FOSSILIZED REMAINS
OF A MUMMIFIED DINOSAUR FOUND IN MONTANA

OCTOBER 11, 2002—Leonardo, a duck-billed dinosaur, was only about three years old when he died about 77 million years ago. At his death, he was 22 feet long and weighed between one and a half and two tons. His skeleton is covered in what was once soft tissues like skin, scales, muscle, and foot pads. His stomach even has the remains of his last meal. Of course all of this tissue and remains have been replaced with minerals over millions of years, but what is left now is the fossil of a mummified dinosaur. What a treasure for paleontologists.

Leonardo was given that name because graffiti near his burial site in northern Montana read “Leonardo Webb and Geneva Jordan, 1917.” This is the first adolescent [and one of the most complete] brachylophosaurus dinosaur fossils ever found. He is one of four dinosaur fossils in the world to be classified as a “mummy dinosaur.” All of the other mummies were found in the early 20th century, when scientific techniques were much less sophisticated. Leonardo gives paleontologists an opportunity to answer old questions with new technology.

Leonardo was presented to the scientific world on October 11, 2002 at the 62nd Annual Meeting of the Society of Vertebrate Paleontology in Norman, OK.

(see Leonardo’s Mummy on page five)
From the Prez

Well, 41 of us had a real good time at Alan and Alishia’s house on October 12. Alan sure cooks some great catfish and hush puppies. It was a near-perfect autumn day and the tables were full of food. It was good to see several of our members that don’t get an opportunity to come to the Friday night meetings, and it was also good to meet a few new faces. I think our visitors had a great time too. While the kids enjoyed bobbing for apples, swinging, pitching ball and playing in the yard, the rest of us traded a few rocks and a few rock stories. The only bad part about the whole day was when it was over. Thanks to Alishia and Park for hosting our last Rock Swap of 2002. We look forward to doing it again next year.

Holiday season is right here on top of us. Thanksgiving’s just around the corner and Christmas is right behind it. Our December Holiday Party is being planned right now. Idajean Jordan is coordinating the food and festivities for the party, which will be at 7:30pm on December 13 at Shady Grove Presbyterian Church. Mark your calendar now to come, but more important than that ... plan to help Idajean put it all together. A lot of work goes into our December Party, but it is worth it. Thanks, Idajean, for taking on the party task.

It’s almost time to elect new officers and directors for the 2003-2004 term. Park Noyes is the Nominating Committee Chair this year. He, Sherri Baldwin, and Terri Noyes have been busy making calls and putting together a slate of nominees for President, Field Trip Vice President, Program Vice President, Secretary, Treasurer, and 4 Directors. Nominees will also be taken from the floor on election night, December 13. If you have a nominee for any of these positions, please contact that person and make sure she/he is willing to run. She/he must be present on the night of the election in order to accept the nomination.

We’ve had a great 2001-2002 term. I’ve enjoyed being your President and I enjoyed being your Field Trip Vice President for two years before that. With all the we have going on in MAGS, I think we’re in for another two years of great fun in 2003 and 2004. If you haven’t been coming to the meetings and on the field trips, you’ve been missing a lot. DUES ARE DUE! A list of dues prices is on page eight of the newsletter. Bill Scheffer will be glad to take your check at the November meeting, but there will be no dues collection at the December Party. So pay in November if you can at all.

WEB STATISTICS

Here’s a brief look at our website (www.memphisgeology.org) from 01.21.02 through 10.21.02:

Visits* .................................. 22,054
Hits** ................................ 125,082
Average visits per day in Oct..... 180

* visit=every time someone comes to the site
** hit=every page viewed on the site
MAGS FIELD TRIP
BIRMINGHAM RIDGE, MS

SATURDAY, NOVEMBER 23, 2002, 10:00am
FIELD TRIP LEADER DAVID McILWAIN (901) 465-7388

Collecting Site: The Robison farm on Birmingham Ridge Road, in Lee County near Tupelo, Mississippi. Collecting is free at this site.

Specimens: Cretaceous marine invertebrate fossils from the Demopolis Chalk Formation including oyster shells [Exogyra ponderosa ponderosa, Exogyra ponderosa erraticostata, Pycnodonte convexa, Agerostrea], jingle shells [Paranomia scabra], cephalopods [ammonites and baculites], brachiopods [Lingula sp.], pyritized burrows, shark’s teeth [Squalicorax pristodontus], shark vertebrae, bony fish [Enchodus sp.], steinkerns [internal shell molds], and others.

