

THE FOSSIL RECORD



NEXT MEETING: WEDNESDAY, NOVEMBER 10TH... ONLINE!

WHY IS THE DALLAS-FORT WORTH METROPLEX HERE?

If thinking of our species or individuals, evolution and our parents. But why so MANY of us here in North Texas? Why did a gigantic metroplex grow here, alternately exposing the rocks beneath and then covering them in concrete and grass? Geology provides an explanation for why our city is located here and how it has grown. Join us for our next meeting on **Wednesday, October 13th**, when Dr. **Bob Stern**, of the **University of Texas at Dallas**, will speak on **"Why is the Dallas-Fort Worth Metroplex here?"** We will start the online meeting on Zoom at **6:30pm Central Time**, with informal chat and fossil show-and-tell, and the formal meeting will start at **7:00pm**.

Bob Stern began studying Political Science at the University of California at Davis, but fortunately switched majors and earned a BS in Geology in 1974. He then earned his PhD degree in 1979 from the University of California San Diego (Scripps Institution of Oceanography) for his research on Precambrian volcanic rocks in the Eastern Desert of Egypt. After a post-doc fellowship at the Carnegie Institution of Washington, he joined the University of Texas at Dallas in 1982, and has been here ever since. He continued with his work on the ancient crust of the African and Arabian plates, but then also began to research modern plate interactions, particularly the Mariana island arc in the southwest Pacific. He participated in fifteen marine geology cruises and twenty international field expeditions, resulting in over 160 papers, including many important contributions on subduction and tectonics, and a lively debate on when modern plate tectonics began on earth.

In addition to using igneous rocks to understand how continental crust forms, he has researched the evolution of the Gulf of Mexico and the Ouachita Mountains, and the geology of our area. Recently, he began teaching geology students to communicate their science with short educational videos, and formed the UTD GeoScienceStudio at <https://utdgss2016.wixsite.com/utdgss>, with a YouTube channel at <https://www.youtube.com/channel/UCGRcGfZpcWMCihRgpCrjXFA>. His students have produced videos on volcanoes and plate tectonics, but also on topics of interest to fossil collectors, such as how fossils form, the Burgess Shale fauna, trilobites, and what Dallas looked like 100 million years ago.

Please continue to the next page (page 2) for instructions on how to register on Zoom and join the meeting live online...

NOVEMBER DPS MEETING (LIVE ONLINE): HOW TO JOIN US

by Tom Dill

We recommended creating a free **Zoom** account at <https://zoom.us> before the meeting (and you will receive a confirmation email), and then installing the Zoom application on your computer (Mac, PC, or Linux). You can also get the app for tablets and phones from the Apple or Android app stores, then click on this link to join the meeting on **Wednesday, November 10th at 6:30pm Central Time** for informal chat and show-and-tell of fossils, with the formal meeting starting at **7:00pm Central Time**:

<https://us06web.zoom.us/j/88129963433>

If you haven't used Zoom before, join early and you can test your audio and video; and if you cannot install the application, you can also use a web browser (they recommend Google Chrome). Or start the Zoom app and join the **meeting ID of 881 2996 3433** and **passcode is 766129**.

If you move your mouse over the Zoom window, controls will appear where you can turn on and off your audio and video "feeds" to the meeting. Remember that you are on camera to the world and, if your audio feed is on when you cough or the dog barks, Zoom will switch the focus to you. So, please be respectful and mute your audio until you want to talk. Make yourself familiar with the Zoom controls, which appear when you move the mouse over the window, and learn where and how to turn on and off (mute) your audio, and your video feed. Be aware that your spacebar also mutes and unmutes your microphone (you can change that setting also).

During the presentations, we will mute everyone's audio, but if you come in late, be sure to mute yourself. You can submit questions for the speaker in the chat box, typing "QUESTION" to make them stand out. We will read them at the end in the order received. We would love to see you (appropriately dressed) and hear you (at the appropriate times) at our next meeting!

We hope to see you there!

Satellite photo of the Dallas-Fort Worth area.



NOVEMBER 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7 Daylight Savings Time	8 STEM/STEAM Day	9	10 DPS Monthly Meeting 	11 Veterans Day	12	13
14	15	16	17 DPS Monthly Executive Meeting 	18	19	20
21	22	23	24	25 Thanksgiving	26 Native American Heritage Day	27
28 Hannukah	29	30	Visit dallaspaleo.org for most up-to-date information and further details.			

HOLIDAYS AT THE HEARD

by Heard Natural Science Museum and Wildlife Sanctuary

Holidays at the Heard brings the beauty of the holiday season into nature. Bundle up your family, get out of the house, and experience the most unique family-friendly holiday event in North Texas. A Fun, Festive and Family-Friendly Fundraising Event that benefits Heard Natural Science Museum & Wildlife Sanctuary and its many programs!

