



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

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

President/Editor	Vice President	Secretary	Treasurer
Brenda Johnson	Edward Hakesley	Janel Cotter	Dorothy Hess
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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: 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

Another February is here and I hope we do not have a repeat of last year with another ice storm like we experienced. That saying for this area of “wait a minute and the weather will change” is so true. If we do get ice, I can not stress enough that you take the utmost safety precautions while walking on it.

As we think of the possibility of being shut in awhile, it is a good time to tidy up your books, and weed out those not so good specimens you might have. When you do so, remember our spin-and-win prizes, grab bags, and club door prizes.

Our upcoming show is in the works and Sharon sent out the contracts to those who want to set up. If you have never had a booth at a show, you might want to think about doing it in the future. It not only will let you sell those extra specimens you have that you don’t display, but will help you meet many people that you can learn from too. You can take the money that you make and upgrade your specimen quality and amount for the next show, and it will quickly be a hobby that will pay for itself. Keep this in mind and help our show grow.

Stay safe and well.

Brenda

1/12/2010 O.E.S.C. Minutes - Janel Cotter, Secretary

Meeting was brought to order at 7:00 p.m.

1. President **Brenda Johnson**, informed the club that **Ernie Confer's** sister had passed away. The club wished to send a sympathy card, the secretary was asked to mail the card.
2. Motion was made to accept the minutes from the last meeting.

Treasure's report: The club had an income of \$197.00- \$152.00 collected in dues and \$45.00 for tables for August 2010 show. The club had expenditures of \$407.67- leaving a balance of \$1317.12 as of January 11, 2010.

Field trip- **Nancy Roberts** from the Northern Mississippi club informed our president that a field trip had been planned for January 30, 2010 for Parson's Quarry, in Parson, Tennessee, and that our club members were invited too.

The club discussed a possible area in San Diego, CA that may be nice for a future field trip.

The next Micromount meeting is tentatively scheduled for March.

Harvey Johnson informed the club members of possibly donating to the library by the purchase of a stepping stone that would be displayed at the library. It would be a good opportunity to reach a large diverse group of people to let them know that we are here.

Articles are needed for the club bulletin. This could be used to supply information to members who were not able to attend the meeting. This would also inspire interest in the local and surrounding areas and hopefully draw in new members.

The club discussed "field trip safety", spearheaded by Safety Chair, **Aradasa Johnson**. It was decided that more information was needed concerning safety and laws on collecting, and a club program may be planned on this matter in the future.

The door prizes were won by: **Harvey Johnson** and **Edward Hakesley**.

The raffle drawing was won by **Kurt Schmitt** and **Janel Cotter**.

As always everyone was encouraged to browse the club scrapbook put together by **Sidney Johnson!** The meeting was adjourned at 8:35 with all enjoying refreshments brought by **Janel Cotter**.

January 2010 Financial Report
Dorothy Hess, Treasurer

Last Report Balance: (December 7, 2009) \$ 1,527.79

Income:

Membership dues		\$ 152.00
Table fees for August 2010 show		\$ 45.00
	Total	\$ 197.00

Expenses:

Annual awards and engraving		\$ 71.25
Rent & mail two club programs		\$ 23.40
Magazine subscription for Library		\$ 53.00
Donation to Food Bank of No. Cent. Arkansas		\$ 11.00
Donation to Salvation Army Food Bank		\$ 25.00
Donation to Van Matre Senior Center		\$ 50.00
Publish January newsletter (12 copies)		\$ 9.07
January club website fee		\$ 29.95
Midwest Federation dues and insurance		\$ 104.50
	Total	\$ 407.67

Checkbook balance as of January 11, 2010 \$ 1,317.12

The theme for the Show-and-Tell table this month will be the sulfate group of minerals; barite, anhydrite, celestite, anglesite, glauberite, gypsum (selenite, etc.), chalcantinite, brochantite, linarite, and so on. Of course, if you have none of these, bring whatever you wish to show.

Refreshments this month are by
Patti Jane Torell

General Safety via the desk of Aradasa Johnson, Safety Director

SAFETY TALK - HO HUM!

By Mel Albright - AFMS Safety Chairman

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

What's your reaction when someone says there's going to be a safety talk? If you're like most people, you immediately wish you were somewhere else. Is it because the people who talk about safety are boring? Or, do you consider yourself infallible and immortal? Yes, many speakers are and no you aren't either. When we get bored at the sound of the word "safety", we're not really thinking danger is a part of the things we do.

