

PALEO FOOTNOTES

NEWSLETTER OF THE PALEONTOLOGICAL SOCIETY OF AUSTIN

VOLUME 18 | NUMBER 02

FEBRUARY 2023



President's Note

Looking forward to Jacksboro!

The weather has been quite nice (other than that anomaly a week back) and I managed to get a little collecting in. No great finds, but some peaceful hours outdoors. I'm really looking forward to Jacksboro this month. It is a bit of a haul up there but the collecting in the Finis Shale is well worth it. You cannot go and not come home with dozens of species and most will be well preserved. If Melvin and Jamie run it like years past there will be some bonus collecting in Mineral Wells the next day as well. And as of now, the weather looks good.

(continued on page 2)

This Month's Speaker

King of Dinosaurs

Presented by: **Rex Kowalski**

Rex Kowalski worked for 7 years in the automotive industry and took courses through the University of Alberta in his spare time. He currently works for Paleotex as the Lab Manager and the lead Volunteer Curator for the Texas Through Time Museum in Hillsboro, TX. Rex is the Founder and CEO of Sturrdrum Studios - which focuses on paleontology and prop fabrication. Rex has spent many years studying the Tyrannosaurus family tree and its evolution over time. His talk will focus on the evolution of Tyrannosaurs and why the Tyrannosaurus Rex is the king of the dinosaurs.

FEBRUARY 2023

Regular February Meeting

Tuesday February 21st - 7pm

AGMS Clubhouse

6719 Burnet Lane

Join Zoom Meeting

<https://us02web.zoom.us/j/86900389525?pwd=RUIKOTdOSE>

[RKMGdQeDFpS3NxbGRGdz09](https://us02web.zoom.us/j/86900389525?pwd=RUIKOTdOSE)

Meeting ID: 869 0038 9525

Passcode: 060671

Dino Days

Zilker Botanical Garden

Saturday, February 18th

9am-2:30pm (see page 3)

February Field Trip

Saturday, February 25th - 8:30am

Lake Jacksboro

(see page 2)

President's Note

(continued from page 1)

We have a great outreach opportunity in both February and March. The Zilker Botanical Garden has invited us to their Dino Days event. We will be manning a table and doing some simple presentations. The first part will happen Saturday Feb. 18th and the second will be March 18th which is also a Saturday. You probably will not see this before Feb. 18th, but we can still use a few extra hands for March. Contact Jamie Shelton for details on how to sign up.

That's all I have now. Hope to see you at the meeting next Tuesday, the 21st!

Erich Rose

PSoA President



A Valentine's Day gift from Alan Keith - check out his side trip to the Mazon Creek site in Illinois on pages 7+8!

Fossil Fest 2023 Update

Date: November 4th & 5th

Theme: Prehistoric Life Underwater

Vendor contracts have been sent and we have verbal confirmation of intent to participate from a few thus far.

Heather Aziz

Vice President + Show Chair

February 2023 Field Trip:

Lake Jacksboro

DATE: Saturday February 25th - 8:30am

Lake Jacksboro - Upper Pennsylvanian

This site is Upper Pennsylvanian and is replete with fossils from the Finis Shale, Graham Formation of the Cisco Group. Most fossils will be marine in origin, including Brachiopods, Trilobites, Corals, Bryozoans, Mollusks, Crinoids, and the occasional shark tooth. Fossils will generally be small and loose, so bring plenty of small containers or sectional boxes. The drive back into downtown Jacksboro is not far, but coupled with the walk back across the spillway, it will waste valuable collecting time – bring food and plenty of water to maximize your time. If you stick around for more collecting on Sunday, we will visit various road cuts and possibly the Mineral Wells Fossil Park. We will meet at 8:30 am in front of the Jack County Extension Office located at 100 N Main St. in Jacksboro (the town square). To get there, take 183 North from Austin and, in Lampasas, turn onto 281 North, which will take you straight to Jacksboro. Or, take I35 North to the EI35/ WI35 split just North of Hillsboro. Take WI35 to Ft Worth and take I20 West. On the West side of Ft Worth take the loop 820N and just North of Lake Worth exit for West 199 (the Jacksboro Highway). This will take you straight into Jacksboro. Saturday morning look for a group of fossil hunters parked by and standing by the courthouse. Remember that Jacksboro is about four hours from Austin, so either drive up the night before or be prepared to leave early Saturday. Jacksboro motels are somewhat bare-bones, so if you want top quality accommodations.... some people stay in Mineral Wells as we will be in that area for Sunday. We will caravan as a group to the first site, so please be on time. There will be a \$3 admission fee per person (children are free) to cover our parking in and crossing the spillway in the state park. Please have CASH handy to put into envelopes at the pay station. Check the local weather before leaving so that you can dress appropriately. February in North Texas can be cold. Hopefully it will warm up in the evening. We ask please wear mask when standing next to others and when we disperse you can take them off. Any questions please e-mail trip chair or call Melvin or Jamie.