Meeting Time/Place: 10:00am, Natchez Trace Parkway - Tupelo Visitors Center, located at 2680 Natchez Trace Parkway. We will convoy to the collecting site promptly at 10:30am, for the collecting site. Please follow AFMS Field Trip Convoy Guidelines [on the MAGS website at www.memphisgeology.org].

Driving Directions: From Memphis take I-240 east toward Nashville/Jackson MS, then take exit 21, Lamar Ave/US-78 East exit, towards Tupelo/Birmingham AL. Take MS-178 East towards Tupelo, then take the Natchez Trace Parkway exit towards Tupelo. The Visitors Center is just north of the Natchez Trace Parkway exit on MS-178. Turn left at the up of the ramp, to the visitors center on the right. Please allow approximately 1-1/2 to 2 hours driving time.

Lunch: Around noon, we will break for approximately 1 hour for lunch. Please bring a sack or picnic lunch and plenty of hot coffee or chocolate.

Tools: Fossils are mostly on, or just below, the surface. Bring leather gloves, collecting containers [such as buckets or cloth bags] and newspaper to wrap specimens.

Difficulty Level: 1 to 3 on a scale of 1 (easy) to 10 (hard). Please be advised that there is always a possibility for serious injury at this site, so any young members must be supervised at all times. Please follow AFMS safety rules, code of ethics and collect courtesy guidelines [found on the MAGS website at www.memphisgeology.org].

Field Trip Leader: David McIlwain • (901) 465-7388 • Cell (901) 266-1446 • email: djmciIlwain@earthlink.net

Please Note: This trip is open only to MAGS members and their guests. This is a great trip for children, but no pets please. Please do not go in the barn and do not go near the farm equipment on the Robison farm.

WELCOME NEW MEMBERS

Please add the following new members to your MAGS directory.

Michael and Angela Cates • email: mikecates1@excite.com
1123 White Oaks Drive, Hernando, MS 38672 • 662-429-3835

Sara R. Mitchell • email: saraymith@bellsouth.net
8713 Citrus Bend Drive, Cordova, TN 38018 • 901-624-0210

NOVEMBER BIRTHDAYS

November Birthstone is TOPAZ
1 - W. C. McDaniel
3 - Beverly Crockett
3 - Rachel Parks
6 - Flo Seward
11 - Cathie Jacob
15 - Nora Parker
16 - Abbey Randolph
18 - Laura Lee Ethridge
18 - David McIlwain
19 - Chris Chrisman
21 – Celeste Long
22 - Melba Cole
22 - Ron Patton
23 - Ruth Chrisman
24 - Rena Everett
28 - Alan Parks
30 - Robert Neill

SUNSHINE REPORT

FRANK & FRANCIS WALKER–Roger Van Cleef is rolling again. He was spotted zooming across the grounds of Audubon Park during the Pink Palace Crafts Fair in October. We’re glad to see you up and about again Roger.

To Charlie McPherson, Wayne Williams, and Breezy Levitch, your friends at MAGS wish you well. We hope to see you very soon.

If you, or a MAGS member you know, becomes ill, please call Frances and Frank Walker at 372-6206 and let them know.
ROGER VAN CLEEF–Sand is composed of loose, finely grained minerals that are the product of chemical and mechanical decomposition of rocks over long periods of time. These minerals include quartz [the most common mineral] often with traces of mica, feldspar, and magnetite. Most sand is made up of quartz because other common minerals weather away to sizes smaller than sand, and quartz does not. Particles of sand range in size from 2 to .02 mm in diameter. Fine sand is defined as particles between 0.02 mm and 0.2 mm and course sand as those between 0.2 mm and 2.0 mm.¹

The sand found at the bottom of tide pools of Okinawa, Japan is light brown on the top, but just a few inches beneath the floor the sand is black, due to anaerobic decomposition. Anaerobic decomposition is the breakdown of plant and animal life without the presence of oxygen [beneath the surface of the sand]. If you take a closer look at the sand from Taketomi Island, Japan, you will find that some of the sand is star-shaped. The star shaped sand is actually made up of foraminiferans, single celled protozoans. Because their shell is composed largely of calcium carbonate, they blend in very well with the calcium-carbonate sand around them.²

Desert sands tend to have a wider assortment of grain sizes and dull, opaque surfaces due to erosion from high speed winds. The sand of Hawaii's black beaches is obsidian [volcanic glass created by magma that flowed to the sea and then cooled rapidly]. It was eventually reduced to bits of fine black sand by water and waves. Remains of tiny sea animals called crinoids [sea lilies] make up part of the sand in the Tonga area of the South Pacific. These stony disks which are calcified, wheel-like plates, fall in large numbers to the bottom of the ocean.³

Take a look at a few grains of sand under a microscope and see what you find.

