



PALEO FOOTNOTES

NEWSLETTER OF THE PALEONTOLOGICAL SOCIETY OF AUSTIN

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President's Note

Fossil Fest preparations are speeding up!

This year's event is on November 2nd & 3rd and set up is on November 1st. Mark your calendars! Keep an eye out for calls for volunteers and help with this year's event from VP and Show Chair Eric Jones! There will be flyers and tear pads for you to pick up and distribute to locations that are convenient for you. Please help us spread the word about Fossil Fest.

See you all at the monthly meeting!

Heather Aziz
PSoA President

This Month's Speaker

Tiny Time Capsules: How we use some of the smallest fossils to study global paleoceanographic change.

Speaker: **Patty Standing**

Foraminifera are single-celled organisms that live in the ocean and create microscopic shells that become fossilized in marine sediments. Because these organisms biomineralize the calcite of their shells, they represent both an ecological and geochemical record of the ocean environment at the time they were alive. They also have one of the most complete fossil records spanning to as far back as the mid- (continued on page 2)

September 2024

PSoA Regular Meeting
Tuesday September 17th - 7pm
AGMS Clubhouse
6719 Burnet Lane
Come early to help us stuff fossils for Fossil Fest 6:30pm!

Join Zoom Meeting
<https://us02web.zoom.us/j/88451710052?pwd=Uy9hV05BTy9rUmIzYlMzdVVnNTVjdz09>
Meeting ID: 884 5171 0052
Passcode: 603270

PSoA Club Field Trip
September 21st + 22nd
Lake Texoma
(see details page 2)

September 2024 Field Trip:

Lake Texoma

DATE: Saturday September 21st + 22nd
Cretaceous - Washita Group

We'll be collecting along the shores of Lake Texoma. We will meet at 8:00 a.m. on Saturday, Sept. 21st at the entrance to Eisenhower State Park. Unless you want to leave at three in the morning, you will need to drive up the night before. Plan to stay overnight in the Sherman/Denison area, as we will also be collecting Sunday morning. For the hardy there is also camping in the state park. We will visit a variety of sites. There are plenty of small fossils to be found, but some of the most notable specimens from here are the large ammonites, so be prepared to carry heavy rock if you want to bring one of those home! You will definitely want to bring your hammers and chisels to remove specimens and backpacks to carry those specimens a fair distance along the lake shoreline. A bucket to collect gravel to go through later could come in handy also.

It goes without saying that you will need lots of water, sunscreen, a good hat, food, sturdy shoes, etc. Since the weather is turning a little cooler you might possibly need a light jacket in the morning. This is a Cretaceous site, Washita group. You can find not just the large ammonites, but several species of echinoids, such as (large) Macrasters, Holasters, and different species of Hemiasters than are found around Austin area. There is also the elusive razor clam, *Rastellum* (often called denture clams but really an oyster), small shark teeth in the gravel and other fossils. We usually go out for catfish at a local restaurant on Saturday if you want to join us!

October 2024 Field Trip:

Brady and Santa Anna Sites

Our October field trip will be to a road cut north of Brady, TX. This location includes the Adams Branch limestone of the Canyon Group and beneath this are shale and mud stones mapped as the Strawn Group undivided, Pennsylvanian period fossils, including a variety of brachiopods, bivalves, bryozoans, coral, some gastropods, nautilods and lots of crinoid material. Wood fragments have also been found. We will then go to another site, Lower Permian, afterwards. On occasion trilobites have been found at this location and a nice Brachiopod called *Wellerla*. Tentative date maybe Oct 19th. We will announce the final date next month - keep an eye out for the next newsletter.

For more info on any of these field trips, contact me at:
fieldtripchair@austinpaleo.org

Melvin Noble
Field Trip Co-Chair

This Month's Speaker

(continued from page 1)

Jurassic, providing an unparalleled archive of paleoclimate and paleoceanographic data, especially for the Cretaceous through the present day. This presentation will briefly discuss how we use these tiny but mighty organisms to explain changes in Earth's history, and what this knowledge can tell us about future climate change.

Patty Stranding is a PhD candidate at the University of Texas at Austin studying paleoceanography and micropaleontology with Dr. Chris Lowery. Her dissertation research uses fossil foraminifera as geochemical and paleoecological proxies to reconstruct paleoceanographic change across the Eocene-Oligocene Transition, a period of global cooling and ocean circulation change approximately 34 million years ago. She is also a military veteran, and served in the Air Force as a Dari Language Analyst for 10 years before attending the University of Texas at Austin for her undergraduate degree in geophysics. When not doing research, Patty enjoys reading, crocheting, and spending time with her dog, Sparkle.

