

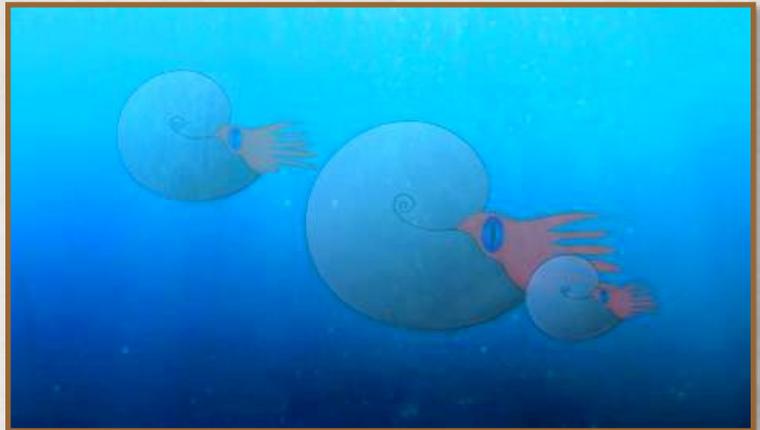
THE FOSSIL RECORD



NEXT MEETING: WEDNESDAY, SEPTEMBER 8TH... ONLINE!

AMMONITE ECOLOGY

Ammonites are the iconic Cretaceous fossils of North Texas. But they went extinct with the non-avian dinosaurs, so there are many questions about how they lived. Join us on **Wednesday, September 8th** to hear **Dr. Joshua Slattery** of Florida speak on “**The Ecological Role of Ammonites in the Late Cretaceous Seas of North America.**” 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**.



Joshua Slattery developed his interest in minerals and fossils growing up in the geological wonderland of Wyoming. As a youth he served as secretary, speaker chair, field trip chair, vice-president, and then president of the Cheyenne Mineral and Gem Society. He then went to the University of Wyoming in Laramie, earning a BS in Geology in 2007. For a time he examined pipeline, mine, and construction sites in Wyoming for various companies, rescuing fossils about to be destroyed. He moved to Tampa to earn an MS in Geology from the University of South Florida in 2011. For his thesis project he studied the Upper Cretaceous Pierre Shale in eastern Wyoming. He then expanded this work to a study of the paleogeography of the Western Interior Seaway, biostratigraphic zonation of the Late Cretaceous in the Gulf and Atlantic Coastal Plains, and the phylogeny of Baculites. He also analyzed methods for documenting evolution of clam shells by their shape, and applied these techniques to Cretaceous, Miocene, and Quaternary bivalves to earn his PhD from USF in 2019. Joshua has published part of this research in over ten papers, with several more in review, and over 30 abstracts of presentations. He is currently teaching at Eckerd College and Hillsborough Community College in Florida.

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

dallaspaleo.org

Hotline 817-355-4693

SEPTEMBER 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, September 8th at 6:30pm Central Time** for informal chat and show-and-tell of fossils, with the formal meeting starting at **7:00pm Central Time**:

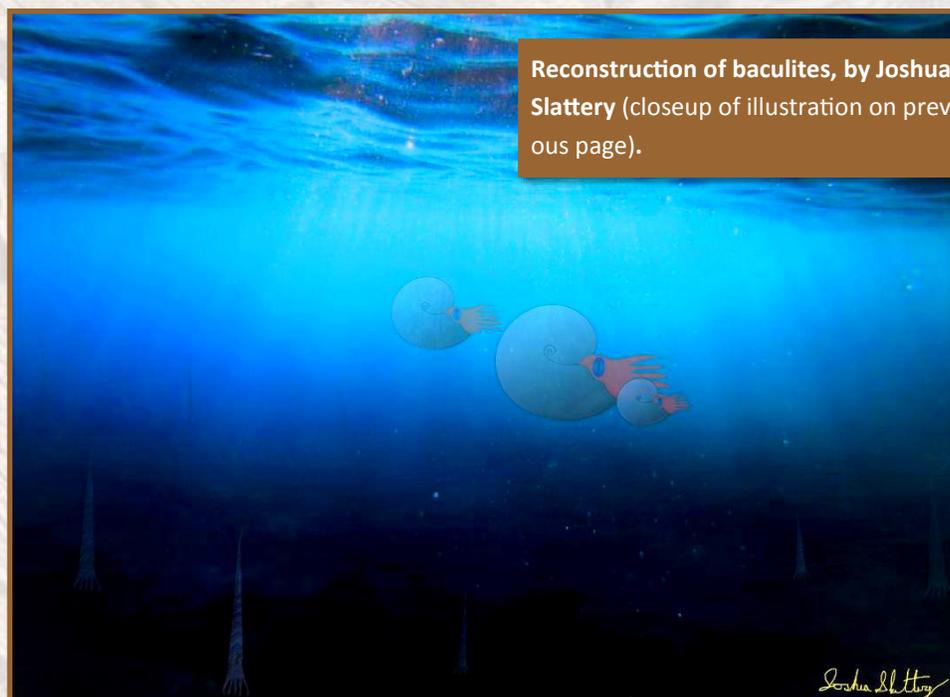
<http://us06web.zoom.us/j/84509166211>

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 845 0916 6211** and **passcode is 501953**.

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!