However, we are engaged in a hobby in which there are a great number of ways to hurt you or be hurt by others. So, we really should think about what we are doing and how we are doing it. We use poisonous materials, have flammable materials, use acid and caustic materials, use fire, generate dangerous fumes, drive in convoys, get out in the sun a lot, are often around unstable cliffs, ditches, and the like, use tools which often release flying material, use electrical equipment around water, use rotary tools, and more.

Do you know how to protect yourself and your friends in every one of these cases? Or, are you like many of us? - Just go ahead and never think about something going wrong? Do you own protective equipment - like canvas and rubber gloves, eye protection, safety shoes, and safety hats? If you own them, do you use them? Face it, most of us don't. Can you treat insect and snake bites?

May I suggest something new? How about a "Safety Minute" at each club meeting. Either have a safety chairman or ask someone new each meeting to simply mention some one thing that people in the club do that should require safety considerations. No one has time to get bored. Everyone is reminded that there are ways to get hurt in following this hobby. An extra free benefit of this idea is that people will become more safety conscious even doing things that are never mentioned in the meeting. Hey, give it a try!

Mid-plate earthquakes may be ancient aftershocks



Earthquakes in unexpected areas may be aftershocks from long-ago temblors, researchers say.

Quakes continued -

Most earthquakes occur in zones where tectonic plates collide are well-studied – the Pacific Rim’s “Ring of Fire,” being the best-known in the United States. But earthquakes can occur in the middle of plates as well, and sometimes they’re big ones.

The 7.9 magnitude Sichuan, China quake of May 2008 is the most recent. There were also major quakes near New Madrid, Miss. in Dec. of 1811 and Charleston, S.C. in Aug. 1886. These U.S. sites are listed as being at risk for future major earthquakes by the U.S. Geological Survey, which has an effect on building codes and insurance rates.

Geologists Seth Stein and Mian Liu now suggest that mid-plate areas such as those may not be at on-going risk for major new quakes, but may instead have been experiencing aftershocks from prior temblors.

Earthquakes happen when pressure builds up on a tectonic plate, either at the edges or in the middle, and is suddenly released, causing seismic waves in the Earth’s crust.

In a letter published in the journal Nature, the researchers, at Northwestern University and the University of Missouri-Columbus, suggest that those interior quakes may not have been the result of an initial release of pressure, but are instead aftershocks from earthquakes that occurred hundreds and even thousands of years ago.

For most large quakes where tectonic plates meet, the initial quake is the largest, followed by aftershocks that diminish in strength and generally fade away within a decade. These mid-plate quakes may have aftershock periods that occur over much greater time periods.

Palaeoseismology shows that the New Madrid area in Mississippi had quakes in 900 AD and 1450 AD, which combined with the 1811 quake cluster would give a 500 year interval.

Other areas may have even longer ones. Areas not known for seismic activity which have experienced large quakes include Charlevoix, Quebec in 1663 and Basel, Switzerland in 1356.

By Elizabeth Weise

Photo: This May 18, 2008 file photo shows Chinese soldiers walking over the ruins of collapsed buildings as they search for earthquake victims in China's Sichuan province. (Greg Baker, AP) Posted November 04, 2009 in Physical Sciences.

Contributed by **Edward Hakesley**

It has been decided that the next micromount meeting will be in April after Ernie Confer and Madelyn Anderson have returned.

ALEXANDRITE

This rare gemstone is named after the Russian tsar Alexander II (1818-1881), the very first crystals having been discovered in April 1834 in the emerald mines near the Tokovaya River in the Urals. The discovery was made on the day the future tsar came of age. Although alexandrite is a relatively young gemstone, it certainly has a noble history. Since it shows both red and green, the principal colors of old Imperial Russia, it inevitably became the national stone of tsarist Russia.

Beautiful alexandrite in top quality, however, is very rare indeed and hardly ever used in modern jewelry. In antique Russian jewelry you may come across it with a little luck, since Russian master jewelers loved this stone. Tiffany's master gemologist George Frederick Kunz (1856- 1932) was also fascinated by alexandrite, and the jeweler's firm produced some beautiful series of rings and platinum ensembles at the end of the 19th and beginning of the 20th century. Smaller Alexandrite was occasionally also used in Victorian jewelry from England.

