

# The Paleo Times

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## EMSP SOAPBOX

By David Lukens & Don Howell

If you have any articles, comments, or need to communicate with me I can be reached through the following: [dmslukens@yahoo.com](mailto:dmslukens@yahoo.com) (personal) or contact me. Big newsletter this month as there is a lot of information. (David L.)

For anyone who bought Girl Scout cookies from my daughter, I will bring them to the March meeting. (D. Lukens)

**REMINDER: I-40/64 will be closed between I-270 & I-170, if you use this route to get to the meeting, remember that you will need to take a different route.**

### Next meeting

**Friday, March 14th** at 7:30 pm in the New Earth and Planetary Sciences building at Washington University (see more details below). The presentation will be "Birdzilla", a Discovery Channel DVD on Teratorns (Giant prehistoric Birds) supplied by Clarence Zacher.

**Reminder:** We are looking for people to assist in the planning for the committees for the club before the meeting. We are looking for help in planning for field trips, speakers, and to talk about how to raise money for the club. If you can help, please come early (by about 7 pm).

### Business for the next meeting:

- **LOTTERY DRAWING FOR LEE CREEK TRIP (SEE NOTE BELOW)**
- **COON CREEK TRIP PLANNING. PROBABLY MAY 31.** If you want to participate, come to the March meeting and let us know or contact one of the officers by the meeting (see end of newsletter and let us know.) (See info on site at end of newsletter)
- The Venus clam raffle tickets for sale (donated by Dave Lukens). Drawing in March?
- Discussion about field trips and speaker committees. Think of places you want to go.
- Planning for March 2008 field trip

### Thanks

To Abby, Ryan, Rich, Lisa, Bruce, and B.J. (Hope I did not miss anyone) for all their work at the Tucson show in obtaining items for the club to sell and their great presentation on the show. We all appreciate that work that you did.

### Upcoming Events/ Field Trips

March Field Trip –Plans for a field trip (anyone else have cabin fever) will be discussed. Start thinking of possible places. If one is arranged I will e-mail information out. For those without e-mail access, you can contact me, David Lukens, or another club officer.

Annual EMSP Picnic – Reservations have been made for the shelter at Kirkwood Park for Sunday July 27<sup>th</sup>, 2008. Details will follow, as the date gets closer. It is a great opportunity to meet, talk, and have fun with other club members. We will also have a fossil swap for anyone who is interested.

Lee Creek Mine (Eastern N.C.) – Rick Poropat has applied for 5 slots. **We were picked for the lottery.** We will hold a lottery to draw names for anyone interested in going during the March meeting. If you want to go you need to submit your name. See additional information below.

## **Lee Creek Mine Trip – Spring 2008 (Rick Poropat)**

PCS Phosphate has announced the lottery winners for the spring collecting season at Lee Creek phosphate mine at Aurora, North Carolina. Our club has been awarded 5 slots to collect on Saturday, April 12. These slots will be filled by lottery at our March EMSP meeting. Those not selected will be first in line for the fall collecting season if our club should be awarded slots. The following rules apply for this trip:

- You must be a current EMSP member to participate.
- You must be at least 18 years of age.
- You are responsible for your own transportation and lodging.
- Mine rules require all participants to wear hard hats (any color but white), steel-toed boots, long pants and a shirt with sleeves. Eye protection is required if you are going to break rock with a hammer.
- Photo ID is required to enter the mine.
- PCS Phosphate liability waivers must be signed.

### **How it all works:**

Collectors arrive at the PCS Phosphate contractor parking lot no later than **7:15 am** on the morning of your scheduled visit. You must first check in with the trip leader using a photo ID. When everyone has checked in (there will be about 50 people from around the country), there will be a short orientation session to review the rules. You will be given a liability waiver to sign. Each item on the waiver must also be initialed (not checked off). As you board the bus you will be given a visitor badge that must be worn during the visit. Hard hats will be provided to those who don't have one.

Participants are taken to the collecting area by bus, which must make two trips to get everyone in. No collector will be allowed into the pit until everyone has been brought in and collecting area boundaries have been identified.

Collecting trips are operated by very knowledgeable PCS Phosphate employee volunteers. Most of them have extensive collections from the mine and are very helpful to beginners. Trips are held rain or shine, except during severe electrical storms or extremely wet conditions. If your scheduled visit is cancelled because of the weather, you will be given the opportunity to join the next available trip.

