Mid-Georgia Gem Clips
Official Bulletin of the Mid-Georgia Gem and Mineral Society
www.midgagms.org **Vol. 12, Issue 7, September, 2012**

September Meeting At the Museum of Arts and Sciences on **Tuesday**, Sept-04-2012 at 7:30pm.

The speaker will be Kim Cochran. He will be speaking on Deserts.
Find out everything you need to know about the hot and dry subject of Deserts.

Georgia National Fair information

The fair this year will be occurring from October 4 – 14. We will be doing demonstration during the fair again as we did last year. We also will have a table to give out information about the club. Plus as with the past years will have some display cabinets to display rocks, minerals, fossils, and lapidary. We will need volunteers to Demo and to answer and give information about the club. This year we will be selling grab bags as a fund raiser for the club.

We need to do a couple of thing to get setup/ready for the fair.

We need grab bag material and we need to stuff so grab bags. We are planning a grab bag stuffing party at Jay Batcha house on Saturday, 9-8-2012 at 10:00 am for a couple of hours. Bring any material (Rock, Minerals, and Fossils) to the September meeting or to Jay's house. Call Jay if you need directions to his house at 478-784-1965.

On Saturday, September 15 at 10:00am we will be setting up the display cases at the fair grounds. We need help with setup and also some nice stuff to display in the cases. For more information or if you have some thing for the cases call Jim Souter 451-5431, Susan Hargrove 837-5327, or Jay Batcha 784-1965

We had a couple of fans going to cool thing down, they help a little bit.

Annual Picnic, follow up!

The club annual picnic was on **June 30, 2012**. which is the hottest day of the year so far, it topped out at 107 degrees. It started at 11:00 am at the Ocmulgee Indian Mounds and we finished up earlier then normal, at around 1:00pm. There were 22 people at the picnic this year. We had three picnic tables full of goodies around 60 items for the silent auction. We had a lot of fun with the silent auction in the past years and this year was no different we raised $223.25.

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Jack Jones won the Lapidary Scholarship to William Holland or Wildacres.

The club furnished the barbeque and paper products. Everyone brought a covered dish. The food was great and of course I eat way too much!

Settling up after the auction.

Lapidary Scholarship Information

Jack Jones won the drawing for the lapidary scholarship. He will be taking enameling at William Holland, his daughter will be going with him and taking a different class.

Officer Election Time is here Again!

It is time to start thinking who will be next years Officers (President, Vice-President, Secretary, and Treasurer). We will setup the nominating committee at the September meeting. Please think about becoming one of the Officers it would be nice to have a new face and to give the old officers a break. I know that the President position needs to the fill. This is the big part of being a member of our club.

Mineral of the Month
Sand

Sand is a naturally occurring granular material composed of finely divided rock and mineral particles. The composition of sand is highly variable, depending on the local rock sources and conditions, but the most common constituent of sand in inland continental settings and nontropical coastal settings is silica (silicon dioxide, or SiO_2), usually in the form of quartz.

The second most common form of sand is calcium carbonate, for example aragonite, which has mostly been created, over the past half billion years, by various forms of life like coral and shellfish. It is, for example, the primary form of sand apparent in areas where reefs have dominated the ecosystem for millions of years, like the Caribbean.

Composition:
In terms of particle size as used by geologists, sand particles range in diameter from 0.0625 mm (or 1⁄16 mm) to 2 mm. An individual particle in this range size is termed a *sand grain*. Sand grains are between gravel (with particles ranging from 2 mm up to 64 mm) and silt (particles smaller than 0.0625 mm down to 0.004 mm). The size specification between sand and gravel has remained constant for more than a century, but particle diameters as small as 0.02 mm were considered sand under the Albert Atterberg standard in use during the early 20th century. A 1953 engineering standard published by the American Association of State Highway and Transportation Officials set the minimum sand size at 0.074 mm. A 1938 specification of the United States Department of Agriculture was 0.05 mm. Sand feels gritty when rubbed between the fingers (silt, by comparison, feels like flour).

ISO 14688 grades sands as fine, medium and coarse with ranges 0.063 mm to 0.2 mm to 0.63 mm to 2.0 mm. In the United States, sand is

commonly divided into five sub-categories based on size: very fine sand (1⁄16 – ⅛ mm diameter), fine sand (⅛ mm – ¼ mm), medium sand (¼ mm – ½ mm), coarse sand (½ mm – 1 mm), and very coarse sand (1 mm – 2 mm). These sizes are based on the Krumbein phi scale, where size in $\Phi = -\log_2 D$; D being the particle size in mm. On this scale, for sand the value of Φ varies from −1 to +4, with the divisions between sub-categories at whole numbers.

