



Volume 66 ◊ Number 06 ◊ June 2020 ◊ A monthly newsletter for and by the members of MAGS

An Unusual Artifact Type from the Chickasaw Ordnance Works

C. Andrew Buchner



Figure 1. Ceramic roller: side view and end-on view.

Last Spring, while conducting an archaeological survey of several properties along Big Creek in Millington, I discovered an unusual artifact type that was completely new to me that may be of interest to MAGS Members. The objects were 3.25-in. long ceramic rollers, with abraded corrugated cog-like groves on the exterior, and a corkscrew-like flange on the interior (Figure 1). Dozens and dozens of these items were scattered on the surface among the concrete ruins of some of the buildings associated with the Tennessee Power Company and subsequent Chickasaw Ordnance Works, see history below, at a location designated Site 40SY664 by the Tennessee Division of Archaeology. The items are interpreted as rollers that were associated with pressing the nitrocellulose, or guncotton, into “cakes” and forcing it through dies (variably sized) to produce rifle powder or *Continued, P. 3*

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EXPLORING AND UNDERSTANDING FOSSIL RESOURCES

[Paleontological Science Education Outreach Activities Conducted by Delta State University Science Faculty, an article by Nina Baghai-Riding and Robert Kagumba](#)

Paleontology is an interdisciplinary field embracing concepts in geology, biology, chemistry, anthropology, and more. However, few students living in the Mississippi Delta have ever found a fossil and

many are unaware of this scientific field. In June 2019, The Paleontological Society awarded Delta State University (DSU) faculty, Nina Baghai-Riding and Robert Kagumba, an Outreach and Educational grant titled “Improving Scientific Education in the Mississippi Delta Through Paleontology”. A major goal of this grant was to provide an enriched field experience in science and interactive

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MAGS Rockhound News ♦ A monthly newsletter for and by the members of MAGS

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(901) 274-7706 ♦ w.c.mcd@att.net

1st VP (Field Trips)— Kim Hill

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(901) 308-0334 ♦ dclarke@fieldmuseum.org

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Director (Membership Services)—Bob Cooper

(901) 444-0967 ♦ rocks4us@hotmail.com

Director (Historian)—Jane Coop

(901) 685-8103 ♦ dogsandrocks3@gmail.com

Newsletter Editor—Matthew Lybanon

(901) 757-2144 ♦ lybanon@earthlink.net

Assistant Newsletter Editor—Carol Lybanon

(901) 757-2144 ♦ sgcarol@earthlink.net

Webmaster—Mike Baldwin

(901) 853-3603 ♦ mbaldwin05@gmail.com

Assistant Webmaster—Mike Coulson

(901) 907-9441 ♦ mike.coulson@comcast.net

Show Chairman—James Butchko

(901) 743-0058 ♦ butch513j@yahoo.com

Past President—Charles Hill

(901) 626-4232 ♦ hunter3006@aol.com

MAGS AND FEDERATION NOTES

Memphis Archaeological and Geological Society,
Memphis, Tennessee

The objectives of this society shall be as set out in the Charter of Incorporation issued by the State of Tennessee on September 29, 1958, as follows: for the purpose of promoting an active interest in the geological finds and data by scientific methods; to offer possible assistance to any archaeologist or geologist in the general area covered by the work and purposes of this society; to discourage commercialization of archaeology and work to its elimination and to assist in the younger members of the society; to publicize and create further public interest in the archaeological and geological field in the general area of the Mid-South and conduct means of displaying, publishing and conducting public forums for scientific and educational purposes.

MAGS General Membership Meetings and MAGS Youth Meetings are held at 7:00 P. M. on the second Friday of every month, year round. The meetings are held in the Fellowship Hall of Shady Grove Presbyterian Church, 5530 Shady Grove Road, Memphis, Tennessee.

