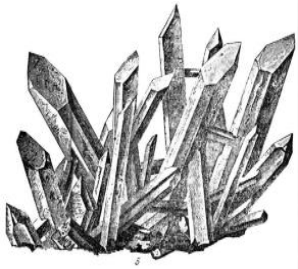
Ozark Earth Science Gem, Mineral & Fossil Club



http://www.ozarkearthscience.org

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

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

President/Editor	Vice President	Secretary	Treasurer/Proof Reader
Brenda Johnson	Edward Hakesley	Janel Cotter	Dorothy Hess
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A Member of the Midwest Federation of Mineralogy.

Sharon Waddell: Liaisons Officer - 417-256-8948

MWF Assistant Micromounter: Brenda Johnson

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

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

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

The President's Message

With the hottest part of the year facing us, we now have to find things to do to make sure we are not out in the heat taking a chance on heat stroke. I would still like to go to some of the caverns that we haven't been to as a club, and explore some of their formations. I am hoping to call about the Mystic Cavern for a field trip soon and would like to know at the next meeting how many would enjoy going on the trip. It isn't that far of a drive and would be a chance to also have a picnic. We use to have picnics in the past every year and it was great fun. Be thinking of whether you would enjoy this as one of our monthly field trips.

Many of us have had illnesses and deaths in our families recently. For those who have lost loved ones, we, the club, want to express our heart felt sympathy to you.

Our show is fast coming up. It is imperative that we do all the little finish work that needs doing before the last week of August. Don't forget to bring all you plan on donating for the grab bags and for spin and win to this next meeting. We will be preparing grab bags instead of having a program.

If you haven't yet signed up for working in one of the areas of the show, please see Ed Hakesley and let him know what you will be willing to do. We still need greeters. This year we will have a raffle prize for the juniors who come to the show. We need someone to help with the selling of raffle tickets too. There are several areas that are not yet filled, so please help. We want this show to be successful.

Brenda

The Minutes of the June 8, 2010 Meeting
By John Bouck for Janel Cotter

There were 12 members present, and no guests.

The meeting was convened by **Brenda Johnson**.

After a vicious technical struggle with the TV remote controls, **Ed Hakesley** presented video on "Rocks and minerals of Rush Arkansas" by Ozark Earth Science Club.

It dealt with zinc, lead, iron, and copper.

All mining ceased by the end of the First World War.

Badge prizes were awarded – **Ernie Confer** and **Madeline Anderson** won fine rock samples.

Previous meetings notes were accepted as written.

Financial report by Ernie Confer for Dorothy Hess:

$1,437 is current balance

Expenses $157 – mostly for club meeting door prizes

Sid and **A.J. Johnson** were absence visiting new grandson **Oskar Rockford Johnson**.

There was an update on our mineral show from **Sharon Waddell**

All dealer spaces are taken – three outstanding contract signatures

Gentleman from Florida wants to be backup vendor if necessary.

Banners have been finished and look very nice

Another 1000 postcards have been printed and will be sent to everyone who attended last year and left an address

Anyone attending other shows is encouraged to take additional fliers to give out at other shows – nobody is expected to

Refreshments next month by **John** and **Karla Bouck**.

Brenda reported on the recent field trip to Mount Ida some good rocks were found and a good time was enjoyed by all.

A trip to the Great salt flats near Jett, OK is coming up soon; sign up list has been passed around for June 22nd, 23rd, 24th

About 8 hour drive, state park nearby with cabins will require advance reservations

405-626-4731 to make reservations

Water and spray bottle are required to find crystals – will be hot

Minutes continued -

Sharon Waddell reported that the Peoria, IL Federation show will be same weekend as our show.

Sharon asked how many were interested in a Geode trip in July or October.

Sharon reported on a Crider Quarry trip. Too many cars and poor collect was all found.

Next months program is grab bag construction – bring everything you have to make grab bags.

Ernie Confer mentioned a Pastor geologist he wants to invite to talk about collecting sites in OK, Kansas and Arkansas. **Ernie** is to contact him and see what dates work well.

Matt Fuhr to be invited to talk next year

Mike Howard's web page is offering every book in his library for sale.

Karla reported on presenting Rocks of Arkansas to school children as part of the Bull Shoals Lake State Park education program.

The Show and Tell table was very interesting.