The most sensational feature about this stone, however, is its surprising ability to change its color. Green or bluish-green in daylight, alexandrite turns a soft shade of red, purplish-red or raspberry red in incandescent light. This unique optical characteristic makes it one of the most valuable gemstones of all, especially in fine qualities.

Alexandrite is very scarce: this is due to its chemical composition. It is basically a chrysoberyl, a mineral consisting of colorless or yellow transparent chrysoberyl, chrysoberyl cat's eye and color-changing alexandrite (also in cat's eye varieties). It differs from other chrysoberyl in that it not only contains iron and titanium, but also chromium as a major impurity. And it is this very element which accounts for the spectacular color change. Rarely, vanadium may also play a part. According to CIBJO nomenclature, only chrysoberyl displaying a distinct change of color may be termed alexandrite.

Like many other gemstones, alexandrite emerged millions of years ago in a metamorphic environment. But unlike many others, its formation required specific geological conditions. The chemical elements beryllium (a major constituent in chrysoberyl) and chromium (the coloring agent in alexandrite) have contrasting chemical characteristics and do not as a rule occur together, usually being found in contrasting rock types. Not only has Nature brought these contrasting rock types into contact with each other, but a lack of the chemical element silica (the second most common element in the Earth's crust) is also required to prevent the growth of emerald. This geological scenario has occurred only rarely in the Earth's history and, as a result, alexandrite crystals are very scarce indeed.

Article from <http://www.gemstone.org/gem-by-gem/english/alex.html> Photos from <http://www.gemsociety.org/info/gems/Alexandrite.htm>, <http://www.khazargems.com/>

<http://www.mysticgames.com/gems/Alexandrite.htm> via GCLFS Newsletter, Jan. 2010

Tips & Tidbits

From *The Rockcollector* 12/2009

More Comfortable Cab Cutting—is the edge of your cab machine water trough sharp? When you're cutting a cab, does the edge dig into your wrist or arm? Here's an easy and inexpensive solution to end your discomfort. Get a piece of foam pipe insulation from the hardware store and place a piece of it over the edge of the trough. Voila, no more discomfort! And, you can easily remove the foam when you go to empty or clean the trough (from Gem Cutters News 6/08 via The Rockhounder 11/09).

Working with Dark Colored Moss Agate—like the black Montana variety, small pits may sometimes appear on the finished, polished surface. The light colored polishing powders, such as tin oxide or cerium oxide, often pack into these small pits, making removal difficult and white spots surely distract from the stone's appearance. Try rubbing a small bit of black India ink into the spotted area, and then try to rub off the ink. The white spots will disappear (from Rockhound Rambling 9/08 via Quarry Quips 8/09).

Need a Compass?—If the sun is shining and you have a watch with an hour hand, you have a compass. Set the watch face up and arrange a slender object, a match or a flower stem, upright at the rim of the watch in such a way that its shadow lays atop the hour hand. No matter what time it is, halfway back from the hour hand to the number 12 is south (from Petrograph 4/04 via Shawnee Slate 9/09).

Keeping Ivory in Light—don't put ivory in the dark! It is one substance that needs light. If it has started to yellow, take half a lemon and rub it in some salt. Then rub it over the ivory object. The lemon will work on the yellow discoloration. After it is dry, dampen a soft cloth with lukewarm water, and rub the ivory

All via 12/09 Pick & Pack and GCLFS Newsletter, January 2010

Truly Bizarre

Ashes to Portraits is a unique, ONE-OF-A-KIND concept. We create beautiful painted portraits using your loved one's ashes and our secret mixture of oil paint! Visit our website at <http://www.ashestoportraits.com>

Fossil Facts: **Brachiopods**

Brachiopods (from Latin *brachium*, arm + New Latin *-poda*, foot) are a small phylum of bent invertebrates. Also known as lamp shells (or lampshells), "brachs" or Brachiopoda, they are sessile, two-valved, marine animals with an external morphology superficially resembling bivalves to which they are not closely related. Approximately 99 percent of all brachiopod species are documented solely from the fossil record. Modern brachiopods range from 1 to 100 millimetres (0.039 to 3.9 in) long, and most species are about 10 to 30 millimetres (0.39 to 1.2 in). Each has two valves (shell sections) which are biomineralized. The brachial valve bears on its inner surface the brachia ("arms") from which the phylum gets its name, and which supports the lophophore, used for filtering and respiration. The other is known as the pedicle valve, as its inner surface bears the stalk-like pedicle by which most brachiopods attach themselves to surface. The brachial and pedicle valves are often called the dorsal ("upper") and ventral ("lower"), but some paleontologists regard "dorsal" and "ventral" as incorrect terms, since they believe that the "ventral" valve was formed by folding of the upper surface under the body. Irrespective of this debate, the valves of brachiopods are differently arranged of those of bivalve molluscs, which lie on the left and right sides of the body. In most brachiopod species both valves are convex, the surfaces often bear growth lines or other ornaments, and the pedicle valve is larger than the brachial. However, the lingulids, which burrow into the seabed, have valves that are smoother, flatter and of similar size and shape. Over 12,000 fossil species are recognized, grouped into over 5,000 genera. While the largest modern brachiopods are 100 millimetres (3.9 in) long, a few fossils measure up to 385 millimetres (15.2 in) wide