Reconstruction of baculites, by Joshua Slattery (closeup of illustration on previous page).

RECRUITING WITH THE DPS PRESIDENT

by Estée Easley

As you know, DPS is run by volunteers. We all have a common purpose, and we enjoy what we do to varying degrees. Of all the wonderful volunteer opportunities, there are five with a time restriction. The Elected Officers are the President, the Vice President, the Treasurer, the Secretary, and the Editor. We have a two-year term maximum at one time. Our current Editor, Diane Tran, is almost at the end of her term, and we need your help. We need someone to become the new Editor!

Help me reach out to all members asking for someone enthusiastic enough and computer-literate enough to take on this position. The volunteer will need to be voted into the position in December, but Diane is willing to provide guidance and support. It would be great to start training (and campaigning) now.

Benefits of being the Editor:

- Improving your skill set Flaunting your grammar prowess
- Helping the Society
- Expanding your knowledge
- Reading the submissions before anyone else
- Sharing great information
- Exploring your creativity
- Putting a prestigious position on your résumé or CV
- Helping the Society Voting on Executive decisions
- Receiving special event invitations
- Increasing your networking opportunities
- Providing a stronger sense of purpose
- Helping the Society

Please reach out if you would like more information for yourself or someone you might encourage at president@dallaspaleo.org.

NEED VOLUNTEERS FOR



October 29 - 31, 2021

Somervell Expo Center @ Glen Rose, TX

Volunteer opportunities include prep, set-up, take-down, education, promotion, merchandise, advertising, networking, and other activities. Free admission to FOSSILMANIA provided. Indoor and outdoor locations.

Contact education@dallaspaleo.org for further details.

SEPTEMBER 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6 Labor Day	7	8 DPS Monthly Meeting online	9	10	11
12	13	14	15 DPS Monthly Executive Meeting online	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Visit dallaspaleo.org for most up-to-date information and further details.

SAVE THE DATE FOR CHRISTMAS!

Event Announcement by Lucia Smith

SAVE THE DATE: DECEMBER 8, 2021

HOLIDAY PARTY/AUCTION AND MEETING

Come one, come all! Come and see all your paleontology friends **IN PERSON!**

We really need volunteers to bring your favorite *hors d'oeuvres*, appetizers, salads, vegetables, casseroles, or side dishes to accompany our Main Dish of Ham provided by DPS. Of course, breads, desserts or other treats to share will be welcome.

Location to listed at a later date.

Contact Lucia at hospitality@dallaspaleo.org to volunteer.



DPS AUGUST MEETING: “STRANGER THINGS”

Lecture Overview by Kim Pervis

On August 11, 2021, Steve Jorgensen presented his talk “Ontogeny of *Didymoceras*, Hyatt, 1894, Late Cretaceous (Middle and Upper Campanian) U.S. Western Interior.” He originally presented this talk in the 2010 at the 8th International Symposium on Cephalopods at the University of Burgundy in Dijon, France.

Didymoceras ammonites are heteromorph ammonites of the Nostoceratidae family. They are unusual in that they are largely helical in shape during earlier phases and have a retroversal body chamber during the adult phase. They are restricted to the upper Campanian to Maastrichtian of the Cretaceous. In Texas, *Didymoceras* can be found in the Taylor and Navarro Groups.

Ontogeny essentially refers to the growth stages of an organism. Cephalopods have something of an infantile phase where they are called ammonitella. It is the initial, originating, early whorl of an ammonite. There were four ontogenic stages of *Didymoceras* described in the presentation.

1. Juvenile
2. Adolescent
3. Sub-adult
4. Adult

Each species of *Didymoceras* has distinctive morphology at different stages that contribute to species level identification. Other features that help distinguish species are size, the shape of the whorl, diameter of the umbilicus, shell ornamentation and sutures. It may be of interest that the sub-adult whorls of the helical portion of *Didymoceras* may wind in the sinistral (counter clockwise) or dextral (clockwise). Both directions of coil are equally common.

The following section is a description of six different species of *Didymoceras* described in the presentation.

Didymoceras binodosum (also known as *Didymoceratoides binodosum*) the whorls grown in an open planispiral coil of approximately two whorls in the juvenile stage. The adolescent stage may present as an open non-contacting elliptical or planispiral whorls. The validity of *Didymoceratoides* as a genus is still in contention, by some authors, but still considered valid by Neal Larson and Wright *et al.* in the Treatise. The helical contacting whorls of the sub-adult have a medium umbilicus. The adult phase has a sharply curved retroversal body chamber whorl, meaning that it hooks backwards, changes directions and crosses back over the previous whorl stages. See Figure 1.

Didymoceras jorgenseni's juvenile stage is unknown. The adolescent phase has non-contacting, descending whorls. The sub-adult is helical, contacting whorls with a small umbilicus (meaning the coils are tight and the opening in through the center of the whorls is tight and narrow). The adult phase has a retroversal C-shaped body chamber. See Figure 2.