The most common constituent of sand, in inland continental settings and non-tropical coastal settings, is silica (silicon dioxide, or SiO_2), usually in the form of quartz, which, because of its chemical inertness and considerable hardness, is the most common mineral resistant to weathering.

The composition of sand is highly variable, depending on the local rock sources and conditions. The bright white sands found in tropical and subtropical coastal settings are eroded limestone and may contain coral and shell fragments in addition to other organic or organically derived fragmental material, suggesting sand formation depends on living organisms, too. The gypsum sand dunes of the White Sands National Monument in New Mexico are famous for their bright, white color. Arkose is a sand or sandstone with considerable feldspar content, derived from the weathering and erosion of a (usually nearby)granite rock outcrop. Some sands contain magnetite, chlorite, glauconite or gypsum. Sands rich in magnetite are dark to black in color, as are sands derived from volcanic basalts and obsidian. Chlorite-glauconite bearing sands are typically green in color, as are sands derived from basaltic (lava) with a high olivine content. Many sands, especially those found extensively in Southern Europe, have iron impurities within the quartz crystals of the sand, giving a deep yellow color. Sand deposits in some areas contain garnets and other resistant minerals, including some small gemstones.

Environments:

Sand is transported by wind and water and deposited in the form of beaches, dunes, sand spits, sand bars and related features. In environments such as gravel-bed rivers and glacial moraines it often occurs as one of the many grain sizes that are represented. Sand-bed rivers, such as the Platte River in Nebraska, USA, have sandy beds largely because there is no larger source material that they can transport. Dunes, a distinctive geographical feature of desert environments, are on the other hand sandy because larger material is generally immobile in wind. Sand is a component of soil.

Great Sand Dunes National Park, Colorado

Study:

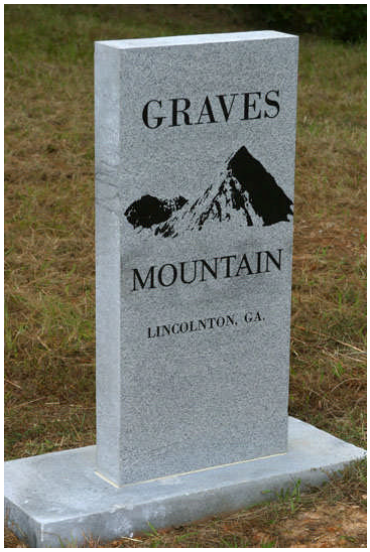
The study of individual grains can reveal much historical information as to the origin and kind of transport of the grain. Quartz sand that is recently weathered from granite or gneiss quartz crystals will be angular. It is called grus in geology or *sharp sand* in the building trade where it is preferred for concrete, and in gardening where it is used as a soil amendment to loosen clay soils. Sand that is transported long distances by water or wind will be rounded, with characteristic abrasion patterns on the grain surface. Desert sand is typically rounded.

people who collect sand as a hobby are known as arenophiles. Organisms that thrive in sandy environments are psammophiles.

Uses:

Industrial sand is used to make glass (39%), as foundry sand (22%), as abrasive sand (5%). The remaining 34% is used for an assortment of other uses. *From: Wikiedia*

Field trips coming up, lets go digging!!!



Graves Mountain "Rock Swap and Dig

8 am to 6 pm, Friday, October 5, 2012
8 am to 6 pm, Saturday, October 6, 2012
8 am to 6 pm, Sunday, October 7, 2012

"You are invited to field collect minerals at Georgia's premiere mineral location!"

The caretaker in charge of Graves Mountain, Clarence Norman Jr., has announced plans to hold two three day digs and rock swaps on the Mountain during 2012. He will have the mountain open to collecting from 8 am to 6 pm each day. All participants must stop at the welcome table in the Hospitality tent to sign a liability release and make a small contribution to defray the cost of opening the mountain and providing port-o-lets. There will be several golf cart type, four wheeled vehicles available to transport those participants who have trouble walking long distances. The dig will cease and everyone is expected to be off the mountain by around 6 pm each day. Participants will be allowed to park in a designated area on the mountain.

