



# PALEO FOOTNOTES

NEWSLETTER OF THE PALEONTOLOGICAL SOCIETY OF AUSTIN

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SEPTEMBER 2021



## President's Note

### Such a strange summer.

Despite the limited number of 100-degree days it has supposedly been one of the warmest on record. And now it is finally getting around to breaking 100. Let's hope this is short lived and we will be getting around to fall sooner than later. Maybe even in time for our field trip up to Brady on the 25th.

We have a very interesting lecture lined up for this month's meeting and I hope to see many of you there.

**Erich Rose**  
PSoA President

## This Month's Talk

### Dinosaur Tooth Complexity Presented by: Keegan Melstrom

Extinct dinosaurs display a wide array of tooth shapes, from the sharp pointy teeth of meat-eating dinosaurs to the odd pencil-like teeth of sauropods. In spite of this wide diversity of shapes and the popularity of dinosaurs, relatively little work has focused on understanding the nuances of tooth morphology. To address this, I examined the dental shape and complexity of dinosaurs from the Late Jurassic. I seek to understand if dinosaurs follow the patterns observed in living animals or if they break them. (continued on page 2)

SEPTEMBER 2021

**PSoA Regular August Meeting**  
Tuesday September 21st - 7pm

**Join Zoom Meeting**  
<https://us02web.zoom.us/j/8627787772?pwd=cG5YaHB1ZGoyZEFqM2dwR1Y2djZkdz09>

Meeting ID: 862 7787 7720  
Passcode: 293534

**PSoA August Field Trip**  
Saturday September 25th  
8:00am in Brady  
(see page 2)

## This Month's Talk

(continued from page 1)

Ultimately, I try to understand if dinosaur success can be attributed, at least in part, to unique trends in tooth shape.

This Month's Speaker: **Keegan Melstrom**

Keegan is currently a postdoctoral researcher in the Dinosaur Institute at the Natural History Museum of Los Angeles County. He is investigating if the evolution and radiation of flowering plants impacted the teeth of dinosaurs and their diets. Prior to this, he received his MS and PhD from the University of Utah, where he studied crocodylomorph evolution and success since the Mesozoic, with a focus on reconstructing their diet. Keegan received his undergraduate degree from the University of Michigan. There, he began his paleontological research by investigating the skeletal changes experienced as sauropods grew up.



Symouria Fossil - Texas Through Time Museum Photo by Jamie Shelton

## Fossil Fest 202: Cancellation :(

It is with much regret that I have to inform you that this year's Fossil Fest show has been cancelled.

This last month we had a show committee meeting and after much discussion, evaluating the pros and cons, it was decided it was in everyone's best interest to cancel the event. The decision was made by a vote of the board members and committee chair attending the meeting. The reason should be obvious. But if anyone would like further explanation please feel free to contact me directly ([president@austinpaleo.org](mailto:president@austinpaleo.org))

This last year and a half have been a challenging period for the club. We are all hoping for better conditions in 2022 and a return to in-person meetings, wider ranging field trips AND Fossil Fest.

Take care & stay safe

**Erich Rose**  
PSoA President

## September 2021 Field Trip:

### Brady Sites

**DATE: Saturday September 25th - 8:00am**

Brady + Santa Anna - Pennsylvanian

Our field trip will be to the road exposer north of Brady. 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. Both are Pennsylvanian period fossils which include 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 Pennsylvanian site, Santa Anna Lake, afterwards if possible. On occasion trilobites have been found at this location and a nice Brachiopod called wellerla. Unfortunately I am still waiting back for permission. If we are not able to get in we will go to The Brownwood area, Wilson's Clay pit for the rest of the day.

Wilson's clay pit is Pennsylvanian, an old favorite site. This site has an abundance of different specimens, lots of crinoid stems with an occasional cup, brachiopods, corals, bryozoans, sometime trilobites and the prize Petalodus teeth, an extinct shark of the Pennsylvanian period. These are just a few of the fossil specimens that can be found.