Holiday lights and décor will accentuate a lovely half-mile Heard nature trail. Your family will be enchanted by this nighttime hike through the woods. Also, you'll get a glimpse of the "Dinosaurs Live!" exhibit along the trail. Please note that the dinosaurs will not be animated during the event. In keeping with the Heard's role as a nature preserve, this light display is designed to enhance, rather than overpower, the sanctuary's natural beauty. Live, festive music will delight audiences under the stars in the Heard outdoor amphitheater.



Scheduled for Friday, December 17th and Saturday, December 18th from 6pm to 9pm.

For more details, check out their website at: <http://www.heardmuseum.org/holidays-at-the-heard/>

PARTYING WITH THE DPS PRESIDENT

by Estée Easley

Our holiday party will be on December 8th. Based on our planning meeting, we have good news and not so good news:

- We get our old room at Brookhaven Building H.
- We will not be setting up Zoom for this event.
- No food will be served; don't bring food.
- Masks should be worn at all times,
- Soft drinks with straws will be provided.
- Live auction and silent auction for our fundraiser.
- Election of the 2022 leadership team.
- Volunteers needed for little activities at the event; email hospitality@dallaspaleo.org.

I look forward to seeing so many of you in December!

CHRISTMAS PARTY AND HOLIDAY AUCTION

Event Announcement by Lucia Smith

Date: December 8, 2021

Location: Brookhaven College
3939 Valley View Lane
Building H
Farmers Branch, Texas 75244

Due to COVID, we unfortunately will not be serving food this year, but we will have assortment of drinks with straws so that we can keep our masks on.

We need donation items for the Silent and Live auctions. Email hospitality@dallaspaleo.org for pick up arrangements. There should be a form for the donation items on the last page of this newsletter. It may be photocopied if there is more than one item. Each item needs a form.

We are also looking for volunteers to assist with the auction:

- 2-3 people to help with check in
- 2-3 people to help with check out
- 2 people to spot bids for the live auction
- 2-3 people to close out rows and collect pens and forms

Please contact hospitality@dallaspaleo.org if you are willing to help.

Thank you and hope to see you on December 8!



DPS 2022 ELECTIONS

Announcement by Rocky Manning

December Elections are coming!

The constitution of the Dallas Paleontological Society calls out five elected offices: President, Vice President, Secretary, Editor, and Treasurer. Elections are held in December of every year; only DPS members are eligible to vote. Terms are for one year and the same person cannot serve more than two terms in a row. The DPS advisors are responsible for selecting a Nominating Committee.

December will be here soon. If you are interested in running for office or helping with nominations, please contact **Rocky Manning** (manningr11@gmail.com), **Philip Scoggins** (pscoggins@tx.rr.com), or **Roger Farish** (rfarish@verizon.net). The Nominating Committee is responsible for nominating DPS members who are interested in running for an office.



Duties of the offices are:

- **President:** The President shall be the principal officer of the Society and shall exercise general supervision of the property, affairs, and business of the Society, except such as shall be delegated by the President to others. The President shall sign all documents that the Executive Committee has authorized to be executed, except in cases where the signing is expressly delegated to some other officer or agent of the Society. The President shall have the powers and perform the duties usually pertaining to the office or as may be delegated by the Executive Committee.
- **Vice President:** In the absence of the President or in the event of the President's inability to perform the duties of the office, the Vice President shall assume the duties of the President. In doing so, the Vice President shall have all the powers of and be subject to the restrictions of the President. The Vice President shall be responsible for external publicity and shall perform other duties as may be assigned by the President or the Executive Committee.
- **Secretary:** The Secretary shall be responsible for keeping the minutes of all regular monthly meetings and meetings of the Executive Committee and shall keep and file all records pertaining to the Society. The Secretary shall handle correspondence where needed.
- **Treasurer:** The Treasurer shall care for all funds and financial papers of the Society, arrange for an annual audit, and assist in the preparation of the annual budget. The Treasurer shall be responsible with the President for disbursing funds belonging to the Society and shall prepare all annual corporate exhibits, reports, and tax returns required by Federal and local governments.
- **Editor:** The Editor shall compile a monthly newsletter and ensure that it is distributed as early in the month as possible. In addition, the Editor shall publish any other articles or publications deemed necessary by the Executive Committee. The Editor shall edit all articles submitted to be published under the auspices of the Society unless otherwise directed by the Executive Committee.

DPS OCTOBER MEETING: “TERRIBLE TEENAGE THEROPODS”

Lecture Overview by Fernando Juan Antonio Correa-Corchado

Case of the Cretaceous Mid-Size Theropods!