MAGS Website: memphisgeology.org

MAGS Show Website: www.theearthwideopen.com or <https://earthwideopen.wixsite.com/rocks>

We aren't kidding when we say this is a newsletter for and by the members of MAGS. An article with a byline was written by a MAGS Member, unless explicitly stated otherwise. If there is no byline, the article was written or compiled by the Editor. Please contribute articles or pictures on any subject of interest to rockhounds. If it interests you it probably interests others. The 15th of the month is the deadline for next month's issue. Send material to lybanon@earthlink.net.

The June DMC Field Trip has been cancelled. See P. 4 for more information.

Links to Federation News

- ➔ AFMS: www.amfed.org/afms_news.htm
- ➔ SFMS: www.amfed.org/sfms/
- ➔ DMC: www.amfed.org/sfms/dmc/dmc.htm

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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From The Archives

MAGS Newsletter, 1987

CHUCALISSA MARKER UNVEILED

Saturday November 7th, 1987 was a beautiful fall day for members and past members of The Memphis Archaeological and Geological Society along with dignitaries from Memphis State University, Tennessee State Archaeological Department and those in charge and working at Chucalissa Indian Mounds to gather for the unveiling of a Bronze Commemorative Marker inside the museum, which reads as follows:

WITH THANKS TO
THE MEMPHIS ARCHAEOLOGICAL
AND
GEOLOGICAL SOCIETY
FOR HAVING THE DREAMS,
THE DEDICATION, AND
ENERGY TO WORK FOR WHAT
EVENTUALLY BECAME CHUCALISSA

Our society is especially proud that Dr. H. Perry Bynum, three times a president of our society, was instrumental in getting this project started. He worked untiringly with the Tennessee State Governors, local officials, Southwestern College at Memphis, now Rhodes College, and Memphis State University to bring about the landmark known today as Chucalissa. Dr. Bynum composed the inscription on the marker. Sadly we reflect that Dr. Bynum did not live to see the unveiling. He passed away on August 7, 1987.

Dr. J. R. Cole, president of The Memphis Archaeological and Geological Society and Mrs. Perry Bynum, with the help of Mrs. Lowery Crouch and Mrs. Lee Sharpe, immediate past president of the society unveiled the marker. Those present, having participated in the beginnings of Chucalissa were introduced: Ann Bynum, Edna Holbrook, Becky Crouch, Lowery Crouch, Mickey Martin and Lucile Cox.

Dr. Edward Segner of Memphis State University spoke of the progress made at the university in the archaeological department and how Chucalissa had contributed to its growth. At the end of the ceremonies, the group was invited by Dr. Gerald Smith, curator of Chucalissa Museum and teacher of Archaeology at Memphis State University, to a reception being given by the museum with Mrs. Gerald Smith and Mrs. John Hesse

hostesses.

Those attending the unveiling were: Dr. and Mrs. Melba Cole, Lee and Vivian Sharpe, David and CecCee Lare, Ramon and Helen Gafford, Bill and Mary Sipe and grandson, Martin Ballinger, Sherida and Jerome Eddlemon, Edna Holbrook, Ann Bynum, Robert and Lucile Cox, Dr. Gerald and Kay Smith, John and Polly Hesse, Dr. Charles McNutt, Dr. Edward and Fairfax Segner, Mitchell Childress, Dr. Robert Mainfort of Tennessee State Archaeological Dept, Lowery and Becky Crouch, Stanley Crouch their son and his family, the daughter of Lowery and Becky Crouch and her family, Mickey Martin, Grady John and his daughter Meggan.

by Lucile H. Cox

P.S. This work began in the early 1950s. Some of the workers have died while others have moved away from Memphis. This recognition was especially important to me for not only did I help dig during the cold, cold weather but as time went on I promoted this project through talks given to various Daughters of the American Revolution Chapters. My thanks go to Dr. Gerald Smith and John Hesse for bringing me jewelry and artifacts from Chucalissa that my talks might be more effective.

*An Unusual Artifact Type ...
Continued from P. 1*

cannon powder.

