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

# Rockhounds Herald

920 Yorktown Road, Dothan, AL 36301-4372

www.wiregrassrockhounds.com

April 2015

## Words from…

### The President

I wanted to say thanks to everyone who pitched in to make our Annual Show a success. We had good foot traffic and the vendors seemed pleased with the crowds. Special thanks goes out to Jeff DeRoche, our Show Chair, for all his hard work. He was constantly on the move trying to make sure everything went smoothly.

Also wanted to let everyone know the caretaker in charge of Graves Mountain, Clarence Norman Jr., has announced plans to hold a three-day dig and rock swap on April 24 – 26. They have several golf cart-type, four-wheeled vehicles available to transport participants who have trouble walking long distances. For the specifics, go to: http://www.gamineral.org/ft/commercial/ftgravesmain.html

Our next meeting is April 26th. Hope to see everyone there unless you are out digging. If you are, and you find something interesting, bring it to the next Show and Tell.

Pat

## Announcements

**Gary Dahl – Inventor of Pet Rock Dies –** described variously as a marketing genius and a genial mountebank , Mr. Dahl died on March 23 at 78. A down-at-the-heels advertising copywriter, he originally meant the "Pet Rock" as a joke. But the concept of a "pet" that required no actual work and no real commitment resonated with the self-indulgent '70s, and before long a cultural phenomenon was born.

For a mere $3.95 during a few frenzied months in 1975, a consumer could buy ... a rock — a plain, ordinary, egg-shaped rock of the kind one could dig up in almost any backyard. The wonder of it was, more than a million consumers did, in what Newsweek later called "one of the most ridiculously successful marketing schemes ever." Mr. Dahl became a millionaire almost overnight.

**Editor's Note:** If we put our heads together, surely we can find a similar use for all our rocks. ☺

Source: http://www.nytimes.com/2015/04/01/us/gary-dahl-inventor-of-the-pet-rock-dies-at-78.html?_r=0

## Upcoming Shows

| | | |
|---|---|---|
| **April 25 – 26** | **Memphis Archaeological and Geological Society** | **Memphis, TN** |
| **May 8 – 10** | **Gem & Mineral Society of Franklin** | **Franklin, NC** |
| **May 8 – 10** | **The Georgia Mineral Society** | **Marietta, GA** |
| **May 22 – 24** | **Harrison County Gem & Mineral Society, Inc.** | **Biloxi, MS** |

Source: http://www.amfed.org/sfms/club-shows-456.html

# Meeting Minutes – March 2015 – by Secretary

The meeting was called to order at 14:06 on 3/22/2015 by President Pat LeDuc. Sixteen members were in attendance and there were no guests. Birthdays for March were acknowledged. (Not discussed in the meeting, but as an interesting aside, on this day in 1817, Confederate General Braxton Bragg was born in Warrenton, North Carolina. General Bragg was known to be a dedicated rock hound.)

CORRESPONDENCE: AMFS Newsletters were the only correspondence.

MINUTES & TREASURER REPORT: Minutes from January were approved and Diane Rodenhizer presented the treasurer's report, which was approved and passed.

OLD BUSINESS: Samples of an updated version of our trifold handout/brochure were presented to the club. We will be using these, as is, for the upcoming show. Formatting issues having to do with image centering and text margins will be corrected before we print more copies on the heavier brochure cardstock.

NEW BUSINESS: No new business other than show-related topics were discussed.

SHOW BUSINESS: Jeff DeRoche, Show Chair, began by asking that club members volunteer to help out at the show as many hours as they can. We all need to work to make the event a success. The Dothan Eagle published a story about the club and the show. Jeff will be doing the usual TV interview this coming Wednesday. The 99.7 Wolf FM will begin broadcasting our radio ads tomorrow. Other publicity outlets are falling into line, especially on the internet. The show is being posted on more and more web sites as the date approaches. The show date does conflict with the Dothan Azalea Trail event and we all hope this will not cost us traffic to our event. There was a short discussion about getting more lawn/store signs placed next year.

To facilitate the door prize drawings and other announcements, John Webber told us he will be bringing a PA system he has been able to borrow. We have a large cooler and will be stocking it with water and soft drinks the vendors and shoppers can purchase for $1. Arnie volunteered to pick up the items for the cooler.

It was decided that club members are not eligible for the raffle prize. It was noted that the club needs to purchase a grand raffle prize for next year, as well as, gifts for vendors and for businesses that display our signs. We decided how to allocate funds for club door prizes, for next year's grand prize, and for vendor and participating merchant gifts.

