The official bulletin of the Dothan Gem & Mineral Club, Inc.

Rockhounds Herald

920 Yorktown Road, Dothan, AL 36301-4372

www.wiregrassrockhounds.com

July 2014

Words from…

The President

BINGO! Oh, sorry. For a moment there, I was still caught up in the excitement from the June Social. Thanks again to all who came out for the festivities. For those who missed it, we played several rousing games of Bingo and gave away lots of prizes—including a couple bags of cookies that weren't opened during lunch, because, as usual, we had an overabundance of good stuff to eat.

In this issue, we continue our look at fossils in neighboring states by turning our attention to Mississippi. Apparently, the best chance of finding a variety of fossilized material is in the northeast part of the state. While that's a bit of a drive for us in this area, it might just be worth checking into a multi-day trip this summer if you have an interest in marine-related vertebrates and invertebrates. Petrified wood is even common in some areas around Frankstown…and I know how much this club likes a good piece of petrified wood!

For those of you have already have more rocks than you know what to do with, check out Page 2 for some fresh ideas in this month's Summer Project. Who knew there were so many uses for rocks? I suspect there are some clubmembers with rock corrals that could be raided to make most, if not all the projects shown, especially that sweet fire pit set up.

Look forward to seeing everybody out at the July Social on the 26th. Instead of Bingo, though, we'll be hosting a member sale. That's another good way to get rid of your extra rocks.

Jeff

Announcements

Summer Socials – just a reminder, all socials will be held at our regular monthly meeting place and all will be potluck, so cook up your favorite dish to bring along. As usual, we will meet at noon and eat at 1:00 PM. See below for details and mark your calendars!

July Social – The second social will be on Saturday, July 26th. We will be having a Members Sale. Members can bring any items they would like to sell, and 10% of the proceeds will go to the club treasury to help defray operating costs for meetings and the annual show.

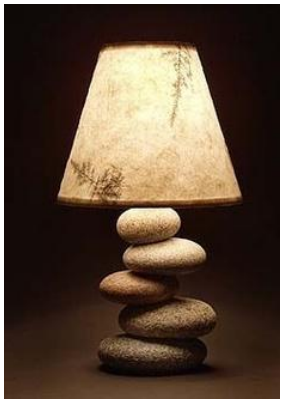
August Social – The third social is scheduled for Saturday, August 23rd and will feature a full-blown fund raising auction for the club treasury, so donations of items for the auction would be greatly appreciated.