The origin of the Tennessee Powder Company (1940-1942) and subsequent Chickasaw Ordnance Works (1942-1946) industrial facility at Millington dates back to early 1939, when England and France sought a safe place to produce gunpowder in the U. S., as war with Germany was looming. The construction site covered 5,600 acres, and the plant site soon became its own little city, with its own power plant, water supply, restaurants, police, transportation services, hospital, rail lines and yards, etc. The factory was designed to manufacture a propellant (i. e., smokeless powder) that burned with a minimum of smoke and with consistent gas pressures. The manufacturing process at Millington involved mixing nitric acid, sulphuric acid, and lint cotton to produce nitrocellulose, a high-explosive also known as "guncotton" or "nitrocotton"

The passage of the Lend-Lease Act in March 1941 paved the way for the U. S. to take over the not only the Tennessee Powder Company, but similar privately owned manufacturing plants that were producing armaments in other parts of the country. Such plants then became known as government-owned, contractor-operated (GOCO) facilities. Following Pearl Harbor and the U. S. declaration of war, in early 1942 the British indicated that they no longer had sufficient funds to continue operating the Tennessee Gunpowder Company plant. As a result, the U. S. Department of Ordnance and DuPont entered into a letter contract on January 22, 1942, to allow for uninterrupted production. At this time the name of the plant was officially changed to the Chickasaw Ordnance Works (COW) and the U. S. Government funded its operation. DuPont continued to manage the COW.

During the war, the COW *Continued, P. 4*

An Unusual Artifact Type ... Continued from P. 3

is variously cited as employing 8,000 to 9,000 people. The large labor force was needed in part because the facility operated 24 hours a day. With so many men in military service, the war created jobs in Memphis for women who had not worked before. As a result, most of DuPont's employees at the COW were women.

The COW was deactivated on June 17, 1946. Memphis and Shelby County missed an economic opportunity to "entice" a large manufacturing company to take over the ready-made manufacturing facility; however the COW site was deemed too dangerous for conversion to civilian use, thus it was turned over to the War Assets Administration for disposal. During this process the facilities' buildings were sold and moved, or razed, and the numerous storage tanks, rail lines, and abundant brass and stainless steel valves and piping were salvaged.

Today, multiple concrete ruins and other features associated with the former powder plant are scattered within and around Millington, and they are most readily observable along Shake Rag Road. The most impressive of the remaining ruins are the twin 250-ft. tall smokestacks from the facility's former power plant.

Web Tip

Dinosaur Photographed In Action

<https://www.youtube.com/watch?v=TGXC8gXOPoU>

This movie, featuring Gertie the Dinosaur, was released on Sep-

tember 15, 1914. Sometimes called the world's oldest cartoon (erroneously), it is still the first to be created using keyframe animation. This movie required Winsor McCay and his assistant John A. Fitzsimmons (who traced the backgrounds) to create 10,000 drawings, which they inked on rice paper and mounted on cardboard.

Gertie is a dinosaur based on the Brontosaurus (nowadays known as Apatosaurus) skeleton in the American Museum of Natural History. McCay's employer, William Randolph Hearst, was displeased with McCay's success outside of the newspapers, and used his contractual power to reduce McCay's stage activities.

A keyframe in animation and filmmaking is a drawing that defines the starting and ending points of any smooth transition. The drawings are called "frames" because their position in time is measured in frames on a strip of film.

DMC Field Trip Scheduling During COVID-19

Lori Carter, DMC Coordinator

COVID-19 restrictions and concerns have led to DMC field trip cancellations and will most likely continue to cause cancellations. Normally, when a hosting club cancels their trip, they must reschedule as soon as they can, and DMC membership renewal is calculated based on the original hosting month.

With so many cancellations this year and potentially more, it is becoming increasingly difficult to

reschedule, so I have decided to move the entire schedule forward by a year.

The March, April, and June trips that had to be cancelled this year are rescheduled to the same months in 2021, but renewal will be based on the 2021 hosting month, not the original 2020 hosting month.

Clubs scheduled to host for the remainder of this year, from July through December, have the option to preemptively reschedule to 2021 with renewal based on 2021 and not 2020.

For clubs that complete their trips in 2020, renewal will be based on 2021, not 2020.

All trips originally scheduled for 2021 are moved to 2022, 2022 to 2023, and 2023 to 2024.