- Wonderful Manganese example was brought by **Gretchen Neal**.
- Ed brought oxides – hematite, kidney ore type, Cassiterite, columbite, tantalite including a radioactive sample
- **Brenda** brought recently acquired fossil originating from new York and quartz

Meeting closed at 8:45 P.M. by **Brenda Johnson**.

Safety in the Shop!
By Owen Martin, AFMS Safety Chair
http://www.amfed.org/news/n2009_12.pdf, selected by **Aradasa Johnson**, club Safety Chair

A note on safety in your shop, lab, work room, basement, etc. As a fossil hunter sometimes the thing that I most look forward to and likewise dread the most is getting my "stuff" back to the house.

I may have to use a pressure washer to blast off mud from my fossilized wood or 40 pound ammonites, use some chemicals to clean lime off some invertebrates or maybe use some tools, be they hand or pneumatic, to chip off the tougher crust. Maybe if I 'm lucky I found a good "round" of pet wood that I want to cut and polish down at the club. Ooooh, and I just found my first agate ever and I don't even know what I can do to that yet! What ever it is that I do there is almost always some inherent risk in the process. Below is a list of different hazards to consider in the lab.

Safety continued -

Eye protection. As I mentioned above power washing is a good example of something a lot of us do that can potentially injure your eyes however certainly not the only thing. Almost every type of prep-work that we practice necessitates even protection: grinding, polishing, cutting, shipping, sand blasting, soldering, and chemical cleaning, etc. Different types of eye protection should be used depending on your activities. For most of us protective glasses are good, however, goggles may need to be worn when using chemicals or when grinding certain materials. As co-worker of mine once said to a lady that liked to put on makeup while driving, "no matter how advanced modern medicine has become, glass eyes still don't look real."

Respiratory protection. Similar in some ways to eye protection respiratory protection can be very important when handling certain cleaning chemicals and when dealing with certain dusts. Asbestos is a common example of a respirable dust that although not inherently toxic can cause cancer, especially with smokers. Other dusts can temporarily clog breathing passages thus impacting, sometimes critically, the body's ability to get oxygen into the blood. Chemicals can be very bad, too, as the lungs can quickly introduce toxins into the blood. Of note some of the oils that we use in our cutting saws can be dangerous. Keep in mind that dust masks may not stop some dusts and certainly no airborne chemicals.

Chemical safety. The most common chemical accidents usually have something to do with the above mentioned issues and involve acids, soaps, other caustics and solvents. PLEASE READ the safety notes or MSDS (Material Safety Data Sheets) on all chemicals you may use. Some need to be used in areas where there is good ventilation; others require high-end respirators and still more may necessitate protective clothing. Not common in the shop, but you never know! Also, be aware of the potential danger of mixing chemicals and as a general rule don't do it. Most of us have probably heard that mixing chlorine and ammonia, two of our most common household chemicals is bad. Essentially the mixing of the two releases chlorine into your air - very bad.

Hearing protection. What? You didn't hear me the first time? Do you remember the pictures of all the trees blown down in the same direction after Mount St. Helens erupted? Loud noise does the same thing to the ear and much like the trees once the filia (hearing fibers) are damaged they don't stand themselves back up. If you think 'maybe I should be wearing ear plugs' then it's usually a good indication that you already answered the question. Electrical and Fire hazards. If your shop is like mine then it can get pretty cluttered. Bottles of flammables may end up next to overloaded electric outlets or boxes of old journals. Cleaning up the clutter has two (or more) benefits by reducing fire hazards and making it more obvious where potential problems exist - like damaged electrical cords or overloaded outlets. Ideally flammable

Safety continued -

liquids will be stored in a flammables storage cabinet. If you have a pretty good sized shop then one of these is a good investment. For most clubs the local fire code will require enough to handle what you have on site.

The hazards involving fire and electrical vary in type and risk level. Having been "grounded" on four different occasions I can tell you that water and electrical cords do not mix! I used to work as a caretaker for saltwater fish tanks and it had its challenges... Overloaded plugs can be a problem in our shops. Keep in mind that just because a tool isn't turned on doesn't necessarily mean that electricity still isn't running through it. Fire and shock are both risks in this situation. It's safer to keep your equipment unplugged and properly stored when not in use.

