



Paleo Footnotes

Volume 13, Number 5

May 2018

President's Note

Erich Rose

PSoA President

Just about to roll into summer. Today (the 7th) was finally a hot one over 90. It comes on the heels of some pretty serious storms that dropped quite a few inches and hopefully exposed a good new crop of fossils at some of my favorite sites. Try and get out while you can as we are still short on rain and we may not see more for a while.

Not 100% sure where the next field trip is going. Our calendar says Midlothian. But I have yet to hear from Ed about access. Those quarries can be hit or miss and the last quarry trip was mostly a miss. I guess I'll have to wait and see what Ed puts together.

I heard a little bit about Oklahoma. Cold and wet but great fossils. I was mightily disappointed when I had to cancel. But I moved to Texas to get away from wet and cold so not complaining. There will always be next year.

Look forward to seeing you all at the meeting. We have a really interesting speaker and lecture lined up.

Next Meeting

Tuesday, May 15 – 7 p.m.

Austin Gem and Mineral Society Building

6719 Burnet Lane

Austin, Texas

Next Field Trip

Saturday, May 19 – 8 a.m.

Lake Waco Research Site- Waco Pit. Meet at the Pit parking lot.

See directions in Upcoming Field Trip Report section.

Upcoming Meeting Program

Paul Hammerschmidt

Programs Chair

Marine Ecosystem Recovery After the End Cretaceous Mass Extinction - Chris Lowery

The End Cretaceous Mass Extinction was associated with the disappearance of 75% of species on Earth, including non-avian dinosaurs. It is the most recent and most rapid of the five major mass extinctions in Earth history, and so the recovery from this event is a useful partial analog for recovery from modern biodiversity loss caused by climate change and other anthropogenic factors. In the marine realm, timing of recovery was geographically heterogeneous, and appears to have been slower closer to the impact site. This has been hypothesized to have been caused by lingering environmental effects and toxic metal contamination, which would suggest that this heterogeneity is unique to impact events and has no bearing on future ecosystem change. An alternate hypothesis suggests that these changes are driven by fundamental ecological processes and thus the delayed/heterogeneous recovery is a feature of recovery from any extinction event, including the present one. Here, I present new data on the recovery of life in the early Paleocene from recent scientific drilling in the Chicxulub Impact Crater (ground zero for the mass extinction) and compare these new results with records from across the world. These new data show a rapid recovery in the crater, rule out an environmental explanation for delayed recovery, and show that recovery of a group of marine microfossils, planktic foraminifera, is controlled by ecological processes. These results suggest that will biodiversity will remain low far beyond the end of modern anthropogenic environmental changes.

Chris Lowery Bio

I am a micropaleontologist specializing in planktic foraminifera. I'm currently the R.T. Buffler Postdoctoral Fellow at the UT Institute for Geophysics. I received my PhD from the University of Massachusetts Amherst, where I worked with Mark Leckie on mid Cretaceous oxygen change in the US Western Interior Seaway, including the Eagle Ford Group and Austin Chalk of Texas. I am, broadly, interested in how marine organisms respond to changes in their environment, particularly due to declining oxygen.

Chris Lowery

Richard T. Buffler Postdoctoral Fellow

Gulf Basin Depositional Synthesis project

University of Texas Institute for Geophysics

J.J. Pickle Research Campus, Bldg. 196, rm 3.260

https://www.jsg.utexas.edu/researcher/christopher_lowery/

Upcoming Field Trip

Ed Elliott

PSoA Field Trip Chair

Our trip this month will be to the Lake Waco Research Site- Waco Pit. And we will be visiting other possible sites. To be determined by those present. Directions:

Next Field Trip The Waco Pit

We will meet at the parking lot for the pit at 8:00 AM. This parking lot is not huge so you are encouraged to car pool. If you have some rubber boots they could be a definite asset. The pit can be a morass when wet, so check to see if it has rained earlier or rain is predicted for that day. Collecting there is mostly small stuff so bring those knee pads and small containers. The formation is the Upper Cretaceous Del Rio. Fossils include a wide variety of marine invertebrates, various shark teeth and also includes a fair variety of small pyritized material.

Here are the directions:

1. From Austin take I-35 North to Waco.
2. On the north side of Waco, EXIT at 340/2491/Lake Shore Drive.
3. Turn LEFT (west) under the freeway onto Lake Shore Drive.
Follow Lake Shore as it curves around and to the south past the intersection with Lake Brazos/Steinbeck Bend and go over the Bosque River.
4. Continue on Lake Shore to FM 1637/19th Street and turn RIGHT (west again.)
5. Proceed to Steinbeck Bend and turn LEFT. (Careful, there is an earlier intersection with Steinbeck. Do not confuse that one with this later turn off.)
6. At the intersection of Airport and Steinbeck Bend (a block or two past the last turn) there is a cement plant on the SE corner (across the intersection on the left.)
7. Just past the plant on the left is the parking area for the pit. There is a gate. If it is not open wait just off the road until someone arrives to open it.

April Meeting Minutes

Gary Vliet

PSoA Secretary

None to report; last month the PSoA Annual Auction was held.