160 million years of non-avian dinosaur dominance, colonization of all seven continents and virtually every biome, and... only 1,850 dinosaur species? That may seem like a huge number, but consider how long these creatures were around and compare it to the 6,495 species of modern mammals and 10,000 species of modern birds, and it becomes clear that is an under-represented species count.



A female juvenile *Tyrannosaurus rex*.

Paleontologist Kat Schroeder gave us a presentation last month on her new groundbreaking research into this mystery. Schroeder first started at the local communities to evaluate their dinosaur mass distribution structures. She hypothesized that interactions between different species, or between species and the environment, would alter local mass distributions and differentiate them from the global distribution. The global distribution was left skewed, meaning a majority of dinosaurs were titans. A dataset of 380,000 occurrences of dinosaurs recorded in the Paleobiology Database was compiled and broken down into 43 communities from across the world, covering all biomes and latitudes, and more than 500 dinosaur species.

The result is that the mass distributions of all 43 communities were similar to each other but disparate from the global mass distribution, indicating that an environmental force was at play in shaping the local communities. Carnivore and herbivore mass distributions were examined to see which was responsible. Local herbivore mass distributions matched very well with global distributions since most of them were large and the environment allowed them to reach huge sizes. Carnivores, in contrast, were distinct from the global distribution and therefore, guilty of causing the distribution gap.

Continued next page

DPS OCTOBER MEETING CON'T

A correlation emerged, which explained the carnivore mass distributions in these communities: If megatheropods, or theropods larger than 1,000 kilograms, are present, all of the medium size carnivore between 100 and 1,000 kilograms are missing. But in communities that do not have megatheropods, this gap is not present. This suggests that perhaps the megatheropods were involved in ecological impacts that drove other rival theropods to extinction. Knowing that juvenile tyrannosaurs were small and speedy hunters going after tinier prey, as opposed to their adult heavy-weight relatives, a theory arose suggesting that juvenile tyrannosaurs out-competed other medium-sized theropods, resulting in lower diversity.



A male *Siats meekorum*.

To test this, the survivorship of megatheropods was analyzed. It was found that young tyrannosaurs hatched *en masse* with many of them dying similar to baby sea turtles. They were safe from predation once 4-5 feet in height and able to reproduce and lay lots of eggs at 15 years of age. Then, the growth rate of megatheropods was examined. What was found was that the majority of a tyrannosaur's life time was spent as a sub adult or juvenile. All of this data was applied to biomass, which compares the collective mass between all individual juveniles and adults. The relative proportions between juveniles and adult megatheropods was applied to the carnivore mass distributions of the communities examined, and it showed that juveniles filled in all of the gaps of medium-sized carnivores in all of the communities.

The evidence points to the theory that young tyrannosaurs took over the ecological role of medium-sized carnivores, out-competing other more archaic theropod lineages that once held that role. The allosauroids of the Jurassic were the apex big boys of their days, but times had changed, and as the golden age of sauropods came to an end in the Cretaceous and new carnivores arose to take on the new herbivores, the allosauroids and other Jurassic theropods were denied a seat at the table.

Schroeder is not done with her research. She is now searching for answers on new questions born from her breakthrough research. How did tyrannosaurs conquer the Northern hemisphere? How stable was the megatheropod niche from the Jurassic to the Cretaceous? How did the gap in medium carnivores that started in the Jurassic explode in the Cretaceous? Did the juvenile tyrannosaurs assume the ecological job of dromaeosaurs or allosaurs? Only time, new fossils, and continued work from the paleontological community will tell...

DPS “NATIONAL FOSSIL DAY” SCRAPBOOK

Complied by Diane N. Tran

In celebration of National Fossil Day and Earth Science Week in October, DPS attended “Fossil Fest” at Billings Productions, also known as The Dinosaur Company (Allen, TX), “Crazy Fossil Dig” at Mineral Wells Fossil Park (Mineral Wells, TX), NSR Fossil Dig at Ladonia (Temporary) Fossil Park (Ladonia, TX), and FOSSILMANIA (Glen Rose, TX).



DPS member Roger. hunted by a Billings Productions’ Creature Corral (top left); DPS members Diane, Gen, and Kate, with *Utahraptor* (top right); phylogeny of archosaurs to modern-day birds with toys, created by DPS member Andrew “Dino Dad” Stück (bottom left); and *Diadectes* skull from Texas Through Time (bottom right).

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DPS "NATIONAL FOSSIL DAY" SCRAPBOOK CON'T



Ammonite and whale vertebra from Ladonia Fossil Park.



Assorted fossils from Mineral Wells Fossil Park.



DPS member Roger, with a shark drone, at FOSSILMANIA.



FOSSILMANIA!

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DPS “NATIONAL FOSSIL DAY” SCRAPBOOK CON’T 2

Fossils, fossils, fossils at FOSSILMANIA! (three left).



