

The Paleo Times

Volume 8 Number 7

July 2009

The Official Publication of the Eastern Missouri Society For Paleontology

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.

NOTE: I am out of town and left my notes from the last (June) meeting and home so do not remember much about last meeting

David

Next meeting

Next meeting is **Friday, September 11th** at 7:30 pm in the New Earth and Planetary Sciences building at Washington University (see more details below).

NOTE: There is no meeting for either July or August, though club picnic will be in August. Also previous to the next meeting we will have the Machinist Hall Show and we will need people to sign up to help. See notes in newsletter..

Thanks / Congratulations

Thanks to Bruce & Stephan for their presentation on fossils from Messel, Germany and also Stephan's discussion and some of the DVDs that are available. Also thanks to Bruce for slicing up some of the coral from the June field trip and bringing it in as giveaways.

Thanks to Pat for leading the field trip to Cedar Creek near Fulton. It was a good trip with lots of fossils found.

Also thanks to everyone who helped out at the Mastodon show especially John & Dorothy.

Upcoming Events/ Field Trips

July 25, 2009 – July field Trip to Cold Water Creek led by Rich. We will meet at the McDonalds parking lot just north of Lindberg and New Halls Ferry in North St. Louis (Florissant?). We will meet at 9:30, expect to leave the lot before 10:00, get on the creek, and finish around 2:00 PM. This will be a canoe trip looking for Pleistocene fossils; we have had good luck in the past. We need people to sign up or contact me ahead of time (dmslukens@yahoo.com). We also need to know who among club members can provide canoes and lifejackets for the trip. We need to make sure there are enough canoes for everyone. This is an urban creek, it smells, there is broken glass and debris in the creek. Bring shoes that can get filthy and towels and a change of clothes for when you get back to your car.

August 14-16 is another gem/mineral/rock show at the Machinists Hall on Old St. Charles Rock Road. We will have a table to sell and demonstrate. We will need volunteers, as we get closer to this date. Also, when you are out collecting this summer, pick up something for the club. We are now up to 3 venues to sell/fundraise per year. The club agreed that this was a nice number to maintain.

Date is set for the club picnic; it will be August 30, 2009 at Kirkwood Park at the New Pavilion. Put it on your calendar. More details to follow.

Date has been set for the next Viking show. Location will be the same as last year. Dates will be

November 27-29, 2009. The price will be \$75/table. We will be getting 2 or 3 tables.

At the next meeting Bruce will hopefully have his newest book for sale. It is suppose to come in soon. This one will cover the Mesozoic time.

Remember that annual dues were due starting in January. If you have not paid, please get your money in. If it is not paid by March 1st, you newsletters will stop.

Notes from the Meeting

Collections are still ongoing for the Joe Bolser Scholarship Fund. . If you want to donate please bring your donations to the next meeting or put them in the mail.

The raffle for the composite Meg tooth has started. The tooth will be on display at the August picnic and may be raffled at the picnic (depends on total tickets sold). (See Tom Lee) we are selling raffle tickets for a 4" Megalodon tooth from Florida. This tooth was originally broken and has been restored, estimated value is \$30-\$50. Tickets will be \$1 each or 6 for \$5. The drawing will probably be during the August Picnic meeting. You will not need to be present to win.

Current membership stands at approximately 45 e-mail + 19 letters.

News from June Meeting (what I remember)

- Field trip to Cedar Creek went very well. About 10 members came and we were able to collect lots of very good coral and also other invertebrates.
- Carl Campbell's geology trip to the west went very well and he said that he had an excellent group of people.
- I hope that the Mastodon show went well, if anyone can sent me a note on the show that would be appreciated as I was not able to make it.

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.

<http://balkaninsight.com/en/main/news/19898/>

Remains of a 1,000,000 year old mammoth have been found in a coal mine in Serbia. Due to the age, it is from the species *Mammuthus-meridionalis*, which is an ancestor of the later woolly mammoth. This mammoth was similar t Asian elephants and while able to handle colder climates were not adapted to ice-age conditions. The animal appears to have time and fallen into a gravel layer and remained at the location of its death. The mammoth is approximately 14' high and 16-19' long. While mammoth bones have been found in Serbia before, they were much younger. The mammoth will be displayed at a nearby archeological park built on the site of a Roman town.