For some general rules: Always wear eye protection. Keep your shops cleaned and well organized. Make sure electrical chords are in good condition. Keep reactive things away from each other; be they chemicals, electrical, fire hazards or a combinations of each. Don't mix chemicals. Practice safety in your shops!

As always, if anyone has a safety incident or issue that they would like to share with the organization please contact me at <owenmartin@yahoo.com>.

Dinosaur Had Horns the Size of Baseball Bats

By Jeanna Bryner, LiveScience Managing Editor
posted: 28 May 2010 12:02 pm ET – www.livescience.com

This fleshed-out artist's rendering of the Mexican horned dinosaur Coahuilaceratops, shows its gigantic horns – larger than any member of its group, including the famous Triceratops. Credit: Lukas Panzarin for the Utah Museum of Natural History.

A tubby dinosaur sporting horns each the length of a baseball bat roamed what is now Mexico some 72 million years ago.

Dinosaur Horn continued -

Remains of the plant-eating dinosaur, now called *Coahuilaceratops magnacuerna*, were unearthed from the Cerro del Pueblo Formation in Coahuila, Mexico. Fossils belonging to both an adult and juvenile of the species were unearthed at the site.

When alive, the dinosaur would have been about the size of a rhinoceros, weighing 4 to 5 tons (3,600 to 4,500 kilograms), with horns estimated to be 3 to 4 feet long (about 1 meter). The horns are considered the longest of any ceratopsids, a group of plant-eating horned dinosaurs whose members include the famous *Triceratops*.

Like other horned dinosaurs, *Coahuilaceratops* probably used its headgear to attract mates and fight with rivals of the same species.

Rockhounding in Our National Forests

By Carl Talbott, *Lodestar* Editor May 2010

There has been considerable uncertainty in recent years regarding U.S. Forest Service rules and regulations regarding rockhounding. Perhaps because of legislation enacted last year calling for Nation Forest districts to establish appropriate rules for rock collecting, some clarity has begun to surface. The (North Carolina) Nantahala and Pisgah National Forest district management have posted the following policy statement on their web site www.cs.unca.edu/nfsnc.

Update on North Carolina National Forest Rockhounding/Gold Panning/ Metal Detecting Policy

Over the past year, forest managers have been working on a more detailed policy for recreational rockhounding, gold panning and metal detecting on national forest lands. Because some aspects of national regulations regarding Forest Service authorities are being reviewed and may be modified, we will defer revising our forest policy until 2010. In the interim, the current rockhounding policy will remain in place. This is a summary of those rules:

Recreational rockhounding may take place at areas where minerals are loose and free on the surface, and the activity is not restricted by permit or in an area designated as closed for this activity. Mineral collection must be with non-mechanical equipment and result in no significant ground or stream disturbance.

Recreational gold panning is allowed where minerals are in federal ownership, using no mechanized equipment, where no ground disturbance takes place, and where streams are not designated as closed to this activity.

Metal detecting is not allowed on national forest lands unless an area is designated open for this activity or an individual has obtained a formal authorization from the appropriate District Ranger (or their representative*).* In another part of their web site concerning wilderness areas, we learn that no rock or

Rockhounding In Our National Forests continued

plant collection is permitted in areas of the Nantahala and Pisgah National Forest designated as wilderness areas. Chattahoochee - Oconee National Forest (Georgia) District management have a more explicit policy statement on their web site (found by going to www.fs.fed.us and selecting Georgia. forests) as compared to their North Carolina counterparts.

Rockhounding and Gold Panning in the Chattahoochee - Oconee National Forest (Georgia)
Gold Panning:
In most cases, stream-bed (placer) gold does not exist in sufficient quantity to constitute economically recoverable deposits. Usually no more than a few cents worth of gold can be panned in an hour; however, there's always a chance of finding a stray nugget or odd pocket of finer gold. Recreational panning for gold in most stream beds is allowed. Special permission, permits, or fees are not required as long as significant stream disturbance does not occur and when only a small hand shovel or trowel and a pan are used. In-stream sluices and suction dredges are NOT allowed. Contact the District Ranger office to be sure the stream is on national forest land. The district office can also give you information on road access and road conditions. Some forest areas are easily accessible by family autos while others may be inaccessible or accessible only by four-wheel drive vehicles. Some roads close seasonally and remote areas may only be accessible by foot. You can find information on seasonal road closures on our Motor Vehicle Use Maps.

