MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

MAGS Rockhound News

Volume 68 ◊ Number 07 ◊ July 2022 ◊ A monthly newsletter for and by the members of MAGS

Pinson Mounds

Past, Present, and Future *Tim Poole* *July Program*

Sauls Mound
Centerpiece of the Pinson Mounds Site

Pinson Mounds State Archaeological Park past—The site was a hub of activity 2000 years ago in the Woodland world, with far-reaching trade and commerce.

Today—As a Tennessee State Park, we preserve this 400+ acre ceremonial mound complex within the 1200 acre sacred site with visitors from all across the globe.

Future—Ongoing archaeological research and educational programming opportunities with much more to come!

Tim Poole, Park

Continued, P. 3

In this issue

A BISON TOOTH FROM SAVANNAH, TENNESSEE

DREW BUCHNER

Last fall fellow MAGS member Mitch Childress and I had the opportunity to surface collect at Town Creek in Savannah, Tennessee, a stream that is a minor tributary of the lower Tennessee River. Geologically Town Creek has down cut through approximately 60 ft. of Tertiary-aged high-level alluvial deposits and exposed the underlying Cretaceous-aged Eutaw Formation. The bluff-like cutbank of Town Creek shows the water flowing against the Eutaw Formation (Figure 1). This formation is described as greenish-green sand, fine-grained, glaucontic, micaceous, interbedded with gray laminated clays which commonly contain carbonized

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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: 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 20th of the month is the deadline for next month's issue. Send material to lybanon@earthlink.net.

July DMC Field Trip

WHERE: Thermal City Gold Mine, Union Mills, NC

WHEN: Friday, July 15, 8:30 A.M.

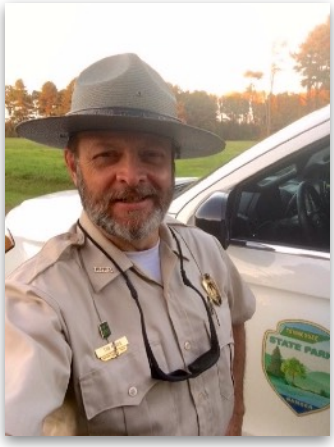
COLLECTING: Moonstone, emerald, citrine, aventurine, more

CONTACT: Tim Barton, (828) 577-4505

Links to Federation News

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

Pinson Mounds Continued from P. 1 Manager, will provide a closer look into this incredible site!



(***Brief bio***: Tim Poole recently celebrated his 30th anniversary serving in Tennessee State Parks. He and his family live in Jackson, Tennessee.)

President's Message

Save the dates.

- *July 8* Membership meeting, Juniors program will be held
- *August 12* Indoor rock swap and picnic

W. C.

CURESEARCH Ultimate Hike

Rachel Conner

Hi! I am participating in a fundraiser where I will be hiking 22 miles in October. The hike is along 22 miles of the Ozark Highlands Trail, primarily in the beautiful Ozark Highlands of Arkansas This hike raises money towards finding a cure for children's cancer, the leading cause of death by disease in children.

Here is the link for more info: https://secure3.convio.net/cures/site/TR/CureSearchUltimateHike/UltimateHike?px=1641024&pg=personal&fr_id=2422

It Must Be the Heat

W.C. McDaniel

With the pre-summer heat beating down and temperatures elevating, I decided to stay home and only occasionally venture out. I'm glad I did so as I discovered two specimens I did not know I had. I was unable to identify them, so I have assigned them the following names:

Slimilite, yellow on barite

Moldinite, whitish brown

The Turtles Of AAS

Matthew Lybanon, Editor

A few years ago a number of MAGSters traveled to Texas, a little north of Dallas, for the Texas Fossil Marathon. The main objective was Texas-sized ammonites, though a few people made the side trip to Post Oak Creek, for an interesting variety of shark teeth and other marine fossils. There is another good fossil site in the area, with other fossils to be found.

The Arlington Archosaur Site (AAS) of Texas, originally discovered by amateur fossil hunter Art Sahlstein in 2003, is a prolific fossil locality found in the middle of a suburban subdivision. The AAS preserves remnants of an ancient Late Cretaceous river delta around 96 million years ago in what is today the Dallas-Fort Worth area. It preserves a record of a freshwater wetland that sat near the shore of a large peninsula, including a diverse assemblage of crocodile relatives, dinosaurs, amphibians, mammals, fish, invertebrates, and plants, several of which are also new species awaiting description.

