Paleo Footnotes

Volume 14, Number 3 **March 2019**

President's Note

Erich Rose
PSoA President

Spring time in Texas. Saw my first Bluebonnets in Marble Falls riding with Mike up to Jacksboro. Now they are popping out all over the place along with Paint Brushes and so much more. The East Texas field trip will be a real treat for those who attend.

On the 3rd of this month we had the chance to attend the premier of Boneyard Alaska, a documentary about Alaskan goldminer John Reeves and his amazing collection of thousands and thousands of Ice Age fossils. The event at the Mueller Alamo was organized by PSA member and film's composer Brian Satterwhite. The presentation included a Q&A with Brian, the director Paul Andrew Laurence, and Chris Bell and Erin Keenan Early of the UT Vertebrate Paleontology Lab. I really enjoyed the whole experience. Thank you Brian!

Boneyard Alaska Paul Andrew Laurence (director) and Brian Satterwhite (composer).

Next Meeting

Tuesday, March 19 – 7 p.m.
Austin Gem and Mineral Society Building
6719 Burnet Lane Austin, Texas

Next Field Trip

Saturday, March 23 - 24 – 8 a.m.
East Texas – Eocene
Details of the trip to be discussed at the Club meeting.

I'm going to be bringing some of my finds from Jacksboro and Mineral Wells to the meeting. There were a few nice items in my trays before each day was done. And along those lines a brief correction to my handout: the stratigraphy for the Hwy 337 site is more likely the Village Bend Limestone, versus Keechi Creek member. The formation is definitely the Mineral Wells.

Hope to see you at the March meeting

-Erich

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Upcoming Field Trip

Ed Elliott
PSoA Field Trip Chair

East Texas – Eocene; details about the field trip will be provided at the next PSoA meeting.

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Outreach News

New Direction for teacher kits, by David Lindberg

As a new direction for teacher kits, this year's kits will have a theme, rather than having a random assortment of fossils. The first theme will be marine Pennsylvanian fossils. If you have fossils from Lake Jacksboro, Mineral Wells, Bridgeport, or Brownwood that you would like to donate to teacher kits, please bring them to the next meeting. Subsequent themes may include marine Cretaceous, and marine Eocene.

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Upcoming Meeting Program

Paul Hammerschmidt
Programs Chair

"Surviving the Permian-Triassic Extinction" - Elizabeth Petsios, Ph.D

Synopsis: The Permian-Triassic Mass Extinction saw the greatest culling of animal life in Earth history, and caused a fundamental restructuring of ecosystems that untimely led to the marine ecosystems we know today. Synergistic kill mechanisms (including high sea surface temperature, expanded oxygen minimum zones, and ocean acidification) are thought to have been brought about by severe climate change associated with the emplacement of the Siberian Traps Large Igneous Province. These conditions are linked to extinction, geographic restriction, and body size reduction in a number of marine invertebrate populations, while allowing others to flourish in depauperate ecosystems in the aftermath of this event (dubbed the "Disaster Taxa"). Delayed recovery of biodiversity following the extinction crisis is thought to have been exacerbated by continuing environmental instability for millions of years after, and makes this the longest documented recovery interval associated with any of the "Big 5" mass extinctions. However, the various facets of recovery during this interval remains a topic of ongoing study, including discerning the relative importance of specific environmental conditions on the extinction and recovery process. My ongoing work with marine fossil invertebrates aims to explore these environmental conditions and their link to suppressed recovery of biodiversity, as well as the perplexing ecological "success" of the so-called Disaster Taxa in the aftermath of the greatest extinction of all time.

Speaker Bio: Dr. Petsios joined Baylor University's Department of Geosciences in 2018 as an assistant professor of paleontology. She received a B.S. from Cornell University and worked with Dr. Warren Allmon at the Paleontological Research Institute (PRI) on my undergraduate research thesis. Her thesis focused on the evolutionary paleoecology of turritelline gastropods ("Turritella"), examining growth rate, body size, and phylogenetic relationships to assess extinction selectivity across the Plio-Pleistocene extinction boundary. She graduated with a Ph.D. in Earth Sciences from the University of Southern California, where she worked with Dr. David Bottjer on the paleoecological recovery of marine benthic ecosystems in the aftermath of the Permian-Triassic mass extinction. She also worked on the evolution and molecular developmental biology of echinoids (sea urchins) with collaborator Dr. Eric Davidson at California Institute of Technology. As a post-doctoral researcher, she worked on the NSF-funded initiative Earth-Life Transitions with Dr. Frank Corsetti. She spent a year as a post-doctoral researcher at the University of Florida, working in the Florida Museum of Natural History with Dr. Michal Kowalewski. Her work there involved documenting the trend of escalating drilling predation targeting sea urchins during the Cretaceous and Paleogene. Broadly, my research interests lie in understanding ecological and evolutionary trends across dynamic periods in Earth's history, as they relate to marine benthic invertebrate communities. Specifically, she is interested in ecosystem responses during interval of mass extinctions (e.g. the Permian-Triassic extinction) and mass radiations (e.g. the Mesozoic Marine Revolution), and she incorporates both paleobiological and paleoenvironmental data into understanding these events and their consequences.