A. F. M. S. Newsletter, MAGS Issue

The June 2020 issue of the *A. F. M. S. Newsletter* features two articles reprinted from the May 2020 *MAGS Rockhound News*, one of them on P. 1.

There are several other articles of interest to MAGSters. The AFMS Safety Chair gives information on face masks—not just for COVID-19 but also for protection against dust, chemical fumes, and other things involved in our hobby. Another article tips us off to an app that gives access to geologic maps and other information.

The newsletter can be downloaded from <http://amfed.org/news/default.htm>. As of this writing the June issue isn't up, but it should be there soon.

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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Exploring and Understanding Fossil Resources

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educational hands-on activities that improved scientific awareness of paleontological resources and methods for twenty-five 6-12 grade students. Another goal was to have several DSU undergraduates majoring in Environmental Science and Biology Education, volunteers, and five local K-12 science teachers to assist the 6-12th grade students. Fliers outlining the events were sent to local schools, 4-H leaders, the Memphis Geological and Archaeological Society, and more. The grant award also was highlighted on DSU Media Highlights, in the Bolivar Commercial, and on a local ABC news television broadcast.

Northern and central Mississippi contains a wealth of fossil remains that emphasize fossilization, geologic time, and paleoecology. Three one-day (Saturday) field trips spread over four months (late August to early December 2019) were organized. Each trip focused on a specific region in Mississippi and highlighted a different geological age that possesses paleontological significance. Vertebrate, invertebrate, and plant fossil localities were included as well as different paleoenvironmental settings, observation, and collecting techniques. The selected fossil localities were within a 150-mile radius of DSU. On each trip, participants visited a local museum that was near the field site that contained local fossils. A professional paleontologist or geologist who was familiar with the local region also accompanied each field trip and explained the importance of paleontological resources, answered questions, and assisted in collecting fossils. For example, Mr. George Phillips, with the Mississippi Museum of Natural Science



Figure 1. Field trip to the Mississippi Petrified Forest and the Mississippi Museum of Natural Sciences (MMNS). Participants learned about Oligocene wood remains, how fossils are useful in reconstructing past environments, and their evolutionary significance.



Figure 2. Field trip to the Pink Palace Museum in Memphis, Tennessee, and Nonconnah Creek. Participants viewed paleontological exhibits at the Pink Palace that highlighted different geological periods (A-B). At Nonconnah Creek, participants collected fossils and arrowheads along a gravel bar (C). Pleistocene fruits from organic sediments were found along the creek bank (D-F).

(MMNS), gave a behind the scenes tour regarding paleontological resources at MMNS after the group visited the Mississippi Petrified Forest. Dr. Julie Johnson, Professor of Geology at the University of Memphis, and members of the Nonconnah Creek Society identified and showed participants how to collect fossils along the gravel bar and bank of Nonconnah Creek after the group visited the Pink Palace Museum in Memphis, Tennessee. Mr. James Starnes, Geologist, with the Mississippi Office of Geology, met the

Figure 3. Field trip to the Union County Heritage Museum and Blue Springs. At the museum participants saw an exhibit featuring marine fossils from the Blue Springs site (D). After lunch participants collected fossil crabs, gastropods, and clams from a private site (B-C).

group at the Blue Springs, Mississippi, site and explained how to collect Cretaceous fossils from a deltaic marine unit after the group visited the Union County Heritage Museum in New Albany, Mississippi. A fourth field trip is being planned during the Summer 2020 to a gravel pit near Vicksburg, Mississippi. Mr. Ken McCarley, an exploration geologist, is helping to coordinate this activity.

Besides field trips, Drs. Baghai-Riding and Kagumba organized an indoor, hands-on, one day work-

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shop that emphasized paleontological concepts. Participants gained skills and techniques about fossilization, geologic time, evolutionary implications, global climate change and more. Activities included making fossil casts using prepared molds, creating acetate peels from coal balls, using plant leaves to infer temperature, investigating virtual paleontological website tours, using dinosaur footprints to interpret stride and gait, and creating a geological timeline. Participants also learned how fossils help bridge concepts



Figure 4. Activities conducted at the one-day workshop. Participants learned how to analyze and study fossils using laboratory techniques: acetate peels, screening for fossils, and making fossil casts. They also learned how fossils are useful in determining relative time and past climates.

pertaining to assorted academic disciplines: biology, geology, environmental science.