A multi-institution research team has described four extinct turtle species found there, including a new river turtle named after AAS paleontologist Dr. Derek Main and the oldest side-necked turtle in North America. These new turtles include an intriguing combination of native North American forms alongside Asian and Southern Hemisphere immigrants, suggesting extensive intercontinental migration of turtles during this time.

"The AAS turtle assemblage informs a growing understanding of Appalachian ecosystems in the mid-Cretaceous, most of which were obscured by later erosion along coasts and *Continued, P. 4*

A Bison Tooth ... Continued from P. 1

wood or silicified wood. The exposure in Town Creek matches this description.

We observed some petrified wood fragments, as well as a number of stream-rolled pieces of bottle glass in the gravelly streambed. The highlight of the day was finding what we now interpret as a Bison tooth, which at the time I though was a fossil Camel tooth (Figure 2). Bison and Camel both roamed Tennessee during the Pleistocene (Ice Age), and while long gone some fossil evidence for them remains. Both were plant eaters that had highly similar teeth, thus it is easy to mis-identify the two. The biggest clue in distinguishing Bison teeth from Camel is the presence of a "stylid" on the side of the tooth, which is a narrow pillar of enamel between the ridges of the tooth.

Corgin and Breitburg (1996:44) note that buffalo or bison genus *Bison* "has a shadowy record in the Pleistocene of Tennessee." They consider the only definite Pleistocene Bison fossil find as from Richardson Landing, on the Mississippi River north of Memphis. Another apparent Pleistocene Bison skull (*Bison bison antiquus*) is mentioned by Morse and Morse (1983:56) as recovered from "south of Memphis." This find was probably from Friars Point on the Mississippi River in Mississippi, a location that I hunted years ago and which has yielded abundant Pleistocene fossils. In addition to the above Pleistocene discoveries, Corgin and Breitburg (1996:44-45) also describe several other Bison fossil finds in Tennessee, however they interpret them as Holocene-aged, because they were not recovered from sediments characteristic of the Pleistocene.

When the Euro-American settlers arrived in Tennessee in the late 1700s they encountered large herds of Bison. Given the geology of Town Creek, our fossil Bison tooth probably dates to the Holocene rather than Pleistocene. Thus, it is a relic of the post-glacial period when Bison still grazed in the Savannah area. Chronologically, the specimen could be several thousand years old, or just several hundred years old.

References Cited

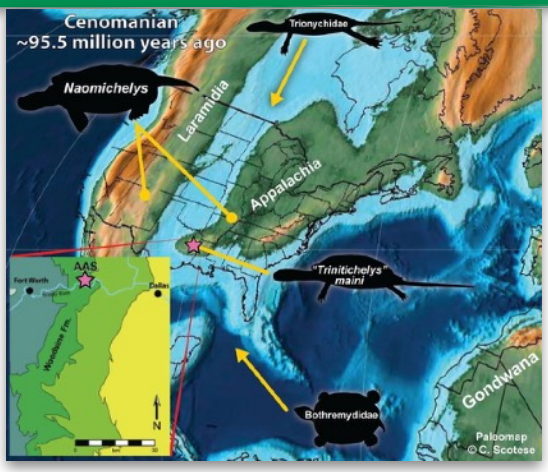
- Corgan, James X., and Emanuel Breitburg
  1996 *Tennessee's Prehistoric Vertebrates*. Tennessee Department of Environment and Conservation, Division of Geology Bulletin 84.
- Morse, Dan F., and Phyllis A. Morse
  1983 *Archaeology of the Central Mississippi Valley*. Academic Press.

Figure 1. Eutaw Formation exposed at the base of the Town Creek cutbank near the fossil Bison tooth find.

Figure 2. Bison tooth found in the Town Creek gravel bed.

The Turtles Of AAS Continued from P. 3

extensive continental river drainages," said Brent Adrian, the lead author of the study published in the online journal *Palaeontologia Electronica*. One new species—*"Trinitichelys" maini*—is a baenid turtle, an extinct lineage of aquatic North American turtles that persisted from the Early Cretaceous through the Eocene.