<http://www.sciencecentric.com/news/article.php?q=09061756-bird-like-dinosaur-tells-story-finger-evolution>

A recently discovered 159 million year old fossil from China indicates that theropods were more diverse than previously thought. In addition, the skeleton provides evidence of the evolution from the hands of dinosaurs to the 2-finger hands of birds. The *Limusaurus inextricabilis* was a plant-eating dinosaur equipped with a beak and with toothless jaws. Multiple examines of the animal were found in fossilized in mud pits where they became trapped and were piled on top of each other. The skeleton indicates that during evolution, birds lost the outer two fingers when they reduced from 5 to 3. In these fossils, the first finger is shortened but the 2nd is longer. The *Limusaurus* is the first ceratosaur found in East Asia. They come from a group of rich fossil beds that have also produced the oldest tyrannosaur, oldest horned dinosaur, a running crocodile, and a different stegosaurus.

<http://www.sciencecentric.com/news/article.php?q=09061860-gobi-desert-yield-new-species-nut-cracking-dinosaur>

Dinosaurs have always been divided into either meat or plant eaters. But Paul Sereno recently discovered a new beaked dinosaur fossil in the Gobi desert which indicates it ate nuts and / or seeds. The 10 million years old *Psittacosaurus gobiensis*, dates to the mid-Cretaceous. The type and number of gizzard stones indicate diet and this one had over 50 stones, very high for its 3' size indicating it ate hard to break down food like nuts. It also had a distinctive backward and upward chewing pattern instead of the more common front to back movement. This has

provided information as to why these animals teeth wore the way that they did which has been a question.

<http://www.sciencecentric.com/news/article.php?q=09061265-the-latest-technology-looks-into-some-old-bones>

CT scans are commonly used to look at broken bones, but one animals dead for millions of years? Recently scientists have been using CT scans to look at the damaged vertebrae on a hadrosaur. Examining the repaired areas which maintain a temperature record during healing indicate that dinosaurs show characteristics of both reptiles and birds, but the healing rates of hadrosaurs are similar to those of birds even though they are not believed to be closely related. Many dinosaurs have been found with healed injuries at the rate higher than modern animals.

<http://www.sciencecentric.com/news/article.php?q=09062223-largest-carnivorous-dinosaur-tooth-spain-described>

Paleontologists in Spain recently recovered a 9.83 cm (4 inch) tooth belonging to an Allosauroidea that was estimated to be between 18-45 feet. This is the largest tooth ever discovered in Spain. The exact species if came from is not determined yet. The largest tooth previously found in Spain was 8.27 cm though one found in Portugal measured 12.7 cm (5 inches). This is the first indicate of a large Allosauroidea in the Villar del Arzobispo Formation in Teruel. Many plant eating species have been found previously in the formation including sauropods, stegosaurus, and others. The condition of the tooth indicate that it was not a discarded tooth but one that the animal likely had when it died. Therefore there is hope of finding more of the skelton.

<http://www.sciencecentric.com/news/article.php?q=09062202-dino-not-so-soaring>

Recent review of the statistical model used to determine the mass of dinosaurs indicate that previously calculations may have been off significantly. Apparently the original model had serious flaws which may reduce the weight of some of the larger animals by over ½. For example, an Apatosaurus would weigh 18 versus 38 tons. This has many implications related to food needs, metabolism, and other areas.

<http://www.sciencecentric.com/news/article.php?q=09061058-fossil-bone-bed-helps-reconstruct-life-along-california-ancient-coastline>