Jeff noted that we have fewer vendors this year, but more table display space is available with the new floor layout after having done away with the Kids Korner and knapping demos. However, several of our regular vendors missed the application deadline and were reportedly unhappy to learn we did not have room for them. We had to turn away about 10 vendors who would have booked about 2-3 tables each.

As a result, Jeff will be looking at the next larger space at the Farm Center and the club may decide to book that space next year. Currently the show is using 5000 square feet and the larger space is about 8000 square feet. One point to consider is that having too many vendors may cut profits for ALL vendors – unless we can attract larger crowds. This discussion will be continued after we see the results from this year's show.

PROGRAM: No program this month.

SHOW AND TELL: A few select pieces were brought in by Arnie and Jeff – mmmmmmmmm that's nice, boys!

The meeting wrapped up with food. Door prizes were not awarded since we are starting the new and improved door prize system soon.

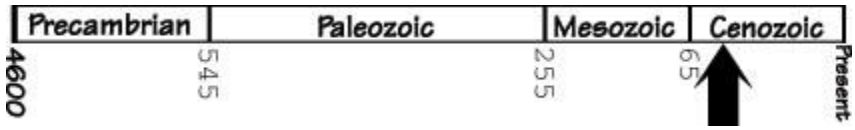
Respectfully submitted by B. Fizzell

# Rocks of the Coastal Plain: Region 3, con't.


## Cretaceous-Tertiary (K/T Boundary)

Within the Atlantic and Gulf Coastal Plain areas, the Cretaceous-Tertiary boundary is invariably marked by a distinct physical unconformity usually distinguished by a change in lithology. For example, at Moscow Landing along the Tombigbee River in Sumter County, west-central Alabama, and along the south valley wall of Lynn Creek in Noxubee County, east-central Mississippi, Tertiary sands or sandstones and dark gray marls and clays overlie white Cretaceous chalks. Another characteristic of the K/T boundary is the presence of a thin mm-scale layer of clay containing a number of rare earth elements, including iridium. Although present along the contact in many areas of the world, this boundary layer has as yet to be documented in either the Gulf or Atlantic Coastal Plain areas. Where present, this enriched boundary layer has led many scientists to believe the Cretaceous extinctions resulted from the impact of a large comet or asteroid.

## Tertiary Rocks




The early Tertiary sediments of the Southeast Coastal Plain, particularly Alabama, are among the thickest and most interesting sections from this time period in the world. France, England and Alabama are the global standard for early Tertiary sediments and fossils. During the early part of the Tertiary, conditions like those of the Cretaceous period prevailed throughout the Southeast. Carbonate sediment deposits (forming mainly limestone) dominated the Southeast Coastal Plain as far north as North Carolina. During the late Tertiary, non-carbonate sediment deposits dominated, and no more carbonates were deposited over most of the Coastal Plain except in southernmost Florida (Figure 2.35). Lignite is commonly found in the Tertiary-age Coastal Plain deposits because coastal marshes and swampy areas near the shoreline accumulated large amounts of plant material. Sea level fluctuations throughout the Tertiary resulted in cycles of sand, silt, clay, lignite, and carbonate sediments.

Erosion of the Appalachian Mountains continued through the Tertiary, resulting in a thick band of Tertiary-age gravel, sand, silt and clay across the Coastal Plain. Tertiary sea level fluctuations continued, causing considerable back and forth shifting of the Southeast shoreline. The middle Tertiary sediment was deposited in a variety of environments, primarily near-shore marine environments when sea level was high, and river (fluvial) environments when sea level was lower. The Gulf Trough in northern Florida was gradually filled by the large amounts of sediment eroded from the Appalachians, allowing the Florida Platform (which up to this point was predominantly an area of carbonate deposition) to be blanketed with a layer of Appalachian-derived sediment. As the sand, silt, and clay built up on the Florida Platform, the peninsula of Florida began to emerge above sea level. Deposition on the Florida platform from the middle Tertiary (~25 million years ago) to the present has consisted primarily of siliciclastic (non-carbonate) sediment (with the exception of the southern tip of the peninsula.) Sea level fluctuations affected Florida more dramatically than other parts of the Southeast because of the low relief of the area. Thus a range of environments may have existed in one place over time, from shallow lagoons and tidal flats to deep waters. In the late Tertiary, shell beds and fossiliferous sand and limestone were commonly deposited on the Florida Peninsula.