On March 7, 2020, several Paleontology Outreach and Education participants went to the Fossil Road Show that occurred at the MMNS in Jackson, Mississippi. At the event, they met with other paleontologists, received additional information about fossils they had collected, and listened to a lecture given by Mr. James Starnes about archeological and paleontological sites in Mississippi. Several students also shared what they had learned from the various field trips at the DSU booth and while visiting other tables sponsored by the Mississippi Office of Geology, the



Figure 5. Fossil Road Show at the Mississippi Museum of Natural Sciences, March 7, 2020. Drs. Nina Baghai-Riding and Robert Kagumba are at the Delta State University booth (B). Paleontology participants asked questions at various booths regarding the identification of various fossils, paleontological environments, and saw a presentation given by Mr. James Starnes (A).

University of Southern Mississippi, the Black Belt Museum, and more.

As a result of this grant, more than 46 participants were exposed to the diversity, abundance, and preservation of fossil resources in northern and central Mississippi. Participants included 26 K-12 students, five teachers/professors including one from Valley State University and another from Mississippi State University, six DSU undergraduate science majors, a few parents, and other volunteers. Several 6-12 grade students attended all the activities. The fieldwork and museum experiences fulfilled several K-12 science education benchmarks. These opportunities also increased networking opportunities with other professors and professionals from local institutions. Overall, participants gained insight into multiple areas of paleontology and have become engaged in fossil collecting, understanding geological marine, freshwater, and terrestrial ecosystems, and recording scientific observations.

Keep MAGS In Mind

Carol Lybanon

Hi, MAGS Members,

I hope we are all finding things to do to keep us sane during this crazy time. Several of our Members have sent articles to the newsletter. Others have posted on The Earth Wide Open Facebook group.

Here (top of P. 9) are two pictures that show some of what is keeping me busy. I am making up 1,000 Rock Zone

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Fabulous Tennessee Fossils

Dr. Michael A. Gibson,
University of Tennessee at Martin

FTF 65

James Safford's *Crassatella vadosa*



Some of the many specimens of bivalve mollusk in UT Martin's Vanderbilt Fossil Collection are not actual fossil shells, yet they provide a historical connection to one of the most important geologists in Tennessee history. James Merrill Safford (1822 -1907) was Tennessee's second state geologist, serving from 1854 until 1900. Safford had both a MD and PhD from Yale University, where he had trained as a chemist.

Safford was one of Cumberland University's more illustrious professors, having taught there from 1848, through the Civil War years, until 1873. In 1875, Safford moved to Vanderbilt University, to teach chemistry in the medical school, and remained on faculty until his retirement in 1900. He was a prolific writer, authoring 54 books, nearly all of which were about geology, not medicine. One of his most famous books—*Geology of Tennessee*—was published post-Civil War in 1869 with an impressive 550 pages, plus figure plates (Figure 1), and that is not his longest book about the geology of Tennessee! Safford is a very interesting person who lived during a very interesting time and helped establish the importance of the geology of Tennessee, as well as geologic education to the public. I will devote several essays to him and his contributions in the future, but for now, I want to highlight a couple of specimens he col-

lected and that now reside in our collections.