Rock Swap and Hot Food/Drinks: Junior will set aside an area in the upper parking lot for tables to be setup for daily rock swaps. Anyone who would like to setup a table(s), please contact Junior at the phone numbers listed below. Hot food cooked on the grill, cold drinks and chips will be available for purchase on the mountain during all three days of these events.

Contact Information:
Clarence Norman Jr. (Junior) - 706.359.3862 (his business) or 706.359.2381 (his home)

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THESE DIGS ARE OPEN TO ALL SFMS CLUBS and the GENERAL PUBLIC!
Mark your calendar and tell all your members about these two great events!

DIRECTIONS: From Atlanta's I-285, take I-20 east to the exit for Washington, GA SR 78 (SR 10, SR 17) and turn left. Travel north to Washington, turn right onto SR 378 and drive 11 miles to the Graves Mountain area. The entrance to Graves Mountain is on your right about 8/10 mile past the Lincoln county line sign. The entrance is a paved road that goes through a gate and up a hill. Please park along the access road and then proceed to the "Welcome Tent" at the end of the pavement to obtain a liability release form and to make a donation for the portable bathrooms, etc.

DIRECTIONS: From Macon, Ga. Starting at I-75 and I-16, take I-16 east to Spring St. exit (less than 1 mile). Turn left on to Spring St. (Highway 129) towards Gray Ga., Stay on 129 until you get to Eatonton Ga. (around 40 miles). Once you get to the square turn right onto highway 16, turn left on to highway 44 (around 1 mile). Stay on highway 44 until you get to Washington Ga. (around 54 miles) turn right onto highway 78 business and go through town (highway 47 will merge in with 78 from the right, Don't turn here)(around 2 miles). Take highways 47 / 378 towards Lincolnton Ga. (about 12 miles) as soon cross into Lincoln County turn left on to Norman Road. Park here near corner. Travel time is 2 hrs 30 mins.

Lazulite in Quartzite, Graves Mountain, Ga.

DMC Program of the SFMS Field Trip Committee
An Official Field Trip of The Lowcountry Gem & Mineral Society of Charleston, SC (HOST)
An Official Field Trip of the Mid-Ga. Gem and Mineral Society

Meeting time 10:00 AM

Saturday, September 22, 2012

Savannah River Agate, Girard, GA.

WHAT: Savannah River Agate, fossils, and micro-minerals
WHERE: River Road outside of Girard, GA.
WHEN: Saturday September 22, 2012
TIME: Meet at 10:00 AM at the Girard city Post Office on Hwy. 23. We will leave promptly at 10:30 A.M.
CHILDREN AND PETS: Children and pets are welcome, but need to be supervised as we will be hunting on a dirt road.

COLLECTING: This site is part of a public right-of-way so we will be collecting in this dirt road and road cuts for the famous Savannah River Agate/Chert. This material is actually a conglomeration of agate, jasper, chert, and opalite all mixed together to form a layered specimen that will tumble or cab into beautiful display

pieces. This rock occurs as black and brown mottled agate and in a large range of pastel colors from greens to yellows to violets. There are also micro-minerals found in the agate/chert vugs such as wavellite, hematite, druzy quartz, barite, hyalite opal, and many others. You may also find scarce fossils of Oligocene-age deposits from 30-35 million years old such as bryozoans, gastropods, echinoids, and other less abundant fossils such as diatoms, barnacles, and tortillas.

BRING: A rock hammer and scratching tool. Dig if you want, but fill in the holes after finishing. Chisels and a sledge hammer are needed to find micro-minerals. More importantly, you will need eye protection (face shield would be best) and long heavy pants as this agate can act like shrapnel when cracked with a rock hammer or sledge hammer. Bring a lunch, plenty of fluids, bug spray, sun screen, a hat, gloves, sturdy shoes, and lots of 5 gallon buckets.

SPECIAL CONDITIONS: Do **NOT** leave the road cuts. Please stay off of private property. Please do not go to the collecting site ahead of the group!

DIRECTIONS: From I-20 take Hwy. I-520 (west of Augusta) south to Hwy. 56 and travel south. Go through McBean (do not take Hwy. 56 Spur). Turn left on Hwy. 23 to Girard and meet at the city Post Office on Hwy. 23 at 10:00 A.M.
CONTACT: Larry Moss at (843) 225-6931 for more information. Email: jorel611@yahoo.com

The Lost Georgia Turtle

Agomphus oxysternum

In 1911 Otto Veatch of the Georgia Geologic Survey and Dr. Lloyd Stephenson with the USGS published an extensive review of Georgia's Coastal Plain Geology. One of the reports they made lingers as the only record of a new species discovered near Montezuma:

"A fossil turtle, *Agomphus oxysternum*, has been found in the Midway (Formation) near Monte-zuma. The specimen was first described by Cope (1877) and later by Hay (1908)."