These turtles were medium-sized (about the size of a modern snapping turtle), had heavily fused bones and shells, and occupied freshwater river habitats. *"Trinitichelys" maini* is the oldest member of the group found in the eastern North American subcontinent of Appalachia, which at that time was separated from Laramidia, the western subcontinent of

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The Turtles Of AAS North America.

Continued from P. 4 *"T." maini* honors the late Dr. Derek Main, the first director of the AAS project, who recognized the scientific potential of the site. Alongside "*T". maini*, the study describes three more intriguing new turtles from the AAS. One species represents the oldest side-necked (pleurodire) turtle discovered in North America. Another is an early soft-shelled turtle (trionychid), which belongs to a lineage that immigrated from Asia. Adding to this unusual mix is *Naomichelys sp.*, a large semi-aquatic turtle with unusual tubercles (raised bumps) on its shell that is a relict North American species typically found in much older rocks. This combination of turtle species in one location is unique, as it includes Asian, Southern Hemisphere, and native North American forms, and both young and older, relict taxa.

***Ref.**: "Arlington Archosaur turtles: A new baenid, "Trinitichelys" maini sp. nov., and other fossil turtles from the Upper Cretaceous Arlington Archosaur Site (Woodbine Formation, Cenomanian), Texas, USA" by Brent Adrian, Heather F. Smith, Christopher R. Noto and Aryeh Grossman, 6 December 2019, Palaeontologia Electronica. DOI: 10.26879/1001.*

Fabulous Tennessee Fossils

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

FTF 89

Scolecodonts

The subbranch of paleontology that focuses on microscopic fossils is called micropaleontology. Microscopes capable of high resolution are a must for the study of microfossils. Microfossils include many groups of plants (pollen, diatoms), animals (foraminiferans, conodonts), and bacteria groups. One group that I find fascinating are the *scolecodonts*. Scolecodonts are the visible, but small (0.1mm-2mm) mouth parts of marine worms called polychaete worms and they are usually the only hardpart that polychaete worms form. The word scolecodont was coined in a Geological Society of America abstract talk in 1933 by Carey Croneis (University of Chicago paleontologist) and Harold W. Scott (University of Illinois paleontologist) for the specimens from the Ordovician Decorah Formation in Missouri. The term is derived from *skolex* (Grk. for worm) and *odontus* (Grk. for tooth). Polychaetes are marine worms and their name is derived from "*poly*" for many and "*chaete*" for hairlike setae. Scolecodonts usually appear as shiny, black, hooked, and serrated structures on the bedding planes of shale or siltstone and are composed of chitin. Scolecodonts occur as an apparatus that consists of several mouth parts (e.g., maxillae, mandibles, carriers) or disarticulated into individual scolecodont elements scattered on bedding planes. The earliest scolecodonts are Cambrian in age, but they became more abundant by Ordovician and were most diverse in the Devonian Period.

Ordovician scolecodonts have been reported in Tennessee, especially in middle Tennessee. Charles Wilson lists several genera in his 1949 publication on the Pre-Chattanooga Stratigraphy of Central Tennessee. Figure 1 shows a close-up of a single scolecodont from the Leipers Formation exposed in southeast of Lawrenceburg and is part of a collection of several hundred specimens collected by UT Martin geology graduate Roland Campbell from outcrops near his home. This is an undocumented occurrence except for this writing and will probably represent the largest single concentration of scolecodonts described in Tennessee to date. The scolecodonts occur within a 4 cm thick layer within a 30 cm bed of calcareous siltstone. All of the specimens belong to the genus *Protarabellites* sp. which was a genus originally described by C.R. Stauffer in 1933 for specimens in Minnesota. Except for the scolecodont fossils, no other fauna occurs within this bed and none of the scolecodonts occur as apparatuses; the scolecodonts are all individual element parts. It should also be noted that the shale deposits do have very faint burrow structures visible in some places, perhaps related to the scolecodont worms themselves. No scolecodonts were found within a

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Fabulous Tennessee Fossils Continued from P. 5

clearly identifiable burrow however. These occurrence characteristics suggest that this thin bed is a reworked accumulation of scolecodont elements and not an in-place burial of numerous worms.