The Micro Matrix

Shoal Creek in Austin is one of my absolute favorite places to hunt for micro fossils. There are a variety of formations that can be found in Shoal Creek, but one of the most prevalent is the Del Rio. Tiny crinoids, miniature ammonites, crab claws, brittlestar parts and shark teeth are just a few of the things I've found in the micro matrix!

1. *Anisoceras* ammonite
2. *Roveocrinus signatus* crinoid
3. *Ophiura* starfish
4. *Leptostyrax* sp. sharks tooth

Jamie Shelton

PSOA Member, Programs Chair, Field Trip Co-Chair





Fig. 1 *Tyrannosaurus Rex* skeleton (cast)

August Field Trip Report: Perot Museum of Nature + Science

With temperatures still hovering in the triple digits, the boys and I headed up to Dallas for a visit to the Perot Museum of Nature and Science where we could “hunt” for fossils in the comfort of air conditioning. If you have not yet been to the Perot - it is worth your time. Part natural history museum, part science museum - the collection is framed in ways not typically possible in museums built upon older formats. The paleontological collection here is mixed with their fauna collection allowing visitors to consider the morphological similarities of animals separated by hundreds of millions of years.

Upon our arrival shortly after the doors opened, we did not see other PSoA members to join up with, so we headed in on our own adventure. The museum, designed by the architecture firm Morphosis, is a dizzying modern structure - itself almost a model of a stratigraphic column. One enters the museum and descends down to a lower level where there is a view out to a broken terrain where a sauropod looms over the skyline



Fig. 2 *Tyrannosaurus Rex* reconstruction



Fig. 3 A sauropod looms over the skyline of Dallas

of the city (fig. 3). From here, one ascends - via a series of elevators, some cantilevered off the building in a glass enclosure - to the very top floor and their paleontological and faunal collections (fig. 4). From here we ventured down to the geology hall which features some pretty awe inspiring mineral specimens - including a huge opalized ammonite. Also on this floor is the energy exhibit - a little reminder of how this museum was paid for.

After a quick lunch we headed to our 3D movie about a teenage T Rex found by some kids up on North Dakota. While waiting in line we received a text from Raoul Daniels and his son who had just arrived and they were able to join us for this fantastic film! Keeping the theme alive, we headed next to the special exhibit on Tyrannosaurs. Featuring a dynamically posed skeletal cast of a huge T Rex (fig. 1), along with an imposing reconstructed model of the same scale (fig. 2) - the exhibit was both impressive and engaging. Many much smaller skeletons and models filled out the evolution of the tyrannosaurs and interactive exhibits allowed guests to explore possible colorations and vocalizations - both of which the boys loved. With the museum nearing close, we spend our last hour in the engineering and innovation hall where the boys had a blast controlling robots to play a game of four square (fig. 5), programing a magnetic ball that drew lines in a pit of sand, and engineering music with an interactive synthesizer. A wonderful exclamation point to then end of our visit. Having spent the entire day there, we only saw a little over half of the exhibits. Will be looking forward to another trip soon!

Brian Bedrosian
Editor



Fig. 4 The boys posing in front of a mammoth - an all-time favorite



Fig. 5 The boys schooling some parents in robot four square



Fig. 1 Our camp in the middle of Post Oak Creek

Side Trip Report: Post Oak Creek

A boys only trip to the Dallas area for the weekend would not be complete without some fossil hunting! After our day at the Perot, I took the boys to what instantaneously became their favorite fossil hunting spot - Post Oak Creek in Sherman TX. This well known and oft publicized location is famous for its Cretaceous fossil sharks teeth. After doing some on-line research and pouring through the various pages dedicated to these fossils on the Fossil Forum website - we headed off to the main access point to the creek. This location will soon become a new fossil park, complete with bathroom facilities and access paths for folks of all abilities. Today, however, it is a scramble down to the creek. Arriving early in the morning we were surprised to see a few dozen people already hard at work in the creek.

