they are closed on Sundays. What fossil attraction closes on Sundays in the summer? So, I could not fit it into my scheduled trip this time. From Delta, Utah, you can also drive north into southwest Wyoming (only ½ day drive distant) for the world famous fossil fish, which will be covered in a future article.

I hope this account of my summer excursion to Delta, Utah, in search of those elusive trilobites will be retained by you and used as a reference for your own future trip to Utah. Due to the success of this first Trilobite Jam, the organizers now advertise a repeat trip next year in 2011 to be held June 23-26, 2011 (<http://www.trilobitejam.com/generalinfo.html>).

Would I agree to go again? Maybe. The trilobites were not as abundant as I anticipated, and when factoring in the costs of travel, gas, hotel, food, days off work, new tires, etc... However, I collected some trilobite species and other animals that I rarely find available commercially at local shows or on eBay. The experience was memorable and something I can reminisce about for years to come. Was it worth the trip expense and heat exhaustion? Yes. Would I recommend that others go and follow in my footsteps? Yes, certainly. You will find trilobites. You will have fun, as long as you prepare for the desert (sun and heat), expect average accommodations, and do not mind an inch of desert dust all over the inside of your car (guys - find a woman to help clean your car afterwards - they are just better at it). This is another fossil adventure for your "bucket list" - one less thing in my "bucket". Now the problem we all have - how do I sneak these trilobites into the house without my wife's finding out, and where do I store them?

All in all, this fossil trilobite trip was fun and productive. The 13 fossil trilobite species treasures that I collected included: *Bathyriscus fimbriatus*; *Bolaspidella wellsvillensis*; *Ptychagnostus cuyanus*; *Modocia laevenucha*; *Linguagnostus perplexus*; *Utaspis marjumensis*; *Bolaspidella* sp.; *Olenoides superbus*; *Asaphiscus wheeleri*; *Hemirhodon ampligye*; *Marjumia*

callas; *Elrathia kingi*; and *Alokistocare harrisi*. Other Cambrian fossil animals I collected included: trilobite resting traces *Ruscophycus*; large pylocarid; *Tuzoia* sp; *Gogia spiralis*; sponge *Diagonella* sp.; *Anomalocaris* coprolite; algal balls?; brachiopods *Acrothele subsidua*; and a possible worm.

I wish to acknowledge and thank the following rock hounds who promptly responded to my inquiries for advice and provided collecting suggestions: Jack Null, Tom Stout, Alan Silverstein, and Dave Fen.

Useful References:

Trilobite Jam:

<http://www.trilobitejam.com/generalinfo.html>

American Trilobite Suppliers at

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

U-Dig Trilobite Quarry: <http://www.u-digfossils.com/> ; Bug House store at 350 E. 300 South, Delta, UT, 435/864-3638 or 435/864-2402 (hard to find - turn South off Main at McDonalds & go to 300 South, turn left (east) on 300 to end of road & follow curve to the store on your left)

Other Trilobite Quarry: A New Dig at

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

Related Web Sites on Utah Trilobites:

<http://www.utahoutdooractivities.com/trilobitesudig.html>

<http://www.rockpicks.net/udig.htm>

<http://www.4x4now.com/truthr.htm>

<http://www.kumip.ku.edu/cambrianlife/>

<http://www.trilobites.info/Utah.htm>

<http://www.fieldadventures.org/utah/trilobitequarry.html>

<http://www.crossroadstresures.biz/articles/trilobites.htm>

<http://tyra-rex.com/collecting/u-dig.html>

Videos on Utah Trilobite Hunting:

<http://www.youtube.com/watch?v=ZjKdWyCImVo>

<http://www.youtube.com/watch?v=e45aPudDYPg>

http://www.youtube.com/watch?v=iw8ITe0_zAM

Moab, Utah Rock Shop:

Moab Rock Shop, 600 North Main,

Moab, UT, 435/259-7312 or

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

Utah Dino Track Site:

Dinosaur Discovery Site, 2180 E. Riverside,

St George, UT 84790, 435/574-3466 or

<http://www.sgcity.org/dinotrax/info.php>

Area Store Worth Visiting:

West Desert Collectors, 278 W. Main,

Delta, UT 435/864-2175 (ask to see more fossils in back)

Fossil Tool Supplier:

Geological Tools and Outfitter,

435/225-6421, <http://www.geo-tools.com/>

Area Accommodations:

Days Inn, 527 Topaz Blvd.,

Delta, UT 84624, ph. 435/864-3882 or

davsindelta@gmail.com

Some Upcoming Shows and Meetings

Our web site <http://www.nittanymineral.org> has links to more complete lists and details on mineral shows and meetings around the country.