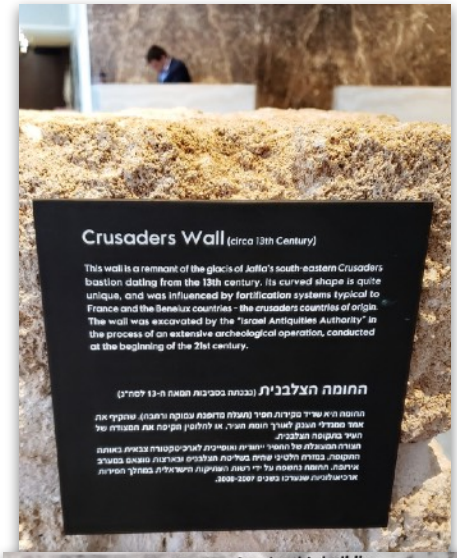
Scolecodonts are easy to overlook in any collection as they are so small. If you find one scolecodont though, then you probably have many within the same rock. They were most common from Ordovician through Devonian, and usually not preserved in coarser-grained rocks. The next time you are looking over your shale collections, keep an eye out for them as they have "wormed" their way into your collection. Sorry, but I could not resist the pun!

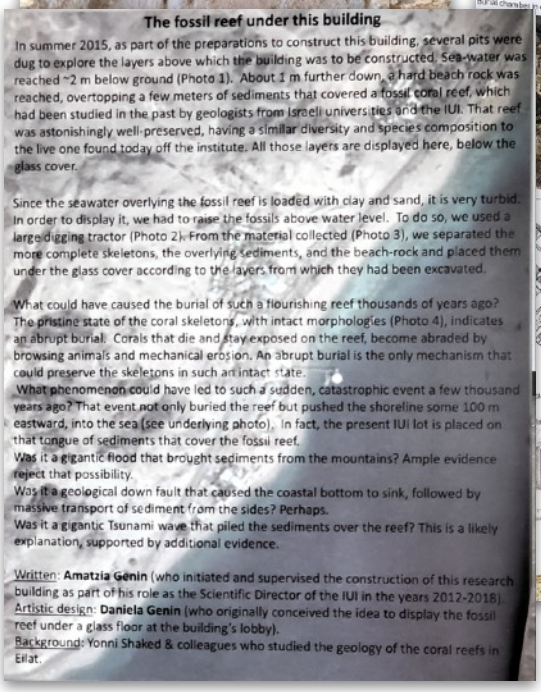
Figure 1. Surface of a shale bed from the Ordovician-age Leipers Formation near Lawrenceburg, Tennessee, showing a single carrier element of the scolecodont genus *Protarabellites*. (photo credit Roland Campbell; element is 2.3mm long).

Archaeological & Fossil Sites In Israel

Sarah Siegel

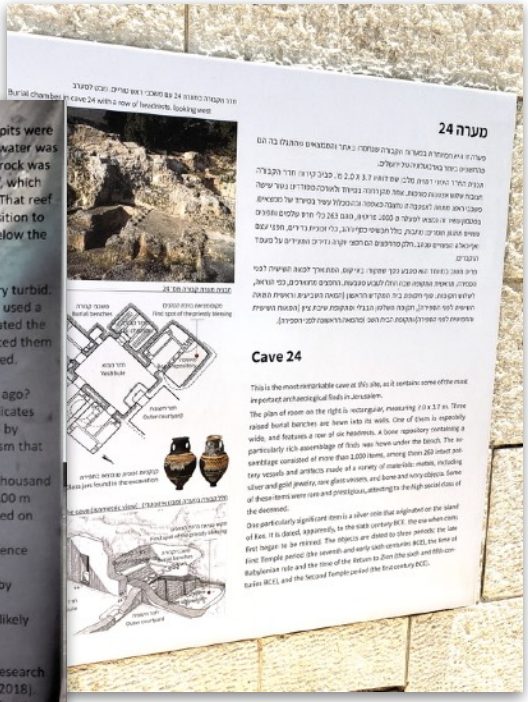
During our June trip to Israel, we saw several sites that we'd never before seen, and I've been visiting Israel (where I have five generations of family) since 1973: ancient caves next to a Scottish castle in Jerusalem, coral fossils in Eilat, and Crusader ruins in the Jaffa Hotel in Tel Aviv-Yaffo.