Sharktooth Hill is a well known bone bed area near Bakerfield, CA famous for its 15 million year old marine deposits including shark's teeth and seal and whale bones. Previously it was though that the area represented a massive die-off of animals but scientists now believe that 700,000 year record is actually just normal die off in an area that had little sediment deposition due to climatic conditions. The layer where the fossils are found is 6-20 inches deep and 10 miles of it are exposed covering 50 square miles. The fossil formation was deposited between 15.9-15.2 million years ago in the Temblor Sea of California's central valley. Study of the geology indicates it was a underwater shelf in a large embayment, directly opposite a wide opening to the sea. Study of the deposits show several feet of mudstone filled with shrimp burrows below the fossils, which are typical of areas hundreds of feet below the surface. The bone bead has a density of 200 bones per square meter, most being large, and almost no sediment. Almost all the bones are disarticulated and appear to be worn and abraded and often have manganese nodules on them indicating exposure to sea water for long periods of time before being buried. At the top of the bone bed articulated skeletons are found and above the bone bed layer most skeletons are complete and covered with sediment. The study indicates that currently carried most sediments away from the bone beds for as much as 700,000 years during which the bones accumulated in a large piles. Some land animals bones are present indicating that occasionally they were swept out to sea and deposited. But most of the bones lack shark bite indications, it is unlikely the bones are there due to it being a feeding ground for Megalodons. Also there are few yound specimens discounting the idea of it being a breeding ground. Lack of volcanic ash make this an unlikely cause also.

http://www.sciencenews.org/view/generic/id/44918/title/Long-lasting_daddy_longlegs

Two new species of spiders have been found in 165 million year old deposits in China. The spiders, known as harvestmen (or daddy long legs) were found in ash deposits from a lake. There are 6,400 modern species of harvestmen but only 26 in the

fossil record. The fossils are extremely detailed and almost 3-D. The molds even preserved details such as mouthparts, joints, and genitals. One of the species was almost identical to a modern species.

<http://www.sciencedaily.com/releases/2009/06/090617131356.htm>

Questions have existed for many years about the ice age that occurred between the Late Eocene and Early Oligocene about 33.5 million years ago. Scientists know that CO₂ levels were falling and the world was cooling but they have been unable to determine a lot of the specific facts because plant fossils in North America, which are good indicators of the climate, did not seem to record this climate change. So the questions was where to look? The answer turned out to be deep sediments in the ocean between Greenland and Norway. These deposits contain important information contained in fossil spores and pollens. Scientists used information on these fossils which have modern relatives combines with chemical and isotopic information from the deposits to model the climate. What is shows was that when summer remained warm on the land the winter temperatures dropped to near freezing. This resulted in a die off of the palms and subtropical trees which were replaced with trees such as spruce and hemlock. Other trees such as hickory and walnuts survived but became rarer.

<http://www.sciencedaily.com/releases/2008/10/081014111401.htm>

Fossil evidence of primates from 40 million years ago have been found in west Texas, from a time when it was covered with tropical forests and volcanoes. Between 43-44 million years ago, primates were common throughout much of North America, but as the hemisphere got cold, the number and diversity of them reduced significantly, most primates and tropical species disappeared by the end of the Eocene (see article above). The fossil evidence from Texas indicates that the diversity was much more and primates lasted much longer in west Texas as the climate stayed warmer in this area longer. Areas such as Utah and Wyoming saw drastic reductions in the primates there. The new primate has been named *Diablomomys dalquesti*, named for the Diablo formation where it was found and for the owners (Dalquest) who donated the fossil containing land.

<http://www.sciencedaily.com/releases/2008/03/080304191213.htm>

Collecting during 25 years of fieldwork in Egypt has resulted in the discovered of 6 new bat species dating to 35 million years ago. The ongoing work, which has collected 33 bats in the 25 years also included the discovery of a giant bat weighing about ½ a pound. Eocene bats from Africe are uncommon but this discovery indicates that there was a large diversity in Africa during this period of time. It was originally though that bats devolved and spread out in the north Hemisphere, but these new fossils indicate that this only happened after they initially spread out in Africa.

<http://www.sciencedaily.com/releases/2009/06/090617201758.htm>

Study of mammoth bones found in England in 1986 has shown them to be the most recent fossils of wooly mammoths in NW Europe. The fossils, which included 1 almost complete adult male and at least 4 young animals date to around 11,000 years ago. In other places in Europe, mammoths went extinct about 21,000 years ago. In addition, the age of the mammoths match with the time period when the open grassy lands of England were changing to forests, which may have contributed to the extinction of the animals. While humans existed in the same area at the time, there is no evidence of significant mammoth hunting.