### **What's the fuss about Lee Creek?**

Lee Creek mine has been a popular collecting site for many years and offers the opportunity to collect a huge variety of Paleocene and Miocene marine fossils and rarely the fossils of Pleistocene land animals. Collecting occurs during a spring and a fall season and there is a separate lottery for each one. Access to the mine is limited to members of organized groups and select individuals. The waiting list usually has several hundred people on it.

Lee Creek mine is an open pit phosphate mining operation that encompasses many square miles of territory. Collecting is on the spoil piles within the active pit and boundary stakes are set to keep collectors out of restricted areas. Most of the material is a very soft, sandy mixture that fossils are easily extracted from, however one Pungo Formation layer is hard and limey.

The main attraction of Lee creek mine is the great variety and abundance of shark teeth, some as large as six inches. Other vertebrate remains are the teeth and bones of whale, porpoise, seal, fish, turtle, bird and the occasional Pleistocene mammal tooth. There are also hundreds of different invertebrate fossils, including: gastropods, clams, oysters, pectens, corals, bryozoans and echinoids. Fossilized wood, amber and pearls have also been found. Nearly all of the fossils are from animals that are extinct today.

### **What else should I know?**

Additional information will be available at the March meeting.

## PLEASE NOTE

**Make sure you absolutely will go on this trip before you sign up.** Last minute cancellations deprive others of the chance to participate and make our club look bad. PCS Phosphate closely monitors trip records. Individuals who don't show up on their assigned date or who break the rules (such as collecting out of bounds) are removed from future trip consideration. We want to avoid any problems that might cause trip organizers to suspend EMSP from future trip consideration.

### Paleo-shorts

-Original and summary articles provided by members of EMSP. Where possible, I have tried to add in website where you can read more.

From David Lukens

<http://www.livescience.com/animals/080211-mini-pterodactyl.html>

The fossil of a miniature pterodactyl has been found in China. The 120 million year old fossil called *Nemicolepterus crypticus* was found in Liaoning Province in western China. The wingspan was about 10 inches and it was small enough to fit into your hand. The pterodactyl was toothless and its diet likely consisted of insects. Unlike other pterodactyls, which lived near the water, this one had curved appendages at the ends of its wings, which helped it to grasp tree branches. It is suspected that it jumped tree-to-tree catching insects. It is believed that this species may be an ancestor to some of the giant pterosaurs such as *Quetzalcoatlus*, which had a 30 foot wingspan.

BBC 14 February 2008

(<http://news.bbc.co.uk/2/hi/science/nature/7243665.stm>)

The fossil remains of two new meat-eating dinosaurs have been found in Niger. One was likely a scavenger while the other appears to be a predator. The 110 million year old fossils were found by Dr. Paul Serano of the U. of Chicago at the western edge of the Tenere Desert. The remains of *Kryptops palaios*, which was about 25' long indicates it may have been a scavenger. It had a strange looking face with horny protrusions at the nose area. It had a small teeth and an armored jaw. The other dinosaur

discovered is named *Eocarcharia dinops*. It had sharp, knife like teeth and a large brow ridge. Its teeth are more designed for attacking and cutting than for scavenging. This dinosaur belongs to a group including *Carcharodontosaurus iguidensis* (see 1/08 newsletter). The brow ridge may have been used for fighting other males much like bighorn sheep use their horns.

CNN 2-18-08

Fossil remains of a gigantic toad from the age of the dinosaurs have been found. The new species named *Beelzebufo ampinga* (Devil Toad) weighed about 10 pounds, was over a foot long, and came equipped with armor and teeth. The remains of the animal were found Madagascan but its closest relatives exist in South America. Scientists believe that this frog could have been big enough to eat newly hatched dinosaurs. The fossil remains, dating from 70 million years ago, have been found since 1993 but it took a number of years to find enough to piece together a skeleton. Likely certain modern South American frogs, this fossil had a large powerful jaw, thick skull, and teeth. The relationship between the frogs from two different areas indicates that there may have been land connections later than was previously believed.

<http://www.cnn.com/2008/TECH/science/02/18/frog.fossil.ap/index.html>

BBC 22 February 2008

Fossil remains found in central India are related to modern rabbits. The 53 million year old fossils are anklebones from lagomorphs (rabbits, hares, etc.) These fossils are 5-13 million years older than previously known fossils from Asia. The fossils were found in clay layers of a lignite mine near Bombay (Mumbai). These anklebones have many of the characteristics of lagomorphs, which distinguish them from other mammals. A sudden diversity of mammals has been traced to about 55 million years ago and is believed to be related to a rapid rise in worldwide temperatures.