Melvin Noble

Field Trip Co-Chair



Its a long walk to the site at Jacksboro - but you don't have to be a super hero to get there...but so much more fun if you are!

2023 Upcoming Paleo Events

So many exciting paleo events around the state this month!

The Riverside Nature Center's new fossil exhibit **Fossil Clues to the Past** is replete with fossils donated by Jackson School - the exhibit will run through the end of the summer and will have exhibits from across the fossil record.

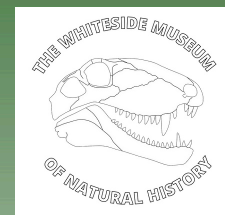


Also happening this month, the Whiteside Museum will be hosting **Permian Fest**. This weeklong convention starts on February 19th and runs through the 26th. This overlaps our field trip to Jacksboro but is sure to be a very special experience for those making the trek. Our own **Jamie Shelton** will be representing PSoA at the event, which will feature fossil digs, workshops, lectures, vendors and more. Come join her for this amazing event!

Beginning February 18th and running through March 18th, the Zilker Botanical Gardens will be hosting **Dino Days**. There will be events and hands-on activities every Saturday in the Hartman Prehistoric Garden. PSoA will be present on February 18th and March 18th, 9am-2:30 pm, to talk to folks and share our touch table - please [volunteer](#) to help out! Also, on February 18th, our own **Jamie Shelton** will be giving a talk at the gardens - hope to see you all there!



PERMIAN FEST 2023



FEB 19TH - FEB 26TH, 2023

DIG WORKSHOPS

LECTURES

VENDOR BOOTHS



January Field Trip Report: Harker Heights Sites

Phymosoma texanum in situ

No better way to start off the year than with a great fossil hunt! We had one of the best attended and productive field trips with Gary and Cathy Rylander, Randy Whited, Marga Silvestre, Heather Aziz, Leia Pfaff, Mark and Benjamin Reed, Rick Goldgar, Brian Bedrosian, Jean Bowman and her daughter Laura, Mike and Jean Higgs, Kevin Bills, Alex Smith, Dawn Smith, Ed Elliot, Jonathan and Xavier Pena, Melinda and Frederick Falk, Eric and Jack Jones, Mike Smith, Helen Riggins plus Melvin Noble and myself in attendance. I might have missed a few people too, as we had so many! Sorry if I missed listing you!!

Although it was drizzly and cool, even some actual rain on the drive up, the day ended up wonderfully pleasant, not too cold, not too hot, just Goldilocks proper in Harker Heights! We had a variety of new members so Ed Elliot was much appreciated for his helping identify finds. I love that the new people learn so much on our field trips.

And I had a little learning lesson myself, when it comes to new members and finds! Xavier Pena, a new youth member calls out: "I found a shark tooth!" And me, in my oh-so-jaded fossil hunting experience say "I doubt it, but let's see it!",



Fig. 1 Shark vertebra (Brian Bedrosian)

having seen many many not-shark-teeth look alikes. Well shut my mouth...he found a shark tooth! A nice one too! (fig.2) I knew that Ed and others had found shark teeth at the Harker Heights site, but I'd not been around when any were found, so I apologized and congratulated him on his spectacular find!

Brian found a really nice tiny vertebra (fig. 1), possibly shark, and Ed, Melinda, Eric and myself found some great crustacean bits (fig. 4). I found a claw of *Pagurus banderensis* which I had only found in the Glen Rose Formation and not found in the Walnut Formation until this point, so that made my day.

One of the reason we go to this spot is the abundance and variety of fossils. Jean and Frederick were finding some great gastropods (fig. 5). Many of the new members went home with some well preserved echinoids – *Phymosomas* and *Heterasters*. Jean and Laura found some nice ones! (fig. 6) A few *Leptosalenia mexicanas* were found, but none in abundance. Lots of partial ammonites were uncovered as well, especially by the youth members!

