

# Paleo Footnotes

Newsletter of the  
Paleontological Society of Austin

Austin and Central Texas



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## **President's Note**

Here it is - a new year. A time for resolutions. I have one or two that are personal and one that involves rescuing as many nice fossils as I can from the forces of erosion. This is Texas, so it'll mostly be either too hot or too cold; I'm going anyway because I can't think of anything more fun to do. The thrill of the hunt, the search for something new, bigger or better or for a clearer understanding of what went on here - that's fun! I hope we all have lots of fun in the upcoming year.

Our first trip will be to the Jacksboro spillway. I plan on staying the weekend to enjoy some of the other great sites up there. Hope to see you there for a bit of fun.

Ed

## **Next Meeting – Tuesday January 20, 2009**

### **Big Brook: Classic Cretaceous Collecting on the East Coast Erich Rose**

Erich will be talking about collecting at one of the best known sites on the east coast. The presentation will include a presentation of the history, geology and paleontology of this classic location.

Tuesday 7 PM  
Austin Gem & Mineral Society Building  
6719 Burnet Lane, Austin, TX

#### About our speaker:

Erich Rose is a designer of museum exhibits with a specialty in hands-on-science. His real avocation is paleontology and earth science, although he has dabbled in other areas such as lasers and holography. He started picking up fossils in his home town of Dayton, OH at the age of 10 and has been collecting ever since. The major sections of his collection include material from the Ordovician of south west Ohio, the Devonian of New York, New Jersey and Pennsylvania, and the Cretaceous of Texas and New Jersey. While living in New York he was the Field Guide Editor and part time field trip leader for the New York Paleontological Society and won several national and regional awards for both newsletter articles and field trip guides. One of those awards was the 2001 AFMS 1<sup>st</sup> place Editor's Award, for Special Publications, given for an extensive field guide on Big Brook.

## **February's Presentation**

Attention all newcomers and visitors (and any 'older' members who would like to learn a few new cleaning techniques): Joan Crane has kindly agreed to demonstrate her 'mystic cleaning gun' and other tools and techniques for cleaning fossils at the February meeting. Joan, who has worked with Ann Moulineax for years cleaning fossils for the museum, has requested any other member who has a special technique or skill to bring a favorite fossil or tool and tell the members how it was cleaned (or how to use the tool). With the help of any other willing members, this should be a very helpful program to all beginning fossil-finders. This program should emphasize the importance of not only 'finding' beautiful fossils, but enhancing the ones we acquire. If you are willing to demonstrate for just a few minutes any technique, please contact Diann Strout by email ([diannstrout@sbcglobal.net](mailto:diannstrout@sbcglobal.net)) or phone 331-8152 ASAP (before you change your mind!)

Frank has also agreed to bring a few 'extra' tools to sell to the members who have none, and we invite anyone who has extra tools to do the same. This can be a very informative program, but it will definitely need your help. It should be emphasized that this is not a 'sales pitch' program, but rather a hands-on demonstration of different techniques. I do appreciate the willingness of all members to improve the quality of our programs - any other suggestions will be appreciated. Diann

## Next Field Trip

### Jacksboro - Lost Creek Lake Dam Spillway Saturday & Sunday January 24<sup>th</sup> & 25<sup>th</sup>

Jacksboro, TX

Pennsylvanian Period (~300mya)

Other Pennsylvanian sites in the area will be visited as well.

This will be a two day trip for those who want to stick around.  
Meet at the town square at 8:00AM. Ed will lead the group from there.  
Call or e-mail him for directions: 512-657-7581, edwardelliott@gmail.com

## Mistaken Identity: Texas State Dinosaur Needs Name Change

By [Jeanna Bryner](#), Senior Writer, LiveScience.com

The sauropod *Paluxysaurus jonesi* probably looked similar to *Pleurocoelus*, though scientists aren't sure what the newly named dinosaur's head would've looked like as much of the skull fossils have yet to be found. Credit: Karen Carr, taken from "Lone Star Dinosaurs," by Louis Jacobs of SMU.



The sauropod *Paluxysaurus jonesi* probably looked similar to *Pleurocoelus*, though scientists aren't sure what the newly named dinosaur's head would've looked like as much of the skull fossils have yet to be found. Credit: Karen Carr, taken from "Lone Star Dinosaurs," by Louis Jacobs of SMU.

