

Utah Friends of Paleontology

Vol. No. 6
June 1, 1998

Castle Valley "Raptor" Chapter Newsletter

Certification Records 1
Utah Raptor Exhibit 1
Past and Future Digs 2
Pre-history Week Follow-up ... 2

**Utah Friends of Paleontology
"Raptor Chapter"**
P. O. Box 5984
CEU Campus
Price, Utah 84501

Byron Ray: President
bnray@juno.com
Duane Taylor: Pres.
Elect
Carol Michael: Secretary
Rodger Crowe: Treasurer
Barbara Warren: Historian

Certification Records Field Notes

As those of you who attended the last meetings know, Duane Taylor created a wall chart detailing the requirements for levels 1, 2, and 3 certification. This chart will allow each of us to know exactly what we have completed and what remains to be done. It will be displayed at each meeting.

Duane Taylor, Clark Warren, and John Bird have been working to compile all the records we have and detail them on the chart. They are nearing completion. We

now need each of you to bring your field books up-to-date and submit the information to them so they can bring the chart up-to-date.

Some of you may be aware that the college has been working on a paleontology course of study that will involve class work and field work and will offer a two year degree in paleontology. I am happy to report that the course may begin this coming Fall Semester at CEU. More to follow.

Utah Raptor on Exhibit

The Utah Raptor is 99% mounted and on exhibit in the CEU Museum! He/she is every bit as fearsome as the movie "Jurassic Park" portrayal. You have to see to appreciate.

Past and Future Digs

On May 19th and 20th, John, Duane, Steve, and Rob Gaston opened the Yellow Cat Quarry. It was the same as we all remembered it, i.e. hot, rainy, windy, and buggy. But, we found 17 bones; including: dorsal vertebra, ungual, spike, plates, and armor. For a short trip it was very productive. The same crew plus Marvin are planning to visit the quarry again May 26th and 27th.

John has a dig scheduled at the CEM Site on June 5, 6, and maybe 7. We could use a large crew there as he would also like to do some work at the PR2 Site which is close to it. So make plans to spend the weekend (camp out??). Contact John (435-637-2120 ext. 5645) or Duane (435-637-5060) for details.

Clark Warren is compiling a schedule for additional digs which will appear in our next newsletter, or call his (435-637-0312) for dates.

Prehistory Week Follow-up

Thanks to all of you for your help during Prehistory week. Bone preparation Demo - Clark, Marvin, Penny, Carol, Byron
UFOP Visitor Table - Barbara
USAS Visitor Table - Joan, Margene, Jeanette, Bob H.
Kid's Korner - Marilyn

Special Kudos to our heavy duty table/chair moving team: Clark, Bob H. Marvin, John & Duane, all of whom have been nominated to the Table Mover's Hall Of Fame.

Filtration System

At our May Meeting, the motion was made and passed to donate \$1500 towards the \$12,000 purchase of a new filtration system for the CEU Museum Lab. This system is badly needed to filter floating particles of silica that are released as bones are being prepared, which are very damaging to preparator's lungs. As our treasurer was not present at the meeting, a stipulation was made to the motion that we check with him to be sure we have sufficient funds. We did and we do! so... we will go ahead with the donation.

Next meeting will be Tues. June 9, at 7:00 pm in the CEU Museum.

MORE EVIDENCE POINTS TO IMPACT AS DINOSAUR KILLER

Two new impact crater sites in Belize and Mexico add further evidence to the hypothesis an asteroid or comet collided with Earth about 65 million years ago subsequently killing off the dinosaurs and many other species on the planet.

Researchers Adriana Ocampo of NASA's Jet Propulsion Laboratory (JPL), Pasadena, CA and Kevin Pope of Geo Eco Arc Research, La Canada-Flintridge, CA led an international team that discovered the two new sites during a recent expedition sponsored by NASA's Exobiology Program and The Planetary Society, Pasadena, CA.

"We discovered an important new site in Alvaro, Obregon, Mexico about 230 km. (140 mi.) from the rim of the Chicxulub crater. This crater was formed when a 10-to-14-km diameter (6-to-8-mi.) asteroid or comet collided with Earth," Ocampo said.

"The site contains two layers of material or ejecta thrown out by the impact that flowed across the surface like a thick fluid known as fluidized ejecta lobes," added Pope. "This is the closest surface exposure of ejecta to the Chicxulub crater that has yet been found and the best example known on Earth from a really big impact crater."