Most material will be small to hand size but there are larger blocks with nice things in them. There may be some in large boulders with things you might want to remove. Bring containers of various sizes, hammer and chisels, eye protection and something to wrap fragile things in. Bring bags for the larger items. Bring lots of water, sturdy footwear, a hat is recommended, food for lunch or snacks as we may not be near and stores or restaurants. Watch the weather for Brownwood for appropriate clothing. It will probably be hot this time of year unless some rain clouds come in. It is a long way back to town and there are no facilities, so be prepared.

Please wear a mask when close proximity to to each other until we disperse out. Hope to see you there!

### Melvin Noble

Field Trip Co-Chair

### How to get there:

Take Hwy 71 west out of Austin and drive to Brady. From Brady, take Hwy 377 north and turn right (east) onto FM 765. After a short distance, you will cross CR 450 and see the collecting site. Hint: If you are driving on 377 and cross the Colorado River – you went too far. OR Take Hwy 183 north to Lometa. On the south side of Lometa take Hwy 190 to Richland Springs. From Richland Springs go north on Hwy 45 and turn left (west) onto FM 765. You will get to the collecting site just before you cross CR 450. You will see my blue Toyota truck.



# August 2021 Field Trip Report: Hillsboro: Texas Through Time

## Dinos loose in the museum!

Yep, it's hot in Texas! And so a trip to the museum was a great idea for our August Field Trip! I found out about the Texas Through Time Museum when I stopped in Hillsboro for lunch a year ago. I never expected to find such a nice little museum and working paleontology lab in such an out of the way Texas town! So it seemed like a good place for the Society to visit during our hottest (we hope!) month.

Hillsboro Texas is a bit of a surprise. There are THREE small museums! And the Texas Through Time Museum is one of those little surprises! After Grady Parks, Brian Bedrosian and family (got to finally meet his wife!), Karen Goldsum, Alan Keith, Melvin and I finished taking selfies and gawking at the animatronic dinos out in front of the museum (the Carnotaurus was my favorite!) we got to enter the museum an hour earlier than their typical opening time, which was nice, as it gave us time to really enjoy the exhibits without anyone else there.

Our guide, one of the lab techs (they wear many hats!) gave a nice tour of the various exhibits, in basically chronological order starting with the Pennsylvanian. They had some really lovely examples of the echinoid Archeocidarid from Brownwood Spillway, plus some great trilobite specimens from Oklahoma. The museum showcases primarily Texas fossils, but does have some from other states.

One of the museums primary focus is on the Permian era as they have dig sites at the Archer Permian Red Beds. So their "window dressing" was an amazing full Dimetradon. These early synapsids are one of the iconic creatures that most of us read about in our first forays into paleontology. What I learned was that Dimetradons are more mammal like than dinosaur like because they have a single opening in their skull as opposed to two in dinosaurs (diapsids).

The other main focus of the museum is the late Cretaceous Aguja Formation in west Texas (near Big Bend) and they have found some amazing things at their lease in Brewster County, including Hadrosaur, Ankylosaur (possibly a new species) and other dinos, some fossils of which were all on display.



Awesome full Dimetradon Skeleton Photo by Jamie Shelton

One of the other most amazing displays was the full Ptychodus shark that was found in North Texas, complete with vertebrae, teeth and most amazingly, gill structures still visible. Their display of Texas Petrified wood was also particularly nice.

To finish up, we got to have a tour of the working labs as well, which was particularly interesting. Unfortunately, we are not at liberty to show what they were working on in the back! But it was pretty impressive!! Finally, after our visit to the small gift shop and a few T-shirt purchases later, we all wandered off in our different directions. I think everyone was impressed by the small but very good museum.

**Jamie Shelton**  
Field Trip Co-Chair







## Tailings...

### In The News

#### Ancient Predator With Massive Helmet-Like Shell Unearthed in Canada

The creature was one of the earliest known large predators on Earth<sup>1</sup>

Elizabeth Gamillo, Smithsonian Magazine, September 10th, 2021

#### New, Giant Carnivorous Dinosaur Was a Terror to Smaller Tyrannosaurs

A fossil jaw reveals the large predator lived 90 million years ago.<sup>2</sup>

Riley Black, Smithsonian Magazine, September 8th 2021

#### Woolly Mammoths Roamed Far and Wide Just Like Living Elephants

A new analysis of a mammoth tusk tracks the movements of an Ice Age icon.<sup>3</sup>

Riley Black, Smithsonian Magazine, August 12th 2021

### SCFMS Convention 2021

This year's convention will be held during the Lubbock Gem and Mineral Society's Annual Show and Sale in Lubbock, TX.