The earliest confirmed brachiopods have been found the early Cambrian, with the hingeless, inarticulate forms appearing first, followed soon after by the hinged, articulate forms. Three unmineralized species have also been found in the Cambrian, and apparently represent two distinct groups that evolved from mineralized ancestors. The inarticulate *Lingula* is often called a "living fossil", as very similar genera have been all the way back to the Ordovician. On the other hand, articulate brachiopods have produced major diversifications, and severe mass extinctions – but the articulate Rhynchonellida and Terebratulida, the most diverse presentday groups, appeared at the start of the Ordovician and Carboniferous respectively. At their peak in the Paleozoic the brachiopods were among the most abundant filter-feeders and reef-builders, and occupied other ecological niches, including swimming in the jet-propulsion style of scallops. However, after the Permian–Triassic extinction event, informally known as the "Great Dying", brachiopods recovered only a third of their former diversity. They were still quite diverse and abundant in the Jurassic and Cretaceous, but have slowly declined.

More Information on Brachiopods

Scientists have found that brachiopod fossils have been useful indicators of climate changes during the Paleozoic era. When global temperatures were low, as in much of the Ordovician, the large range of temperatures between equator and the polar created different collections of fossils at different latitudes. On the other hand, warmer periods, such as much of the Silurian, created smaller ranges of temperatures, and the low to middle latitudes had only a few brachiopod species that lived in all the warmer seas. Brachiopods are extremely common fossils throughout the Paleozoic. The major shift came with the Permian extinction. Before this extinction event, brachiopods were more numerous and diverse than bivalve mollusks.

Afterwards, in the Mesozoic, their diversity and numbers were drastically reduced and they were largely replaced by bivalve mollusks. Mollusks continue to dominate today, and the remaining orders of brachiopods survive largely in fringe environments. The origin of the brachiopods is unclear; two hypotheses suggest how a bivalve lifestyle could have emerged. The most abundant modern brachiopods are the Class Terebratulida. The perceived resemblance of Terebratulida shells to ancient oil lamps gave the brachiopods their common name "lamp shell". The phylum most closely related to Brachiopoda is probably the small phylum Phoronida (known as "horseshoe worms"). Along with the Bryozoans and possibly the Entoprocta, these phyla constitute the informal super phylum Lophophorata. The brachiopods evolved in the lower Cambrian, and became particularly numerous in shallow water habitats during the Ordovician & Silurian, in some cases forming whole banks in much the same way as bivalves (such as mussels) do today. In some places, large sections of limestone strata and reef deposits are composed largely of their shells.

Throughout their long geological history, the brachiopods have gone through several major proliferations and diversifications, and have also suffered from major extinctions. It has been suggested that the slow decline of the brachiopods over the last 100 million years or so is a direct result of (1) the rise in diversity of filter feeding bivalves, which have ousted the brachiopods from their former habitats; (2) the increasing disturbance of sediments by roving deposit feeders (including many burrowing bivalves); and/or (3) the increased intensity and variety of shell-crushing predation. However, a famous paper by Stephen Jay Gould suggested that the rise in bivalves which accompanied the downfall of the brachiopods was nothing more than coincidence - the two lineages were like "ships that pass in the night". The greatest successes for the bivalves have been in habitats that have never been adopted by the brachiopods, such as burrowing.

The abundance, diversity, and rapid evolution of brachiopods during the Paleozoic make them useful as index fossils when correlating strata across large areas. (Much more at www.wikipedia.org).

Pebble Pups

Try this at home! – Crystal Towers

This demonstrates how cave type stalagmites are formed.

