

The Paleo Times

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Next meeting

Friday, October 12th at 7:30 pm in the New Earth and Planetary Sciences building at Washington University (see more details below).

We tentatively have lined up a guest speaker concerning fossil collecting in the state of New York.

Possible Business for the next meeting:

-At the last meeting, the possibility of an October trip to Mark Twain Lake was discussed. Please come up with a date for a trip to Mark Twain Lake.
-Also business to consider (Abby's personal idea): pro-rating membership dues by month. This way the secretary and treasurer will not have the responsibility of telling members when their dues are up. Sorry, I have not been able to keep up with changing the dates on the labels. After a year every continuing member pays in January. New members joining mid year can pay by the month until next January.

Thanks go to Carl Campbell and Stephanie Novak for the fine talks about this summer's adventures in Jordan, MT collecting dino fossils and some mapping work that was done concerning the Hell Creek formation.

Upcoming Events

9-11--FENTON, MISSOURI: 50th show; St. Louis Mineral & Gem Society; Stratford Inn, 800 S. Highway Dr.; Fri. 4-8, Sat. 10-7, Sun. 10-5; adults \$2, students \$1, children 12 and under free; gold nugget prize drawings, free rockhound starter kit for children 12 and under, dealers; contact Melissa Perucca, 1307 Mystic Seaport, Fenton, MO 63026,

(636) 861-3865; e-mail: peruccam@aol.com; Web site: <http://stlmsg.stlearthsci.org>.

-we will probably have a booth there. Please help out the club. The plan is to get nes specimen boxes so we can make our display look a bit better. Thanks to members last time (show in Maryland Heights) the fossils are already better organized and easier to pack/unpack.

Paleo-shorts

-original articles provided by Clarence Zacher

Smithsonian Nov 2006: The Dinosaurs are Coming

Swarthmore College and U Penn looked at the number of dinosaur discoveries from the past 20 years and concluded that another 1,317 genera have yet to be discovered in addition to the 527 genera currently documents. Their estimates took into the account the number of unexplored sites.

Going Under Down Under

January 20, 2007 Science News vol 171 p38
Archaeological evidence points to human arrival in Australia ~50,000 years ago. 5,000 years after that, 90% of cat sized and larger mammals were extinct. Paleontologist Gain Prideaux of the Western Australian museum in Perth and colleagues excavated a fossiliferous cave 300 km south of Adelaide. The cave was a sinkhole, which collected fossils spanning 500,000 years. 62 species have been recovered from the cave. Stalactites recorded rainfall patterns. Some decrease in species was observed in drier years. However, the period between 50,000 to 45,000 years ago shows a die-off. The die off happened 25,000 years before the

latest ice age suggesting that the climate was stable and thus the mammal populations should be as well. Possible human interference theories include altering the Australian ecosystem by burning the landscape. Human hunting could also be a factor. Paleontologist David Steadman at the University of Florida in Gainesville states [changes in mammal populations during times of climate change] "were nothing like those that occurred after people showed up."

Winged Dragon

June 23, 2007 Science News p388

Fossils of a gliding reptile from 220 million years ago have been found in a quarry on the Virginia-North Carolina border. Paleontologist Nick Fraser at the Virginia Museum of Natural History says the reptile glided on membrane-covered ribs. The 25-30cm winged animal was named *Mecistotrachelos aperoros* (soaring and long necked). The matrix rock was much harder than the bone so scientists used computerized tomography scans to reconstruct the creature.

Cretaceous Corsages? Fossil in amber suggests antiquity of orchids. *Sept 1, 2007 vol 172. Science News.*

The first unchallenged orchid remains have pushed the family tree back to 80mya. Orchids are the most divers group of flowering plants with 25,000+ species. Genetic mapping of Orchids places them into 5 subgroups. Dates of divergence were not possible to assign to the genetic tree due to lack of fossil evidence. Part of the disparity in the fossil record is due to the fragile nature of orchid pollen and the similarity of other leaves to orchids. Santiago Ramirez and colleagues at Harvard have described the first pollinarium orchid fossil stuck in amber to the back of a stingless bee from 15 to 20mya. The orchid fossil appears to belong to the group Goodyerinae. The article notes that the Paleozoic era was full of flowers and plants, contrary to popular depictions in art and other media.