Not every state in the nation has a state dinosaur, but Texas does. Now, however, the extinct creature could get a new official name.

It makes sense that the state of everything giant would celebrate a [behemoth paleo-beast](#). In 1997, the legislature named *Pleurocoelus* the Texas state dinosaur. The sauropod (member of a group of [plant eaters with long necks](#) and tails) apparently plodded

on saucer-like hind feet and weighed 40,000 to 90,000 pounds (18,000 to 40,000 kg), with a body length of up to 60 feet (18 meters).

The reign of *Pleurocoelus* in the Lone Star State may be a short one, though.

On Jan. 7, State Rep. Charles Geren of Fort Worth filed a resolution to change [the state dinosaur](#) from *Pleurocoelus* to *Paluxysaurus jonesi* to correctly name the massive sauropod whose tracks and bones litter the Jones Ranch, which is in central Texas near Glen Rose. Geren filed his resolution on behalf of constituents at the Fort Worth Museum of Science and History.

"I think it's going to be good for Texas paleontology and dinosaur research in general," said Aaron Pan, the museum's curator of science. "This dinosaur is unique to Texas, and it is the most abundant dinosaur fossil found in the Glen Rose area."

Many of the world's most interesting dinosaur discoveries have come from North America. In addition to Texas, just a handful of states have officially designated a state dinosaur, including:

Colorado: *Stegosaurus*

District of Columbia: *Capitalsaurus*

Maryland: *Astrodon johnstoni*

Missouri: *Hypsibema missouriensis*

New Jersey: *Hadrosaurus foulkii*

Wyoming: [Triceratops](#)

The call for a name change is the result of 2007 research in the journal *Palaeontologia Electronica* in which Peter Rose, then at Southern Methodist University in Dallas, disputed the Texas dinosaur's identity.

Rose analyzed sauropod bones at the Jones Ranch (in and around Paluxy River near Glen Rose). His analyses showed the bones didn't match up with *Pleurocoelus* bones first found in Maryland in the late 1800s. The Texas dino had been given the same name as what was thought to be its counterpart in Maryland. In fact, the dinosaur remains in Texas belong to a completely new genus and species, Rose said. *Paluxysaurus jonesi* lived some 112 million years ago during the Cretaceous Period (144 million to 65 million years ago).

Rather than a complete mistaken identity, Rose points out scientists had never thoroughly examined the [dinosaur fossils](#) littering the state.

"At the time sauropod tracks and bones were first discovered in Texas, only *Pleurocoelus* was known from North America for this particular time period (Early Cretaceous)," Rose told LiveScience. "In 1974, Wann Langston Jr. described some sauropod fossils from central Texas that he determined to be similar enough to those from Maryland that he referred them to the genus *Pleurocoelus*." He added, "I think from that point on, all subsequent sauropod discoveries in Texas were assumed to be that genus as well."

January 14, 2009

## The Evolution of Evolution

By J. W. Downs

February marks the two hundredth birthday of Charles Darwin (February 12, 1809, a birthday shared with Abraham Lincoln) and the one hundred fiftieth anniversary of the publication of *The Origin of Species* published in 1859. Darwin was so unsure of the sale of the first edition of his book that he wrote to his publisher, "I accept your offer. But I feel bound for your sake as well as my own to say in the clearest terms that if after looking over parts of the MS you do not think it likely to have a remunerative sale I completely and explicitly free you from your offer." The first edition sold out the first day, but acceptance of Darwin's theory of evolution has had a rough century and a half.

Before 1859 the prevailing explanation for the diversity of life was individual divine creation. In 1802, the Reverend William Paley published his famous treatise titled *Natural Theology - or Evidences of the Existence and Attributes of the Deity Collected from the Appearances of Nature*. He gives the example of coming across a stone while crossing the heath and explaining that the stone probably had always been there and that it would be quite natural to find a stone in such a place. Suppose that he found a functioning watch in the same area. It would be hard to explain that something as complex as a watch could spontaneously come in to existence; anything as complicated and well designed as a watch had to have a designer. He goes on to compare human eyes to telescopes, pointing out that for eyes to be functional, all parts had to be in place or eyes and telescopes were useless. Paley concludes:

"...every indication of contrivance, every manifestation of design, which existed in the watch, exists in the works of nature, with the difference, on the side of nature, of being greater or more, and that in a degree which exceeds all computation."