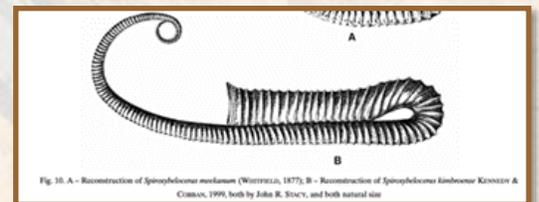
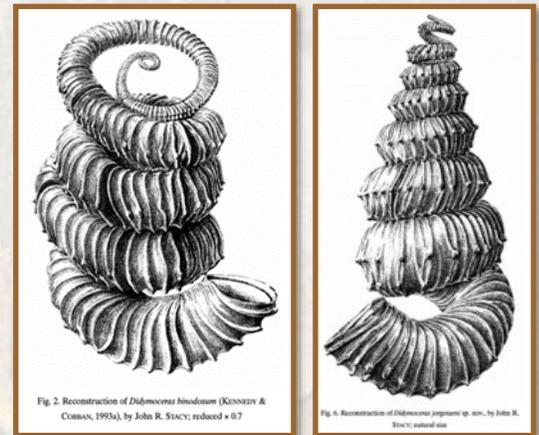


Figure 1 - 4 (top to bottom).

Continued next page

DPS AUGUST MEETING CON'T

Of special note that *Didymoceras jorgenseni* and *Didymoceras binodosum* occurred with *Spiroxybeloceras kimborensis*. See Figure 3.

This is a side note from the talk, but relevant to the topic as it pertains to Texas. It may be of interest since *Didymoceras binodosum* and *Spiroxybeloceras kimborensis* occur in the Bergstrom Formation of Texas, but *Didymoceras jorgenseni* has yet to be described there. Further investigation of the Bergstrom fauna and all Campanian and Maastrichtian age invertebrate fauna Texas is needed. The majority of our knowledge of Campanian and Maastrichtian age invertebrate fauna comes from the Western Interior Seaway. You may ask why it is different or why it is needed. In Texas the Campanian and Maastrichtian exposures are actually part of the Gulfian Series rather than the Western Interior Seaway (WIS). The two seas were disconnected by land mass in the late Cretaceous. The majority of the Campanian and Maastrichtian in Texas have not been well studied and much work still needs to be done to get to the place where the Campanian and Maastrichtian are in the WIS. Figure 4 represents what North America would have looked like 75 million years ago during the late Cretaceous. What is now the northeastern part of Texas and the southeastern Gulf were largely cut off from the WIS.

Juvenile *Didymoceras nebrascense* typically has straight limbs or whorls connected by 180° hairpin curves, but may be helical whorls. As an adolescent, the whorls are helical. Sub-adult phases are characterized by non-contacting helical whorls with a medium umbilicus. The adult phase has a retroversal U-shaped body chamber. See Figure 5. *Solenoceras bearpawense* is a co-occurring heteromorph of the Diplomoceratidae family with *Didymoceras nebrascense*. The juvenile stage of *Didymoceras nebrascense* can be difficult to distinguish from *Solenoceras bearpawense*. See Figure 6.

Didymoceras stevensoni when juvenile has an open planispiral coil of 1-2 whorls. As an adolescent is characterized by non-contacting elliptical limbs connected by a nearly 180° bend. The sub-adult phase is characterized by three or more non-contacting and contacting helical whorls with a small umbilicus. The adult phase has a shallow retroversal U-shaped body chamber. See Figure 5.

Didymoceras cheyennense — The juvenile phase is characterized by an open planispiral coil. The adolescent stage has 2.5 – 3 loosely coiled non-contacting helical whorls. The sub-adult stage is characterized by non-contacting helical whorls with a large umbilicus. The adult has a retroversal J-shaped body chamber with a very long descending shaft. See Figure 5.

Spiroxybeloceras meekanum is a co-occurring heteromorph within the Nostoceratidae family. The juvenile stages of *Didymoceras cheyennense* are indistinguishable from *Spiroxybeloceras meekanum* (on the left in Figure 7, juvenile stage of *Didymoceras cheyennense* on the right.)



HIGH PLAINS PALEO: FICK FOSSIL AND HISTORY MUSEUM (OAKLEY, KS)

by Tom Dill

Small towns everywhere have small museums, usually devoted to the history and people of the area. Sometimes, it is quirky history and interesting people. Oakley, in the high plains of western Kansas, along I-70 four hours east of Denver and five hours west of Kansas City, has two. One museum and large sculpture commemorates Buffalo Bill, who earned his nickname in a hunting contest near here. The town also has the Fick Fossil and History Museum, in a shared space with the public library on 700 West 3rd Street. It is named for Vi and Earnest Fick, who ranched in the area on the Niobrara Chalk and collected its Upper Cretaceous fossils, which they donated.

The showpiece is a fifteen-foot long *Xiphactinus audax*, prepared by the famous George Sternberg and son. This specimen does not have another fish in its gut, as does the one at his namesake museum in Hays, but it is nonetheless complete and impressive (Photo 1). Another *Xiphactinus audax* head hangs on the wall. Other giant predatory fish include sequences of vertebrae from *Gillicus arcuatus* and the skull and disarticulated bones of *Saurodon leanus*. Three different-sized mosasaurs that inhabited the chalk sea are on display, starting with a skull and partial front limb, and several strings of vertebrae, of the smallish *Clidastes* (Photo 2). A highly flattened skull and neck vertebrae of the mid-sized *Platecarpus coryphaeus* was beautifully prepared by Sternberg (Photo 3). The skull of the largest mosasaur, *Tylosaurus proriger*, is beautifully preserved in three dimensions, and includes the bony plates that protected the eyes (Photo 4). There are plesiosaur fossils also, with a nearly complete paddle (Photo 5, next page), two femurs, and several vertebrae. On the wall is an articulated *Pteranodon* wing (Photo 6, next page), with a nice preparation of the smaller phalanges (reduced to mere claws) by Sternberg.