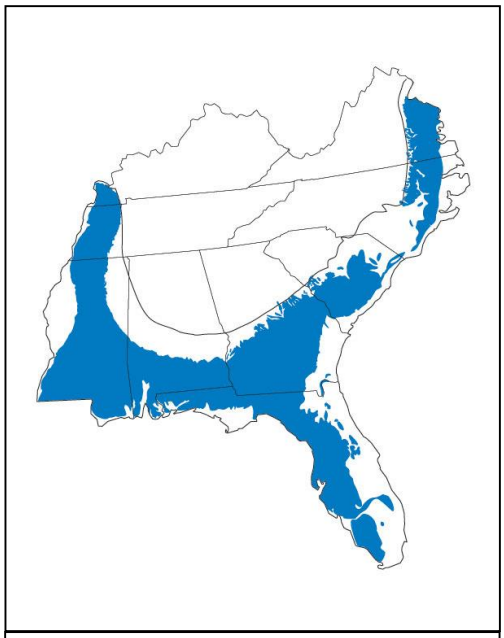
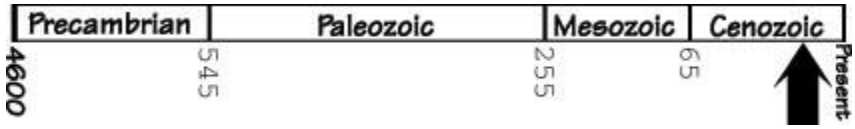


Figure 2.35: Tertiary rocks of the Coastal Plain.

# Quaternary Rocks




The Quaternary period is recorded in the youngest sediment of the Coastal Plain (Figure 2.36). The period is divided into two sub-divisions (epochs): the Pleistocene and the Holocene (in which we are currently living). The ice sheet that repeatedly advanced southward over North America during the Pleistocene never made it to the Southeast region. Despite not being directly affected by the glaciers, the glaciers indirectly left their mark on the area because when the climate cooled and the ice sheet began to advance, water locked up in continental glaciers caused sea level falls. Also, the cool climate caused dramatic shifts in plant and animal communities. As glaciers to the North moved over the land like bulldozers, they scraped up the surface and pushed tons of sediment before them (and incorporated the sediment within the glacier!) When the climate warmed and ice sheets melted back (an interglacial period), sea level rose and melt water streaming off the retreating glaciers dumped gravel, sand, silt and clay into stream beds. The Ohio River valley, which forms the northern boundary of much of the Southeast region, was formed by the meltwaters of the last ice advance. Sediment from the melting ice was transported through the Ohio River in Kentucky, West Virginia and down the Mississippi River valley. The

land area of the Southeast, and especially Florida, increased when sea level was low and the ice sheet was advancing. Likewise, land areas were flooded when sea level rose, and marine sediment buried terrestrial sediment. The glacial changes in living communities are recorded in the Pleistocene fossil record, and also in the presence of remnant cold-climate species (such as hemlock trees in the Dismals Canyon, Alabama) in the warm south of today.

Figure 2.36: Quaternary rocks of the Coastal Plain.

Quaternary deposits make up much of the sediment you see immediately adjacent to modern estuaries, streams, floodplains and creek beds throughout the Southeast. The Chickasaw Bluffs, adjacent to the Mississippi River, formed from glacial sediment (including rock flour) that had filled up the Mississippi River Valley when the last ice sheet was melting back nearly 10,000 years ago. When the rock flour dried, it was easily picked up by the wind and storms, creating thick layers of loess on the banks of the Mississippi River. Loess is common elsewhere in the Southeast and not all of it is Quaternary in age. The erosion resistant loess layers form the bluffs at Vicksburg, Mississippi. The bluffs, up to 80 feet thick in places, made Vicksburg easily defended against capture by the Union gunboats that bombarded them from below. The extended siege at Vicksburg, the last Confederate stronghold along the lower Mississippi River, resulted from the strategic advantage of high ground overlooking the river.

# Erratics

It is common in some of the Southeastern states to find boulders, cobbles, pebbles, gravel and sand that are not of the same composition as the local rock or sediment. For example, boulders of igneous and metamorphic rocks have been found in northern Kentucky and elsewhere, despite the fact that no igneous and metamorphic rocks outcrop in the vicinity. What accounts for the presence of these out-of-place "erratic" rocks? In many cases, glacial melt water brought these erratics much farther south than their origin.