The Reverend Paley wrote passionately and well, but as Richard Dawkins put it, he was "wrong, gloriously and utterly wrong." Before Darwin published *The Origin of Species* in 1859, Paley's *Natural Theology* was the compelling argument in favor of Creationism, (now known as Intelligent Design) and was generally accepted without question.

Paley overlooked the important fact that watches did not spring forth a la Athena, fully functional having been designed from scratch by a single designer. Watches were the evolutionary culmination of centuries of time-pieces, large and small, practical and impractical. There had been calibrated candles, water clocks, hour glasses, and possibly the least practical of all, a cannon placed in the courtyard of the Palais Royal in 1786 which had burning lens affixed above the touchhole to ignite a charge precisely as the sun crossed the meridian. Legend has it that it fired the shot that started the French Revolution. The important factor in the development of time pieces was that innovations that worked were retained and those that were not practical were discarded. In other words, they evolved!

European monasteries built mechanical timing devices to sound a bell to summon the monks to prayer. These were usually powered by weights whose descent was controlled by an escapement mechanism. The mechanism was designed to strike a bell at seven intervals from morning prayer to vespers, but there were no hands on the clock. Actually, the name clock comes directly from the German word *glocke*, and any timing device that did not ring a bell did not qualify as a clock. The first clock faces showed only the hour. Later, the minute hand was added, and ultimately (on some, at least) a second hand was added. Most clocks were to be found in churches and public buildings, but over the years scaled down versions of clocks, which were practical for private homes and were eventually miniaturized to become watches. The Reverend Paley did not take into consideration the centuries of timepiece evolution before drawing his conclusion.

Most of the things we enjoy and use in our lives have evolved over time. Airplanes have evolved since the Wright brothers to become modern jet aircraft, with each new model incorporating things that worked and discarding those that either did not work or that could be improved upon. The same can be said of automobiles, architecture, radio, television, appliances, tools, computers...ad infinitum.

Evolution may not always work to the survival advantage of the creatures being evolved, e.g. the vast majority of all species that have ever lived are now extinct. The mighty T-rex lived for millions of years, leaving birds as descendants. Within a much shorter time frame *Homo sapiens* has managed to evolve itself into an imbalance of power and numbers such that if our entire species were to disappear, virtually every other species on earth would benefit from our extinction. Evolution does not always work to the advantage of species, but only to each individual within the species and has no crystal ball with which to foresee the *cul de sacs* ahead.

Science has had many theories that have proved to be wrong when fully tested. To name a few: Phlogiston, a hypothetical substance thought to be a volatile component of all combustible material released as fire upon burning. Caloric, believed to be an all-pervading weightless fluid responsible for the

generation and transfer of heat. Ether, thought to be necessary to carry light and radio waves through empty space.

Evolution not only has withstood the test of time, but has been strengthened during the past century and a half by Gregor Mendel's experiments in the field of genetics, and the discovery of DNA by Watson and Crick. In importance, Darwin's theory must stand beside Newton's Laws of Motion and Einstein's Theory of Relativity. Creationists claim problems exist with the theory but cannot specify what those problems are. While arguments within the scientific community over some of the details of how evolution has progressed, the basics of evolution remain unchallenged.

The famous biologist Theodosius Dobzhansky (1900-1975) said, "I am a creationist and an evolutionist. Evolution is God's or Nature's method of creation. Creation is not an event that happened in 4004 BC; It is a process that began some ten billion [sic] years ago and is still under way." This would appear to satisfy both religion and science and is, in fact, already accepted by all but the most entrenched fundamentalists who are committed to faith-based ignorance.

Dobzhansky's most famous quote is, "Nothing in biology makes sense except in the light of evolution." We might modify his statement to read, "Nothing makes sense except in the light of evolution."

#### Sources

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Richard Dawkins *Unweaving the Rainbow* Mariner Books

Daniel J. Boorstin *The Discoverers* Random House, Inc.

Scientific American, January 2009

J. W. Downs  
January 9, 2009

The purpose of the **Paleontological Society of Austin** 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 the third Tuesday of each month, 7:00 p.m. at the Austin Gem and Mineral Society building, 6719 Burnet lane, Austin, TX. The public is cordially invited to attend.

Annual Dues: \$15/individual, \$20/family and \$10/associate (non-voting, receiving newsletter)

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