Photos of local fossil excavations and local scenery are displayed on the walls. Wooden cases house many shark teeth, including several *Ptychodus* species, which are unusually white or pale grey in the chalk. Several large Inoceramid clams are nearly complete (Photo 7), with one covered completely by oysters. Some massive Inoceramid shell fragments have rounded growths, like pearls (Photo 8), and two spheres over 4 cm in diameter are identified as loose pearls (Photo 9). A few misspellings mar the labeling (and species should not be capitalized), but the information is mostly correct with current explanations provided by Mike Everhart and others.



Continued next page

Xiphactinus audax, prepared by George Sternberg (Photo 1, top); juvenile *Clidastes liodontus*, from Gove Co, KS (Photo 2, second); *Platecarpus coryphaeus* (Photo 3, third); and *Tylosaurus proriger* orbit, from Smoky Hill Chalk of Niobrara Formation, Gove Co, KS (Photo 4, bottom).

HIGH PLAINS PALEO CON'T



Plesiosaur front paddle collected and prepped by George Sternberg (Photo 5, top); Pteranodon right wing with claws on second through fourth digits (Photo 6, middle left); *Inoceramus grandiosus* encrusted with oysters underneath (Photo 7, middle right); *Inoceramid* shell with rounded growth "pearl" (Photo 8, bottom left); and *Inoceramid* "pearls" of 5 and 4 cm in diameter (Photo 9, bottom right).

Continued next page

HIGH PLAINS PALEO CON'T 2

The Ficks collected so many fossils that Vi came up with novel ways to display them. She turned them into art. Shark teeth were arranged in circles and whorls and framed, and many more were organized in oval glass-dome frames (hanging too high for close inspection though, Photo 10). Many collectors do this with shark teeth and arrowheads, combining fossils from many localities and ages and reducing them to pieces of a collage. But Vi went further with her art. *Ptychodus* teeth are sorted into long necklaces. She constructed an eagle from shark's teeth. Why, you ask? Because she had so many shark's teeth. But the snake it is holding in its talons looks to be real, and she used rhinestones for the eyes.

Vi also incorporated fossils into paintings, such as an American flag studded with shark teeth (Photo 11). There are paintings of vases, with flowers of clam shells, and vase made of shark vertebrae. She produced many landscapes with vertebrae and bones for the trunks and limbs of trees, and leaves made of more small clam shells (certainly not local). Kim Pervis visited recently and posted many excellent photos of Vi's fossil art on the [DPS Facebook Group](https://www.facebook.com/groups/dallaspaleontologicalsociety/posts/10159479667409820) at <http://www.facebook.com/groups/dallaspaleontologicalsociety/posts/10159479667409820>, including the Kansas state seal and a landscape of the famous Monument Rocks of Niobrara Chalk, visible south of town.

Vi had something different in mind for her many spectacular slabs of groups of *Uintacrinus socialis*, a large stemless crinoid (Photo 12). These are found in large groups, with arms entangled. They may have floated on the Niobrara sea, or perhaps they were benthonic. She found so many slabs she decided to paint them. Vi did not make paintings OF them, but painted ON them, with vibrant glossy colors (Photo 13). Once the shock wears off, some of these are still informative if you can see past the *mardi gras* colors. One slab was made into a small coffee table. But to a fossil enthusiast the crinoids were beautiful to begin with, and didn't need this embellishment. Professionals are probably even less enthusiastic.

The use of thousands of shark teeth and vertebrae as parts of paintings, and precious slabs of rare fossils as canvases, is disconcerting. But this is what happened when a creative artistic spirit combined with an indomitable desire to collect. And it does not deter the paleontologists who have come to Oakley to study these colorful slabs. Vi gave many of her fossil arrangements and art pieces to friends, and these are now getting donated to the museum and placed back into the public view. Check them out, along with the more scientifically arranged and documented fossils. Open normal business hours, and free.

Shark teeth in oval frames and fossils in paintings (Photo 10, top); **Shark teeth on painted American flag** (Photo 11, second); ***Uintacrinus socialis calyx*, about 5 cm in diameter** (Photo 12, third); ***Uintacrinus socialis* slabs, painted** (Photo 13, bottom).



GO BEHIND THE GATES OF GRANDSCAPE'S JURASSIC WORLD: THE EXHIBITION (THE COLONY, TX)

by Laura Garsea Peterson

“Jurassic World: The Exhibition” has delivered the magic of seeing living dinosaurs to thousands of attendees since its grand opening in June 2021. The thrill of seeing a dinosaur up-close paired with outstanding attention to detail has turned the Exhibition into a destination for *Jurassic Park/World* superfans across the country.

Each visit to the Exhibition is unique — and nothing short of amazing. The *Jurassic World* crew works hard keeping the dinosaurs fed, happy, and ensures each guest receives an unforgettable experience.