After about 4 hours, some of us went to check out a couple of roadcuts north of Nolanville that Eric Jones had spotted. Also Walnut Formation, they were not quite as fossiliferous as the Harker Heights spot, but yielded a few very nice things! Both Eric and I found a gastropod I'd never found before called *Cerithium bosquense* (fig 7). Eric found a really interesting coral preserved with a red pigmentation (fig. 3) Also, this spot seemed to have lots of crystal replaced fossils, so some of them were really beautiful. We will definitely want to return there at some point.

So the first trip of the year was a definite success. I hope it is the measure of things to come! Happy Hunting! After several years of staying away to keep each other safe it was wonderful to end the year together with friends. I hope everyone had a wonderful holiday season and a happy new year.

Here's to all the great times and great finds in 2024!

Jamie Shelton
Field Trim Co-chair



Fig. 2 Shark tooth (Xavier Pena)



Fig. 3 Coral (Eric Jones)



Fig. 4 Crab claw (Eric Jones)



Fig. 5 Gastropod (Jean Bowman)



Fig. 6 Echinoids (Laura Bowman)



Fig. 6 Cerithium bosquense (JamieS)

January Field Trip - Side Trip

Later in the day a small cadre of folks split off to head to another site to do some more collecting. While this site may not deliver the splendors it has in the past, it is still a great stop that yields a unique assortment of small fossils. Common here are small verigated corals (fig. 3) and highly ornamented gastropods (fig. 4) which are numerous. This spot is also know for consistently delivering well preserved *Leptosalenia mexicanas* Fig.2) - along with a host of other echinoids (fig 1).

Of particular note from this trip is a *Tetragramma malbosi* that was found by Ed Elliot. While not necessary a rare or unique find, I am including it here to show how a careful hand and alot of elbow grease can transform a fossil found in the field locked in matrix. The two images in the bottom right of this page (figs 5+6) show the fossil as Ed found it - covered in the relatively hard matrix that this site is known for. After a great deal of very careful work on the fossil, it has been transformed into the quite stunning specimen depicted to the right.

The prepping of fossils can be a difficult process requiring experimentation with multiple different tools and processes, tailored to the specific type of preservation and host rock. We encourage members to share their experiences and techniques with others who are willing to put in the effort.

Brian Bedrosian
Editor

Tetragramma malbosi - fully prepped
(Ed Elliot)



Fig. 1 *Tetragramma* (Jack Jones)



Fig. 3 Coral



Fig. 5 *Tetragramma malbosi* before prepping



Fig. 2 *Leptosalenia mexicana*



Fig. 4 Ornamented gastropod



Fig. 6 *Tetragramma malbosi* before prepping



Fig. 1 *Acanthodes* sp. both halves of the concretion create mirrored images of this small fish

Side Trip: Mazon Creek IL

I took my oldest granddaughter with me last summer as we went on our first train trip from Austin to Pontiac Illinois. I grew up there and even played on one of the spoil piles from coal mining in the town of Coal City. If I'd have known what was there I could have been collecting Mazon creek concretions for 50 years.

For those who aren't familiar with Mazon creek it is an area of North Central Illinois that has been classified as a lagerstätte fossil site - a place with unusually high quality preservation - to me, the mother lode. Years and years ago, the coal miners scraped off the layer of concretion filled shale from above the pennsylvanian era coal seam and discarded these tailings into huge piles. Soon people started to discover that when the nodules split open, as a result of repeated seasonal freeze-thaw, they were filled with amazing fossils, and the rest is history. The most unusual thing about these concretions is their preservation of soft tissue with about 40% of all animal fossils from the concretions being an *Essexella asherae* jellyfish. I think all of what I collected came from an area called pit 11 which produces mostly aquatic based fossils but also land based flora and fauna that would have been washed in from local streams. I store them in my freezer, cycling them



Fig. 2 *Glaphurochiton concinnus*

in and out to mimic the natural freeze-thaw process, and after 6 months most have opened.