Okinawa, Japan    Sahara Desert       Hawaii           Tonga

Works Cited:
1. Glenn Elert, Editor; The Physics Factbook; “Diameter of a Grain of Sand”; www.hypertextbook.com; October 18, 2002
3. “Sands of the World”; www.ed.uri.edu/homepage/projects/ocean/Sampler.htm; October 18, 2002 [images above are courtesy of “Sands of the World”]

JENNIFER BALDWIN–MAGS Micromounters [M³] met on October 18 in Roger’s lab with Roger Van Cleef, George Fulghum, Cornelia and W.C. McDaniel, Kelly, Jennifer, Sherri and Mike Baldwin in attendance. Jennifer gave everyone mini-packs of mini-M&Ms. Roger distributed small ziplocks of white sand from Alamogordo, NM and pure quartz sand from Clearwater, FL. Each family also received a bit of star sand from Taketomi Island, Okinawa, Japan. We looked at star sand, wavelite and Crow Creek selenite under the microscope. Jeffrey quartz, Mt. Ida quartz, and 3.75 billion-year-old Amitzoa gneiss [Godflab District, W. Greenland] specimens from Roger Bennett of SC made their way home with M³ members.
Less than one tenth of one percent of all dinosaur fossils found thusfar have had scales and tissue parts. Leonardo's skeleton is about 90 percent covered in soft tissue [i.e. skin, muscle, nail material, and a beak]. He is covered with polygonal, five-sided scales ranging in size from about one-eighth to one-half inch, and soft-tissue structures suggesting that he had a little sail frill running along his back. Even the pads on the bottoms of his three-toed feet were preserved.

Leonardo's stomach contents are so detailed that researchers can tell that his last meal consisted of ferns, conifers, and magnolias. His stomach also contained pollen from more than 40 different plants.

With all the information provided by Leonardo, researchers should be able to determine a great deal about dinosaurs from the late Cretaceous [89 to 65 million years ago]. What did they eat? How did they travel? What was their environment like? Researchers should be able to determine Leonardo’s range of motion, how his chest muscles worked, and the size of his average step.

Dan Stephenson, of Minot, North Dakota, discovered Leonardo during the last hour of the last day of a summer expedition in 2000 sponsored by the Judith River Dinosaur Institute.

Leonardo is the largest dinosaur ever taken out in one chunk [a single 6-1/2 ton block of stone encasing the skeleton]. Excavation began in the summer of 2001. Huge boulders were cleared away from the top of the hillside. A road was cut into the site and team members then dug a six-foot-deep trench around the fossil's perimeter. The final work was accomplished with the traditional tools of paleontology—scalpels, brushes and dental picks.

To find out more about Leonardo, you can visit the Phillips County Museum and Judith River Dinosaur Institute, Malta, Montana in person, or on the web at www.montanadinodigs.com.

The eyes of trilobites, small extinct arthropods of the Paleozoic Era, have been found to possess sophisticated, glass-like lenses capable of producing clear images over a wide depth of field.

The lenses owe their remarkable properties to their impregnation with the mineral calcite, specifically calcite with its crystal structure arranged precisely to produce the optical properties of glass, says Kenneth Towe of the paleobiology department of the Smithsonian Institution.

The crystal orientation is so accurate and consistent from specimen to specimen that it must have been due to a process of bio-mineralization. The “calcite lenses,” says Towe, “must have been present during the life of the animal.”

To study the optics of the lenses, Towe embedded specimens in clear epoxy, face down on glass slides and looked at objects through the eye with a microscope. The result was inverted images that stayed in focus from a few millimeters to optical infinity.

A few living anthropods have calcified lenses in their eyes, but Their poor crystal orientation would produce double vision.