Thoughtful details throughout the Exhibition are extra special for nostalgic *Jurassic* fans. The “Hammond’s Lab” portion allows guests to see baby dinosaurs hatching, newborn *Parasaurolophus*’ sleeping, and amber pieces from which the dinosaur cloning DNA is extracted. On closer inspection, each piece of amber is named after a contributor to the *Jurassic Park* franchise, including *Jurassic Park* director Stephen Spielberg and *Jurassic World* director Colin Trevorrow. Dozens more line the walls — each listed with a contributor’s name and formation from which that piece of amber would have been extracted.

Beyond the callbacks to the original *Jurassic Park* film, the Exhibition designers have cleverly crafted smaller details that are so seamless they may go unnoticed. One area of the Exhibition allows guests to step in the shoes of a paleontologist and uncover fossils from a bed of sand. The sand is cleverly created by grinding up thousands of wine corks to create sand that won’t stick to skin or make a mess.

The Exhibition crew takes the experience to the next level. From the baby dinosaur handlers to the raptor trainers, each crew member brings enthusiasm and a wealth of *Jurassic* knowledge. They are always willing to take great photos for guests and encourage questions and interaction. Recently, the Exhibition crew welcomed some of the most dedicated *Jurassic* fans — members of the *Jurassic Park* Motorpool. The *Jurassic Park* Motorpool, an organization of *Jurassic Park* enthusiasts with *Jurassic* tribute vehicles, lined the Grandscape parking lot with over a dozen *Jurassic Park* Jeeps.

Upon entering the Exhibition, the JPMP was quickly immersed into *Jurassic World* and greeted by the Exhibition crew. Throughout the tour the crew involved the JPMP and fellow guests, even roping in JPMP members dressed in Asset Containment Unit uniforms to assist when news spread of an escaped dinosaur!

Due to its popularity, the Exhibition is extending its stay at Grandscape through January 2, 2022, giving guests plenty of time to visit the park at least once, if not multiple times! For ticket information visit <http://jurassicworldexhibition.com>.



WOODBINE AMMONITE STORY (MANSFIELD, TX)

by Virginia Friedman

I have been surveying a new outcrop of the upper Woodbine (Upper Cretaceous ca. 96 Million years old) for months. The site is in Mansfield, Texas, about four miles southwest of our home. There are not many fossils to be found, so I mostly collect rocks (sandstones) for landscaping our backyard. Over time, I became aware that in some of the large ellipsoidal sandstone concretions (one to two meters in diameter) that are abundant in the area, there are big ammonites inside. One concretion even had two ammonites in a configuration of mirror image of each other. The concretions are large sedimentary features light gray in color that also contain calcite crystals as well as undetermined debris of shell material.

It is awfully hard to extract an ammonite from these massive concretions. Two weeks ago, I found a very nice ammonite (it is the 4th I found). Although I am not an ammonite expert, I identified them tentatively as *Acanthoceras sp.* Acanthoceratid ammonites are important guide fossils of middle Cenomanian age. The family Acanthoceratidae has a worldwide distribution.

Because the last one found was especially nice, I decided to seek the help of some workers that I saw nearby. It was a Saturday morning. They were friendly and the foreman instructed one of the other two men to direct the heavy equipment towards the pile where the concretions were and try to move the huge concretion that had the ammonite embedded in it. With the heavy equipment, he was able to move the concretion, but couldn't break it at all! These concretions are hard and huge. So, with a walkie-talkie, he contacted the foreman and requested that the other worker bring a huge sledge hammer. With it, he was finally able to free the ammonite in no time!

I was very happy to see that I was going to be able to take the ammonite home. I decided to give the man a \$100 bill to share with the other two. Good people deserve a reward. They didn't have to help me.... but they did.



Continued next page

WOODBINE AMMONITE STORY CON'T



The locality also contains some petrified wood, rare shark teeth (*Cretolamna appendiculata*) and rocks with spectacular ripple marks. I carry what I can find and take them home. I feel the need to 'save' them because now that the whole area has been cleared, the housing development will start in no time and everything that was once alive (and now fossilized) will be gone... These big ammonites that 'survived' (in fossilized form) through the ages, are about to be destroyed by the residential development. I couldn't let that happen... As a paleontologist I strongly felt the duty to save them from destruction.



My husband Howard, Nick (our two-year-old dog), and I noticed a week before, that the development company had started to put names to the new streets. Guess what's the name of the street where I find the ammonites? Virginia! Just a coincidence, but I think it is the price of perseverance in finding fossils in a rather paleontological-poor locality. Since I managed to find four ammonites, the first one I found months ago was donated to Mr. Kenny Schulbach, one of our peers of the Dallas Paleontological Society, who collects ammonites, is always working on them, preparing them skillfully for display. With directions to the locality he was there with his nephew and with some equipment — drills, sledge hammers, etc. — and the two were able to extract the ammonite from another huge concretion that, he

later reported, weighed about 400 pounds.

As the locality is getting ready for the construction of new homes; we won't be able to go there anymore. In the near future, it is going to be like always: "Remember when all these were fields and we used to come to see the huge concretions and find fossils here?" And I will be able to tell my grandchildren jokingly: "They even named the street after me! This was in the days that Grandpa Howard, Nick, and me used to be there every weekend, in the days of Covid."