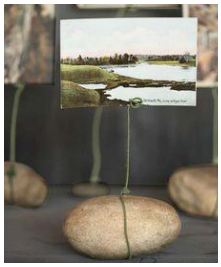
Upcoming Shows

August 8 – 10	**Treasure of the Earth Gem & Jewelry Show**	**Dalton, GA**

Source: http://www.the-vug.com/vug/vugshows.html

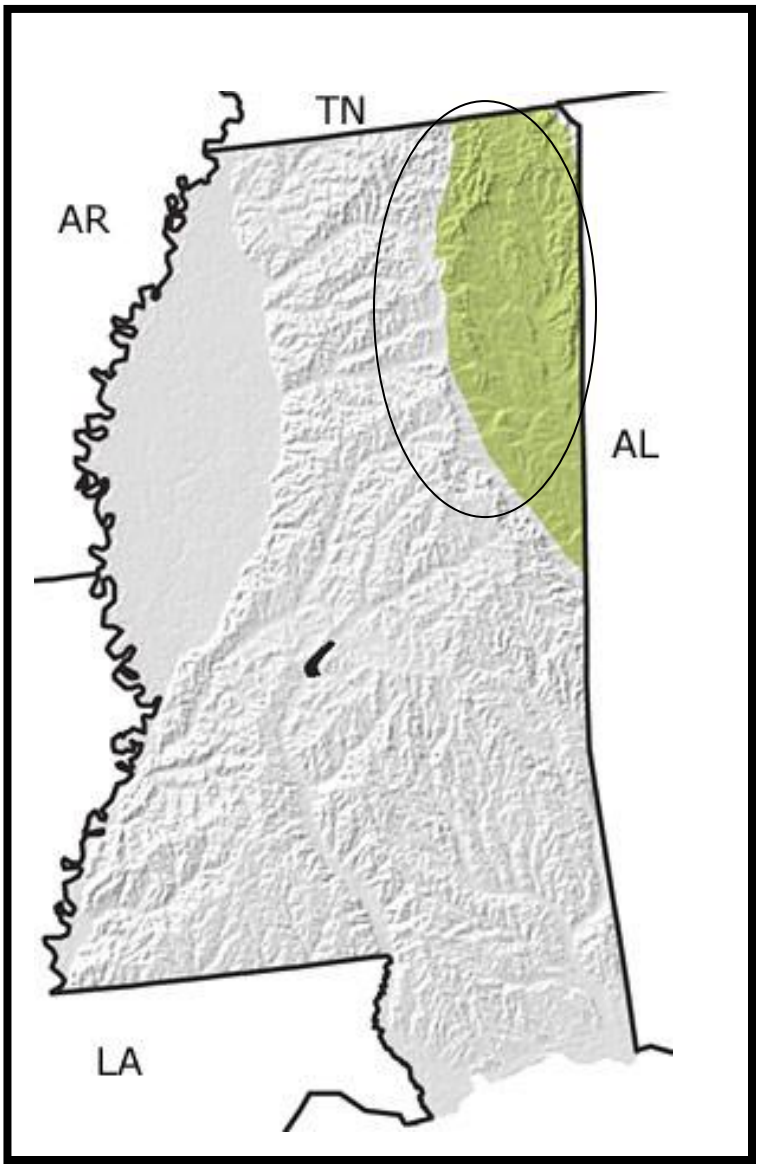
Summer Project – Things to Do with Extra Rocks





Benches for your fire pit or a hot pad for your tea pot. Floor mats, door mats, place mats and a green-eyed cat (to wear on your finger). Dominoes, door knobs, and maybe even a key fob. There's wall art and wind chimes, a table lamp and holders of all kinds. A not-so-prickly potted plant, a countertop, gem-covered cow skull, and a truck!

Mississippi – Mesozoic, Paleozoic and Precambrian Eras



Cretaceous Period

Cretaceous outcrops occur in the northeastern part of the state, in an area known as the Mississippi Embayment. This area was covered by a shallow sea that flooded the region as North and South America moved farther apart during the breakup of the supercontinent of Pangea.

Rocks from the early part of the Cretaceous Period are all deeply buried in Mississippi, but the last half of the Cretaceous is well preserved at the surface.

These rocks contain abundant fossils of marine life. Invertebrates include clams, oysters, snails, and crinoids. Vertebrate material includes bones of turtles and mosasaurs, as well as teeth from extinct sharks and fish, crocodiles, and occasionally hadrosaurs and theropods.

Pieces of petrified wood are also common. Many of these fossils can be seen in W.M. Browning Cretaceous Fossil Park near Frankstown in northeastern Mississippi.

Jurassic Period

There are no surface rocks of Jurassic age in Mississippi.

Triassic Period

There are no surface rocks of Triassic age in Mississippi.

Permian Period

There are no Permian rocks preserved in Mississippi. This is probably due to the fact that the Mississippi landscape was uplifted above sea level and exposed to erosion.

Carboniferous Period

Rocks of this time interval are poorly exposed at the surface in Mississippi, although drill cores indicate that some Carboniferous rocks lie buried beneath much younger sediments in the northern part of the state.

A small exposed area does exist in the extreme northeastern corner of the state, and Carboniferous rocks across the border in Alabama suggest that during the Early Carboniferous (Mississippian), shallow seas also covered northern Mississippi. These seas were home to molluscs, crinoids, brachiopods, and trilobites.

In the Late Carboniferous (Pennsylvanian) tectonic activity resulted in a mountain-building event (Alleghenian Orogeny) and the formation of the Southern Appalachian Mountains.

Subsequent erosion of these mountains produced vast amounts of sediments that were swept into the sea, creating broad coastal plains where forests of primitive trees and fern-like plants thrived.

Devonian Period

Although not shown on this map, Devonian-aged rocks are part of the Black Warrior Basin in the extreme northeast corner of the state. Dark-colored marine rocks in this area indicate that a sea, with regions of deep, oxygen-poor water, covered this part of Mississippi in the Late Devonian. Few organisms could have tolerated these conditions. As a result, fossils from these rocks are limited primarily to plant fragments and the remains of animals that swam above the deeper, oxygen-starved waters.