The fossil had come from the river bluffs near Montezuma; there is no precise record of where it was found. Nor is there a record of who found the turtle, but somehow by

The fossil Agomphus oxysternum, with its matrix, from its display at the Georgia Capitol Museum in Atlanta. In the same condition as reviewed by Edward Cope in 1877 and Oliver Hay in 1908. Note the thickness of the shell which is charateristic of turtles from this time frame. Thanks to Timothy Frilingos, Director, Georgia Capitol Museum, for supplying this image.

1876-1877 the fossil had made its way to the offices of the Georgia Geologic Survey.

Following known research in 1911 Veatch & Stephenson assigned the specimen to the Eocene Epoch thinking that it was about 45 million years old. Later research showed that the nearly complete carapace had come from Early Paleocene sediments approximately 61 million years old (Clayton Formation) and had lived just a few million years after the dinosaurs went extinct.

Paleocene vertebrates are rare everywhere, and especially rare in Georgia; the world was still recovering from the dinosaur extinctions.

Around 1876 Georgia State Geologist Professor George Little had the famous paleontologist Edward Drinker Cope review the fossil. Cope assigned it as a new genus and

species. Cope's findings were read at the proceedings of the American Philosophical

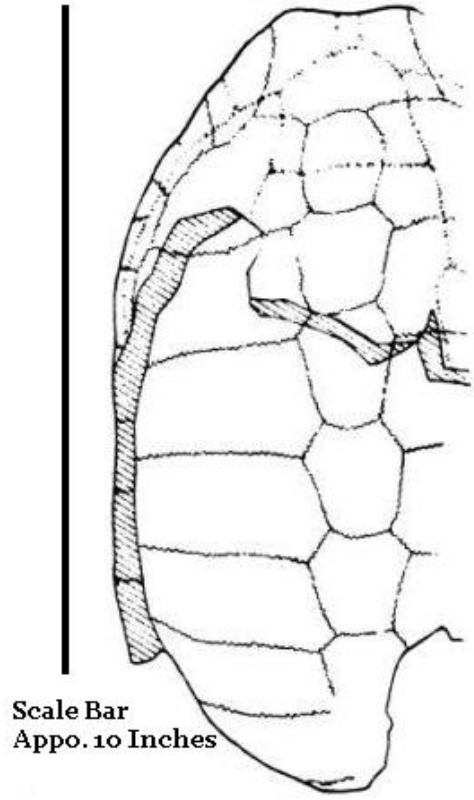
Society on July 20, 1877, below is the quoted passage from that meeting.

> "When the specimen was first obtained it was nearly perfect, lacking only the posterior part of one side, and the posterior border of the carapace. Having been mutilated by destructive curiosity hunters, there remains now the plastron and the anterior half of the carapace, with a considerable portion of the posterior part of the left margin. The surface has been exposed to the weather so as to obscure, and in some places to obliterate the dermal sutures, while the skeletal sutures are distinct…"

The fossil was reviewed again in the early 1900s by another famous paleontologist; Professor Oliver Perry Hay, who was working on a complete record of American turtles. Hay visited Atlanta and inspected the fossil for his 1908 work; in those pages he recorded this passage:

> The type (holotype, or fossil which established the species) of the species is in the collection of the Geological Survey of Georgia, at Atlanta, where the writer has been permitted to study it. The specimen was found near Montezuma, Macon County, near the Flint River... It is in the same condition as when it was described by Professor Cope...

The river bluffs north of Montezuma and extending all the way to Macon reveal several layers of sediments from the Cretaceous and Paleocene Epochs w many bearing fossils, especially towards Columbus. The Clayton Formation is among these and is well known



Agomphus oxysternum

From The Fossil Turtles of North America by Oliver Perry Hay, 1908.

This new species was first decsribed by Edward Dinker Cope in 1877.

Discovered near Montezuma, the specimen was originally a very nearly complete shell but was damaged through handling before being reviewed by science.

At some point afterwards it made its way to Georgia State Geologist George Little, who had Edward Cope inspect the fossil, leading to its assignment as a new species.