From what I have read, it appears that to lean in two different directions - those that search the gravel beds for teeth and other fossils sitting on the surface and those that sift through the gravel bars looking for hidden teeth in the matrix. Having made 1/4" and window screen sieves specifically for this trip (and based off Erich Rose's recommendations on the Fossil Forum - fig. 4) we fell largely into the latter. I assumed that hunting right near the entry point was likely not going



Fig. 2 A nice complete sharks tooth typical of our finds - approx. 3/8" long



Fig. 3 Close-up of larger tooth found in the gravel matrix - approx 5/8" long

to yield much but the boys were too anxious to walk far. Within minutes we were rewarded with tooth after tooth (fig. 2). For every sieve we cleaned we pulled 3-6 teeth out and then dumped the remaining matrix into a bucket. Buoyed by adventure of the hunt, and camped out in the middle of the creek where there was shade from the trees on shore (fig. 1), we hardly noticed the temperatures rising once again in the triple digits. Several other families stopped by to see what we were up to and we shared with them our technique and helped them find their own treasures. We even ran into one of our newest PSoA members in the creek who had already filled a small bag of teeth herself!

After about 3 hours of work we were rewarded with over 50 teeth a piece. While I only found one rough example of a ptychodus tooth - my predetermined target for the day having seen beautiful examples on-line - we did have a fantastic time and the boys are ready to go back. Taking some of the adventure home, we have spend the last few weeks slowly going through the matrix we collected in our bucket with magnified headsets and have been rewarded with hundreds of more (very tiny) sharks teeth, vertebra and sawfish teeth. What a fantastic trip!

Brian Bedrosian
Editor



Fig. 4 The sharks tooth above as seen in the sieve - can you spot it?



Tailings...

In The News

Why Did Dinosaurs Have Horns? It May Not Have Been Simply for Defense

Triceratops and its relatives may have evolved the structures for fighting, impressing mates, and more

Riley Black, [Smithsonian Magazine](#), September 4th 2024

20,000-Year-Old Columbian Mammoth Bones Discovered in Texas

While fishing at an undisclosed lake, Sabrina Solomon slipped and fell—and came face to face with the remains

Sarah Kuta, [Smithsonian Magazine](#), August 28th 2024

Taco-Shaped Creature Had a ‘Major Edge’ in Evolution—and 30 Pairs of Spiny Legs

This shrimp-like arthropod was among the first to have a mandible, and it used a complex feeding mechanism during the Cambrian explosion, according to a new study

Margherita Bassi, [Smithsonian Magazine](#), July 26th 2024

Enormous Stegosaurus Skeleton Called ‘Apex’ Smashes Auction Records and Sells for \$44.6 Million

The 150-million-year-old dinosaur became the most expensive fossil ever sold at auction, raising old questions about whether such specimens should be put up for sale

Aaron Boorstein, [Smithsonian Magazine](#), July 18th 2024

How Intelligent Was T. Rex? Scientists Suggest the Dinosaurs Were Like ‘Smart, Giant Crocodiles’

A new paper refutes the idea that T. rex was as brainy as a baboon, furthering the debate on the extinct reptile’s intellect

Sarah Kuta, [Smithsonian Magazine](#), April 29th 2024

2024 Field Trip Schedule

September	<i>Texoma Moody / Evant (2 days)</i>
October	Brady / Santa Anna
November	Brownwood
December	White Mammoth and Pot Luck

Locations in italics are alternates depending on weather and availability.

Important Note: Please refrain from visiting sites the club is scheduled to access as part of a scheduled field trip. Doing so can clear a site of quality fossils and negatively impact the experience folks will have, especially new members, if the site suddenly feels “picked over”. We do our best to carefully space out trips to allow them to recover, so please be respectful of the club and stay off these sites within 3 months of a planned trip. Please note that dates and locations are subject to change - check the monthly newsletter or come to our monthly meetings for updates.

Paleo Book Resources



Paleo Books from HGMS

This is a book series published by the Houston Gem and Mineral Society and contains several volumes on Cretaceous and Pennsylvanian fossils from Texas localities. These can be purchased as a bundle or individually, in print or as a digital download, from the [HGMS Website](#).

- Texas Cretaceous Echinoids (Print & Digital Options)
- Texas Pennsylvanian Brachiopods (Print & Digital Options)
- Texas Cretaceous Ammonites and Nautiloids (Digital Only)
- Texas Cretaceous Gastropods (Print & Digital Options)
- Texas Cretaceous Bivalves (Print & Digital Options)
- Middle Eocene Claiborne Invertebrate Fossils (Print & Digital Options)
- Cretaceous Oysters in Texas (Digital Only)

WhatsApp for PSoA Members

This would be handy for folks to have on their phones for Field Trips - or just an easy way for the board to communicate with you when email is not practical.



