

The Paleo Times

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EMSP SOAPBOX

By Ryan Fairbanks & Faye Whobrey

If you have any articles, comments, or need to communicate with me I can be reached through the following: emsp.sec@mofossils.com

Next meeting

Next meeting is **Friday, May 9, 2014** at 7:30 pm in the New Earth and Planetary Sciences building at Washington University (see more details below).

PRESIDENT'S CORNER

There was a "carnival" the night of our April meeting and, unfortunately several of our members/guests were unable to find parking in order to attend our meeting. We offer our sincere apologies to anyone who missed the meeting due to the parking situation.

We had an amazing program provided by Dr. Casey Holliday, University of Missouri, Department of Pathology and Anatomical Sciences: "**Inside Dinosaurs: using modern anatomical and biomechanical approaches to learn about the lives of extinct reptiles.**" His presentation consisted of a very detailed slide show, specimen examples (some of which were on loan from museums) and a lot of questions and answers. In fact, we finally had to cut off the questions at 10:00pm.

We always welcome guests and new members and we usually have several each month. Remember that our membership covers the member and children. However, in order to be a member, a minor has to

have an adult member as part of the membership. A minor cannot be a member by him- or herself.

Several of our members attended MAPS (Mid-America Paleontology Society) in Iowa City, IA, the first week/weekend in April. As well as some of our members had booths. If you did not go, plan on it for next year, April 10-12, 2015. It is the largest fossil only show in the US. The dealers and members are very willing to share information and there are always several excellent presentations throughout the event. One of our members, Rick, was the author of an excellent article about the Floraville, IL site in the MAPS journal. "Floraville: A Classic Mississippian Locality"

Following the show, some of our members did an impromptu field trip to Graf, IA (about 1-1/2 hours NE of Iowa City). We collected cephalopods at a "mass mortality" site (actually a road cut that was very accessible).

Unfortunately, our April 12 field trip was cancelled at the last minute on the 11th due to a work schedule that put a lot of big trucks there for that Saturday. We will attempt to reschedule the field trip as Danville is one of our favorite quarries.

Speaker Outline:

May 9, 2014: Professor Carl Campbell, Touring Great Britain, 2013

June: Unscheduled

July: No meeting – Montana collecting trip

August: Club Picnic

Website:

1. If you don't have your picture posted, please let us know. It is a great way for new members to learn who we are and for us to recognize them.

Remember they have a lot more faces to recognize than we do.

2. Please submit pictures of your field trip to Pat for posting on website.

Scholarships:

There are scholarships available to earth science students. For you, your child or grandchild to be eligible you must be a member of one of the earth science clubs of the Greater St. Louis Association of Earth Science Clubs. Forms are available on the websites or at club meetings.

Our website can be found here:

<http://www.mofossils.com/>

Thank You

Thank you to Donna and Gavin and also Pete for representing the club at Old Bonhomme Science Night on April 11.

OTHER ITEMS

As most of you know, Steve Bynum runs the Outreach Program for the club and does an excellent job of it. But he cannot do it on his own. We need volunteers to sign up and let Steve know that you can help. This is a great opportunity to spread the news about the club and about fossils to people.

Please pick a day and time and let me know so I can coordinate with the Rockwood school system for confirmation.

Thank you,
Steve Bynum

emsp.outreach@mofossils.com

Science Fair Award

Annually the club gives out special awards to two Great St. Louis Science Fair projects to foster interest in fossils and promote public awareness of the club. Abby Lee/Fairbanks has been judging and making the awards for the club for several years to carry on the club's fairly long tradition. The award consists of a free 1yr club membership, a letter about the club inviting the recipient to attend a meeting with their project, a fossil collection starter kit

(boards that we sell at rock shows), and a certificate. This year only one project directly featured fossils. A 1st grader used different media to replicate fossil impressions. A 3rd grader that made a project with the Mohs hardness scale was awarded the second prize package as he/she mentioned liking to attend rock and mineral shows as their inspiration for the project.