Jan. 28, 2012: Rutgers Geology Museum Open House. Scott Hall (Room 123 & others), 43 College Ave., New Brunswick, NJ 08901. Four talks, mineral sale, mineral ID, make & take stations for kids (all ages), hands-on activity stations for kids (ages 8 and up). Free. Sat. 9-4. <http://geologymuseum.rutgers.edu/downloads/2012-open-house.pdf>

March 3-4, 2012: Annual Gem, Mineral & Fossil Show by Delaware Mineralogical Society. Newark, DE

March 10-11, 2012: North Jersey Gem and Mineral Show by The North Jersey Mineralogical Society. Pope John Paul II Center, 775 Valley Rd., Clifton. Sat & Sun 10-5. <http://nojms.webs.com/annualspringshow.htm>
<http://nojms.webs.com/2012springflyer.jpg>

March 24-25, 2012: Annual Gem & Mineral Show by Che-Hanna Rock & Mineral Club. Athens Twp. Volunteer Fire Hall, 211 Herrick Ave., Sayre PA. Sat 9-5, Sun 10-5. <http://www.chehannarocks.com/show.html>

March 24-25, 2012: Gem, Mineral & Jewelry Show by Franklin County PA Rock & Mineral Club. NEW LOCATION: Hamilton Heights Elementary School, 1589 Johnson Rd., Chambersburg. Sat. 10-5, Sun. 10-4.

April 19-22, 2012: Rochester Mineralogical Symposium. Rochester, New York. www.rasny.org/MineralSymp.htm

April 28-29 2012: New Jersey Earth Science Association Gem & Mineral Show by FOMS, NJESA and Sterling Hill Mining Museum. Franklin Borough School, 50 Washington Av., Franklin, NJ.

May 12, 2012: South Penn Rock Swap - SPRING SWAP by Franklin County & Central PA Rock and Mineral Clubs. South Mountain Fairgrounds, 1.5 miles West of Arendtsville, PA on Route 234. Sat only, 8 a.m. to 3 p.m.

May 19-20, 2012: "World of Gems and Minerals" by Berks Mineralogical Society. Rt 61, 7 miles South of I-78, Leesport Farmers Market, Leesport PA. Sat 10-5, Sun 10-4.

June 2, 2012: Spring Mineralfest by Pennsylvania Earth Sciences Association. Macungie Memorial Park, Macungie, PA. Saturday only 8:30 - 3:00. www.mineralfest.com

Sept 15-16, 2012, Eastern Federation of Mineralogical and Lapidary Societies Convention, and Central Pennsylvania Rock and Mineral Club Annual Show, Harrisburg

October 27, 2012: South Penn Rock Swap - AUTUMN SWAP by Franklin County & Central PA Rock and Mineral Clubs. South Mountain Fairgrounds, 1.5 miles West of Arendtsville, PA on Route 234. Sat only, 8 a.m. to 3 p.m. *

For sale / trade:

Has been moved to page 2 in this issue.

INVITE A FRIEND TO JOIN THE SOCIETY

The Nittany Mineralogical Society prides itself on having among the finest line-up of speakers of any earth sciences club in the nation. Everyone is welcome at our meetings. If you'd like to be part of our Society, dues are \$20 (regular member), \$7 (student rate), \$15 (seniors), \$30 (family of two or more members, names listed). Those joining in March or later may request pro-rated dues. Your dues are used for programs and speakers, insurance, refreshments, educational activities, Bulletins, and mailing expenses. Please fill out a membership form (available at www.nittanymineral.org), make checks payable to "Nittany Mineralogical Society, Inc." and send them to

Nittany Mineralogical Society, Inc.

P.O. Box 10664

State College, PA 16805

or bring your dues to the next meeting.

We want to welcome you!

SOCIETY OFFICERS

David Glick (President) 814-237-1094 (h)

e-mail: xidg@verizon.net

Dr. Bob Altamura (Vice-President) 814-234-5011 (h)

e-mail: raltamur@fscj.edu

John Passaneau (Treasurer) 814-231-0969 (h),

e-mail: jxp16@psu.edu

Ellen Bingham (Secretary)

e-mail: emb22@psu.edu

OTHER CONTACTS

Field Trips: Ed Echler 814-222-2642

e-mail preferred: eechler@comcast.net

Junior Rockhounds: Dr. Andrew Sicree

814-867-6263 (h) e-mail: sicree@verizon.net

Membership Chair: David Glick (see above)

Programs: Dr. Duff Gold 865-7261(o), 238-3377(h)

e-mail: gold@ems.psu.edu

Door Prizes: *volunteer needed!*

Facebook: Mike Zelazny e-mail: maz166@psu.edu

The Bulletin Editor will welcome your submissions of articles, photos, drawings, cartoons, etc., on minerals, fossils, collecting, lapidary, and club activity topics of interest to the members. Please contact:

David Glick E-mail: xidg@verizon.net

209 Spring Lea Dr. phone: (814) 237-1094 (h)

State College, PA 16801-7226

Newsletter submissions are appreciated by the first Wednesday of the month. If you include photographs or graphics, please do not embed them in word processor files; send them as separate graphics files (TIF, or good to highest quality JPEG files, about 1050 pixels wide, are preferred). Please provide captions and name of photographer or artist.

Visit us at www.nittanymineral.org