Silurian Period

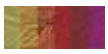
There are no Silurian rocks in Mississippi. The state, as such, did not exist during this time.

Ordovician Period

There are no Ordovician rocks in Mississippi. The state, as such, did not exist during this time.

Cambrian Period

There are no Cambrian rocks in Mississippi. The state, as such, did not exist during this time.



Precambrian Period

There are no Precambrian rocks in Mississippi. The state, as such, did not exist during this time.

Source: Photos and information courtesy of The Paleontology Portal (www.paleoportal.org).

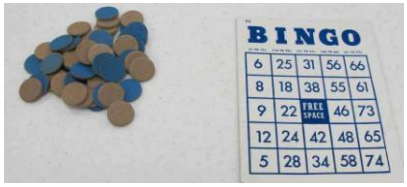
Summer Social – June 2014

Photos by Pat

Fellowship, food, fun, prizes and Bingo!

Summer Social – June 2014

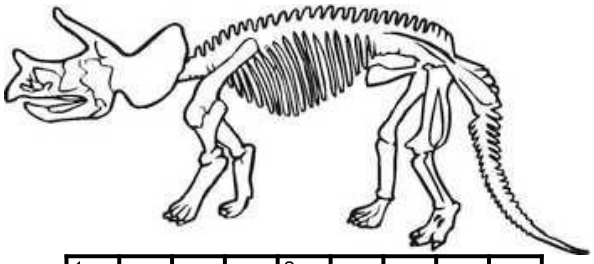
Photos by Pat

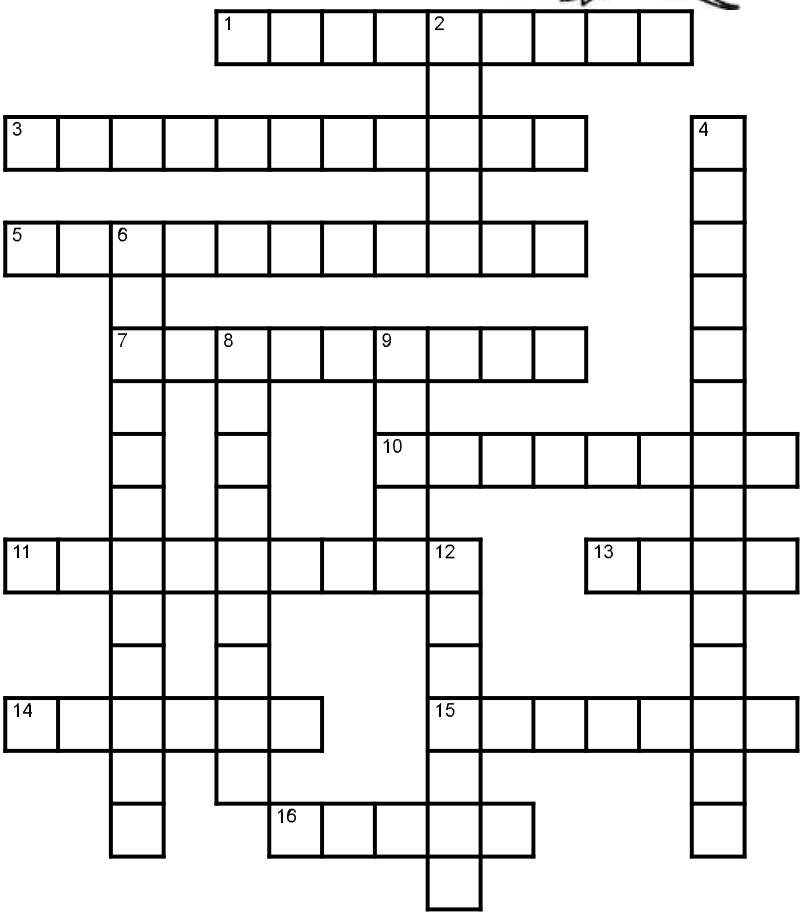


Kid's Corner

FOSSILS

www.science-teachers.com





Across

1 Sedimentary rock formed from sand deposits. (9)

3 The kind of rock that you are most likely to find fossils in. (11)

5 The process of changing the hard parts of the remains of an animal or plant with minerals. (11)

7 Sedimentary rock formed from deposits of shells. (9)

10 A fossil that look like a spiral or a rams horns. (8)

11 _____ wood. A permineralized piece of wood. (9)

13 A kind of fossil where an animal or plant leaves only its body impression in the mud. (4)

14 Preserved in ice or snow. (6)

15 Kind of animals most likely to be preserved. (7)

16 Some insect fossils are trapped in this rock made from tree sap. (5)

Note: The answers to this crossword puzzle can be found in the 'How Fossils Are Made' article on the next page. These resources were created by Chris Gunn.