Ingredients:

2 pint jars, 1 jar lid, 10 tablespoons Borax (washing soda), a strip of old towel (1 x 18 inches), a measuring spoon and cup, a stirring spoon, hot tap water, and a cookie sheet.

Place two jars on a cookie sheet next to each other separated by the jar lid. Fill each jar with a solution of Borax and water – 12 ounces of hot tap water to each jar with 5 tablespoons of Borax in each jar. Stir until dissolved. Put one end of the towel in each jar with a dip in the center between the jars so the solution will travel along the towel and drip in between the jars onto the jar lid. It will drop one by one drop and create a pillar of crystals. If let go long enough, the pillar will grow down from the towel and up from the lid until it meets in the middle, just like a real cave.

The original source is unknown. Via Rock Collector, 04/2004 & the Calgary Lapidary Journal, June, 2009

Joke – from the Post Rock – November, 2009

When I stopped to pick up Chris for preschool, I saw an older woman hugging him as he left the house.

–Is that your grandmother?” I asked

–Yes,” Chris said, –She’s come to visit us for Christmas.”

–How nice,” I said. –Where does she live?”

–At the airport,” Chris replied. –Whenever we want her, we just go to the airport and get her.”

Diplomacy 101

From the Calgary Lapidary Journal – June, 2009

The difference between being diplomatic and undiplomatic is the difference between saying:

–When I look at you, time stands still.” And saying, –Your face would stop a clock.”

“Those who stand for nothing fall for anything.” Alexander Hamilton

Striped Icebergs

Icebergs in the Antarctic area sometimes have stripes, formed by layers of snow that react to different conditions.

When an iceberg falls into the sea, a layer of salty seawater can freeze to the underside. If this is rich in algae, it can form a green stripe.

Brown, black and yellow lines are caused by sediment, picked up when the ice sheet grinds downhill towards the sea.

Blue stripes are often created when a crevice in the ice sheet fills up with melt water and freezes so quickly that no bubbles form.



Frozen Waves



Sediments in an iceberg

This is taken from an e-mail that was originally taken from somewhere on the Internet.

Sympathy Extended

Our sympathy to **Sidney Johnson and family** on the loss of his Uncle who lived in Leslie, Arkansas. Also to **Ernie Confer and family** on the loss of his sister.

Programs

Our program for January was a very interesting third of a series on the *Lost Worlds* narrated by David Attenboro. For the February program we will see the fourth and last of the series. These programs take us to places we can never go as rockhounds, showing us how the dinosaurs and other things lived. It has been a good refresher course for many of us in many ways.

If you have an idea for a program in the future, please see **Edward Hakesley** and let him know. He is open for any and all suggestions.

Feeling Old?

If you sometimes think you are getting old and past the learning stage, I want to remind you that we have one of the best University campuses for a two year college in the state. They offer many non-credited classes for Senior Citizens at very minimal costs. For instances, in their spring and summer schedule, they have several computer classes, language classes, career classes, photography, social dance, ceramics, genealogy, concealed handgun, and a **free** class on Arkansas History.

For those who know someone or who may yourself be wanting to go back to work, there are also classes on Certified Nursing Assistant and Welding that are credited classes, along with several online credited classes.

I utilize our University as much as possible for picking up classes that I have missed in the past. Why not call them at the Center for Workforce and Continuing Education at 870-508-6106 or email at training@asumh.edu and have them send you one of their Spring/Summer catalogues of classes? You may find something that will interest you too.

Joke

Brenda's six-year old daughter was explaining to the other kids what "extinct" meant. —"Well," she said in all seriousness, —"it means that the dinosaurs are all dead and have been dead so long they don't stink anymore. That's why they call them exstinked." Seen in the *Glacial Drifter*, 12/2009, via the *Rock Post*, January 2010.

Dates to Remember

February

9 OESGM&F Club meeting. 7:00 p.m., Van Matre Senior Citizens Center, Mountain Home, Arkansas

11 – 14 Tucson Gem & Mineral show, Tucson, Arizona; www.tgms.org

March

13 – 14 Macomb, IL, 29th Annual Show, WIU Student Union, Murray Street.

26 – 28 Bridgetion (St. Louis County) Missouri: 50th annual show; Machinist Hall Auditorium, 12325 St. Charles Rock Road.

26 – 28 Ada Gem & Mineral Show, Pontotoc County Agri-Plex, Ada, Oklahoma

Dorothy Hess, Publisher
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