<http://news.bbc.co.uk/2/hi/science/nature/7253518.stm>

### Articles submitted by Clarence Zacher

Science News, Nov 17 2007

The Carnegie Museum of Natural History is unveiling the world's largest mural of dinosaurs.

The 180' mural will show a scene from 150 million years ago from the Western USA. The images including an Allosaurus, Stegosaurus, a Brachiosaurus, and others is based on fossils from the Morrison Formation, which at the time was on the floodplain of an inland sea. (website <http://www.carnegiemnh.org/dinosaurs/>)

Science News Oct 13, 2007

DNA analysis of recently discovered Neanderthal remains show that they lived almost 1,200 miles farther west than previously thought. The DNA was extracted from remains found in Southern Siberia and Uzbekistan. The 70,000 year old Uzbek remains were from an 8-10 year old child. The Siberian remains are 30,000 years old and include limb bones and teeth from several individuals. The mitochondrial DNA is similar to that found at various European Neanderthal sites. Studies of over 10,000 modern humans have not found any Neanderthal like mitochondrial DNA.

Science News Jan 5 2008

Fossils, 48 million years old from India of Indohyus indicate this deer like creature may have been an ancestor to whales. The design of the ear is similar to that of whales, which are the only animals to have this design. In addition, the animal's teeth and position of the eyes are more typical of whales. ([www.newscientist.com/channel/life/dn13110-deerlike-fossil-is-a-missing-link-in-whale-evolution.html](http://www.newscientist.com/channel/life/dn13110-deerlike-fossil-is-a-missing-link-in-whale-evolution.html))

Science Nov 23 2007

Based on analysis of a 120-million-year-old fossil jawbone from Australia, scientists believe it is an ancestor of the duckbilled platypus. Previously the oldest fossil record for monotremes (platypus and echidna) was 62 million years (from Patagonia). The remains of the Teinolophos Trusleri consist of jaws and teeth. The mammal is similar to the modern animal in several ways. Using a CT scan a large internal canal was found along the jaw similar to the modern one which carries nerve fibers to the electrosensory glands in the bill. Platypus' have 40,000 glands in their bill to detect electric currents.

(<http://www.pnas.org/cgi/reprint/0706385105v1>)

Science Nov 23 2007

A fossil from Texas indicates that the amphibian group Dissorophoidea were the ancestors of frogs and salamanders. The nearly complete 8" skeleton has a skull similar to a frog the bones in the toes are similar to a frog's. The fused ankle bones and short ribs are similar to a salamander. The fossil has 17 vertebrae compared to 21 for Dissorophoidea and 14 for the oldest fossil frog.

A 52 million year old bat fossil from the Green River Formation in Wyoming is providing new information on bats. The characteristics make it the most primitive bat to date. These include claws on all 5 fingers (modern bats have no more than 2). This and other features imply that the bat could flutter but not fly well but could probably climb. But the skull does lack the parts needed for echolocation (using sound to find objects). See an image of the fossil at <http://www.ucmp.berkeley.edu/tertiary/eoc/greenriver.html>

Science Sept 21 2007

Studies of the wrist of *Homo floresiensis* (known as Hobbit) show that they were very primitive. In comparison modern humans and Neanderthals share a wrist design. The evidence shows that this *floresiensis* wrist was not the result of a disease or defect and implies a species that separated from the original group that went on to form modern humans and their ancestors. For additional information see.

(<http://www.sciencemag.org/cgi/content/full/317/5845/1743/DC1>) or <http://www.cnn.com/2007/TECH/science/09/21/hobbit.wrist.ap/>

Sciencenews April 21, 2007

Since the 1870's the earliest known trees have been the *Eospermatopteris eriana* found in upstate New York. But these 385 million year old fossils consisted only of stumps between 18" and 5' long. But recent found fossils from nearby have preserved the tops of the trees. One 18' long section recently found narrows to less than 3". Another fossil shows that the branches continued to split and get smaller and smaller looking like a brush at the end. It is

assumed that the trees had chlorophyll and absorbed like but were probably not very good at it. For more information see

[http://www.redorbit.com/news/science/925540/forest\\_primeval/index.html](http://www.redorbit.com/news/science/925540/forest_primeval/index.html)

[http://www.livescience.com/animals/051014\\_flying\\_dino.html](http://www.livescience.com/animals/051014_flying_dino.html)

New information on the flying dinosaur *Microraptor gui* from China (which had two sets of wings) indicate that the wing arrangements were like an old style bi-plane. *Microraptor* lived approximately 140 million years ago and was the size of a chicken. In addition to its wings, it also had long flight feathers on its legs. These were of a design that created lift. Initially it was thought that the beast might have flapped its wings like an insect but computer models indicate it must have flown like a bi-plane. It is likely that it acted similar to modern forest bird. From a high location in a tree, it would dive off and with the increasing speed would develop lift on its wings and be able to move to another tree. Because of the length of the feathers, they were probably slow and clumsy on the ground and would have been easy prey there. So they likely spent most of there time in trees. Other previous fossils from China have shown changes in fossils from tree living wingless animals, to gliders, to flyers with large feathers.