Rock Hounding:
A "rock hound" is any amateur who hunts and collects rocks and minerals as a hobby. Within the Chattahoochee—Oconee National Forests, rock hounds may find a wide variety of sedimentary, metamorphic, and igneous rock types, along with many individual minerals. Recreational rockhounding may take plave at areas where minerals are loose and free on the surface. Before selecting a site, rock hounds should check with the District Ranger offices to determine the following: The location is on National Forest land. Rock hounding is permitted in the area.

From the Mountain Gem, May 2010

Bauxite…Not a Mineral?

By **Sharon John** for *the Mountain Gem* via the Mountain Gem, June, 2010

Bauxite is not a mineral, but a rock with minerals in it. Bauxite is a sedimentary rock that is an aluminum ore. It is formed in weathered volcanic rocks. It costs a lot of money to get the aluminum out of other ores, so bauxite is important. Open pit mining is used to get bauxite. The water in bauxite is taken out of the ore. This leaves a white powder that is called alumina, which is another name for Aluminum oxide. Alumina is made into aluminum. The U.S. makes the most aluminum, but does not mine it here. We bring bauxite in from other countries like Australia, Brazil, India and Russia. Bauxite is used in cement, chemicals, face makeup, soda cans, dishwashers, siding for houses, and other aluminum products. It is recycled so that it can be used over and over.
Sources: Internet site called Think Quest and the
Discovery Channel.

Bauxite continued-

Editor's note: Some of you may not know the following:

Bauxite

Bauxite was designated the official state rock of Arkansas in 1967. Arkansas has the largest bauxite deposits in the United States (located in Saline County). Bauxite contains aluminum ore, used to make soft drink cans, aluminum foil, and many other products. The photo below shows a bauxite boulder near Little Rock, Arkansas.
The plaque says:

BAUXITE BOULDER

This bauxite boulder of high quality aluminum-bearing ore was placed March, 1943, to symbolize Arkansas's contribution to World War II. The boulder weighs nearly twenty tons. It was brought from the Dulin Bauxite Mine near Sweet Home, Pulaski County. The state of Arkansas is furnishing over 98 per cent of all bauxite mined in the United States for aluminum production. This tablet is made of aluminum manufactured from this type of ore. Homer M. Adkins, Governor CG. Hall, Secretary of State

Bauxite rock with high-quality aluminum ore in Little Rock, Arkansas
(text on the plaque is above picture) -
photo © kat selvocki / lemony kickit (shiny red type) on Flickr - noncommercial use permitted with attribution / no derivative works

Source: **Aluminum & Bauxite: Mineral Information Institute**
State Symbols: The Traveler's Guide to Arkansas

From www.statesymbolsusa.org

Useful Webb Sites

Here are a few websites that we think everyone would find interesting and useful. This list will be updated as new items are brought to The Nugget.

For Fossils:

1) http://www.uky.edu/OtherOrgs/KPS/pages/fossilphoto.html (great for Paleozoic fossils)
2) http://www.lakeneosho.org/Paleolist/index.html#91
3) http://strata.geology.wisc.edu/mibasin/
4) www.oceansofkansas.com (great for Cretaceous fossils)
5) www.fossils-facts-and-finds.com (Fossils stuff and Fossils Coloring sheets for the Kids)

For Rocks and Minerals:

1) www.Mindat.org
2) www.minerals,net
3) http://geology.about.com/library/bl/images/blrockindex.htm they have great pictures and also have fossil and mineral pictures as well as ID.

Geology Books:

1) "Dictionary of Geologic Terms" by the American Geological Institute

Respectfully, Nancy Roberts and Robert Langford, the Nugget, June, 2010.

Make sure you remember to bring all you have to make grab-bags to the club meeting. That will replace our program.

Refreshments will be by Karla & John Bouck this month.

Two Geologists are walking across a granite outcrop one day. The first says to the second "Hey, this terrain is unmetamorphosed".

Replies the second one, "No Schist".

Okay, if you are a real geologist, you probably enjoy transferring geology vocabulary into everyday situations. For example, if you agree with what someone has said, you may say, You breccia! or My sediments exactly!