Paleo-Shorts

I would like to see some old articles that people have written for past newsletters. The club has had a surge of new membership in the last few years and I think there are a lot of people now that would love to read those old stories for the first time. Clarence dug up some old articles that Bruce wrote a while ago. A big thanks to both of them for these.

PALEONTOLOGICAL COLLECTIONS OF THE ST. LOUIS ACADEMY OF SCIENCE AND THE SCIENCE CENTER

It's a fact of history that St. Louis and science have a long (for the "New World") association and tradition. St. Louis during the 19th century was the "Gateway to the West", not only in a settlement and westward expansion but also was a "gateway" in science. During most of the 19th century, territory that lay west of St. Louis was scientifically terra incognita. The St. Louis Academy of Science was established in 1856 from an earlier and less formal organization to encourage and publish on scientific discoveries as well as to acquire and display natural history and scientific objects--- natural history objects that are the nucleus of this article. The current Science Center on Oakland Avenue is the direct descendent of the St. Louis Museum of Science, which in turn was bequeathed the natural history collections of the St. Louis Academy of Science, this legacy is a significant part of the St. Louis heritage.

Missouri became a state in 1821! Even before that time there had been a scientific exploratory focus in this area. It was, among other things, the starting point of the Lewis and Clark Expedition as well as of the naturalists --explorers such as Schoolcraft and Featherstonhaugh. At the time of statehood, little was known about natural phenomena of the new state, and even less was known of its geology --- that is, its rocks and most mineral resources. However, geology was at this time still not a recognized

science. What was known was the southwest of the fledgling community of St. Louis occurred valuable lead deposits, lead deposits which could be worked with relative ease to yield the silvery mineral (galena) from which could be extracted lead. Concurrent with Missouri statehood was the development of the steamboat, a technological development that would make the Mississippi and Ohio rivers major transportation corridors. The first steamboats had plied the Mississippi and Ohio Rivers a few years earlier, where in the bootheel they were greatly impeded by the large numbers of rootwads from the rivers collapsed banks, a consequence of the 1811-1812 earthquake.

The decade of the 1820s saw the developing of the science of geology, with its potent realization of immense spans of time. Concepts of geology in turn led to the realization that a geological survey could document rock strata as to type, age and potential for raw materials, would greatly assist in discovery and development of resources as new states came into the union. To accomplish this goal, Congress authorized a position of U.S. geologist to oversee such geologic exploration. Appointed to fill this position was David Dale Owen son of Robert Owen, a Scottish immigrant who, near the beginning the 19th century, had established a commune, which he named New Harmony, in southern Indiana.

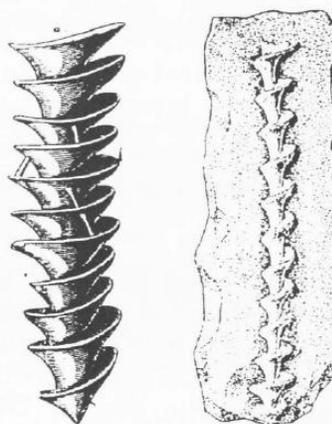


David D. Owen, trained in medicine, was fascinated by the new science of geology and diligently oversaw this program of initial geologic exploration

of the territories of Arkansas, Iowa, Minnesota and Wisconsin.

Incidental to this geologic documentation would also be investigations of Missouri, particularly the northern half of the state where he would search for coal beds --- coal beds to supply fuel to the nascent steam engine. Owen led arduous expeditions up tributary streams of the little known west side of the Mississippi. His crews would work their way upstream in canoes on the Cuiver, Salt, Fabius, and Wyaconda Rivers and on into Iowa and Minnesota Territories, noting and surveying rock strata fossils and minerals. (Owen's geologic reports are still some of the best guides to the rock exposures along these rivers.) Collected specimens were taken by canoe back to the Mississippi, where they were then shipped by steamboat to St. Louis. Scientific acquaintances of Owen in St. Louis, and future founders of the Academy, would be the first to see them.