For safe keeping the specimen was permanently placed in the collections of the Georgia Geologic Survey in Atlanta where in 1908 Oliver Hay again reveiwed it.

The Georgia Geologic Survey was abolished in 2004.

for being highly diverse; some layers show a wealth of sea shells and indicate a shallow, warm water environment. Other layers are known as coastal location and show a wealth of fossilized leaves, these are usually seen as estuaries where leaf litter collected and was preserved.

Our *Agomphus oxystern* is related to modern river cooters but probably lived where the river and sea met, perhaps in a marsh environment.

Dr. Timothy Frilingos stands today as the Director of the Georgia Capitol Museum and confirms that this fossil remains on display in the State Capitol.

BY: Thomas Thurman
GeorgiaEarthandSky.com
102 McArthur Blvd., Warner Robins, GA 31093

Southeastern Gem & Mineral Shows

Sept. 21-23, 2012, Jacksonville, Florida
24th Annual Show
Jacksonville Gem and Mineral Society
Friday 1:00pm-6:00pm
Saturday 10:00am-6:00pm
Sunday 10:00am-5:00pm
Admission: $4
Morocco Shrine Auditorium
3800 St. Johns Bluff Rd
Jacksonville, Florida 32224
Contact: Karen Olson
Email:jgmsnews@gmail.com
Phone #: 904-981-0293 weekdays
904-448-5182 evenings and weekends
Address: 9353 River Pine Road, Jacksonville, FL 32257

Tidbits

SHEET & WIRE STORAGE

The more you work with jewelry, the more problems you have finding the piece of metal you need. My pieces of sheet were generally stored in various plastic bags, and the wire in separate coils. Few were marked, so it often took me a while to locate that piece of 26 gauge fine sheet I bought last year, especially since I usually take my supplies back and forth to classes.

A tip from a friend helped me organize everything. I bought an expanding file folder from the office supplies store (the kind that has 13 slots and a folding cover) and marked the tabs for each gauge of metal I use. Then I marked all my pieces of sheet with their gauge, put them in plastic bags, marked the gauge on the bag, and popped them into the folder. I usually store coils of wire loose in the folder, but they can also be bagged if you prefer. I use one tab for bezel wire and one for the odd, miscellaneous items.

The resulting folder is really convenient when I want to take my metal out to a class or workshop. It's also colorful enough for me to easily find in the clutter of the shop.

From: More BenchTips by Brad Smith can be found at facebook.com/BenchTips

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Macon, Georgia

The Club meets on the First Monday of each Month, at The Museum of Arts and Sciences, in Macon, Georgia.
Except: No meeting January, July, and August. The annual Christmas Party is the first Monday in December. September the first Tuesday of the Month

Purpose: To promote the earth sciences, the lapidary arts, and the collection, study and display of rocks, minerals, and fossils; to promote the public awareness of these efforts in educational and recreational activities.

Club Officers:

President: Phil Hargrove, ph. 478-862-5327, susanbphilh@pstel.net

Vice President: Jim Souter, ph. 478-454-7273, jgsouter@windstream.net

Secretary / Photographer, Richard Arnold, ph. 678-682-9860

Treasurer: Susan Hargrove, 86 Clear Branch Rd, Butler Ga. 31006, ph. 478-862-5327, susanbphilh@pstel.net

Editor / Programs / Web: Jay Batcha, 4220 Cyndy Jo Circle, Macon, Ga. 31216, ph. 478-784-1965, rocky1s@cox.net

Education Chairperson: Thomas Thurman, ph. 478-329-1755, cell 478-293-7302 Tpangangan@aol.com

Stamp Program: Ron Davis, ph. 478-788-2616

Club year begins November 1st, a grace period of three months will be given before membership lapses.

Mid-Georgia Gem & Mineral Society
Application for Membership

Name(s)_____
_____
_____
_____
_____
Address_____
_____
City_____
State____ Zip Code_____
Phone_____
Adult(18+) $10.00 Junior $2.50 New _____
Renewal _____
E-mail
Address_____
_____
List your interests and reasons for joining_____
_____
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Make checks payable to:
Mid-Georgia Gem & Mineral Society
Mail to the Treasurer (listed on this page) or bring to a meeting.

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Macon, Georgia

Member of Southeast Federation of Mineralogical and Lapidary Societies
Member of American Federation of Mineralogical Societies

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Save Commemorative Stamps