Centered on the coast of Yucatan, Mexico, the Chicxulub crater is estimated to be about 200 km (120 mi.) in diameter. The impact 65 mya kicked up a global cloud of dust and sulfur gases that blocked sunlight from penetrating through the atmosphere and sent Earth into a decade of near-freezing temperatures. The drop in temperature and related environmental effects are thought to have brought about the demise of the dinosaurs and about 75 percent of the other species on Earth.

The Earth orbits the Sun in a swarm of so-called near-Earth objects, yet the science of detecting and tracking them is still relatively young. Only a handful of astronomers around the world search for these objects and they estimate only about one-tenth of the population of near-Earth objects has been detected. Chicxulub is the only impact event that has been correlated with mass extinctions to date. The site has been dated geologically to the boundary between the Cretaceous and Tertiary periods also known as the K/T boundary.

Local geologist Brian Holland of Punta Gorda, Belize guided the expedition to another new ejecta site about 480 km (290 mi.) from the crater rim. This Belize site contains tiny spheres of altered green glass called tektites.

Tektites are rocks that have been melted to glass by the severe heat of an impact. Expedition member Jan Smit of Free Univ. Amsterdam noted the Belize tektites were similar to those found in Haiti and northern Mexico. This finding links the stratigraphy of the Belize sites to the more distant Caribbean and Mexican ejecta sites.

Alfred Fischer of the Univ. of S. Calif., Michael Gibson of the Univ. of Tenn. at Martin and Jaime Urrutia and Francisco Vega of the National Autonomous Univ. of Mexico helped the team collect 400 kgms (900 lb.) of samples including drill cores for paleomagnetic studies. They also collected fossils from the site to help date the deposits and add new pieces to the puzzle of what happened at Chicxulub 65 million years ago.

Impact ejecta is very rare on Earth, but covers much of the surface of Mars because Mars' surface has remained stable and unchanged for billions of years, thus preserving debris from these impact events. Also, fluidized ejecta lobes have never been observed directly on Earth before and can serve as an excellent laboratory for studying the ejecta lobes surrounding many Martian craters.

The exact nature of these ejecta lobes on Mars remain a mystery, Ocampo noted. Some scientists think they were created by an abundance of water in the Martian crust which turned the ejecta into a muddy molasses-like material. Others suggest the fluidized ejecta lobes were enabled by a much thicker atmosphere in Mars' early history. As flying ejecta from an impact event flew through the Martian atmosphere it was reduced by friction to a very dense turbulent cloud of debris that also flowed like water. Study of the Chicxulub fluidized ejecta may help settle this debate and shed new light on theories that the Martian surface may once have been more hospitable for life.

Volunteers who assisted The Planetary Society and the scientists in the field have posted their photographs of the expedition on The Planetary Society web site at the following URL <http://planetary.org>

Information about and images of newly discovered near-Earth objects found by JPL's ongoing Near-Earth Asteroid Tracking (NEAT) program are available at <http://huey.jpl.nasa.gov/~spravdo/neat.html>

Ocampo and Pope's research was funded in part by the Exobiology Program of NASA's Office of Space Science Washington DC. NASA's JPL is a division of the Calif. Institute of Tech., Pasadena, CA.

Science Daily via the Internet

CASTLE VALLEY "RAPTOR" CHAPTER
UTAH FRIENDS OF PALEONTOLOGY
Minutes - May 5, 1998

Meeting was called to order by President Byron Ray at approximately 7:00pm.

A letter received from Don Burge regarding a donation of \$1500 for a filtering system for the museum's lab, was brought up by Byron for discussion.

We all agreed a donation would be made. However, we are waiting for the Treasurer's report as to whether or not we can afford the amount asked for. We must first make sure we have enough money in our account after all expenses are paid. Namely our State Dues and Operating Expenses. Byron will contact Jim Huffaker to find out the correct amount in our account and then we will make a decision regarding the amount of the donation. There are three filter systems that are required with a price tag of about \$12,000. Our target for the donation is \$1500 but not to exceed that amount.

A motion was made regarding the above and was carried by the majority. An accounting will be made shortly.

Byron introduced our guest speaker, Dr. Brooks Britt. Dr. Britt came to speak to us about "High Feeders and Low Browsers of the Cretaceous". He gave a most interesting talk and kept us in awe as he explained how birds breathe and how this factor connects birds and dinosaurs. It was an enjoyable evening. Our thanks to Dr. Britt.

There was no further business. Our meeting adjourned at approximately 8:30pm. Refreshments were furnished by Byron Ray. Thank you, Byron.