Field Trip Report

Fossil hunting in Ada, OK, April 2018 (Ed Elliott)

We had a small group meeting in Ada this time, probably due to the rain forecast. With me were John Hinte, Cathy and Gary Rylander, Bob McDonald, Andrew Dunham and his friend Kevin and Dr. James Sprinkle. The forecast was not wrong this time. In the past, we've beat the odds and had it go around us. Not this time.

Our first stop was P-7, a Silurian outcrop which is of the Henryhouse Formation in the Hunton Group. We went there first to see what the weather was going to do. It didn't take long for it to show us. Not a storm, just nonstop rain. With chilly temperatures, the rain made it cold. We went on to Yellow Bluff and Andrew, Kevin and I went up. Everyone else showed signs of reason and left. With big rubber boots and really good rain gear, it might not have been too bad. Not having those things, we were pretty miserable. I have always said that the bluff was Bois d'Arc Formation, Hunton Group, Devonian. From other readings and looking at geologic maps, the boundaries between that and the Silurian require more research. I hope that I haven't been a liar this past decade. It is confusing. I found a few things, including a nice crinoid cup, Eucalyptocrinus. I had to bail about 1:30. Kevin and Andrew stayed until about 4:30. At dinner, they brought in their finds. Kevin had a beautiful small camerate cup and Andrew had trilobites. It is an excellent site, but far from an excellent day.

Sunday was a different story. We went to Bob Carrolls' quarry in Clarita. This a Devonian site with both the Haragan and Bois d'Arc Formations of the Hunton Group. The muddy drive in was an exciting attention grabber. Dry, it wouldn't be bad. It was a wonderful day and we had the run of the quarry. Lots of trilobites, lots of brachiopods, corals, gastropods and even a few bivalves. It made up for the previous day. While Bob wouldn't have been interested in the trilobites we found, we were quite happy and look forward (as always) to a return trip. This may not have been our best trip to Oklahoma, but I had a wonderful time and would do it again in a heartbeat. Can't wait to go back. See you at the next one.

Odds and Ends

What Doomed the Pterosaurs?

Pterosaurs were the first vertebrates to evolve powered flight, adapting to the skies long before birds would do the same. Masters of the Mesozoic skies, they flapped on wings composed of skin stretched out to meet the end of a ludicrously-elongated fourth finger. They ranged in size from fliers the size of a sparrow to giants like Quetzalcoatlus, a truly imposing saurian that would stand as tall as a giraffe when on the ground.

Read more at <https://www.smithsonianmag.com/science-nature/what-doomed-pterosaurs-180968462/#0QPpwI95mygqvYUM.03>

Archaeopteryx 'flew in bursts like a pheasant'



The winged Late Jurassic creature would take to the air in frenetic, flapping bounds, fossil x-rays show.

See <https://www.theguardian.com/science/2018/mar/13/archaeopteryx-flew-in-bursts-like-a-pheasant-scientists-say>

Rare Tiny T. Rex Unearthed in Montana

Researchers are yet unsure if the creature is a baby dino or an example of the contentious Nanotyrannus

Read more at <https://www.smithsonianmag.com/smart-news/new-fossil-could-prove-or-disprove-existence-tiny-t-rex-180968639/#JHuCQT0MuFUlgH5B.03>

This Ancient Reptile Ichthyosaur Was One of the Most Massive Creatures That Ever Lived

Ichthyosaurs appeared during the start of the Triassic, some 250 million years ago. Though they initially lived along coasts, they eventually moved to deeper water. At their height, they filled many niches, from ambush predator to suction feeder and were among the most successful animals in the oceans. But about 90 million years ago, almost 25 million years before the dinosaurs disappeared, ichthyosaurs died out. Researchers are currently trying to understand what drove the once-plentiful sea reptiles to extinction.

Read more at <https://www.smithsonianmag.com/smart-news/new-ichthyosaur-was-one-largest-creatures-ever-existed-180968751/#LzMRLeivbXqLjff6.03>

The Great Chinese Dinosaur Boom

A gold rush of fossil-finding is turning China into the new epicenter of paleontology

Read more at <https://www.smithsonianmag.com/science-nature/great-chinese-dino-boom-180968745/#UZ6TGfBDOKtwKoA.03>

Also, see <https://www.smithsonianmag.com/travel/10-places-see-dinosaur-china-180968832/#BvXTvEzuxlPI2clz.03>

Giant sloths with wolverine-like claws used to roam America, and humans hunted them

For the first time, scientists have uncovered fossilized footprints of ancient humans at the White Sands National Monument in New Mexico, a new study reports. And at the same site, those newly discovered human footprints were actually inside footprints of giant ground sloths — tall, fearsome creatures with sharp claws.

Read more at <https://www.usatoday.com/story/news/2018/04/25/giant-ground-sloths-ancient-human-hunting/549810002/>

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 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.

Annual Dues: \$18/individual, \$24/family and \$12/associate (non-voting, receiving newsletter) Send to: Treasurer, Paleontological Society of Austin, P.O. Box 90791, Austin, TX 78749-0791.

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