I'm on the left and next to me is my cousin Nitza Bashkin, who majored in Archeology at the Hebrew University in Jerusalem and works at the Eretz Yisrael Museum, along with her three kids, who aren't ancient at all.

Photo credits Sarah Siegel



June Field Trip

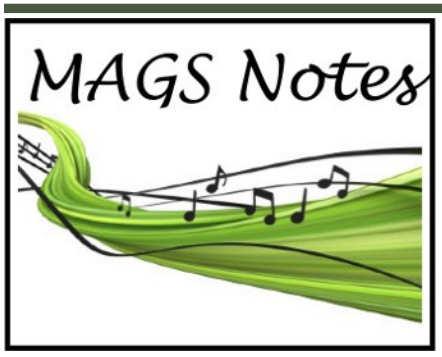
A few weeks ago a group of MAGSters traveled to Hot Springs, Arkansas, to prospect for quartz crystals. Looks like they did well.

Photos by Mitch Mitchell

June Meeting

Our June Membership Meeting was on an unusual date—June 24—and the program was a little different. It was the first time in several years that we had a hands-on program, with activities led by Member experts.

Photos by
Debbie Schaeffer



🎵 Adult Programs

July 8: Timothy Poole, Pinson Mounds

August 12: Indoor Rock Swap

September 9: TBD

🎵 Junior Programs

Resuming.

🎵 Field Trips

July 16: Hampson Archeological Museum State Park, Wilson, Arkansas, day trip

August 20-21: Blanchard Springs, Arkansas, cave tour

September: TBD

🎵 New Members

Anna & Tim O'Hare and sons Conner & Braden

Matt Dempsey

🎵 July Birthdays

1 Fred Solang
Francie Collins
Ashton Coulson

2 Aaron Jones
Sierra Ledbetter
Adam Featherston

3 Wayne Williams

5 DeeDee Goossens
Clay Crumpton

6 Enrique Gonzalez

8 David Day

9 Christine McManus

10 Nannett McDougal-Dykes
Jonte Bouchard

12 Jeff Pierce

13 Sally Coulson
Sarah Siegel

14 Susan Vaughn

21 Angelina Wang

22 James Johnson

26 Devin George
Renee Lasater

28 Max Dempsey
Drew Buchner

30 Leslie Davis
Misty Morphis

🎵 Want to Be a Member?

To become a MAGS Member, just go to our website at www.memphisgeology.org and print out an application form. There is a prorated fee schedule for new Members only. Mail the completed application along with the dues payment to the Membership Director shown on the form. If you are unable to print the application, you can pick one up at the sign-in desk at any of our Friday night Membership Meetings, or simply join at the meeting. Visitors are always welcome at our Membership Meetings but membership is required to attend our field trips.

The most important benefit of being a MAGS Member is getting to know and make friends with other Members who have similar interest in rocks, minerals, fossils, and archaeology. All new Members will receive a New Member Packet, a MAGS ID card, and a monthly newsletter via email. Members are entitled to go on our monthly field trips and get free admission to our annual Show.

May Board Minutes

Mike Coulson

Zoom meeting called to order 6:30. Present: W.C. McDaniel, Carol Lybanon, Matthew Lybanon, Bonnie Cooper, Bob Cooper, Dave Clarke, James Butchko, Nannett McDougal-Dykes, Mike Coulson, Melissa Koontz.

New Business:

- Mike Baldwin will step down as Director of Youth Programs. Melissa Koontz will assume the position.
- Discussion over returned and undelivered Show post cards.
- Need to appoint someone to be in charge of Hospitality for meetings.
- June 10 Membership Meeting moved to June 24.

Show: Show was a big success. Dealer sales were good. Everyone who attended was glad the Show was back. Breakdown Sunday went well; Cooper moved everything back to storage on Monday. Storage area was relocated to a different shed. Contents of old shed moved to new one. Dropped Cooper Moving as a sponsor.

Show Recap:

- **Thursday:** Hicks set up tables. Grab bag party was cut short due to Agricenter closing. Remaining bags were packed Friday morning. Cooper started moving some of the things from storage.
- **Friday:** Dealers set up in their designated space. Cooper brought over the remainder of things from the shed and Members set up games and exhibits in Rock Zone. Security was covered by the Sheriff's Department. Snacks and drinks were donated by MAGS Members.
- **Saturday/Sunday**: Show opened 9-6 Saturday, 10-5 Sunday. Number of visitors was very

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May Board Minutes Continued from P. 8

good. All 500+ grab bags were sold, the Rock Zone was busy. The new concessions vendor offered a good selection of food and drinks and paid the club a percentage of their sales.