From The Post Rock, June, 1997

Works Cited:
3. Alan Boyle; “Dinosaur Fossil Shows Some Skin”; MSNBC News; http://www.msnbc.com; October 22, 2002
**SFMS CLUBS SHOWS/EVENTS**

- **NOV 15 & 16, 2002 • 10am-6pm**
- **NOV 17, 2002 • Noon-5pm**

**Gem and Mineral Show**
- Cobb County Gem and Mineral Society • The Cobb County Civic Center, 548 S. Marietta Pkwy. and Fairground St., Marietta, GA • FREE admission • Show contact–Larry Bishop–770.429.1094

- **NOV 16 • 10am-6pm**
- **NOV 17 • 10am-5pm**

**36th Annual Gemstone and Mineral Show and Sale**
- Gem and Mineral Society of the Palm Beaches • S. Florida Fairgrounds Expo Center, 9067 Southern Blvd., State Rd. 98, West Palm Beach, FL • Contact Chairman, Jack Stamper–shows@gemandmineral.cc

- **NOV 23 • 10am-6pm**
- **NOV 24 • 10am-5pm**

**26th Annual Parade of Gems Gem, Mineral and Fossil Show**
- Canaveral Mineral & Gem Society • Melbourne Auditorium, 625 E. Hibiscus Ave, Melbourne, FL 32901 • Contact–Anita Lane–321.723.0742

- **NOV 22 & 23 • 10am-7pm**
- **NOV 24 • Noon-6pm**

**35th Annual Gem, Mineral and Jewelry Show**
- Columbia Gem and Mineral Society • Moore Bldg., South Carolina State Fairgrounds, Columbia, SC

- **NOV 30 • 9am-6pm**
- **DEC 1 • 9am-5pm**

**7th Annual Show**
- Mobile Rock & Gem Society • Abba Shrine Auditorium, Hitt at Schillinger Rd, Mobile, AL • Contact–Ed Harris–251.865.9157 or ed_harris_jr@hotmail.com

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**FEDERATION NEWS**

**Dixie Mineral Field Trip: Hosted by the Southern Appalachian Mineral Society**
- **Sat., Nov. 16, 2002 • Sun., Nov. 17, 2002**
- Marion, NC and Topton, NC

This year we propose to visit two sites, weather permitting, one on the 16th and one on the 17th. You may attend either one or both as you wish.

**First Site: Woodlawn Quarry, Marion, McDowell County, NC**
- **9:30 AM to 2:00 PM, Saturday, November, 16th, 2002**
- **Minerals:** Quartz crystals, possibly others in small quantities. The quartz crystals are believed to be derived from a quartzite layer on top of the limestone (a reversal of original positions due to folding), which is actively mined for gravel. The crystals are terminated on at least one end and are often intertwined with each other in densely packed clusters.
- **Contact:** Joe Enderle: Phone (828) 254-7754, e-mail: endeng@bellsouth.net or George Schissler: Phone (828) 298-2951, e-mail: geohs@ioa.com
- **Special Conditions:** Children allowed only under close adult supervision. Small pets on a leash are allowed. The collecting is free. All attendees will be required to sign a release form. This site contains an active quarry with high vertical walls and attendant hazards. We will not be digging in the quarry so please do not approach the quarry pit walls from either the top or bottom. This is especially important for the children. Also, the area where we will be digging is surrounded by woods and mountainous terrain. A lost person can stray ‘forever’; stay in touch with the group.
- **Bring:** Appropriate attire for the weather and walking through underbrush; food and drink, collecting container, shovel or small digging tool; screens are optional.
- **Directions:** Follow I-40 East from Asheville. Take exit 72 to Old Fort (US 70 East). Follow US 70 for about 11 miles. At the intersection of US 221 and US 70, a Wal-Mart is on the left. We will meet in the Wal-Mart parking lot near Wendy’s. Travel about one hour from Asheville. We will leave there at 9:45 AM.