Applause all around for DPS member Joseph O’Neil, our organizer of FOSSILMANIA.



DPS President Estée at FOSSILMANIA (middle right).

Skull replicas at FOSSILMANIA (bottom right).

A 'NANO' VACATION FULL OF MEGA ADVENTURE (MORRISON, CO)

by Laura Peterson

When travelling to Colorado, visiting the Morrison Natural History Museum (MNHM) is always a must-do. Nestled across from Dinosaur Ridge, which is infamous for an incredible trail of dinosaur fossils and tracks, the MNHM sits in the heart of incredible paleontology history.

Museum Director Matthew Mossbrucker takes great pride in carefully curating the exhibits throughout the museum. Expert tour guides take guests on exciting journey through the exhibits, ensuring each visitor leaves with a wealth of knowledge and fueled curiosity for everything prehistoric. Guests are invited to get hands-on and touch the fossils and displays for a truly unique museum experience.

During our most recent visit, my husband and I had the incredible opportunity to take the hands-on aspect of the museum to the next level. We were invited to assist Matthew and the Morrison team with the assemblage of the *Nanotyrannus* display!

Meaning "dwarf tyrant," *Nanotyrannus* is a highly dubious genus of tyrannosaurid, as it is the fourth smallest known specimen and was one of the last tyrannosaurids to exist before the Cretaceous-Tertiary mass extinction. Opinions continue to remain over its validity, as it is a possible juvenile of a *Tyrannosaurus*. In either case, an adult *Nanotyrannus* has yet to be found, nor has a juvenile *T. rex* of the same size for that matter; and they are so morphologically distinct from each other (as the *Nanotyrannus* has a higher number of teeth and has the presence of fused bones) that led paleontologists to recommend keeping them as two separate genera until further research and/or discoveries could possibly clarify the situation.



We started by unloading a large crate labeled 'NANO' from the back of a pickup truck. When opened, a variety of bones lining the crate walls were revealed. We immediately got to work, loosening each piece, and carefully carrying them into the museum. Thankfully, the team wasn't relying on my strength alone — some pieces, like the rib cage, were almost as big as I am!

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A 'NANO' VACATION FULL OF MEGA ADVENTURE CON'T

Inside the museum, we got to assembling starting with the base and ending with the skull. Matthew helped to direct us on where to place each piece, and how we could tell where it should go. For example, how to know which arm goes on which side of the body based on the placement of the 'thumb' claws.

I had the honor of placing the head on the beast, which was a bit of a challenge. It was heavy; but with the help of a step stool, I was able to successfully complete the dinosaur!

The *Nanotyrannus* is now on display at the MNHM. Be sure to visit next time you're in Colorado!

For more information visit: <http://www.mnhm.org>.



LAKE LEWISVILLE FIELD TRIP

Event Overview by Kim Pervis

Sunday, October 24th, 2021 the Dallas Paleontological Society (DPS) hosted a field trip to the Lake Lewisville Spillway. It has been a long time since the Army Corp of Engineers had granted the DPS permission for such a field trip to the spillway. So, it was a special day and all of us were excited at the prospect of hunting the site.

Within 24 hours of registration opening up the trip was full. I we will see if we can arrange another field trip in early 2022 to the site for those who were not able to make it the first time.

The Lake Lewisville Spillway has a very large exposure of the Britton Formation. The *Sciponoceras* zone is exposed. *Sciponoceras* is a type of baculites, but not within the genus of *Baculites*. It is a bit smaller than most of the Baculites. The Britton Formation is known for its decapods or crustaceans such as crabs and lobsters. *Ferronania dichorus*, *Upogebia rhancheochir*, and *Cenomanocarcinus* crabs can be found there and, two species of *Linuparus*, and a number of other decapods are found there within concretions that are not easy to prep. There are also around fifteen to eighteen different types of cephalopods that can be found there along with so much more.

It started out as an overcast day in the 60s, but cleared up and warmed up quite a bit by the time we needed to leave. At the end of the five-hour hunt everyone was in good spirits and seemed quite happy with their finds.

Here is a picture of the site from above and some of the fossils different people found:



Looking down on the spillway site from up on the hill. Note the patches of brick red color. These are concretions (top right). *Ophiomorpha nodosa* tunnel lined with fecal pellets, possible maker is the *Upogebia* mud lobster (middle right).

Ferronania dichorus crab in concretion (bottom left); concretion plate full of *Sciponoceras gracile* baculites and a bivalve (bottom middle); and decapod burrow in concretion with a turnaround termination (bottom right).



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LAKE LEWISVILLE FIELD TRIP CON'T



Euomphaloceras septemseriatum ammonite (left); decapod claw fragment (middle); and Beautiful blue decapod leg fragment in concretion (right).