Down

2 Sedimentary rock formed from clay deposits. (5)

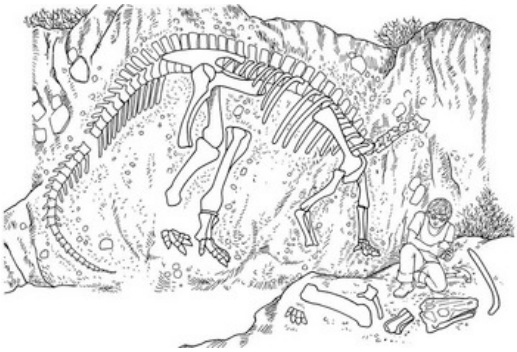
4 Someone who studies ancient life. (14)

6 The science of studying ancient life. (12)

8 Preserved in hot, dry conditions. (9)

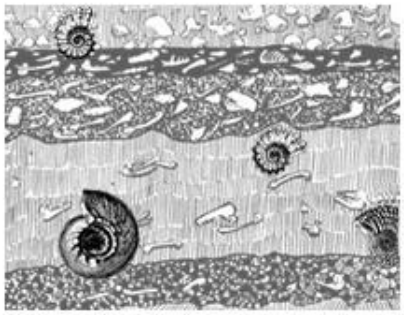
9 Fossils such as footprints, burrows, and droppings. (5)

12 Not preserved (7)

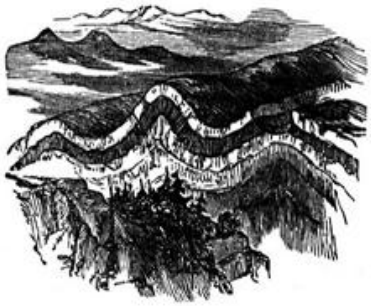


How Fossils Are Made

Living things (usually aquatic) die and then get buried quickly under sand, dirt, clay, or ash sediments. Usually, the soft parts decay, or rot away, leaving the hard parts behind. These are ammonites, one of the most common fossils that are found.

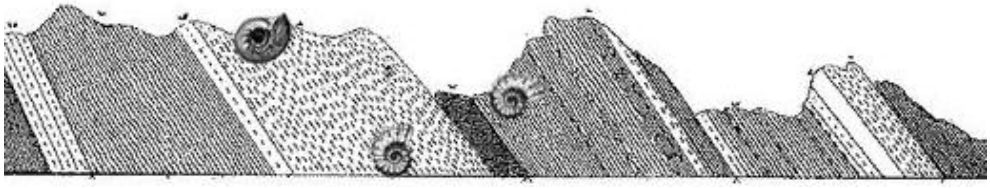


As time goes on more and more sediment accumulates. Pressure, heat, and chemical reaction cause the sediments to harden into rock called sedimentary rock.



Movements in the earth's crust, pushes the layers of sedimentary rock back up to higher ground.

Finally, through erosion caused by weather, wind, and water, the fossils become exposed at the surface again.



The Kinds of Fossils

Paleontologists are people who study ancient life. Because they study life forms that are now extinct, they rely on fossils to learn about life in the past. Fossils are the remains of living things that have transformed into stone over millions of years.

Most fossils are found in sedimentary rock. The fossils are made when living things die and get buried by sediments quickly before the hardest parts of the animal have a chance to decay. As sediments accumulate, pressure causes the sediments to harden into rock: Sand sediments become sandstone, clay sediments become shale, and shell sediments become limestone.

Groundwater carrying minerals seeps into the sedimentary rock and helps the fossils form in one of two ways. Sometimes the minerals fill in all of the empty places of the once living thing and form crystals. These crystals cause the remains of the living thing to harden along with the sedimentary rock that it is encased in. Petrified wood is an example of this process, which is called *permineralization*.

At other times, the minerals in the groundwater actually replace the minerals that make up the remains. So over time the hard parts are completely replaced by other minerals. This process is called replacement.

