



Paleo Footnotes

Volume 13, Number 6

June 2018

President's Note

Erich Rose

PSoA President

Here we are back to the upper 90's and 100 degree days and it's just the end of May and early June. Pretty darn dry too.

This time of year we need to be so careful when we go outdoors. Sunburn is easy to prevent with proper clothing and sunscreen. Heat exhaustion and sun stroke are what we need to be extra diligent in preventing. Water, water, water. You cannot have enough water with you when the conditions are like this. And maybe more than just water. Take some Gatorade or one of the other sports drinks formulated to replenish the salts and electrolytes your body loses as it sweats. Be prepared and be careful out there when you go exploring for fossils.

Looking forward to seeing you all at the June meeting.

Next Meeting

Tuesday, June 19 – 7 p.m.

Austin Gem and Mineral Society Building
6719 Burnet Lane
Austin, Texas

Next Field Trip

Saturday, May 19 – 8 a.m.

Brazos Float Trip or Whiskey Bridge.
More information at the next meeting..

Upcoming Meeting Program

Paul Hammerschmidt

Programs Chair

Understanding how elevation impacts communities during the

Eocene - Ingrid K. Lundeen

Paleontological collection in Wyoming, Utah, and Colorado has been ongoing since the mid-1800s. These regions contain some of the best-preserved and most abundant Eocene fossils in North America so after 150 years of nearly continuous collections, the Eocene fossil record of North America is relatively well understood. This time period is characterized by tropical-like conditions with evergreen forests extending all the way to Northern Canada. Given that much of our understanding of the Eocene comes from basins of WY, UT, and CO, little work has gone into understanding how elevation impacts communities during the Eocene. For my talk, I will discuss the impact of elevation on modern faunal communities as well evidence from the fossil record suggesting elevational patterns may extend in deep time. I will briefly discuss challenges in understanding paleoelevation and present unpublished data from ongoing paleontological work at a high-elevation site in Wyoming as it relates to proposed elevational patterns of diversity..

Ingrid K. Lundeen Bio

While pursuing an undergraduate degree in Biological Anthropology I became very interested in Vertebrate Paleontology as a way of understanding extinct communities of mammals and the environments they inhabited. As an undergrad, I worked in a fossil preparation laboratory, completed field research in Madagascar and Kenya, and worked in the Cretaceous of Wyoming. After receiving my undergraduate degree from the University of Michigan in Ann Arbor, I moved to Austin to begin pursuing my PhD with Dr. Chris Kirk at the University of Texas. Although constantly evolving, my research interests include: North American Eocene mammal diversity and speciation, North American primate evolution and adaptation, and sensory system evolution. I completed my Masters degree in 2017 at UT Austin on olfactory system evolution in primates using living species and the first digital reconstruction of turbinates in a fossil primate, titled "the internal nasal anatomy of Rooneyia viejaensis and euarchontans: calibrating the evolutionary timing of olfactory reduction in primate evolution." I continue to examine these questions using digital scan data of both living and fossil primates from around the world. My PhD research focuses on North American mammal diversity at ~47-48 million years ago in both Wyoming and West Texas. I have two mammal sites at which I work – a high elevation site in Wyoming and a low latitude site in Big Bend National Park, Texas. Both of these sites represent relatively understudied environments and are therefore important in helping to clarify regional patterns of diversity in deep time. I will continue to address these diversity pattern questions as I pursue my PhD and will elaborate on my findings and future directions further in my talk.

Upcoming Field Trip

Ed Elliott

PSoA Field Trip Chair

Our trip this month will be to Brazos Float Trip or Whiskey Bridge. Depends on the water level in the river.

May Meeting Minutes

Gary Vliet

PSoA Secretary

The May meeting was opened by President Erich Rose at 7:00 pm.

Paul Hammerschmidt introduced our speaker, Chris Lowery (UT), whose topic was "Marine Ecosystem Recovery After the End Cretaceous Mass Extinction". This was a very interesting presentation lots of information to digest!

Erich Rose resumed the Business Meeting at 8:25 pm.

Mike Smith reported on the Society bank balance and also reported on the income from the recent Auction at West Cave Preserve ... a net of about \$800.

Erich noted that there is an upcoming Outreach Event at Dripping Springs in June.

Recent Oklahoma Field Trip: Comments indicated the weather was wet and cold on Friday and Sunday, but very nice on Saturday. Overall, a good trip for those who went.

Some Valuable Computer Apps: Mike Smith recommended 'ROCKD'; Erich suggested 'THEODOLYTE', and Mike Smith also suggested 'TOPO MAP'.

Goodies: Melvin again reminded us that he still needs volunteers for snacks and drinks for upcoming meetings.

Next Field Trip: The upcoming (May 19) field trip will be to the 'Lake Waco Research Site' (Waco Pit). Those attending should meet at the site by 8 am that day.

Future Field Trips: The anticipated schedule is available in the newsletter.

Adjournment: The meeting was adjourned at 8:40 pm.

Field Trip Report

Fossil hunting in Waco, TX, May 2018 (Ed Elliott)

Lake Waco Research Site- Waco Pit field trip report in the next newsletter.

Odds and Ends

New Fossils Offer Clues about a Primordial Bird Beak

For more than a century the only known skulls of the ancient bird *Ichthyornis* were either fragmentary, smashed flat or both. Now, high-tech analyses of four fossilized three-dimensional skulls provide tantalizing hints about what the beak of this iconic creature might have looked like as well as clues about the evolution of early birds.

Read more at <https://www.scientificamerican.com/article/new-fossils-offer-clues-about-a-primordial-bird-beak/>

From PSoA member Vaughan Nelson

Just finished reading *Seven Skeletons, The Evolution of the World's Most Famous Human Fossils*. Then went to Internet to see Sebida fossils. Very useful site on human fossils, See <http://humanorigins.si.edu/evidence/human-fossils/species>

Birds had to relearn flight after meteor wiped out dinosaurs

The cataclysm 66m years ago not only wiped out Tyrannosaurus rex and ground-dwelling dinosaur species, but also flying birds, a detailed survey of the fossil record suggests.

Read more at <https://www.theguardian.com/environment/2018/may/24/birds-had-to-relearn-flight-after-meteor-that-wiped-out-dinosaurs>



Antarctica Before Dinosaurs

Fossils play an important role in our understanding of life on Earth. For instance, Antarctica was not always the icy, inhospitable place it is today. The discovery of land-living, backboned animals in 251-million-year-old Triassic rocks tells us that a wide variety of life once existed on the continent.

Read more at <https://artsandculture.google.com/exhibit/uAJiuvm2-fXBlw>

540m-year-old bug tracks are oldest footprints ever discovered

The oldest known footprints on Earth, left by an ancient creepy-crawly more than 500 million years ago, have been discovered in China. Ancient prints bring scientists closer to understanding what were the first creatures to evolve pairs of legs.

Read more at <https://www.theguardian.com/science/2018/jun/06/oldest-known-footprints-on-earth-discovered-left-by-ancient-bug>

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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