Ammonites of *Acanthoceras* sp. in matrix (previous page); huge concretions with a hammer pointing to the ammonite in matrix (top left); Virginia and worker with heavy equipment (bottom left); and Virginia and 'Nick' standing on Virginia Street (right).



OLIVER CREEK WRAP-UP

Event Overview by Roger Farish

Heavy overcast, thunder, sprinkles, but no real rain that the landowners had come to expect of our visits, BUT it only waited a day. Yep, rain on Sunday and several times since. So, I'm sure we'll be invited back by the gracious landowners.

Due to the harsh Covid restrictions in the Hold Harmless Agreement, I didn't expect very many people, but 52 did show up – just right. After a dozen five-gallon buckets were distributed and everyone had memorized *Oxytropidoceras*, we headed down to the nearby creek. Those 'in the know' started picking up echinoids and ammonites immediately, while others had to be trained,



not knowing what to look for. This is the beauty of our Society, everyone learning from everyone else. Before long all were finding remnants of that ancient seafloor. In the morning decent-sized *Oxytropidoceras* were elusive, but some nice ones were found. It was mid-afternoon before Norm Cover found a seam of *Oxys* about a foot above the current water level of the creek as in five at one sitting. This was the layer several years ago that allowed us to walk on a virtual pavement of ammonites that was the creek bottom at that time. So, next year we'll know where to go.



One highlight of the trip was a drone presence. Barbara and Jonathan Bevill, better known as 'The Adventurous Couple' on YouTube, filmed some of their finds and activities from above at <http://youtu.be/s7rwXUmWdws>. Thanks to them for doing this!

Laura Stone found the only shark tooth, a *Cretalamna*. Laurie Wei and found the first *Salenia mexicana* along with some irregular echinoids and I thought we'd had our first casualty when I saw Aleksandr Earnest lying on a gravel bar, but he was also finding more *Salenia*. John Trentacosta had some nice finds in the first hour on site. One of his ammonites contained some nice calcite crystals. Juan Correa and Fernando had to team up to haul out their bucket of treasures. The Schön family (Beth, Ferdinand, Thorsen, Franz, Matthias) found their share also.

DINO BO AT THE EXPLORIUM (DENTON, TX)

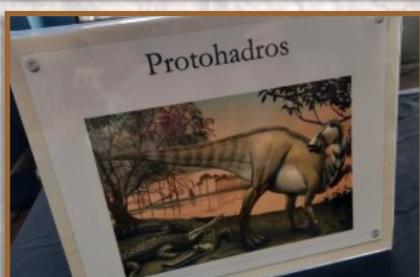
Review by Estée Easley

DPS member Beau McDaniel, known to kids as “Dino Bo,” gave a sneak peek of his Denton dinosaur find in July at The Explorium, Denton's hands-on science museum. The fully-named Explorium, Denton Children's Museum, started about a decade ago as a traveling science educational experience until they found a permanent home much more recently in northeast Denton (5800 I-35 #214, Denton 76207). The Explorium is more than just dinosaurs. It's hands-on STEM for any mobile child up to age 12. They also offer professional development for educators, volunteer opportunities for teens, summer camps, and holiday camps.

Beau decided to make the debut presentation of his find at The Explorium because they gave Dino Bo his first gig when he was just "a guy with an idea" about two and a half years ago. This premiere was a sold out event. His new signage also debuted today.

When telling the kids about fossil hunting, he explained that sometimes it's "better to be lucky than good." A formation looked prime to him as he passed by a Denton construction site. "While we knew there were dinosaurs here [in Denton County], I had never heard of a recent finding." He was spot-on. He found *Protohadros* bones. Granted, the bones are almost always broken or crushed and certainly not the prettiest bones, but it is just the third locality in North Texas for this *Protohadros*, which is not found anywhere else! He said there are remains of at least two different individuals in this former swamp, both adult and juvenile.

He has been excavating these bones for a few months now, but surprisingly, he hadn't found teeth. After over 200 hours of working the site, he was able to do the Happy Dance! He found a tooth! He has also found pieces of rib, but the most common fossil at this site is coprolite. When the time is right, some of his fossils will be given to museums.



Beau will hopefully provide an article to *The Fossil Record* detailing his find in a future issue, but I wanted to make sure to share with our members the gleam in those kids' eyes. His fans, he said, are mostly four to six year olds with a ratio of 3:1 boys to girls. He loves that the kids know their favorite dinosaurs by heart and are willing to share details with him. If you have little ones at home or grandchildren, be sure to take them for some great hands-on education and fun at the Explorium in Denton.

To read more on the day's event, see the [Denton Record Chronicle](#) dated July 31.

WOMEN IN PALEONTOLOGY: ZOFIA KIELAN-JAWOROWSKA

Series by Reah Easley

You may or may not have heard of Zofia Kielan-Jaworowska (1915-2015) and her work in the Gobi Desert starting in the mid-1960s. I know I hadn't. I had all sorts of stuff going on back then — I was in college and falling in love. The discovery of the skeletons entwined in battle — a *Protoceratops* and a juvenile *Velociraptor* — did make a level of news that even I noticed in 1965. But she wasn't mentioned by name, and the discovery was made in China. The US wasn't friendly with China and Russia and pretty much anyone else in the East. But slowly, American and European press began to cover stories of the amazing finds being made by Polish-Mongolian Expeditions.