We have an extensive collection of fossils from the Ripley Formation, now called the Coon Creek Formation in Tennessee, within the Vanderbilt Collection, along with more Coon Creek material from our own work in the formation. I recently came across a specimen box that contains four specimens that were collected by J. M. Safford in 1860 (Figure 2). We know the collection date not from the specimen box label, but from a very small, partially torn, handwritten slip of paper glued to one of the four specimens (30c), presumably written by Safford himself (Figure 2A). The torn sliver of paper only has the last “.la” in *Crassatella* and the word *vadosa* (the species that this specimen is assigned to) followed by the initials S. G. M. and the date below the initials. On the back of the same specimen is Safford's name typed on another sliver of paper glued to that side of the specimen, along with the specimen number 30c (Figure 3). So we know that Safford presumably collected the specimen and identified it in 1860, about the time the Civil War broke-out in Tennessee. Two similar looking specimens are in the box (Figure 2B, C), one with the number “30d” written on it. These two other specimens in the box carry another number “19” and the word McNairy on one specimen,

Kingdom Animalia
Phylum Mollusca
Class Mollusca
Subclass Heterodonta
Order Carditida
Family Crassatellidae
Subfamily Crassatellinae
Genus *Crassatella* Lamark, 1799
Species *C. vadosa* (Morton, 1834)

all written in pencil. Evidently these specimens were used later in some type of study by an unknown researcher. The blue specimen tag in the box lists specimens “30a, b, c, d” for the box. The handwriting on the specimen box tag and the pencil writing on the specimens look similar. This tag was added to the collection box after Safford's time and are common in the collection, but there is no date to be sure when more precisely. The specimens were collected from Cretaceous sediments near Purdy, Tennessee.

The S.G.M. initials on the tag for specimen 30c stands for Samuel George Morton. Samuel G. Morton (1799-1851) was a prolific “natural historian” trained as a physician in Pennsylvania. He was well-versed in Cretaceous geology and fossils and was the author of the *Synopsis of the Organic Remains of the Cretaceous Period in the United States* in 1834, which was one of the more important references for fossils well into the early 1900s. Morton named the

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Fabulous Tennessee Fossils species *C. vadosa* in that book in 1834. Notice in the taxonomy box at the beginning of the essay that the species name has Morton's name and date within parentheses, which means that the species was revised at a later date after Morton originally named it. In 1853, T. A. Conrad names a new species, *Crassatella subplana*, and then in 1858, he names *C. riplejana*, both of which are now considered synonyms for *C. vadosa*, which according to the Law of Priority, is the valid name as it was named first. It is also occasionally listed as "Crassatellites", also invalid. Then in 1941, Lloyd W. Stephenson re-evaluated the genus and decided that the *riplejana* species should be a subspecies of *C. vadosa*. At the same time, he erected a new subspecies from the Coon Creek Formation in honor of Bruce Wade (*C. vadosa wadei* Stephenson, 1941). As a serendipitous side note, I researched this last tidbit of information from my personal copy of Lloyd Stephenson's 1941 U.S.G.S professional paper 274-E, which was a personal copy signed by Stephenson (1876-1962) himself in 1955 with compliments to the late UT Knoxville paleontologist Robert E. McLaughlin; I inherited the volume from "Dr. Mac" upon his retirement. My first graduate teaching assistant job at UTK in 1988 was to be Dr. Mac's assistant for his paleontology class.

Three of the four specimens in the box mentioned above are steinkerns, which means that they are sediment casts of the entire inside of the now missing shells.

The actual shells are not preserved in any of our four specimens. Refer to FTF #10 (Oct. 2015) for more on steinkerns as fossils. Three of the four specimens, including the one that has Safford's tag, are about the same size, color, and have numbers and locations written on the specimens in the same script as the specimen tags, so undoubtedly these specimens were collected by Safford himself in 1860; however, the box also contains one larger partial specimen that is not a steinkern (Figure 2D). Rather, it is an impression of the inside of the shell that is best referred to as an internal mold. I suspect that this specimen was later added to the box and not part of the three Safford specimens. The preservation of the steinkerns makes it impossible to verify the species names, much less any subspecies, as steinkerns do not preserve the necessary features used at that level of identification. Steinkerns do preserve internal features of the shells along with the sediment. The muscle scars and pallial line are very well preserved, as is the overall shape of the original shell interior. The sediment type of three of the specimens is the same (a very fine-grained and cohesive compact hard clay), but the larger internal mold is a dark micaceous clayey sand, more typical of Coon Creek sediments, and further supports the interpretation that this specimen was not part of the original Safford material. One of the Safford steinkerns has a small protrusion on it that is consistent with the infilling of a gastropod drill hole, which are known to be common in *Crassatella* from Coon

Creek.