Date: September 25th -26th, 2021  
 Location: Lubbock Memorial Civic Center  
 1501 Mac Davis Lane, Lubbock TX

Admission: Adults \$4  
 Seniors \$3  
 Children 6-12 \$2  
 Children 5 and under Free!  
 Scouts, Military, and Peace Officers in uniform are also Free!



Visit their website for information:  
[www.lubbockgemandmineral.org](http://www.lubbockgemandmineral.org)

### 2021 Field Trip Schedule

October: **Moody Road Cut - Comanche Peak**  
**Evant Road Cut – Comanche Peak**

November: **Brownwood or Jacksboro - Pennsylvanian**

December: TBD

### Hunting the Permian Red Beds!

#### Saturday October 9th

I have worked out an opportunity for us to Fossil Hunt the Permian Red Beds near Archer City!

It is through PaleoTex (Andre from the Texas Through Time Museum) and it is a paid guided hunt on their land lease. It is a limited person hunt (only 10 and I'm one, so only 9 spaces left) and is \$150 per person. This is NOT taking place of our regular PSoA October hunt...this is a special guided tour. We will be there for 5-6 hours and will be able to fill a bag (which they will provide) of fossils/matrix. I believe he said it was a standard sand bag, so almost a 5 gallon bucket full size-wise. If you are interested, please let me know. It will be "first come first serve" so call me at 512-214-2589 to secure your spot! I have had some of the matrix from this site and there is all kinds of cool stuff: Orthocanthus shark teeth, Eryops amphibian teeth and bones, Edaphosaurus and Dimetraron teeth and bones, little jaws, all kinds of cool stuff. I can't wait to get out there and find some (hopefully) bigger stuff!

#### Jamie Shelton

Field Trip Co-Chair



Tooth Plates from Permian Redbeds Photo by Jamie Shelton

1. <https://www.smithsonianmag.com/smart-news/ancient-predator-massive-helmet-shell-uneearthed-canada-180978616/>  
 2. <https://www.smithsonianmag.com/science-nature/new-giant-carnivorous-dinosaur-was-terror-smaller-tyrannosaurs-180978599/>  
 3. <https://www.smithsonianmag.com/science-nature/woolly-mammoths-roamed-far-and-wide-just-living-elephants-180978418/>

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](http://austinpaleo.org) for more information.

*Please note, due to COVID 19, in person meetings have been temporarily paused, and monthly meetings are instead being held on Zoom. Please see instructions above to attend the meetings virtually. 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**

**2021 Officers**

Annual Dues:	<b>\$18/individual</b> <b>\$24/family</b> <b>\$12/associate</b> (non-voting, receiving newsletter)	President	<b>Erich Rose</b>	<a href="mailto:president@austinpaleo.org">president@austinpaleo.org</a>
Pay on-line at:	<a href="https://www.austinpaleo.org/newMembership.html">https://www.austinpaleo.org/newMembership.html</a>	Vice President	<b>Heather Radford</b>	<a href="mailto:vicepresident@austinpaleo.org">vicepresident@austinpaleo.org</a>
Send payment to:	<b>Treasurer, Paleontological Society of Austin,</b> <b>P.O. Box 90791, Austin, TX 78749-0791</b>	Treasurer	<b>Mike Smith</b>	<a href="mailto:treasurer@austinpaleo.org">treasurer@austinpaleo.org</a>
PSoA Web Site:	<a href="http://www.austinpaleo.org">www.austinpaleo.org</a>	Secretary	<b>Emelia Rose</b>	<a href="mailto:secretary@austinpaleo.org">secretary@austinpaleo.org</a>
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