Owen led many of these long and arduous trips himself, but also appointed assistants like Benjamin F. Shumard to lead others. Some of these assistants focused on the hard (and potentially mineral rich) rocks of Minnesota and Wisconsin Territories (the Canadian shield of the upper Mississippi and Lake Superior regions). Others like Owen, concentrated on the fossil-rich, "soft rocks" of Northern Missouri, Iowa and Southern Wisconsin. This exploratory work started in the 1830s, continues through the 1840s and was crowned by a series of geologic reports in 1852.



Archimedes worthini, the corkscrew fossil which was found by David Dale Owen to be a guide as to whether associated strata could or could not contain coal seams.

The fossil-rich rocks of northern Missouri, Iowa and Wisconsin are often well exposed along the rivers and documentation of them was Owen's specialty. His concern with fossils had an economic bent, for it was realized that only the younger strata incorporated coal beds and its fossils could identify such strata. A peculiar corkscrew-like fossil names *Archimedes worthei* was particularly useful (after Amos H. Worthin, a St. Louis Academy correspondent). If *Archimedes* was found in strata, coal beds would not be found in associated layers or in underlying layers, even though these older layers looked just like those, which did contain coal seams. This ordering of strata by associated fossils was of both scientific and practical importance. Geologic understanding and success would really come in the 1850s. At that time the broad geologic picture of the Midwest began to emerge; a pattern showing very ancient rocks, which contained minerals deposits like lead, iron ore and copper, in southern Missouri; and younger, often fossil-rich strata, some of which contained valuable coal seams, in northern Missouri and Iowa. The 1850s also saw the formal founding of the St. Louis Academy of Science, an organization that would offer an outlet for publication of scientific discoveries.

First president of the Academy was Benjamin F Shumard, previously one of Owen's exploratory assistants. Benjamin Shumard and his younger brother George G. Shumard became noted in the annals of geology in their geologic exploration of Texas, shortly after it relinquished its status as a republic to join the Union. Both of the Shumards had a penchant for fossils like that of Owen, and this served admirably in their discovery of Mesozoic (age of reptiles) strata in Texas. The Shumards shipped many of their Texas fossils to St. Louis, where they were examined, scientifically described and made a part of the Academy's collection. Some of the Texas ammonites, with their now dirty, handwritten labels, went to St. Louis by wagon train over dusty Indian trails from Texas.

Another fossil enthusiast, and corresponding member of the Academy, was a close friend of both Owen and the Shumards, Dr. Lunsford P. Yandell. Dr. Yandell collected extensively from ancient fossil coral reefs at the Falls of the Ohio, an area which is now a state park focusing on these fossils. Yandell

shipped numerous specimens to the academy. River freight by steamboat was both cheap and reliable. Many of these large coral heads now load shelves of the Science Center collection's warehouse, and his Kentucky sea lilies (crinoids) in the collections also attest to Dr. Yandell's paleontological enthusiasm.

This legacy of 19th century historic geologic and paleontologic "bringbacks" resides at the Science center, a link with the initial phase of geologic exploration of this part of the planet. The specimens brought to St. Louis by Owen, the Shumards and Yandell are geologic specimens representative of explorations of the last century. They reside alongside later discoveries and with lunar specimens and, in the future, may reside along with "bringbacks" of a Mars spacecraft mission. The focus of the Science Center on the future is great, so long as the opposite end of the time (and exploration) spectrum is not ignored. A place exists for both at the Science Center, for St. Louis has had a proud past of scientific exploration.

By: Bruce Stinchcomb

EMSP Meetings

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 building is on the southwest corner of Hoyt Dr. and Forest Park Pkwy. There is a large parking lot just across the street.

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. Please note that the e-mail contacts have changed

President: Fay Whobrey

(emsp.pres@mofossils.com)

Vice Pres: Abigail Fairbanks

(emsp.vp@mofossils.com)

Treasurer: Rick Poropat (emsp.tr@mofossils.com)

Secretary: Ryan Fairbanks

(emsp.sec@mofossils.com)

DUES ARE DUE

Our treasurer, Rick 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 Rick 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. E-mail requests to: Ryan Fairbanks emsp.sec@mofossils.com



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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