I must confess a certain degree of awe when holding the Safford 1860 specimens in our UT Martin collections, searching through my 151 year-old copy of his *Geology of Tennessee* from 1869, and then reading Lloyd Stephenson's personal copy of his publication personalized to my old professor at UTK, Dr. Mac, in 1955. For me, being able to do this research and now write about it to you my readers, makes me feel connected to James M. Safford, Lloyd Stephenson, Dr. Mac, in a way that makes history of science alive! It is both gratifying and humbling.

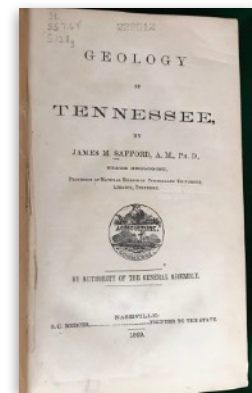


Figure 1. James M. Safford's 1869 *Geology of Tennessee*, published by S.C. Mercer, who was the publisher for Tennessee State publications during this time. This copy of the book is from my personal library, but was purchased on April 30, 1930, by Clara Williams who donated it to the West Tennessee State Teachers College library (now a part of the University of Memphis) upon its opening on April 27, 1932. Later the book was part of the University of Southern Mississippi library, where it was removed from circulation at some point and sold. (Scale in cm; Photo by MAG).

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Fabulous Tennessee Fossils
Continued from P. 8



Figure 2. Specimens and box label from the UT Martin Vanderbilt Fossil Collection with three steinkerns of *Crassatella vadosus* and one internal mold. 2A. Specimen 30c collected by James Safford in 1860 with the tag attached but torn on left side. 2B. *Crassatella* specimen 30a with McNairy location written in pencil on margin. 2C. Specimen 30b showing number 19 written on specimen. 2D. Fourth specimen, probably 30d, that is probably not part of the original collection made by James Safford in 1860 due to its size and lithology. (Scale in cm; Photo by MAG).

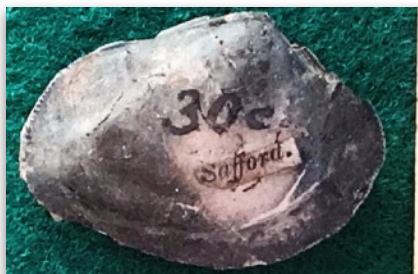


Figure 3. Obverse side of upper left specimen 30c from Fig. 2A showing Safford's name on the tag. (Scale in cm; Photo by MAG).



Keep MAGS In Mind
Continued from P. 6



prize packs. I hope we will be back to the Show next April. The pictures show some of the necklaces I have put together, along with small rocks, fossils, and minerals that will be used.

Maybe some of our Members are using this time to clean out their collections. If you have spare rocks, minerals, or fossils, consider donating these items to MAGS. If you have tiny samples that can be put into a 2x3 inch plastic bag, label them and donate them to the Rock Zone.

Hope we can be together soon. Until then, stay safe.

Carol

Jewelry Bench Tips by
Brad Smith

QUICK CLOSE-UPS

Often when trying to get a close-up photo with your iPhone or Android, you end up with a fuzzy, out-of-focus image. Next

time try using your loupe over the camera lens. It works quickly and easily.



LITTLE THINGS CAN BITE

Most jewelers treat motorized equipment with caution. We've all heard stories about workpieces coming loose in the drill press or about getting long hair or clothing caught in the polishing machine. It stands to reason that a machine with a motor of a half horsepower or so is going to win out over its operator. We all know that, and I'm not going to harp on it. That's not the point of this story.

I want to talk about the smaller motor powered machines we often use, the ones with little 3 inch diameter motors. For instance, these small motors are used in flexshafts and micro buffers. They're so small that many of us forget caution when using them. I'm guilty of it myself sometimes, and believe me it can get you in trouble. Here's what happened to two people I know.