Hair may solve mammoth mystery

CNN AP 28Sep2007

Researchers reported in *Science* that mammoth hair is a good source of uncontaminated DNA. "It is

important to understand the genetic makeup of an organism before it went extinct," explained lead researcher Stephan C. Schuster of Penn State University. "We want to use this to sequence (the DNA from) museum specimens and therefore help to understand the evolution of species by using museum collections that date back several hundred years," Schuster said.

The keratin coating of the hair likely preserved the DNA. This will make sequencing less time consuming and more cost effective. Bacterial DNA is easier to remove from hair as well. Specimens from old museum collections could be as useful as hair tufts frozen in the tundra.

"When people thought of sequencing DNA from hair, the usual assumption was that the material must come from the hair root, which contains recognizable cells, because the hair shaft appears to be dead," co-author Webb Miller, also at Penn State, said in a statement.

"However, we now know that a hair shaft consists essentially of DNA encased in a kind of biological plastic," said biology professor Miller.

"We plan to use hair and other keratin-containing body parts, such as nail and horn, to untangle the secrets of populations that lived long ago, so these populations can send a message from the past about what it might have taken for them to survive," Schuster said. "This discovery is good news for anyone interested in learning more about how species of large mammals can go extinct."

Learning the DNA sequence does not mean that the ancient animal can be cloned or somehow resurrected, Schuster said, adding, "this is science fiction."

ON THE ROAD

By Dave Lukens

Trammel Fossil Park, Cincinnati OH

For anyone traveling by Cincinnati, OH. An interesting stop is Trammel Fossil Park located on the north side of town in Sharonville, OH. The park was donated to the city by a local developer in 2003. The 10-acre park consists of a series of rock outcroppings that are fossil rich. The formations exposed are all Ordovician (445 MYA). Among the formations exposed are Lower Bellevue, Upper Miamitown, Corryville, and Fairview. There are abundant brachiopods, bryozoans, corals, and other fossils. Collecting is allowed though the sign requests people to take samples not large quantities and not to dig holes. It is an interesting stop if you are in the area.

Another interesting location is the Natural History Museum. In addition to good examples of Ordovician fossils they also have a reconstructed cave (2 stories tall at one place) and a good display on ice age animals. The museum also has Mother Natures Trading Post where you (mainly designed for kids) can bring in fossils, rocks, or other natural objects for trade for what they have. They mainly have crystals (calcite, halite), minerals (fluorite, sulfur), and some fossils: mainly shark's teeth and some locally collected brachiopods, sponges, and other items. It found it a good place to get rid of some of my lesser quality fossils that have accumulated (and get a few things I didn't have) and the museum figured the kids coming in would like the fish and shell fossils I traded.

Announcements:

Short notice, but if you get this by Weds Oct 10th, check out Washington University Professor Ursula Goodenough from the biology department speak at the *Zoo in the Living World 7:30-9pm (Oct 10th)*. Further info call 314-768-5466 or 314-533-8083. Her talk is titled Emergence: Nature's Mode of Creativity. The talk will explore the reductionist approach to biology and suggest an alternative to understanding life, humans, and the ecosystem. (as a side note I worked in her algae genetics lab for a summer job. She is a dynamic speaker).

Also check out a panel discussion from SLU's Center for Environmental Science moderator Tim Kusky. Titled A Multidisciplinary Approach to Advancing Research into climate change, natural

hazards, sustainable development and biodiversity. *Weds Nov 14th 7:30-9pm at the Living World in the Zoo.*

-Club member **Dr. Bruce Stinchcomb** has turned his fascination with the earliest life on earth into a colorful published book titled "**World's Oldest Fossils**," published by Schiffer Publishing. The book features much of his collection and then some with nice color photographs explaining the Cambrian radiation. Copies will be available for purchase at the September meeting. The author probably won't mind autographs as well. -Keep the articles coming to me (Abby the secretary), or give me research ideas for articles please.

-What's the status of the raffle?

-New dino bones are back from the field. Time to visit the prep lab at the St. Louis Science Center for some cleaning and glueing!

Membership info

Our treasurer, Pete Smith will accept dues payment for a full year. Dues are \$15.00 per household per year and are payable on the anniversary date printed on your newsletter address label. 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**

Can't find your newsletter, just when you need it for a trip? Then sign up for the e-mail version. This also says the club money so we can bring in speakers (once we pick some...) E-mail requests to motirek@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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