Good Field Trip Etiquette

1. Arrive on time or early. At the prescribed meeting time (often 8AM) you should be out of your car standing with the field trip leader, signed in and ready to hear the day's schedule, directions and helpful pointers.
2. Do your homework. Use one of the online mapping programs to determine travel time and directions from your home the day before. Take the map with you and leave at least 15-30 minutes early. This is critical when we are going to quarries, private property or if the first stop is a meeting-point, not the collecting site. The field trip leader will not wait more than 15 minutes beyond the scheduled time.
3. Make sure you have the field trip leader's phone number. Their number will appear in the field trip notice. Bring a copy of the notice from the newsletter or e-mail blast so you have the information. That is the best way to find the group if you do get delayed or lost. But do not count on it. Some of our remote sites have poor cell reception. We have no way to guarantee you will get there if you miss the meeting spot.
4. The first stop is not breakfast. Please do not expect the rest of the group to wait while you order food or take care of business. If you need to do that, arrive 30 minutes early and then be ready to go at 8:00AM sharp!
5. The field trip leader sets the schedule. Gather near the leader at the beginning of every trip and listen carefully. The leader will describe where and when things will happen. That will include directions, plans for breaks and everything else you need to know about how the day will unfold. If you are not sure about directions or the schedule speak directly with the field trip leader. Do not count on hearsay.
6. Do not ask the entire group to stop for unscheduled breaks. If you need to take a break during the day, do it after you know where the collecting site is located. The field trip leader will usually schedule a break around lunch but not between every stop. Follow the group to the site and then circle back for food or facilities. This is why we suggest bringing your own food and beverages. Also being prepared with TP, or whatever else, for "emergencies".
7. Sign in and don't forget to report to the leader when you leave. This is not critical, but he or she will greatly appreciate those two things. Having everyone's name let's him know how well attended the trip was and we like to list everyone in the follow up reports. Secondly, getting a chance to hear and see what you found that day and being able to keep track of who is on site at the very end is just a good thing.
8. Be prepared. Make sure you have the materials you need to collect safely. In particular, water, hat, sunscreen and food.

9. Don't crowd the next guy. Please be courteous of your fellow collectors space. If someone says "Hey I found a good one!" don't come rushing over and crowd into their collecting zone. Let them offer to share the space. You can ask them where they found it and then move off to one side or the other, but don't just flop down next to them.

10. Be safe. If someone is working an area on a slope do your best not to pass above them. If you need to do so, please let them know you are passing and do your best not to send any debris down on top of them. If someone is working above you and you must pass below, please alert them for the same reasons. Generally speaking, if someone is working a spot respect that they "own" that area and your passage through or around that location should only be done with their permission and/or invitation.



Editor's Note:

I would like to extend an invitation to all members to submit stories of their own travels for publish in future episodes of SIDE TRIPS. All I need is a short write up (and I can assist with this) as well as some photos of your trip (iPhone or Android photos are perfect - just make sure to send me the full resolution version). Fossil hunting trips are always welcome, but so are trips to museums, fossil/mineral shows, and other adventures that explore the world around us. You can reach me at editor@austinpaleo.org and I will do my best to include your stories in future issues.

Brian Bedrosian
Newsletter Editor

The purpose of the Paleontological Society of Austin, a 501(c)(3) non-profit organization, is the scientific education of the public, the study and preservation of fossils and the fossil record, and assistance to individual, groups and institutions interested in various aspects of paleontology. Meetings of the Paleontological Society of Austin are normally held on the third Tuesday of each month at 7:00 p.m. in the Austin Gem and Mineral Society building located at 6719 Burnet Ln. in Austin, Texas. The public is welcome to attend. Visit austinpaleo.org for more information.

Please note, our monthly meetings are currently held in a hybrid format, with in person gatherings at the AGMS Clubhouse which can also be attended virtually via Zoom. Please see information provided on page one of this newsletter each month. While we are not currently requiring masks at any in person gatherings, we ask that you maintain a safe distance from others when socializing. Please note all virtual meetings are recorded and the Society may elect to publish the video of these meetings, in part or in total, to the Society's website or another publically accessible venue as benefits the goals of the club listed above.

Membership Information

Annual Dues: **\$18/individual**
\$24/family
\$12/associate (non-voting, receiving newsletter)

Pay on-line at: <https://www.austinpaleo.org/newMembership.html>

Send payment to: **Treasurer, Paleontological Society of Austin,**
P.O. Box 90791, Austin, TX 78749-0791

PSOA Web Site: www.austinpaleo.org

Facebook: <https://www.facebook.com/austinpaleo>

Twitter: [@Austin_Paleo](https://twitter.com/Austin_Paleo)

Current Club Officers

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