Show Treasurer: Matthew presented Show costs vs. profits. All was favorable. The club was pleased with Show attendance and success.

Secretary: Minutes distributed via email to Board and summarized at the meeting. Minutes approved.

Treasurer: Treasurer's report submitted and approved.

Membership: 14 new memberships and 6 renewals since last Board Meeting. May newsletter printed and mailed.

Field Trips: Good trip to Nonconnah in April, visiting two access points. Upcoming: May 21, 20 Mile Creek day trip. June 18-19, Hot Springs, overnight trip going to two mines searching for quartz crystals. July 16, Hampson Archeological Museum State Park, Wilson, Ark, day trip. August 20-21, Blanchard Springs, Ark., cave tour, overnight.

Adult Programs: Adult Programs: Presentations will continue to be in person for 2022 with possibly Zoom in addition. Upcoming: May 13, Jerry Potter, Civil War Sultana Disaster. June 24, Activity meeting with three tables demonstrating various aspects of collecting. July 8: Timothy Poole, Pinson Mounds State Archaeological Park. August 12, Rock Swap. September: Dr. Jennifer Gifford, Associate Professor, University of Mississippi.

Junior Programs: Melissa will become Director of Youth Programs and Mike will be the Assistant Director. Youth programs will start up again. May Youth meeting will start off just talking, coloring, getting to know one another.

Library: Nannett will be at the May Membership Meeting early to set up the library and the hospitality area. Since the floor has been replaced, it is difficult to get the cabinets out. Jane Coop will become Assistant Librarian.

Rock Swaps: Memorial Day Rock Swap at Lou White's home 10-2,. Club will provide drinks and snacks. August 12 Rock Swap, location to be announced.

Editor: Matthew would like information on programs, field trips, rock swaps, and any other MAGS activities, at least a 3-month schedule. Also, please send anything Show-related. Any other articles and pictures will be gratefully accepted. Deadline for June newsletter is May 20.

Web: Club website has been updated.

Adjourned 7:40.

May Meeting Minutes

Mike Coulson

Jerry Potter presented on the Civil War Sultana Disaster. The Sultana was a wooden-hulled steamer overloaded with Union soldiers on their way home after the war. The steamer exploded and sank on the Mississippi River near Memphis, killing more than 1,800 men. It was one of the worst maritime disasters in history. Youth Program was back with Melissa leading. Adult attendance was up.

Jewelry Bench Tips by *Brad Smith*

HOMEMADE WAX TOOLS

Save your used X-Acto or scalpel blades for utility work on the bench. They're wonderful for delicate wax work. Use a cutoff wheel or other type of grinding wheel to shape the blades to what you need.

For instance, you can carve away excess metal on the spine to make yourself some narrow carving knives that do a great job of detailing small pierced areas of your waxes.

REMOVING A STONE FROM A BEZEL

If you've forgotten to use dental floss and got your stone caught in a bezel, there's one thing you can try before starting to pry.

Find some sticky wax or beeswax. Roll it into a pencil-sized cylinder and stick the end onto the top of the stone. Mold it on well and yank.

But if the stone is really stuck, there are two other tricks—but each with risks and consequences. The first is to pry open the bezel with a sharp knife blade being very careful not to wrinkle or tear the bezel. If you try this, make sure to pry gently in several passes around the stone.

The last solution is to drill a small hole into the bezel setting from the back side so that you can push the stone out. Note that this does leave a hole, but in some cases you can use it to saw out a design under the stone.

Smart Solutions for Your Jewelry Making Problems
amazon.com/author/bradfordsmith

MAGS At A Glance

July 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
26	27	28	29	30	1	2
3	4 	5	6	7	8 Membership Meeting, Tim Poole, "Pinson Mounds"	9
10	11	12	13	14	15 DMC Field Trip, Thermal City Gold Mine	16 MAGS Field Trip, Hampson Archeological Museum State Park
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

Indoor Rock Swap and Picnic Coming in August

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