PIN ON THE EDITOR'S HAT

Series by Diane N. Tran

Since joining the DPS, my hat, which is covered with paleo-related enamel pins, has garnered much attention and every month will spotlight a different pin:

A member of the extinct machairodont subfamily of the felids, *Smilodon populator* (from [KikiDoodle](#)), meaning “populated double-edged knife tooth,” is popularly, but incorrectly, referred to as a “saber-toothed tiger”; however, the genus is not closely related to tigers or modern cats (Felidae). Overall, *Smilodon* was more robustly built than any extant big cat, with particularly well-developed forelimbs with relatively short feet, and exceptionally long upper canine teeth, measuring 11 inches (28 cm) at its longest; these canines were slender but fragile, being adapted for precision killing, and had fine serrations on the front and back side.



Smilodon primarily hunted large mammals: Isotopic analysis for *S. populator* suggests that its main prey species included *Toxodon platensis*, *Pachyarmatherium*, *Holmesina*, species of the genus *Panochthus*, *Palaeolama*, *Catonyx*, *Equus neogeus*, and the crocodylian *Caiman latirostris*; and this indicated that *Smilodon*, specifically *S. populator*, hunted both in open and forested habitats. The brain of *Smilodon* had sulcal patterns similar to modern cats, which suggests an increased complexity of the regions that control the sense of hearing, sight, and coordination of the limbs. Felid saber-tooths in general had relatively small eyes that were not as forward-facing as those of modern cats, which have good binocular vision to help them move in trees, so *Smilodon* was likely an ambush predator that concealed itself in dense vegetation, as its limb proportions were similar to modern forest dwelling cats, and its short tail would not have helped it balance while running. Its heel bone was fairly long, suggesting it was a good jumper. Because its canines were so fragile, it could not have bitten into bone; due to the risk of breaking, these cats had to subdue and restrain their prey with their powerful forelimbs before they could use their canines, and likely used quick slashing or stabbing bites rather than the slow, suffocating bites typically used by modern cats.

WOMEN IN PALEONTOLOGY: ELIZABETH JOAN ECHOLS

A Tribute by Tom Vance

One of the few honorary members of the Dallas Paleontological Society is the late Dr. Joan Echols. Joan was instrumental in building the paleontological holdings for the Department of Earth Sciences, East Texas State University. The collections provided her with material to research and publish. Unfortunately, a biography of her life and bibliography of her publications has never appeared. This paper serves to fill that void.

Introduction

One of my memories as a student attending East Texas State University (currently Texas A&M University @ Commerce) was meeting Dr. Joan Echols of the Department of Earth Sciences. This occurred about the time she had turned in her dissertation for her Ph.D. to the University of Oklahoma. At the time, I was a transfer student finishing one of my degrees in biology and Earth science. She had acquired a palatine bone from the Lake Tawakoni area and I was allowed to examine it in order to determine if it was fish, amphibian or reptile. It turned out to be from a Pleistocene fish.

Joan Echols was born to Ben Russell Echols and Edna Bollinger Echols on January 31, 1932, in Dayton, Ohio. She attended Ohio State University and received her B.S. in 1955 with a major in geology. She continued her education by attending the University of Texas and earned her M. S. in geology in 1959. Her master's thesis was "MICROFAUNA AND BIOSTRATIGRAPHY OF THE UPPER STRAWN GROUP, EASTLAND AND PALO PINTO COUNTIES, TEXAS." From 1960-1964, Joan attended the University of Kansas majoring in zoology with the possibility of working toward a Ph.D. She later transferred to the University of Oklahoma and finally earned her Ph.D. in geology in 1972. Her dissertation was "BIOSTRATIGRAPHY AND REPTILE FAUNAS OF THE UPPER AUSTIN AND TAYLOR GROUPS (UPPER CRETACEOUS) OF TEXAS, WITH SPECIAL REFERENCE TO HUNT, FANNIN, LAMAR AND DELTA COUNTIES, TEXAS."

While working on her post-master's work at the University of Kansas, Joan was employed as a research assistant in 1962. She also worked as a graduate assistant and as a special instructor in the Geology Department while attending the University of Oklahoma. She hired on at East Texas State University during the fall of 1964 as an instructor of Earth Science. After earning her Ph. D., she was elevated to the rank of Assistant Professor. Although she published very little of her work, Dr. Echols was involved with classroom teaching and advising students in the geology program. Among her first paleontological projects in 1965 was the excavation of a near complete mosasaur skull discovered in the lower Taylor shale near Commerce as well as a bone of *Ichthyornis* from the Roxton limestone of the Gober Formation east of Gober, Fannin County. In 1969, she recovered eight partial skeletons of mosasaurs after three years of field work on the North Sulphur River. The site also yielded a couple of plesiosaurs, ichthyosaur material and fish, turtle and snake fossils. She incorporated the various fossil elements into her Ph.D. dissertation (*McKinney Courier-Gazette*, Aug. 19, 1969: 3).