Later (1975), when my beloved and I were volunteers at Dallas Museum of Natural History, Chuck Finsley told us that the largest collection of mammal skulls from the Mesozoic (180 skulls) had come out of the Gobi. It was going to fire the imaginations of paleo-thinkers envisioning tiny mouselike mammals scurrying around under the huge feet of sauropods and duck-billed dinosaurs.

When Zofia became a student at University of Warsaw, fascists who had conquered Poland in 1939 were against advanced education and were known to kill students. After WWII, Poland was slow to rebuild, and the campus had lost much of its scientific research facilities. Buildings on campus were still brick puzzles which had not been solved. Professor Roman Kozłowski, who spent his life researching and teaching Earth sciences, gave lessons from his home. He had rebuilt the university specimen collections after WWI, and they were destroyed by WWII. He was rebuilding again. Zofia's world view was influenced by the political events through which she lived. Politics, she felt, were not a permanent consideration, but Geology, Biology, and Paleontology were worthy of her full attention. She discovered that paleontology, in particular, was worthy, and politics weren't going to keep her from achieving what she wanted to do with her life.

After receiving degrees at U of W, Zofia was chosen to organize Poland and Mongolian Expeditions between 1963 and 1971, eight in all. Cold War kept her from working with US and European researchers as she would have liked, but that was just politics. They read her papers, met her at international scientific conventions, and even managed collaborating with her. In the meantime, she shipped twenty tons of huge dinosaurs, including such attention-getters as sauropods, *Tarbosaurus* (similar to *T. rex*), duck-billed dinosaurs, ostrich-like dinosaurs, and a previously unknown dinosaur with a foot-long claw. Most skeletons were complete or near complete!

After her retirement, she kept on digging. She had found what she wanted to do with her life, and she wasn't about to give it up. She had been able to ignore the Cold War, eventually collaborating with many Western Block scientists and achieving international notoriety without politics. She died just short of her 90th birthday and was eulogized by many prominent scientists worldwide. My favorite was by Richard Cifelli, a longtime collaborator, "Her style was, at times, unapologetically exacting — an apprenticeship with her was akin to martial-arts training with a Buddhist monk — but she pushed the rest of us to reach for better science. We will miss her."

Postscript: In the 60s, she wrote a well-received book entitled *Hunting for Dinosaurs* describing her adventures of living in a yurt; breakdowns of vehicles choked with sand; nasty snakes, scorpions, and biting flies; surviving sandstorms that blacken the sky; and sitting around campfires with her team being serenaded by Mongolian tribesman.



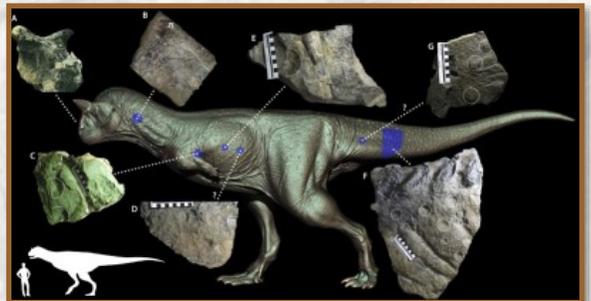
Zofia Kielan-Jaworowska.



PALEONTOLOGY IN THE NEWS

Compiled by Andrew “Dino Dad” Stück

1. [Hell Creek Mosasaurine](#) ([UC Berkeley PaleoBios](#)) — The first known mosasaurine has been reported from Breien Member of the Hell Creek Formation, represented by a fragmentary jaw hinge and isolated vertebra. While the remains are too fragmentary for precise identification, they can be ascribed to a large bodied mosasaurine, and so likely represent something similar to *Mosasaurus* or *Prognathodon*. This find provides additional evidence that the latest Maastrichtian marine fauna were still going strong, and that the faunal turnover to the subsequent Cannonball Sea fauna did indeed occur as a result of the End Cretaceous extinction event.
2. [Allosaurus as an “Apex Scavenger”?](#) ([Science Direct](#)) — A recent paper suggests that carnososaurs such as *Allosaurus* may have been obligate scavengers. Using the Morrison Formation as their model, the researchers assume a massive amount of sauropod carcasses were available, allowing carnososaurs to avoid hunting altogether. They also use the lack of some traditional predatory features such as strongly binocular vision as evidence to support their conclusion. While there hasn't been time for an official rebuttal, there has already been pushback from other paleontologists online, so one can expect further debate on this topic in the future.
3. [Carnotaurus Skin Impressions](#) ([Science Direct](#)) — Well-preserved skin impressions on *Carnotaurus* have been something of an open secret for years amongst paleontology enthusiast circles, but this month finally sees a detailed, formal description of these finally published. This scaly skin is the most complete of any theropod known outside of the Tetanuran clade, and consists of material from the shoulder, thoracic, tail, and (possibly) the neck regions. It shows an arrangement of medium to large conical scales surrounded by smaller, flatter scales, distributed randomly across the body.
4. [Largest Australian Pterosaur](#) ([Taylor & Francis Online](#)) — A new ornithocheirid pterosaur has been described from the Toolebuc Formation in Queensland, Australia. Named *Thapunngaka shawi*, it is comprised of the rostral portion of a mandible, and represents the largest pterosaur yet described from Australia.



