

# 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 at 636-751-8746 (cell).

Lots of events will be happening over the next couple months so make sure you take a look at the items listed below.

## PRESIDENT'S CORNER

Hello all, we had a very interesting meeting in October. We found out that, like the world, the club had financial worries. I believe that Pete did an awesome job of bringing it to our attention. Anyway, we had voted to increase dues to \$20 per family annually and \$25 if you still get the newsletter as a hardcopy. This along with a number of members paying dues early and an auction of some items by Carl, Bruce, and others should help in both the short and long term. There will also be two sets of Triceratops teeth auctioned at the November meeting to help the club treasury. I think the field trip this month should be fun with Bruce leading folks to his property in Southeast Missouri. I hope to see every club member at the November meeting.

Your Pres, Don III

### **Next meeting**

Next meeting is **Friday, November 14th** at 7:30 pm in the New Earth and Planetary Sciences building at Washington University (see more details below).

While there is not a speaker planned that I know of discussions will be held related to the upcoming Viking fossil show and also about the Joe Bolser Scholarship fund.

### **Thanks / Congratulations**

To the 5 people that showed up to help put fossil boards together. We will need to do this again early next year after the Viking show.

### **Upcoming Events/ Field Trips**

November 14, 2008 – Meeting – At the Nov. meeting we will be kicking off the fundraising for the Joe Bolser Memorial Scholarship. Please bring your monetary donations to the October meeting to help give the fund a kick start.

A field trip was held on November 1, 2008. Discussions will be held at the November meeting related to possible field trip either for later in November or in December.

### **Notes from the Meeting**

As Don talked about, discussions were held during the meeting related to club finances. Costs for the club including mailing (our biggest cost) have gone up significantly since we last raised dues about 15 years ago. In addition, where we used to sell at 3 shows a year we now sell at only one. To help to cover the shortfall we have increased the dues to \$20 / year for members receiving the newsletter by e-mail and \$25 by hardcopy. All dues are due on January 1 of each year. If dues are not paid by the March meeting, the member will be removed from the mailing list until the dues are paid.

Pete S will also be comparing the mailing list with the paid members list and weeding out those members who are far behind on dues. It is believed that there are likely people on the mailing list who have dropped out and not paid and are still getting the newsletter. The club is also hoping that some members will choose to pay their dues early to increase the balance before the end of the year.

During the meeting, Carl gave a presentation on Park Palooza at the Arch and the work done in Montana this summer. Bruce Stinchcomb gave an update on work at his site in Southern Mo.

### Treasurers Report

Current balance for the club is approximately \$651. There are a number of bills due at the end of the year that have dropped this balance down. We hope to do well at the November show to raise this along with some other things to raise money.

### 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.

BBC 20 October 2008

<http://news.bbc.co.uk/2/hi/science/nature/7680444.stm>  
A remote site in southern Utah has been found to contain more than 1,000 footprints over 190 million years old. The site has been known previously, but the prints were thought to simply be erosion on the rock. In addition to the footprints there are also tail drag prints which are unusual. The prints, which likely were to and from a waterhole, are from at least 4 different species. The variation in the track sizes indicate that there were both adults and babies present.

<http://jurassicpark.org/dinosaurs-lured-mates-with-bony-adornments>

**A strange new horned dinosaur named**  
Pachyrhinosaur lakustai has been discovered from fossil beds in Alberta Canada. This relative of the Triceratops had a large center horn and other horns and spikes above the eyes and on the forehead. It is suspected that these horns may have been used to attract mates. The frill has a large number of forward pointing spikes up to 1/2 meter long. The

fossils were found along Pipestone Creek and excavations in the 1980's showed up to 300 bones per cubic meter. At one location, 15 skulls and other bones were found representing dozens of individuals. The fossil beds date to 145 million years ago.

<http://jurassicpark.org/function-of-dinosaur-crests-unravelling-at-last>

Recent CT scans of the nasal passages of the duck-billed dinosaurs lambeosaurs indicate that the bony crests were used for communication. Various theories have suggested that they were related to the sense of smell, temperature regulation, or used for communicating. The CT scans showed a difference between the external shape and the internal shape on related dinosaurs. The part of the brain used for smell was small indicating that this was not the purpose of the crest. Computer studies indicate that the crests would have emitted a bellowing sound. The scans also indicate the ability to detect low-frequency sounds.