[http://www.livescience.com/animals/070301\\_hairy\\_bugs.html](http://www.livescience.com/animals/070301_hairy_bugs.html)

Based on almost a dozen fossil found in the 500 million year old Burgess Shale of British Columbia, paleontologists have identified a new species. The animal was covered with spiked armor plates. Previously small broken parts have been found, but not enough to identify the animal. The species, named *Orthrozanclus reburrus*, was about half the size of a pill bug. The body was covered with long spines along the top and shorter ones at the sides and had a front shell. The spines appeared to be made from chitin like an insect's exoskeleton. The species did not have eyes and moved using a muscular foot.

## Websites

Have you spotted a website about fossils for paleontology that peaked your interest. Thought that others might like it. If so, send me a note along with

the website address and a brief summary of what is there.

## Around Town

Several interesting shows have been / will be on KETC (PBS) recently. One recent show was on the flying microraptor. In addition, two other shows of interest are on this month. One is about prehistoric animals found in amber. The other deals with fossils of extinct animals found in an Australian cave (<http://www.pbs.org/wgbh/nova/bonediggers>). See the KETC website for times

## Reports

If you have suggestions for field trip locations, please e-mail them to me and I will begin putting together a list.

Several field trips were already mentioned including Coon Creek in Tennessee. We would like to find out how many people would be interested in going on this trip. There is a cost to get into the site (it is run by Pink Palace museum in Memphis) in the past it around \$150. We are currently checking on current pricing. If you make a reservation, we are obligated to pay the total fee no matter how many show us. Approximate date is May 31 (Sat.). If you are willing to sign up, please e-mail me so we know if there is sufficient interest.

Coon Creek is located near Henderson TN (west central) about 4 ½ hours from STL. The site has over 600 fossil species (though many are rare). Common are bivalves and gastropods, crab claws and ghost shrimp burrows. Rare are ammonites, baculites, shark, turtle and mosasaur remains. Parsons quarry (nearby) is full of Devonian aged fossils, including crinoids, brachiopods, gastropods, bryozoans, etc.

**If you have been to either site previously, please bring some examples of what you have found to the meeting so that newer people can see what has been found.**

## NEEDED

We are still looking for more donations of small fossils (quarter size or smaller) for the fossil boards. We are especially in need of small trilobites (the Utah ones are best) were also looking for horn

corals, other corals, gastropods, bryozoans, and other donations.

### CONTACTS

Do you need to find out something about the next meeting or have questions on the next field trip? If so, please talk to or contact one of the EMSP officers.

President – Don Howell

([donhowelliii@sbcglobal.net](mailto:donhowelliii@sbcglobal.net), cel 314-954-6922)

Vice-President: Bruce Stinchcomb

Treasurer: Pete Smith

Secretaries: David Lukens

([dmslukens@yahoo.com](mailto:dmslukens@yahoo.com), cel 636-751-8746) and

Abby Lee

### DUES ARE DUE

Our treasurer, Pete Smith will accept dues payment for a full year. **Dues are \$15.00 per household per year-payable in January.** If you join in the middle of the year the amount will be prorated. See Pete at the next meeting or mail a check (payable to Eastern Missouri Society for Paleontology) to:

**EMSP  
P.O. Box 220273  
St. Louis, MO. 63122**

### Distribution of the Newsletter by email

Can't find your newsletter, just when you need it for a trip? Then sign up for the e-mail version. This also saves the club money so we can bring in speakers (once we pick some...) E-mail requests to [dmslukens@yahoo.com](mailto:dmslukens@yahoo.com), [motirek@gmail.com](mailto:motirek@gmail.com) or [abfactor@gmail.com](mailto:abfactor@gmail.com)



Meetings are held the 2nd Friday of every month (except July, August, and December) in room 203 of the new Earth & Planetary Sciences Building on the campus of Washington University. The Earth & Planetary Sciences building is on the southwest corner of Hoyt Drive and Forest Park Pkwy. There is a large parking lot just across the street.