Other important fossils are impressions and molds. These are made when a hard part such as a shell, fills up with sediments that harden, and then the actual shell dissolves leaving nothing but the sediment mold. These molds can tell us much about the body structures of animals and plants.

As well, insects also get trapped in amber, which is fossilized tree sap. In the movie *Jurassic Park*, scientists used dinosaur DNA from the stomachs of mosquitoes trapped in amber to genetically engineer dinosaurs.

Some animals have even been trapped in ice, too, preserving them extremely well. Woolly mammoths and mastodons have been found with hair intact and bones in good condition. Likewise, some animals and plants have been mummified in hot arid conditions like those found in deserts.

Finally, paleontologists can learn about ancient life from trace fossils. Trace fossils are things like footprints or animal droppings, which can tell us about the animal's behaviour.

Who What Where When Why How

July Birthdays

JUL 2 Thomas Whittaker
JUL 15 Carlos Merino
JUL 16 Ellen Webber
JUL 21 Tina Polakoski
JUL 21 Autumn Whittaker
JUL 22 T. J. Moore
JUL 25 Diane Tetzlaff
JUL 31 Meredith Capshaw

Random Fossil Facts

The oldest fossils of multicelled animals come from just two places on earth. The **Burgess Shale** formation in Canada was long regarded as the oldest fossil bed. The Burgess Shale was formed about 530 million years ago during the Cambrian period. Many early Cambrian Period fossils have been found there.

The **Chengjiang Deposits** of China are thought to be even older than Canada's Burgess Shale. The fossils are found near the town of Chengjiang, in the Yunnan Province of China. This area appears to be about 15 million years older than the Burgess Shale formation.

Source: http://www.fossils-facts-and-finds.com/facts_on_fossils.html

Meeting Information

Time: 2:00 PM
Date: Fourth Sunday of each month (except June, July and August)
Place: Fellowship Hall – Tabernacle United Methodist Church
4205 S. Brannon Stand Road
Dothan, AL

Website: www.wiregrassrockhounds.com

Objectives

To stimulate interest in lapidary, earth science and, when necessary, other related fields.

To sponsor an educational program within the membership to increase the knowledge of its members in the properties, identifications and evaluations of rocks, minerals, fossils and other related subjects.

To cooperate and aid in the solution of its members' problems encountered in the Club's objectives.

To cooperate with other mineralogical and geological clubs and societies.

To arrange and conduct field trips to facilitate the collection of minerals.

To provide opportunity for exchange and exhibition of specimens and materials.

To conduct its affairs without profit and to refrain from using its assets for pecuniary benefit of any individual or group.

Classified Ads

Looking for an item to round out your rock collection?

Got a specimen, tool or handicraft for sale or trade?

Submit the pertinent details to me by the 10th of each month and your inclinations will be made known to the membership in the next bulletin.

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28 Lakeview Trail, Apt. C
Daleville, AL 36322
Phone: 334-503-0308
Email: Tsavorite7@aol.com

Annual Dues

Single $15
Family $20

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334-447-3610

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Show Chair – Jeff DeRoche
334-673-3554

Field Trips Chair – Bruce Fizzell
334-577-4353

Hospitality Chair – JoAn Lambert
334-792-7116

Club Hostess – Laural Meints
334-723-8019

Club Liaison – Garry Shirah
334-671-4192

Refreshments

JUL 26 – Potluck Social

ROCKHOUNDS HERALD
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Daleville, AL 36322

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Where you might hear…

When it comes to fossils and their environments while still living organisms:

- Grain size and composition of the rock tells you the type of surface the animals and plants lived in (unless they have been transported).
- Ripples and cross-beds indicate the organism lived in moving water. Mud cracks and wave ripples are characteristic of shoreline environments.
- Broken shells or shell layers may indicate pounding waves or storms.
- Fine-grained shales are made of tiny clay particles that easily remain suspended in water. Thus, a fossil found in a shale likely lived in muddy water. Filter feeding organisms such as corals and sea lilies aren't often found in muddy water because the suspended clays clog their filters!
- Insufficient oxygen in the water prevents organic material in sediments from decomposing and the rock formed will be dark gray to black in color.

Source:
http://geology.teacherfriendlyguide.org/index.php?option=com_content&view=article&id=181:fossils-of-the-northeastern-us-a-brief-review&catid=55:fossils&Itemid=197

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