One friend had a polishing burr bend in the handpiece and then whack the thumb that was holding the workpiece. The swelling was substantial, and it

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MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

MAGS Rockhound News ♦ A monthly newsletter for and by the members of MAGS

MAGS Rock Swaps

Remember when there were social gatherings rather than social distancing? Here are a few pictures to remind you of what went on during rock swaps. We hope that we'll be able to get back to them soon.



Jewelry Bench Tips took several weeks to regain normal use. A small underpowered motor? Not so.

Another friend was using one of the small buffing machines, the kind you can stop when you apply too much pressure to the wheel. Not to worry about such an underpowered beast you say. Wrong, it literally jumped up and bit the hand that feeds it!

Buffer was set on a low table to do a quick polish, so was not mounted or clamped. A buff was installed on the right spindle, no buff on the left. Friend was wearing a tight-fitting, long-sleeved sweater. While buffing on the right wheel, the left tapered spindle caught a thread on the friend's left sleeve and started grabbing more and more threads and sleeve.

Rather than pulling the arm into the machine, the light buffer quickly lifted off the table and started climbing up the underside of the friend's arm. There was no way to get a hand onto the on/off switch because the unit was spinning wildly and battering my friend like a club wielded by a mad man. Only when someone nearby could grab the power cord and yank it from the wall did the mayhem stop.

So when you're in the shop, please think safety. Don't take even the little motors for granted.

Discover New Jewelry Tricks in Brad's "How To" Books

amazon.com/author/bradfordsmith



All MAGS events for June have been cancelled. The Board will decide about July events by mid-June. The full *MAGS Notes* will be resumed when the events are resumed.

June Birthdays

- 1 Pat Judd
- 6 Amanda Nalley
Amy Coulson
- 14 Jan Harris Koulogianes
- 15 Samuel Bartram
- 16 Ann Williams
John Cloer
- 19 William Kratz
- 20 Roger Lambert
- 23 Rebecca Luman
- 25 Jennifer Featherston
Doris Johnston
- 28 Jacob Dunn
- 29 Cornelia McDaniel



Where Did the Moon Go?

Matthew Lybanon, Editor

Lunar eclipses occur when Earth's shadow blocks the sun's light. Eclipses have inspired awe and even fear, especially when total lunar eclipses turned the moon blood-red, an effect that terrified people who had no understanding of what causes an eclipse.

On 5 May 1110 C.E., the night of a lunar eclipse, the Moon did not take on its normal reddish

hue. Despite otherwise clear skies, it "was so completely extinguished withal, that neither light, nor orb, nor anything at all of it was seen." So reported the *Anglo-Saxon Chronicle*, a set of medieval manuscripts compiled in Old English.

Where did the moon go? Now there may be an answer. Researchers mined existing records of three ice cores: two from Greenland and one from Antarctica. They revealed sulfate spikes—one in the Antarctic core in 1109 C.E., and several in the Greenland ice cores from 1108–1113 C.E.

After a volcanic eruption, ash and sulfate aerosols—which can blot out sunlight and even affect climate—rain back down to Earth. Some scientists believe the spikes are consistent with the eruption of a single large volcano in the tropics around 1108 C.E., which would have caused aerosols to rain down around the globe for several years.

To date the ice cores, the researchers turned to other records. They were able to reconstruct past temperatures in the Northern Hemisphere by studying tree ring records from North America, Europe, and Asia. Manuscripts from the period provided additional information. An 1108 C.E. eruption of Japan's Mount Asama could have produced sulfates that reached as far as Greenland. The identity of the eruption that produced the Antarctic deposits remains an enigma.

Ref: Guillet, S., Corona, C., Ludlow, F. et al. *Climatic and societal impacts of a "forgotten" cluster of volcanic eruptions in 1108-1110 CE. Sci Rep 10, 6715 (2020). <https://doi.org/10.1038/s41598-020-63339-3>*

MAGS At A Glance

June 2020

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
31					5	6
7					12	13
14					19	20
HAPPY FATHER'S DAY!	21				26	27
28					3	4

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Memphis Archaeological and Geological Society
2019 Littlemore Drive
Memphis, TN 38016