<http://jurassicpark.org/fossil-raptor-tracks-show-group-behavior>

Fossil trackways found in 2005 indicate that raptors did hunt in packs and did travel with their claw raised. The evidence comes from 120 million year old footprints of two different species of raptors found in China. One set of trackways was made by a group of 6 *Dromaeopodus shandongensis*. The tip in sediments indicate that the tracks were made at about the same time and that they were moving as a group. The tracks showed that the large claw was held off the ground and that large deinonychosaurs (~4' tall) existed at the time even though only fossils of smaller species found been found for this period of time. Tracks were also found for *Shandongornipes muxiai*, which is a roadrunner like bird.

<http://jurassicpark.org/new-dinosaur-species-found-in-india>

Scientists recently released news of a new species of Indian dinosaur. Named *Rajasaurus Narmadensis*, the 65 million year old species was 30' long, a carnivore, and was horned.

<http://jurassicpark.org/cambrian-migration>

Recent fossil evidence from Yunnan province in China indicates that marine animals congregated (probably for migration) at the start of the Cambrian explosion 525 million years ago. The fossils of the animal, similar to a shrimp, show the individuals

interlocked to form a chain. The most likely reason is for migration though there could be other reasons such as reproduction. Simialr behavior is seen in some modern species such as spiny lobsters. The fossils come from the Chengjian Lagerstatta, which dates to 10 million years before the Burgess Shale of Canada.

<http://jurassicpark.org/dinosaur-size-linked-to-inability-to-chew>

A new theory is that many dinosaurs became large because of their inability to chew their food and therefore they needed large digestive systems to allow time to break down the food. The lack of large muscles of jaws for chewing allowed them to develop long necks with small heads, which allowed access to food other species could not reach. The sauropods, which weighed up to 80 tons dominated the Earth between 65-100 million years ago. Studies have showed that the variations in the environment can not account for the large size of these animals.

<http://www.livescience.com/animals/081021-dinosaur-graveyard.html>

A large, 150 million year old bone bed discovered in Utah has been found to have a large number of sauropod bones in addition to fossils from several predators. Among the bones found was the arm bone of a brachiosaur and the skeleton of a sauropod that has been named "Gnathale". The bone site is near a site from the early Cretaceous that has tracks of theropods and ornithomimids including the European stegosaur "Deltapodus" which has never been found in North America before. The fossils found will be exhibited in the renovated dinosaur galleries at the Natural History Museum of LA County which will open in 2011.

<http://jurassicpark.org/polar-dinosaur-migration-questioned>

Recent information indicates that polar dinosaurs traveled much less during their migrations than previously thought. The new estimates, based on energy needs for the animals indicate that they likely would have traveled about 1800 miles in a round trip lasting as long as 6 months. Not all polar dinosaurs migrated, some appeared adapted to surviving in the polar environment.

<http://jurassicpark.org/jurassic-beaver-fossil-found-in-china>

**The discovery of a beaver-like fossil that lived when the dinosaurs ruled the Earth could challenge some currently accepted ideas on mammal evolution.**

Fossils of a previously unknown 164 million years old beaver like animal have been found in China. The creature, named *Castorocauda lutrasimilis*, was adapted to an aquatic life. It had fur, a broad tail and webbed feet and was about 1 ½ feet long. While it resembled a beaver, it comes from a group long extinct before rodents appeared. This fossil shows that mammals had adapted to the water at least 100 million years earlier than previously thought.

<http://news.bbc.co.uk/2/hi/science/nature/7684796.stm>

Fossils of a strange feather dinosaur named *Epidexipteryx* have been found in China (is everything new found in China now!). The 152-168 million year old dino had long feathers at the back of the body apparently for decoration, long before birds developed them for flying. The pigeon size animal was found in the Daohugou fossil beds, in Nincheng County, Inner Mongolia. It is believed to be from strange group of dinosaurs known as scansoriopterygidae (meaning "climbing wings"). A fossil claw showed a downy covering and 2 long ribbon like feathers. The lack of limb feathers indicate that decorative feathers appeared before flight feathers.

<http://www.livescience.com/animals/081023-small-dino-skull.html>

A skull hidden away in a drawer in a South African museum is helping scientists to learn more about the evolution of carnivorous dinosaurs. The fossil comes from a small dino weighing less than one pound but equipped with fang like canines for tearing apart mammal, insects, and other animals. The species named *Heterodontosaurus tucki* had a skull 2" long and is one of the smallest dinosaurs known. It is believed that most plant eating dinosaurs developed from these earlier carnivorous ones. The fossil, which is 190 million years old, represents a juvenile example of a species where adults were the size of a turkey. Even though the

jaw has fangs at the front there are molar like teeth at the back, leading to debate over its diet. Scientists believe that its main diet was plants with meat being a occasional treat.