**Second Site: Nantahala Talc & Limestone Quarry, Topton, Graham/Swain Counties, NC**
- **10:00 AM to 2:00 PM, Sunday, November 17, 2002**
- **Minerals:** Marble, talc, calcite (in seams) and other minerals
- **Bring:** Hammer, small pick, large collecting container, food and drink
- **Directions:** From Asheville, follow I-40 west to exit 27. Follow US 74 west (toward Clyde and Sylva) staying on 74 until it joins US 19. Follow US 74/19 to the Nantahala Outdoor Center at the northeast end of the gorge. There is a restaurant in the complex for early birds to have breakfast or a coffee break. Because of limited parking there however, we will meet as a group at Ferebee Memorial Park on US 19/74, about 10 minutes west of the Outdoor Center. It takes about an hour and 45 minutes from Asheville to the Outdoor Center and another 10 minutes to the park. Let’s meet no later than 09:45. We must leave the quarry by 2:00 PM.
- **Special Conditions:** This site is an active quarry, in the Murphy Marble Belt, with vertical walls several hundred feet high. PLEASE BE CAREFUL! Avoid the base of the high walls and unstable areas. Joe Enderle, Field Trip Chairman, (828) 254-7754 or e-mail: endeng@bellsouth.net

**NOTE:** DMC field trips are exclusively for DMC member clubs! This trip is closed to non-DMC clubs, their members, or members of the general public.
**BOARDS MEETING**  
**OCTOBER 3, 2002; 6:30pm**

RAYNEE RANDOLPH: The October board meeting of MAGS was held 10/03/02 at Perkin’s at Eastgate. The following were present: Mike, Sherri, Kelly and Jennifer Baldwin, Nancy Folden, W.C. and Cornelia McDaniel, David McIlwain, Dick McKitrick, Park and Terri Noyes, Raynee Randolph, Abbey Randolph, Bill Scheffer, Paul Sides, and Lou White. The secretary’s minutes from the September board and general meetings were accepted and approved with the following corrections: Committee to audit club treasure’s report for the year 2001, and the misspelling of Lucile Cox.

**First VP:** October 26 trip will be to Richardson Landing, depending on the water level.

**Second VP:** Ron Brister will speak on Ice Age Animals of the Mid-South.

**Treasurer:** Financial report presented, motion made, seconded, and carried to approve report, subject to audit. Board voted to purchase a new laser pointer, as our other is inoperable.

**Library:** Lapidary Journal subscription to be renewed. Board voted to purchase another library cabinet to house the Lapidary Journals and misc. club items. Moneys to come out of the Don Green fund.

**Juniors:** Oct. /Nov. programs will be given by Idajean Jordan. Jan./Feb. will be Roger Van Cleef. March/April will be Bill & Raynee Randolph. May/June will be Mike & Sherri Baldwin. Specimens of the month have been selected through 2003.

**Membership:** Two new membership applications have been accepted. The Tim Long family, and Allie Van Cleef.

**Show:** From the Sept. meeting; Show to fund tee shirt sales. Gift bags for $15.00 will be sold to market the show. Demonstration schedule will be available at the Nov. meeting. Next meeting is Oct 29th at the McDaniel’s home, 7:00pm.

**Announcements:** Nominations for new board members will be held at the November general meeting. If you are interested in a board position please talk to a current board member or to Park Noyes. For a complete list of the positions available please see page two of your newsletter. Elections will be held in December. The Christmas party will be December 13.

**New Business:** A release, waiver/indemnity agreement form is being drawn up for field trips. Discussion will follow at the November board meeting. Meeting adjourned at 7:50pm.

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**GENERAL MEETING**  
**OCTOBER 11, 2002; 7:30pm**

SHERRI BALDWIN: MAGS Oct. General Membership meeting, held at Shady Grove Presbyterian Church, was called to order by President Lou White at 7:35pm on Friday, October 11, 2002. There were 53 members and 15 visitors present. Visitors were: Carol Coker, Amber Smallwood, Camden Smallwood, Steven Stuart, Don Givens, Megan Givens, Jim Givens, John Givens, Sara Mitchell, Michael Cates, Kathy Hemingway, Kelsey Jelinek, Anna Marsh, Christopher Marsh, Barry Bivens, Mike Lovlett and Natasha Ramsey. Lucile Hendron Cox Library opened by Nancy Folden.

**Program:** Paul Sides introduced our guest speaker, Ron Brister, from the Pink Palace Museum, who spoke to us on “Ice Age Animals of the Mid-South [Including Richardson's Landing].” Natasha Ramsey assisted Mr. Brister with the program. Ron presented a slide show and lecture on the ice age geology and animals of our area, as well as sharing a large collection of animal fossils from the Mid-South.