Most of the surface sediment of the Florida Peninsula formed during the Pleistocene as sea level dramatically rose and fell. Over much of the peninsula, siliciclastic sediment dominates the surface sediment. In southern Florida, however, carbonate sediment makes up most Pleistocene and recent deposits. In particular, the Miami Limestone underlies much of the southern peninsula.

At the southern rim of the Florida Platform’s escarpment lies a fringe of living and dead coral reefs (Figure 2.37). The Florida Keys consist of fossil reefs and associated sediment. The living reefs are seaward of the Keys. During the ice age, colonies of coral flourished along the edge of

the Florida platform. When sea level rose, the reefs grew upward, and when sea level dropped, parts of the reef were exposed and died. The dead reefs became foundations for new coral growth, forming the very thick (75-200 ft) Key Largo Limestone. The last sea level fall of the Pleistocene Epoch exposed the Key Largo Limestone, which is seen at the surface of the Florida Keys today. A bank of oolitic shoals formed the Lower Keys. Small, egg-shaped ooids are formed by a tiny fragment of shell or sand grain that is covered gradually by concentric rings of calcium carbonate. The shoals became exposed above sea level and eventually cemented together to form the surface of the Lower Keys.

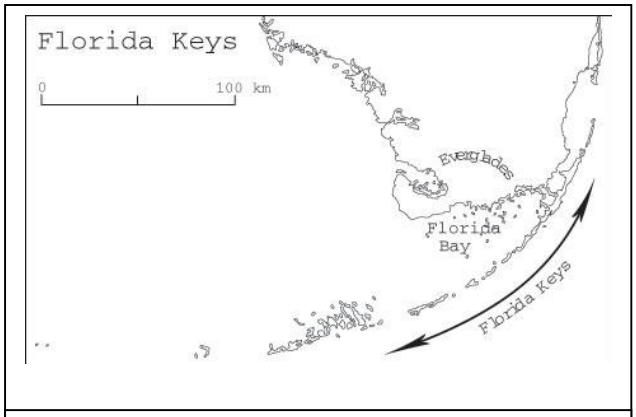



Figure 2.37: The Florida Keys.

# Look Closely at the Sand!

If you travel around the Coastal Plain of the Southeast and closely examine the sand at different beaches, you will notice incredible differences! Parts of the Southeast are known for their pure white sand, such as the Gulf coast of Florida, Georgia, Alabama, and Mississippi. If you examine the white sand, you will see that it is made almost entirely of quartz grains. Other beaches may be pink (indicating a high concentration of the mineral feldspar) or have black specks (heavy minerals) or they may be white sands entirely made of calcium carbonate shell material! A surprising number of organisms can sometimes be identified by closely studying the tiny shell pieces. Look closely for parts of corals, bryozoans, echinoderms, shark teeth, clams, and snails, to name just a few.

Some of the differences will be noticeable only with a microscope. For example, grains of dune sand have been constantly moved around by the wind often have a polished, frosted surface. West Tennessee has “glass sand.” Determining the types of organisms represented by the grains in carbonate sands is also easier with a microscope.

Why are there such differences in the types of sand? The answer lies in the origins of the sand. What rock was eroded to make up the sand? How long has the sand been eroded and weathered? How much of the sand is shell material that grew on or near the beach? Sand eroded from granite highlands may still have grains of granite left in it. If the sand is heavily weathered, the granite pieces will have broken down into their individual mineral components. Further erosion will entirely breakdown certain minerals such as feldspar into clays that are winnowed away leaving only the quartz and other resistant minerals that are comparatively rare.

Source: http://geology.teacherfriendlyguide.org/index.php/rocks-se/region-3-coastal-plain

Picconi, J. E. 2003. The Teacher-Friendly Guide to the Geology of the Southeastern U.S. Paleontological Research Institution, Ithaca, NY.