Dr. Joan Echols in *McKinney Courier-Gazette*, August 1969.

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WOMEN IN PALEONTOLOGY CON'T

Dr. Echols was a member of several organizations during her tenure at East Texas State University. She belonged to the American Association of Petroleum Geologists, Society of Economic Paleontologists and Mineralogists, National Association of Geology Teachers, the Botanical Research Institute of Texas and the Society of Vertebrate Paleontology. She was also inducted as a member of Sigma Xi (The Scientific Research Society).

She took a two-year sabbatical from teaching to work on her Ph.D. mentioned above. Afterward, Dr. Echols returned to Commerce to continue teaching and to work on other projects. She involved her students in field work collecting fossils from Cretaceous and Pleistocene localities in the region. During this time, they discovered the remains of a mammoth and bison in the South Sulphur River near Commerce. An outcropping of Nacatosh sand of the Navarro Group produced bones of *Halisaurus* and, possibly, *Ischyryza* along with turtle fragments. Eventually, the department acquired the partial cranium of a musk ox from the surface of a gravel bar in the South Sulphur River near the university.

In December, 1979, a student from Lamar Junior High School, Derek Saunders, discovered a stained bone fragment while riding his bicycle near Senter Park. He brought the bone to his 6th grade teacher who in turn sent it to Joan Echols. Joan identified the bone as being from a mammoth that lived about 12,000 years ago. The discovery attracted the attention of the Dallas media and Derek Saunders was invited to appear on the popular morning news program ABC-TV's *Good Morning America* (*Irving Daily News*, Dec. 9, 1979).

Then, in 1997, East Texas State University became a part of the Texas A&M University system and the name was changed to Texas A&M University at Commerce. This was a name change that made many former students quite angry. The change also came with the merging of the Department of Earth Science with the Biology Department. As a result, paleontology languished and eventually came to an end.

Although Dr. Echols sensed the changes to come, she was nevertheless crushed by the idea of the mergers. In August of 1995, she retired from the university after thirty-one years. The collection of Mesozoic and Cenozoic fossils collected by Dr. Echols and her students was eventually donated to the University of Texas Vertebrate Paleontology Laboratory and the Non-vertebrate Paleontology Laboratory. Her retirement gave her time to travel and visit localities she considered interesting as a paleontologist and geologist. One place in particular was a visit to Iceland which she dearly enjoyed.

My memory of Dr. Echols is that of a mentoring professor who had a friendly, caring and helpful personality. She had the ability to stimulate her students to work in the field and thrilled with their discoveries. She was always a cheerful member of the department. When not keeping occupied with the academia, she enjoyed bird watching, sewing and reading. Dr. Echols spoke at meetings of the Dallas Paleontological Society and taught classes, which attracted society members as students. Her topics often involved the Upper Cretaceous formations and organisms of the North Texas area, but she concentrated on the Sulphur River fossils. Ammonites were among her favorite invertebrates. Her enthusiasm was contagious, and, as a result for the great amount of respect she had garnered, she was made an Honorary Lifetime Member of the Dallas Paleontological Society in 1985 (Anon, 1985: *The Fossil Record* 2(8):1; 1986: *The Fossil Record* 2(5):1).

Sometime between February 18th and 20th, 2013, Dr. Echols died at her home in Commerce at the age of 81. She did not leave a family and had never married. Graveside services were conducted at Rosemound Cemetery, Commerce.

Acknowledgment: I wish to thank Marlee Neeley, Communications and Events Coordinator of the Alumni Relations, of Texas A&M University at Commerce for providing me with some of the information used above.

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WOMEN IN PALEONTOLOGY CON'T

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Right humerus of *Ichthyornis dispar*.

Taken from "The Fossil Bird *Ichthyornis* in the Cretaceous of Texas," by David C. Parris and Joan Echols, published in *The Texas Journal of Science*, Volume 44, Number 2, May 1992: 204.



THE HISTORY CORNER

by Bob Williams

Introducing a new feature in *The Fossil Record*:

The "Corner" will help new members learn and long-timers remember some events from our past. Anyone with questions or suggestions for content can email me at historian@dallaspaleo.org and I will try to dig up those bones for you. I would also like to hear from anyone who can fill in any of the missing years in the lists below. These will appear soon on the history page of our website. This month we feature the members who have earned recognition in the form of special awards given out by the Society and the story behind the decision to offer the awards.

The Lifetime Achievement Award

This award was conceived to honor William Lowe, DPS founder, VP, President, and guiding force during the early years of the DPS. It was awarded in 1996 or 1997. The Lifetime Achievement Award became the William Lowe Lifetime Achievement Award in 2020.