Continued next page

Reconstruction of mosasaurine, either *Mosasaurus* or *Prognathodon*, investigating a subadult *Edmontosaurus* in its attempt to cross the deeper waters of the receding Western Interior Seaway, by Christopher DiPiazza (top); reconstruction of *Allosaurus* and two *Ceratosaurus* are feeding on a carcass of *Galeamopus pabsti*, by Davide Bonadonna (second); the scaly skin of the abelisaurid *Carnotaurus sastrei* (third); and University of Queensland PhD researcher Tim Richards with a reconstruction of the skull of Australia pterosaur *Thapunngaka shawi* (bottom).

PALEONTOLOGY IN THE NEWS CON'T

5. [New Proto-whale](#) ([The Royal Society Publishing](#)) — A middle Eocene protocetid has been described from the Fayum Depression of Egypt, which researchers have named *Phiomicetus*. While phylogenetic analysis places it as the most basal protocetid known from Africa, it has a unique jaw structure that allowed for more efficient food processing than other protocetids, and indicates an active hunting lifestyle. It occurs in the same beds as the more primitive remingtonocetid whale *Rayanistes*, representing another environment in which more basal cetaceans persisted long enough to co-occur with more derived cetaceans.



6. [Ancient DNA Reveals Previously Unknown Human Lineage](#) ([Nature](#)) — DNA sequenced from the 7,500 year old skeleton of a young girl from the island of Sulawesi has revealed a unique population of modern humans completely unrelated to any other human groups in the area. She belonged to an extinct society researchers refer to as the “Toaleans,” a group which inhabited a small group of Indonesian islands known as “Wallacea.” Their material culture had already intrigued researchers, which is also different from surrounding cultures of the same time period, and the lack of contact suggested by the DNA analysis now sheds light on why. Furthermore, the DNA was also found to have a relatively high percentage of Denisovan genes, indicating a larger area of geographic influence for this even older but equally enigmatic group than previously thought.



Reconstruction of semi-aquatic legged protocetid whale, *Phiomicetus Anubis*, by Robert Boessenecker (top); and remains of a female subadult nicknamed “Bessé” found in an Indonesian cave reveals previously unknown group of humans called “Toaleans” (bottom).

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:

The first skeleton of *Baryonyx walkeri* (from [Mind-Direct](#)), a member of the Spinosauridae, was discovered in 1983 in the Weald Clay Formation of Surrey, England. Its generic name means “heavy claw,” alluding to the animal's very large claw on the first finger, and its specific name refers to its discoverer, amateur fossil collector William J. Walker. It had a long, low, and narrow snout, which has been compared to that of a gharial, which its tip expanded to the sides in the shape of a rosette. Behind this, the upper jaw had a notch which fitted into the lower jaw (which curved upwards in the same area), with a row of large number of finely serrated, conical teeth, with the largest teeth in front. It also had a triangular crest on the top of its nasal bones. The neck formed an S-shape, the neural spines of its dorsal vertebrae increased in height from front to back. It had robust forelimbs, with the eponymous first-finger claw measuring about 12 inches (31 cm) long. It was the first theropod demonstrated to have been piscivorous (fish-eating), as evidenced by fish scales in the stomach region of the holotype specimen.



The Dallas Paleontological Society Presents

FOSSILMANIA XXXIX

Location: Somervell Expo Center in Glen Rose, TX.



**Free Parking
Free Admission
Free Fossils
FREE FREE FREE!**

DATE: OCTOBER 29, 30 AND 31, 2021
29: 8:00 AM - 6:00 PM 30: 9:00 AM - 6:00 PM
31: 9:00 AM - 4:00 PM

**Kids (of any age) in costume on
Sunday, October 31,
get a special Halloween treat.**

**Speakers, PIT Crew Kid's Corner,
Fossils and Fossil Related Finds, Guided Fossil Hunts,
Guided Tour of Dinosaur Tracks,
Badge Workshop for Boy Scouts and Girl Scouts**

For more information: www.dallaspaleo.org

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

Chairs:

Education Chair	Joseph O'Neil	education@dallaspaleo.org
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
Webmaster	Linda Farish	webmaster1@dallaspaleo.org

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.

No portion of these materials may be reproduced in any form or stored in any system without the written permission of the Dallas Paleontological Society © 2021

CONTENTS INSIDE:



A special PSA from “Archie the Colombian Mammoth” (*Mammuthus columbi*) from University of Nebraska State Museum at Morill Hall (Lincoln, NE): “Avoid extinction, wear a mask, and get vaccinated!”

- Livestreaming the DPS September meeting [online](#), then join us for FOSSILMANIA and DPS Holiday Party [in person!](#)
- Overviews of the DPS August meeting, Fick Fossil and History Museum (Oakley, KS), Woodbine ammonites (Mansfield, TX), Oliver Creek Field Trip (Sherman, TX), Dino Bo’s *Protohadros* at The Explorium (Denton, TX)
- “Women in Paleontology,” “Pin in the Editor’s Hat,” etc.
- Reviews, updates, news, and more!



Dallas, TX 75222-3846

PO Box 223846

Dallas Paleontological Society