# Gem & Mineral Show – March 2015

*Photos by Pat & Bruce*

**Lights**

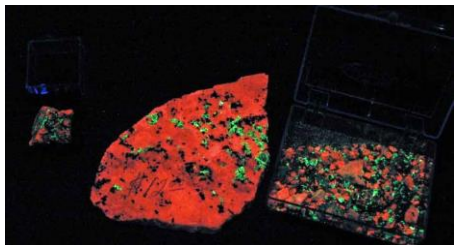
**Setup**

**ACTION!**




# Gem & Mineral Show – March 2015

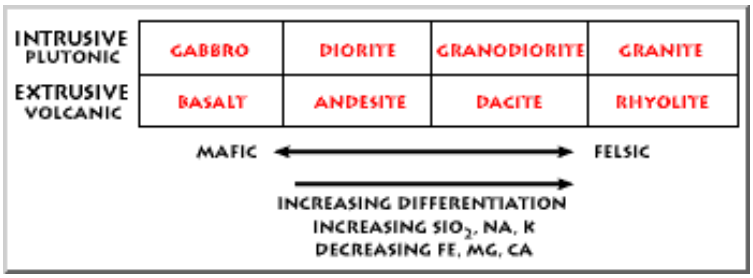
*Photos by Pat & Bruce*




**Some real treasures…**

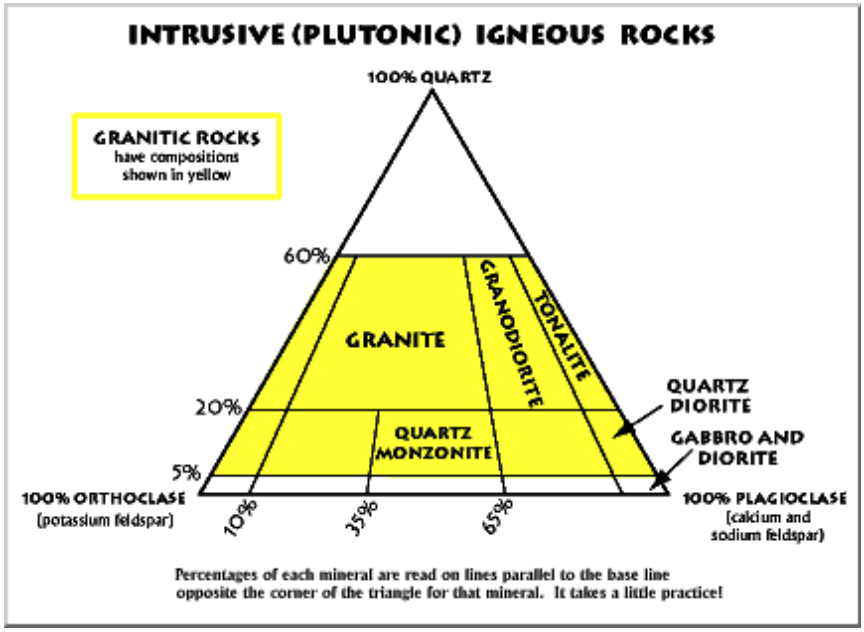
Kid's Corner

# Naming Igneous Rocks




The names we give igneous rocks are based on their chemical compositions. The relative amounts of just three main minerals; quartz, plagioclase feldspar, and potassium feldspar are all you need to know to start naming igneous rocks. In addition to these three light-colored, *felsic* minerals, the abundance of dark, *mafic* minerals can also help you distinguish one type of igneous rock from another.

## Making a First Guess




The chart above will help you get started. Once you know you have an igneous rock, look at the texture to decide if it is intrusive or extrusive. Then use this chart to make your first *guess* based on how dark (mafic) or light (felsic) your rock appears.

## Name That Rock!

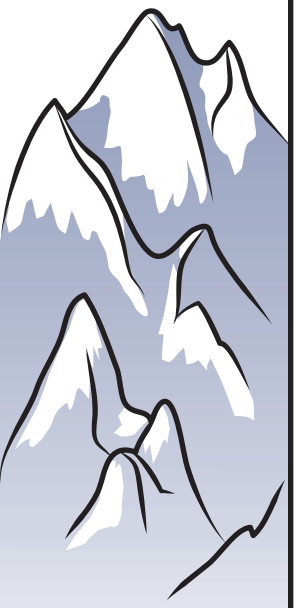
To be sure you've named your rock correctly you need to compare the amounts of plagioclase feldspar, potassium feldspar, and quartz and plot it on the chart. It takes a little practice to get used to a triangular graph!

Try this: suppose your rock is coarse-grained, so you know it's intrusive. It has 40% quartz, 30% potassium feldspar, and 30% plagioclase feldspar, it is called granite.

Source: http://geomaps.wr.usgs.gov/parks/rxmin/igclass.html

# GEOLOGY Word Search

**The words can be horizontal, vertical, or diagonal.**



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## Find the terms listed below in the word search puzzle!