**Youth:** Idajean Jordan presented the MAGS Youth Program on “Native American Archaeology”, with emphasis on Arrowheads and Spear Points found in our area. Idajean will present the Nov. Youth Program on “Shell Fossils of North MS”.

**Paul Sides:** Next month’s program will be in conjunction with the MAGS field trip to Birmingham Ridge, MS.

**David McIlwain:** Richardson’s Landing Field Trip on October 26 may be cancell-ed due to rain-swollen Mississippi River. David will call everyone who signed up to go with an update or an alternate trip. If the trip to Richardson’s Landing is on, we will meet at Popeye’s Chicken and Biscuits in Millington. November Field Trip will be to Birmingham Ridge, near Tupelo, Mississippi. We will be looking for huge fossil shells.

**W.C. McDaniel:** A new opportunity will be presented at the Nov. General Membership Meeting. You will be able to purchase “Show Gift Bags” which will contain gift certificates and an assortment of tickets. Information fliers were distributed.

**W.C. McDaniel:** Sale of Melba and Dr. Cole’s yard material will be Saturday and Sunday, November 2 and 3 from 9:00am to 4:00pm both days. Material will be 50¢ per pound. Bring your own bucket. Information fliers were distributed.

**Alan Parks:** Rock Swap at Alan and Alishia Parks’ house tomorrow, 10:00am to 3:00pm. Bring a shoebox full of “your good rocks” for admission to catfish, hushpuppies, red beans, drinks, bobbing for apples, tumbling and metal detector demonstrations and more fun than you can handle.

**Displays:** [1] Lou White--Lake Superior Agates; [2] W.C. McDaniel--variety of material from Richardson’s Landing; and [3] John Givens--gem material from the Sapphire area of NC. The winner was W.C.


Meeting adjourned at 8:40pm followed by refreshments.

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**LOOK AT MORE STUFF ... THINK ABOUT IT HARDER**  
[Don’t just look at it! Think about what you’re seeing.]
IT’S SHOW TIME

SHOW GIFT BAGS AND CERTIFICATES
Club members may purchase show gift bags or gift certificates for the holidays or special events. Proceeds go to the show account. Available at the November meeting or by calling W.C. McDaniel at 901-274-7706.

Decorative Gift Bag contains:
- Two $5.00 gift certificates for use at the April 2003 Show. Additional gift certificates are available at $5.00 each. Gift certificates are used just like money at the show.
- Three adult admission tickets. More may be purchased for $1.00 each (regular $3.00 each).
- Two children’s admission tickets. More may be purchased at $1.00 each.
- Two ROCKZONE tickets. (Good only at the Gem Dig.)
- Two extra door prize registration tickets.
- Information about the Show and the Club.

ALL THIS FOR JUST $15.00 (a $23.50 value)

GIFT CERTIFICATES ARE AVAILABLE FOR $5.00 EACH (Face Value)

ROCK SALE  NOV 2-3, 2002 [9am-4pm both days]
PARTIAL COLLECTION OF DR. JAMES COLE • 8280 BON LIN DRIVE, MEMPHIS, TN

Tons of material from over 40 years of collecting across the United States:
- Agates—Brazilian, Lace and many others
- Petrified wood from Arizona, Arkansas, Alabama and other areas
- Geodes (huge quantity, all sizes, many cut)
- Quartz from Arkansas, Missouri, Colorado
- Rush and Magnet Cove, Arkansas material
- Huge variety of miscellaneous material for cutting and tumbling
- Huge variety of yard rocks and miscellaneous rocks (some up to several hundred pounds each)
- Lapidary equipment—tumblers, extra barrels, saw, faceting and cabbing machines, diamond grinding/polishing combination machines and arbors

Sale Notes: [1] Price—all material (not equipment) is $.50 per pound; [2] Large assortment of 5 gallon buckets is available, but bring your own containers; [3] Dr. Cole’s cabinet and display specimens and large collection of boxed minerals will be sold later and will not be available for viewing; [4] Sale is open to the public and other rock clubs
Directions: Bon Lin Drive is off Germantown Road/Parkway about 1 mile north of the intersection of Germantown Road and Highway 64, near Wolfchase Mall. It can be reached from I-40, either exiting Highway 64 or Germantown Road. At Bon Lin Drive take a right (east). A barn is located at that intersection. 8280 is the 7th house on the left.
MAGS YOUTH

PICK UP YOUR MAGS EXPLORER

Come to the November meeting and pick up your copy of the very first MAGS Explorer Newsletter, just for MAGS Youth. Read about meteors, minerals and fossils, do an experiment or two, color a few pictures, or take the Geology Challenge.