- William Lowe
- Ken Smith (posthumously)
- Roger Farish
- Mark McKinzie
- Irene Stemple
- Tom Vance

Presidential Award

DPS founder Ken Smith came up with the idea for an award to be given to a DPS member that is not part of the formal leadership. The recipient would be selected by the president. The first Presidential Award was presented to Sam Liberato in 1996 by Rocky Manning. This award is presented at our annual auction and holiday party in December.

- | | |
|---------------------------|---------------------------------|
| • 1996 Sam Liberato | • 2012 Darlene Sumerfelt |
| • 1999 Fred Ransdell | • 2013 Joan and Richard Shepard |
| • 2000 Mark McKinzie | • 2014 Russell Sublette |
| • 2003 Gerald Bogan | • 2015 Rodney Wise |
| • 2006 Rocky Manning | • 2016 Bob Williams |
| • 2007 Fred Ransdell | • 2017 Rachell Peterson |
| • 2008 Lee Higginbotham | • 2018 Dan Eley |
| • 2009 Wayne Furstenwerth | • 2019 Kim Pervis |
| • 2010 Polly Mullinnex | • 2020 Kirsten Adams |
| • 2011 Ed Swiatovy | |

For information about the reason that any member got their award, you can look in the *Fossil Record* archive in the members-only section of the website. The information can be found in the January issue of the year following the December meeting when they were handed out. Except for that "Williams" guy in 2016, they were all well-deserved; I think he just got it for not falling asleep at one of the functions...

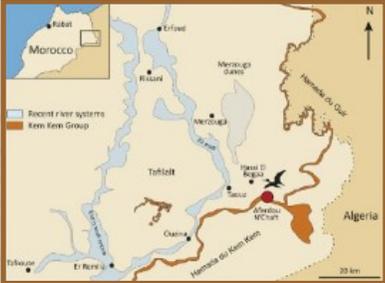
Now, get out there and make some history!

PALEONTOLOGY IN THE NEWS

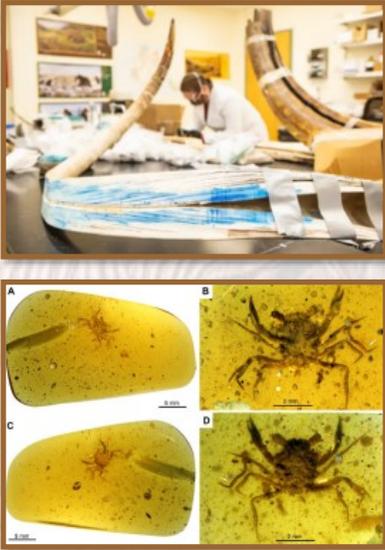
Compiled by Andrew “Dino Dad” Stück

- Two New Spinosaurs** ([Nature](#)) — Two new baryonichine spinosaurs have been described from the Isle of Wight, and given the names *Ceratosuchops* (“horned crocodile face”) and *Riparovenator* (“river hunter”). While they looked broadly similar in overall appearance, the details of their anatomy clearly differentiate the two. This is significant as they appear to have coexisted, suggesting that spinosaurs may have been better able to share their environments and partition niches between each other than previously suspected.


- Earliest Evidence of Dinosaur Herds** ([Nature](#)) — It has long been noted that smaller species of pterosaurs seem to disappear towards the Late Cretaceous, with the group increasingly represented almost exclusively by larger species. The favored hypothesis has been that birds outcompeted smaller pterosaurs, forcing pterosaurs to evolve into niches available to larger bodied animals. However, based on a new Kem Kem site in Morocco containing “small to very small” juvenile pterosaur specimens, a team including Nizar Ibrahim has concluded (much like the recent study on tyrannosaur ontogeny) that large bodied pterosaur species occupied different niches as they grew, including those previously filled by smaller species of pterosaurs. This means small pterosaurs were not replaced by birds, but by ontogenetic stages of larger pterosaurs, though the authors note that one can think of it not so much as small pterosaurs disappearing, but rather of small pterosaurs simply extending their size range throughout their life.


- A Mammoth's Life History** ([Science.org](#) or [Gizmodo](#)) — An international team of scientists operating out of the Alaska Stable Isotope Facility at the University of Alaska Fairbanks has published a life history of an individual mammoth that roamed Alaska 17,000 years ago. This male mammoth was represented by two complete tusks, a partial skull, and a partial mandible with teeth. The main effort of the study focused on the tusks, which were split lengthwise to reveal the growth lines inside, recording its life history from about age two to its relatively early death at age twenty-eight. By analyzing the isotope within each annual growth line of tusk, the scientists were able to trace out a rough idea of the individual's migration patterns, whether north, south, or inland. They found that its likely routes correlate with the migration patterns of modern caribou, and the movements of the first Beringian humans. The isotopic analysis even indicated that the mammoth met its early demise by starvation, suggesting it suffered through some sort of period of famine.