The aquatic fauna can be difficult to identify, but I have found some really interesting specimens. I think my favorite is a small fish - *Acanthodes* sp. - that is probably a juvenile. Another cool find was a *Glaphurochiton concinnus* which is a long thin mollusk with 8 valves. So far I have found several types of crustaceans - *Belotelson magister* - a modestly sized lobsteroid (fig. 4), *Peachocaris strongi* - preserved as just a ghost-like impression (fig. 7), *Mamayocaris jaskoskii* - a crayfish like animal (not shown), and a couple of other unknowns. As the T-shirt says, coprolite happens and sometimes I find little pieces of bone or shell fragments in the nodules. Along with these aquatic fauna, I also found some very cool plant material. The preservation of these is amazing - some of the best of these are fronds of *Medullosales* seed ferns - including fronds of *Alethopteris* sp. (fig. 4) and *Neuropteris* sp. (fig. 5) My favorite flora fossil appears to be a small seedling with some roots - though I haven't been able to identify it yet.

Some of the Mazon Creek fossils look like they were alive yesterday, others are only preserved by shadow or discoloration and a few are just there to make you wonder. Its always exciting to pull a new tray out of the freezer and see what you have found. With a lot of work and a trip to North Central Illinois you too can have a freezer like mine!



Alan Keith
PSoA Member



Fig. 3 Plant frond



Fig. 4 *Belotelson magister*



Fig. 5 *Alethopteris* sp.



Fig. 6 *Neuropteris* sp.



Fig. 5 *Peachocaris strongi*



Tailings...

In The News

Busted and Broken Fossils Show How Dinosaurs Fought

From locking horns to biting each other in the face, this is how dinos of the same species battled

Riley Black, [Smithsonian Magazine](#), January 17th 2023

This 'Jousting' Trilobite Might Be the First Known Creature to Fight for a Mate

Using a "trident" attached to its head, the arthropod may have competed for sexual dominance 400 million years ago

Teresa Nowakowski, [Smithsonian Magazine](#), January 19th 2023

Scientists Uncover Nearly 100 Dinosaur Nests in Fossilized Hatchery

The find reveals that plant-eating titanosaurs had reproductive similarities to both birds and crocodiles

Carlyn Kranking, [Smithsonian Magazine](#), January 20th 2023

Primate-Like Critters Survived in the Arctic When It Was a Lush, Warm Swamp

Even as darkness gripped the forests for months, two small species made it home

Brian Handwerk, [Smithsonian Magazine](#), January 25th 2023

2023 Field Trip Schedule

February	Jacksboro (Bergheim)
March	Whiskey Bridge (East Texas)
April	Club Auction + Picnic
May	Oklahoma
June	Austin Loop 360 (Lower Brazos)
July	Johnson City
August	Witte Museum - San Antonio
September	Texoma (Moody / Evant)
October	Brady + Santa Anna
November	Brownwood
December	White Mammoth and Pot Luck

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 Posters

The paleo posters we had on display at fossil fest, along with many others, are available as pdfs on the [LINKS](#) page on our website. These might be useful resources for teachers. Or maybe you just need dinosaurs posters for your wall!

Geological Formations

Geological Mapping Tools to identify formations in Texas.

Prehistoric Sharks

Overview
Megalodon
Shark Teeth

Prehistoric Monster Reptiles

Overview
Ichthyosaurs
Plesiosaurs
Mosasaurs

Dinosaurs

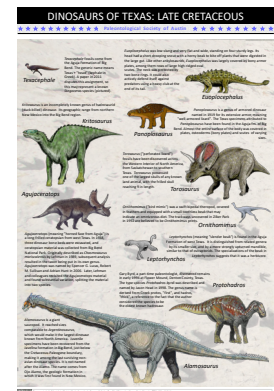
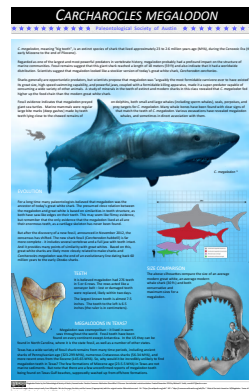
Dinosaurs Found in Texas - Lower Cretaceous
Dinosaurs Found in Texas - Upper Cretaceous
How our images of dinosaurs have changed over time. Retro vs. Modern

They are free to use and are available under Creative Commons licenses. Some are only available for non-profit uses, others are under CC BY-SA, the share-alike license. Both just require attribution.

I used Office Depot to print them poster-sized. I also had them mounted on foam core which brought the total to around \$50 each.

Mike Smith

Treasurer



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

Webmaster: **Gordon Galligher, webmaster@austinpaleo.org**

Facebook: [@austinpaleo](https://www.facebook.com/austinpaleo)

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

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