COLLECTOR’S CARDS: Cut out the Dinosaur Card, and the Specimen-of-the-Month card, fold on the dotted lines, tape them closed and add them to your collection.

What’s Up With the Kids

Programs: There were 22 MAGS Youth at the October General Meeting. Thank you to Idajean Jordan for presenting a great program on “Arrowheads and Spear Points of the Mid-South”. Idajean will be presenting the November youth program on “Cretaceous Fossils of Mississippi” to coincide with November MAGS Field Trip to Birmingham Ridge, Mississippi to collect Cretaceous fossils.

October Rock Swap: Of the 41 people who attended the October Rock Swap/Fish Fry at Alan and Alishia Parks’ house, 12 were youth.

New Youth Newsletter: While conducting an informal survey at the October meeting, we discovered that most of our kids don’t actually get a chance to read the MAGS Rockhound News ... so ... guess what kids?!? Beginning this month you will have your very own newsletter, called the MAGS Explorer. You will receive your first copy at the November meeting. If you miss the meeting, you can read it online or download it from http://www.memphisgeology.org/explorer.html. If you have artwork, articles, games, puzzles, poems, or anything you would like to see printed in the newsletter, send it to rockclub@earthlink.net or give it to Jennifer Baldwin, Emily Randolph, Kelly Baldwin, or Abbey Randolph.

Did You Know . . .

Protoceratops

This is the first ancestor of the famous ceratopsian family to look like the later, more famous members such as Triceratops. It was much smaller than its more famous relatives, but it was a very successful design that lasted many millions of years. Protoceratops didn’t have horns to protect itself, just its sharp beak to bite with.

It is a fairly common fossil, one of the few dinosaurs for which a complete growth history can be seen in fossils ranging from infant to adult. Like other ceratopsian family members each individual shows a difference in the size and shape of its frill. Protoceratops frills were not solid and did not grow overly large.

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Did You Know . . .

Feldspar

The Feldspar group contains silicate minerals with a lot of similar properties. They make up more than 60% of the upper crust of the Earth. The name derives either from their wide distribution [in every field—“feld”] or from “fels” [rock]. Potash feldspars are important rock-forming materials in plutonic, volcanic, and metamorphic rocks. Orthoclase commonly occurs in granite, and microcline in granite pegmatites, carbonates, and hornfels. Microcline is the potash feldspar that usually forms intergrowths with quartz and with albite in granite permatite. The light bluish-green variety of microcline is called amazonite.

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Protoceratops andrewsi

Pronounced: pro-toe-Sair-o-tops
Diet: Herbivore (Plant-Eater)
Name Means: “first horned face”
Length: 10 feet (3 m)
Height: 3 feet (1 m)
Weight: 500 pounds (225 kilos)
Time: Late Cretaceous - 82 mya

Composition: K[AlSi3O8]
Hardness: 56
Specific Gravity: 2.53-2.56
Fracture: conchoidal, brittle
Color: white, yellow, pink, others
Streak: White
Lustre: vitreous, pearly
Crystal system: monoclinic, triclinic

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DUES ARE DUE

BILL SCHEFFER—Dues are due before January 1, 2003.
The easiest way is to write a check and give it to me at
the November General Membership Meeting. If you can’t make it
to the meeting, please drop a check in the mail to me. We don’t
want you to miss out on any of the great things happening in
MAGS. Prices are: [1] Family—$20.00; [2] Single—$16.00; [3]
Junior—$8.00; and [4] Associate—$13.00. Make your checks out
to MAGS and send them to Bill Scheffer, 2959 Sky Way Drive,
Memphis, TN 38127. Thanks in advance for paying your dues.

Excerpt for items that are specifically copyrighted by their authors, other societies may use material published in MAGS Rockhound News provided that proper credit is given and the sense or meaning of the material is not changed. Editor: Mike Baldwin, 367 North Main Street,

MARK YOUR CALENDAR TODAY

Rock Sale
November 2-3

MAGS Meeting
November 8

M³ Meeting
November 14

DMC Field Trip
November 16

MAGS Field Trip
November 23