And if you are not pleased with the person's statement, you may resort to the old:

That's not gneiss!

The Sliding Rocks of Racetrack Playa

One of the most interesting mysteries of Death Valley National Park is the sliding rocks at Racetrack Playa (a playa is a dry lake bed). These rocks can be found on the floor of the playa with long trails behind them. Somehow these rocks slide across the playa, cutting a furrow in the sediment as they move.

Some of these rocks weigh several hundred pounds. That makes the question: "How do they move?" a very challenging one.

The truth: No one knows for sure exactly how these rocks move - although a few people have come up with some pretty good explanations. The reason why their movement remains a mystery: No one has ever seen them in motion!

Racetrack playa is lake bed that is almost perfectly flat and almost always dry. It is about 4 kilometers long (2.5 miles - north to south) and about 2 kilometers wide (1.25 miles - east to west). The surface is covered with mud cracks and the sediment is made up mainly of silt and clay.

All of the best explanations involve wind as the energy source behind the movement of the rocks. The question remains is do they slide while encased in an ice sheet or do they simply side over the surface of the mud? Perhaps each of these methods is responsible for some rock movement?

Perhaps this story will remain more interesting if the real answer is never discovered!

For more information go to www.geology.com

New Discovery about How Water Moves Through Soil – Some of the Fundamental Assumptions of Water Movement Might be Incorrect

Republished from a January, 2010 press release by Oregon State University via **www.geology.com**

Behavior of Water in Soil Surprises Researchers

Researchers have discovered that some of the most fundamental assumptions about how water moves through soil in a seasonally dry climate such as the Pacific Northwest are incorrect-and that a century of research based on those assumptions will have to be reconsidered.

A new study by scientists from Oregon State University and the Environmental Protection Agency showed, much to the surprise of the researchers, that soil clings tenaciously to the first precipitation after a dry summer, and holds it so tightly that it almost never mixes with other water.

Implications of the Discovery

The finding is so significant, researchers said, that they aren't even sure yet what it may mean. But it could affect our understanding of how pollutants move through soils, how nutrients get transported from soils to streams, how streams function and even how vegetation might respond to climate change.

The research has been published in nature Geoscience, a professional journal, with a title of "Ecohydrologic Separation of Water between Trees and Streams in a Mediterranean Climate."

Two Modes of Water Occurrence in Soil

"Water in mountains such as the Cascade Range of Oregon and Washington basically exists in two separate worlds," said Jeff McDonnell, an OSU distinguished professor and holder of the Richardson Chair in Watershed Science in the OSU College of Forestry. "We used to believe that when new precipitation entered the soil, it mixed well with other water and eventually moved to streams. We just found out that isn't true."

"This could have enormous implications for our understanding of watershed function," he said. "It challenges about 100 years of conventional thinking."

Soil near Plant Roots Attracts and Holds Water

What actually happens, the study showed, is that the small pores around plant roots fill with water that gets held there until it's eventually used up in plant transpiration back to the atmosphere. Then new water becomes available with the return of fall rains and replenishes theses small localized reservoirs near the plants and repeats the process. But all the other water moving through larger pores is essentially separate and almost never intermingles with that used by plants during the dry summer. The study found in one test, for instance, that after the first large rainstorm in October, only 4% percent of the precipitation entering the soil ended up in the stream; 96.5% was taken up and held tightly by soil around plants to recharge soil moisture. A month later when soil moisture was fully recharged, 55% of precipitation went directly into streams. And as winter rains continue to pour moisture into the ground, almost all of the water that originally recharged the soil around plants remains held tightly in the soil. It never moves or mixes.

"This tells us that we have a less complete understanding of how water moves through soils, and is affected by them, than we thought we did," said Renee Brooks, a research plant physiologist with the EPA and courtesy faculty in the OSU Department of Forest Ecosystems and Society. (For more see www.geology.com)

Dates to Remember

July

10 – 11 **Roseville, MN,** Summer Show, Har Mar Mall, 2100 Snelling Avenue

11 **Lincoln, NE,** Grinding Party, Pioneer Park Nature Center, W Van Dorn & Coddington

17-18 **Moose Lake, MN,** Annual Agate Days, Moose Lake High School, 413 Birch Avenue

Dorothy Hess
1177 County Road 1084
Mountain Home, AR 72653-6203