- Crab in Amber** ([Science.org](#)) — The first known crab preserved in amber has been reported from the Cretaceous of Myanmar. Dated to approximately 100 million years old, it is a very well-preserved specimen, preserving compound eyes and gills, among other minute features. This has allowed researchers to place it within crown Eubrachyura, an identification which helps to bridge the gap between the date predicted for the divergence of freshwater crabs based on DNA (130 mya) and the previous earliest record of their appearance in the fossil record (75-50 mya).



DALLAS PALEONTOLOGICAL SOCIETY OFFICERS, COMMITTEE CHAIRS, AND ADVISORS

Elected Offices:

President	Estée Easley	president@dallaspaleo.org
Vice President	Kate Fenton	vp@dallaspaleo.org
Secretary	Genevieve Freix	secretary@dallaspaleo.org
Treasurer	Pam Lowers	treasurer@dallaspaleo.org
Editor	Diane N. Tran	editor@dallaspaleo.org

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Field Trips Chair	Kim Pervis	fieldtrips@dallaspaleo.org
Historian Chair	Bob Williams	historian@dallaspaleo.org
Hospitality Chair	Lucia Smith	hospitality@dallaspaleo.org
Membership Chair	[Group Effort]	membership@dallaspaleo.org
Programs Chair	Tom Dill	programs@dallaspaleo.org
Promotions Chair	Roger Farish	promotions@dallaspaleo.org
Publications Chair	[Group Effort]	publications@dallaspaleo.org
Scholarships Chair	Roland Gooch	scholarships@dallaspaleo.org
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DPS Advisors:

Philip Scoggins, Rocky Manning, Tom Dill

Professional Advisors:

Dr. Tony Fiorillo, SMU Shuler Museum
 Dr. Louis Jacobs, SMU Shuler Museum
 Dr. Merlynd Nestell, University of Texas at Arlington
 Dr. Ron Tykoski, Perot Museum of Nature and Science

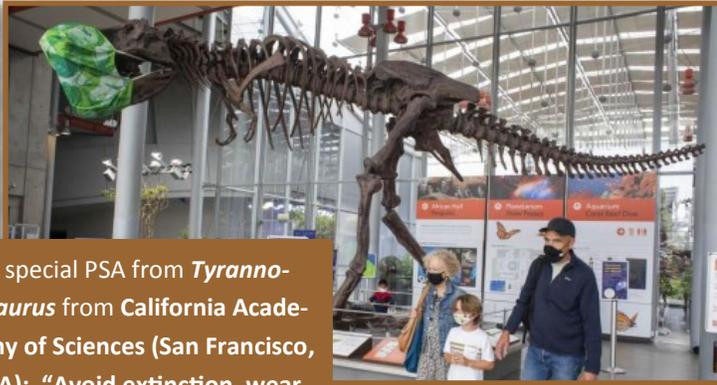
The Dallas Paleontological Society was founded in 1984 for the purpose of promoting interest in and knowledge of the science of paleontology. It was intended by the founding members that the Society would be a network for the exchange of data between professionals and serious amateurs in this field.

dallaspaleo.org

The Dallas Paleontological Society meets the second Wednesday of every month at 7:00pm at Brookhaven College, unless we have something special happening that month. Please [check our calendar](#) for exact dates. Original versions of minutes and treasury reports will be available upon requests. Come meet with us, hear a speaker, learn about paleontology, and bring your unidentified fossils and unique finds to share with the group. You will be welcome, and we will enjoy meeting you. For a map of our meeting location visit dallaspaleo.org/contact.

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A special PSA from *Tyrannosaurus* from California Academy of Sciences (San Francisco, CA): "Avoid extinction, wear a mask, and get vaccinated!"

- Livestreaming the DPS November meeting [online!](#)
- Overviews of the DPS October meeting, *Nanotyrannus* at Morrison Natural History Museum (Morrison, CO), and Lake Lewisville field trip (Lewisville, TX).
- DPS "National Fossil Day" Scrapbook, highlighting "Crazy Fossil Dig" at Mineral Wells Fossil Park (Mineral Wells, TX), Ladonia (Temporary) Fossil Park (Ladonia, TX), "Fossil Fest" at The Dinosaur Company (Allen, TX), and FOSSILMANIA (Glen Rose, TX).
- Event announcements for DPS Christmas Party and Holiday Auction, DPS Elections 2022, and Holidays at the Heard.
- "Women in Paleontology" special biography to Dr. Joan Echols, "Pin in the Editor's Hat," and introducing "The History Corner," etc.



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