<http://www.sciencedaily.com/releases/2009/06/090616103307.htm>

Geologists have determined that the ice age that occurred between the Ordovician and Silurian Periods was not brief as previously thought but actually lasted 30 million years. The study indicates that the reduction in global temperatures was related to the burying of organic carbon in shale, the eventually became the source of much of the oil in North Africa and Arabia. The evidence of the long ice ages of this period of time when trilobites and primitive fish were diversifying is based on the study of evidence of sea level changes in rock, sediments deposited by glacial meltwaters, and chemical evidence in the rocks. While the ice age was similar to the modern ones in extensive and time, the way it worked was different. Different from the modern ocean, the deep oceans of that period of time were oxygen deficient so that plankton and other organic

material which sank to the bottom was buried resulting in the rich oil shale deposits which are the source of the modern worlds oil. These deposits of oil shale occurred during the warmer periods when the sea levels rose quickly and the melt water brought large flows of water into the oceans carrying organic material and nutrients which results in explosions of planktons and other material. But these influxes of water also changed ocean currents results in oxygen deficient areas in the deep oceans. The glacial outwash also covered over the organic material sealing it off from oxygen.

Around Town

Upcoming Gem & Fossil shows

- Colorado Mineral & Fossil Show (Fall), September 16–20, 2009, Denver, CO.
Colorado Fossil Expo, September 18–20, 2009, Denver, CO
- Arizona Mineral & Fossil Show, January 30–February 13, 2010, Tucson, AZ

JULY 2009:

17-19--INDIANAPOLIS, INDIANA: Show; GemStreet USA; Indiana State Fairgrounds, Pioneer, Our Land Bldg., 1202 E. 38 St.; Fri. 10-6, Sat. 10-6, Sun. 11-5; adults \$7, seniors (60+) and students (12-17) \$5, under 12 free, ticket good all weekend; fine gems, jewelry, mineral specimens, fossils, beads, findings, display items, Scout badges, discount coupon on Web site; contact Jane Strieter Smith, (216) 521-GEMS (4367); e-mail: spi@stratos.net; Web site: www.gemstreetusa.com

JULY-AUGUST 2009:

30-2--BILLINGS, MONTANA: AFMS/NFMS show and convention; Billings Gem & Mineral Club; Holiday Inn Trade Center, 5500 Midland Rd.; Thu. 10-6, Fri. 10-6, Sat. 10-6, Sun. 10-5; adults \$5 (2 days \$8, 4 days \$15), children under 12 free with adult; more than 35 dealers, jewelry, gems, minerals, fossils, lapidary supplies, demonstrations, educational displays, moon rock, dinosaurs, Yogo sapphires, cave bear, silent auctions, live auction, a full week of field trips after the show; contact Doug True, (406) 670-0506; e-mail: dtruefossils@yahoo.com; Web site: www.amfed.org/nfms/nfmsshow

AUGUST 2009:

22-23--PEORIA, ILLINOIS: Show; Peoria Academy of Science Geology Section; Ramada and Conference Center, 4400 N. Brandywine Drive.; Sat. 9-5, Sun. 10-5; free admission; demonstrators, silent auction, fluorescent display, exhibits, flume, fossil cleaning, the T-Rex SUE, ISGS material identification; contact Jim Travis, (309) 645-3609; e-mail: boatnick@aol.com; Web site: www.pasgeology.com

MAPS 2010 – Western ILL University, Macomb IL
March 26-28, 2010.

Reports

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

NEEDED

We are always 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. Please bring to the next meeting so we can meet later and work on putting more fossil boards together for the upcoming show.

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)

Vice-President: Bruce Stinchcomb

Treasurer: Pete Smith

Secretaries: David Lukens

(dmslukens@yahoo.com) and Peggy Cole

DUES ARE DUE

Our treasurer, Pete Smith will accept dues payment for a full year. **Dues are \$20.00 per household per year-payable in January if receiving the newsletter by e-mail. The dues are \$25 for those receiving the newsletter by regular mail.** 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, motirek@gmail.com or 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.

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.

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