<http://www.livescience.com/history/081025-hawaii-cave.html>

A cave found on the island of Kauai in Hawaii in 1992 is turning out to be one of the richest fossil sites in the entire Pacific. The cave was one a Pleistocene dune and later a sinkhole covers more than half and acre. Among the fossils found have been bird and fish bones, human artifacts, plants, pollen, and large extinct land animals including flightless birds with turtle like jaws. The different layers in the cave show the effects of the arrivals of different groups including Polynesians, Europeans, and Americans. After the arrival of the Polynesians and their introduction of rats, pigs, and other animals the first wave of extinction was triggered 1000 years ago. In an interesting extension of the fossils discoveries, the investigators have suppressed the introduced species in the area resulting in the reemergence of over 100 native species resulting in a true Hawaiian forest.

<http://www.livescience.com/animals/081024-nhm-wetsuit.html>

Studies of ichthyosaurs, which lived between 90-230 million years ago who that their body, fins, and skin are very similar to modern dolphins and sharks. A few ichthyosaurs fossil have areas of skin preserved which shown multiple layers of fiber bundles made of collagen like certain living animals. The material was determined to be collagen by the use of a SEM (scanning electron microscope) which showed the fibers to have the same spacing as in modern animals.

[http://www.newstimes.com/ci\\_10810774](http://www.newstimes.com/ci_10810774)

A paleontologist from Yale's Peabody Museum may have solved the question of where the turtles shell came from. Conflicting theories are that the shell developed from the ribs flattening and fusing together while others believe that it is more like an armadillo whose skin developed into hardened plates of armor. But his study of a 210 million year old turtle fossil show that the ribs are not fused indicating that the shell developed from the skin. The oldest turtles are between 191-255 million years old and had very thin shells which were rarely

preserved as they were land dwelling animals. The fossil found in New Mexico came from a 14 inch turtle with a 1-2 mm thick shell and the fossil clearly had ribs located beneath the shell.

<http://www.paleontologynews.com/link.asp?ID=340138&Title=FOR%20KIDS:%20South%20America's%20sticky%20tar%20pits>

New fossil tar pits in Venezuela may be bigger than the famous La Brea Tar Pits of California. The "menes" of South America are provided numerous new fossils. The La Brea pits have provided more than 1 million fossils so far ranging including over 50 mammal species, 125 types of birds, and dozens of reptiles, insects and other invertebrates. The menes are found in a wider variety of ecosystems so they have trapped different types of animals and also excavations indicate that these pits have be capturing fossils over a much longer period of time than the La Brea pits. But exploration of these pits, which are also found in other countries in South American has been limited. Paleontologists have excavated some sites in the 1950's in Peru and Ecuador resulting in finds including dogs, wolves, birds, and other animals. Recent excavations in Inciarte Venezuela are at a mene about ½ mile long x 500 yards wide, 10 times the size of La Brea. So far only about 50 cubic feet of material has been removed but this contained remains from more than 100 species, including 43 mammals, 56 birds, and various reptiles. The fossils date from between 25,000-27,000 years ago. Among the fossils found were those of a fox previously known to only exist in North America. Also an extinct species of cave wolf were found which has only previously been found in southern South America. The site shows species from S.A such as ground sloths and camels existing next to species from N.A. such as dire wolves and saber-toothed cats. Over two dozen species have been found including semiaquatic ones such as caimans and tapirs pointing to the fact that the area was likely a floodplain or delta. But other species such as llamas and glyptodonts indicate a savannah type area.

## 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 \$20.00 (newsletter via email) /\$25.00 (newsletter hard copy sent USPS) 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)

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.



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 &

# What is EMSP?

The Eastern Missouri Society for Paleontology (EMSP) is a not-for-profit organization Dedicated to promoting the enjoyment of fossil collecting. It is open to all individuals interested in learning about the history of life on earth. The club membership includes professional paleontologists as well as amateur hobbyists. The EMSP provides an open forum for the exchange of information and access to expertise on collecting, identifying, preparing and displaying fossils.

EMSP meetings are held on the second Friday of every month (except July, August and December) at 7:30pm in the Earth and Planetary Sciences Building on the campus of Washington University. Each meeting includes an informal exchange of information and speakers on a variety of fossil-related topics.

Weather permitting, field trips to fossil collection localities around the St. Louis area are held each month. Led by experienced collectors, these trips are a fun way to augment discussions at the monthly meetings. The club participates in joint field trips with other paleo clubs, visiting fossil sites throughout the United States. EMSP is also a proud to be involved in partnerships with the St. Louis Science Center and the Greater St. Louis Association of Earth Science Clubs, Inc.

Eastern Missouri Society For Paleontology  
(EMSP)  
P.O. Box 220273  
St. Louis, MO. 63122

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