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Field Trip Report

Jacksboro & Mineral Wells, Jacksboro, Texas, February 2019 (Erich Rose)

Saturday morning at 8am in Jacksboro proved cold and windy but the sky was clear, and held the promise of a beautiful day to come. We had a good turnout of 14 members and by 8:15 were on our way. We made it to the parking area by about 9 and everyone headed across the dam pushing against a rather strong wind. Once we were across the dam and up against the dark Finis Shale slope the warm Texas sun did its thing, and for the most part the weather was just fine for collecting fossils. Conditions were not nearly as muddy as years past and everyone started finding fossils right away. I saw a nice mix of specimens being collected by everyone. For me it was the day of the Conularids. I came across a small area that produced at least 18 blue, black, red and gray complete and partial cones. With those in hand I was feeling pretty good and only hoped to find a few more unusual items. My luck held and I found my first complete Rostroconch from this site as well as a few nice goniatites and some "better" versions of species already in the collection. Others were doing equally as well and I saw "keepers" in everyone's trays or bags.

Walking back across the dam the, even stronger, late afternoon wind tried to steal a few hats capping the day at Lost Creek Reservoir.

The next day we met up at the McDonalds in Mineral Wells and headed on to the Union Hill Road Cut. That site is the Salesville Shale member of the Mineral Wells Formation and is best known for the odd stemless crinoid Paragassizocrinus. We all immediately went for the sunny side as the temperature was colder than the day before although not windy. Eventually the sun and our club had covered the entire cut and we decided to move on to a bigger site.

We headed off a few miles further north and west to a large embankment along Hwy 337 about 5.5 miles north of US 180. There we collected fossils from rubbly weathering limestone, sandstone and shale. The formation is Mineral Wells and, based on the written descriptions, we were probably in the Village Bend Limestone member. ** A rich variety of brachiopods, corals, crinoids,

bryozoan, sponges and mollusks kept everyone busy well into the afternoon. I picked up three crinoid cups and lots of other new fossils. When Mike Smith and I headed home around three there only a few members still collecting under the warm clear sky.

****** Note that my handout listed this site as being Keechi Creek member. That was based on an old paper but Mike Smith did his homework and found the Village Bend member was a closer lithological match. Both are part of the Mineral Wells Formation.

Some fossil finds

Emerson fossil hunting

PSoA at the Lake Jacksboro site

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Special Notices

** Congratulations to PSoA member & Webmaster Gordon Galligher! **

It was announced at the South Central Federation of Mineral Societies 2019 Annual Meeting in January that Gordon Galligher of the Paleontological Society of Austin was the first place winner of the SCFMS Web Site Contest. The Web Site Contest is held to highlight that club Web Sites serve several functions. Three of the major functions of the Web Site are:

(1) Attract new members

(2) Provide member information

(3) Assist the Club in fulfilling the Club's Mission.

** 2 Upcoming Gem & Mineral Shows **

THE 59TH ANNUAL
WACO GEM & MINERAL SHOW!!
EXTRACO EVENTS CENTER
4601 Bosque Blvd. Waco, TX

Saturday May 4th: 9 a.m. – 6 p.m.
Sunday May 5th: 10 a.m.— 5 p.m.

Admission: $5.00 ea.
Kiddo's 10 and under $1.00!!

Come join the fun and adventure in finding your new treasures!! Demonstrations, Door Prizes, Silent Auction, Children's Activities, Jewelry, Precious Stones, Geodes, Crystals, Fossils, Rare Minerals and so much more!! We will have concessions to keep your energy levels going! Visit our site www.wacogemandmineral.org.

Arlington Gem and Mineral Club
June 29, 9-6
& June 30, 10-5
Grapevine Convention Center
1209 S. Main Street
Grapevine, TX 76051
Admission ranges from FREE to $6
Check out details on www.agemclub.org

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Odds and Ends

Prehistoric Crocodile Cousin Crushed the Bones of Its Prey Long Before T. Rex

Over 130 million years before T. rex walked the Earth, a relative of today's crocodiles smashed through bones with robust teeth and pulverizing jaws. Fossils of a 205-million-year-old carnivore named *Smok wawelski* (*Smok* means "dragon" in Polish) uncovered in 2007 at a Polish site called Lisowice.

Read more at https://www.smithsonianmag.com/science-nature/prehistoric-crocodile-cousin-crushed-bones-its-prey-long-t-rex-180971423/

Ancient rock wiggles could be earliest trace of moving organism

Scientists say 2.1bn-year-old fossils may show evidence of self-propelled motion.

Read more at https://www.theguardian.com/science/2019/feb/11/wiggly-structures-in-ancient-rocks-could-be-earliest-trace-of-moving-organism

Map Lets You Plug in Your Address to See How It's Changed Over the Past 750 Million Years

The interactive tool enables users to hone in on a specific location and visualize how it has evolved between the Cryogenian Period and the present.

Read more at https://www.smithsonianmag.com/smart-news/map-lets-you-plug-your-address-see-how-neighborhood-has-changed-over-past-750-million-years-180971507/

Researchers found spider fossils from 110 million years ago. The eyes still glowed

A collection of spider fossils was discovered in South Korea, including two with eyes that appeared to glow. The fossils were discovered in an area of shale rock in South Korea called the Jinju Formation.

Read more at https://www.usatoday.com/story/news/2019/02/18/spider-fossil-110-million-years-ago-still-had-glowing-eyes-study/2903215002/

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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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The Paleontological Society of Austin is a member of and affiliated with:

South Central Federation of Mineral Societies & **American Federation of Mineralogical Societies**

PALEONTOLOGICAL SOCIETY OF AUSTIN