**Volcano:** A vent in Earth's surface through which molten rock and gases escape.

**Continent:** Large landmasses of the Earth.

**Subduction:** An oceanic plate is pushed underneath either another oceanic plate, or a continental plate.

**Magma:** A mixture of molten rock and other materials beneath the Earth's surface.

**Lava:** Molten rock expelled by a volcano during an eruption.

**Hotspot:** Areas of the mantle that are unusually hot and cause volcanic activity on the Earth's surface

**Caldera:** A cauldron-like volcanic featuer caused by the collapse of land after a volcanic eruption.

**Weathering:** The breaking down of rocks, soils, and minerals through direct contact with the Earth's atmosphere.

**Erosion:** The process of the transport of solids from their natural source to a different location, usually through wind, water, and ice.

**Igneous:** One of the three types of rocks. Igneous rock is formed through the cooling and solidification of lava or magma.

**Sedimentary:** One of the three types of rocks. Sedimentary rocks are formed from the deposition of mineral or organic sediments.

**Metamorphic:** One of the three types of rock. Metamorphic rocks are created by the transformation of existing rock through heat and pressure.

**Seamount:** A mountain rising from the bottom of the ocean, but that does not reach above the surface of the water.

**Mountain:** A landform that stands higher than the surrounding land, and often has steeper sides than a hill. They are usually formed through volcanism, plate tectonics, or occasionally erosion.

# Who What Where When Why How

## April Birthdays

| | |
|---|---|
| APR 6 | William Gainey |
| APR 7 | Joe Schings |
| APR 7 | Bob Whittaker |
| APR 13 | Diane Rodenhizer |
| APR 14 | Ashley Rockwell |
| APR 14 | Jane Whitton |
| APR 20 | Jamie Knowles |
| APR 23 | Neil Pollan |
| APR 25 | Ken Johnson |
| APR 27 | Bruce Fizzell |
| APR 29 | Elliott Whitton |

## Random Rock Facts

As the April birthstone, diamonds are the ideal gift for a loved one. And now you have more choices than ever. Get creative and give the ultimate gift of beauty: a fancy-color diamond. Fancy-color diamonds are natural, rare and truly exotic gem of the earth. Diamonds in hues of yellow, red, pink, blue, and green range in intensity from faint to vivid and generally the more saturated the color, the higher the value. In fact, diamonds sparkling with intense color are rare and may be priced higher than a colorless diamond of equal size. Because fancy-color diamonds are very desirable, color is sometimes introduced in a laboratory. These are correctly called color-treated diamonds. When purchasing a fancy-color diamond, the shopper should ask if any enhancements or treatments were used to improve its color and/or clarity.

Reprinted with permission from the American Gem Society
Source: http://www.americangemsociety.org/april-birthstone

## 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.**

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

## Annual Dues

Single $15
Family $20

## Officers

**President – Pat LeDuc**
334-806-5626

**Vice President – Garry Shirah**
334-671-4192

**Secretary – Bruce Fizzell**
334-577-4353

**Treasurer – Diane Rodenhizer**
334-447-3610

**Bulletin Editor – Joan Blackwell**
334-503-0308
Tsavorite7@aol.com

**Webmaster – Pat LeDuc**
334-806-5626

**Membership Chair – Diane Rodenhizer**
334-447-3610

**Show Chair – Jeff DeRoche**
334-673-3554

**Field Trips Chair – Bruce Fizzell**
334-577-4353

**Hospitality Chair – Vacant**

**Club Hostess – Laural Meints**
334-723-8019

**Club Liaison – Garry Shirah**
334-671-4192

## Refreshments

**APR 26 – Potluck Refreshments**

**ROCKHOUNDS HERALD**
**Editor – N. J. Blackwell**
**28 Lakeview Trail, Apt. C**
**Daleville, AL 36322**

**www.wiregrassrockhounds.com**

## Where you might hear…

Unconformities are gaps in the geologic record that may indicate episodes of crustal deformation, erosion, and sea level variations. They are a feature of stratified rocks, and are therefore usually found in sediments (but may also occur in stratified volcanics). They are surfaces between two rock bodies that constitute a substantial break (hiatus) in the geologic record (sometimes people say inaccurately that "time" is missing). Unconformities represent times when deposition stopped, an interval of erosion removed some of the previously deposited rock, and finally deposition was resumed.

Commonly three types of unconformities are distinguished by geologists:

- ANGULAR UNCONFORMITIES
- DISCONFORMITIES
- NONCONFORMITIES

Source: http://www.indiana.edu/~geol105b/images/gaia_chapter_6/unconformities.htm

**Member of**
**Southeast Federation of Mineralogical Societies, Inc.**
**American Federation of Mineralogical Societies**