

UTAH FRIENDS OF PALEONTOLOGY  
GREAT BASIN CHAPTER  
NEWSLETTER

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NOVEMBER REGULAR MEETING

THURSDAY, NOVEMBER 13, 1997

7:00 PM

1594 West North Temple

Ken Stadtman

will speak on the

DALTON WELLS DIG

## UFOP Monthly Meeting Minutes Rose Difley

The Great Basin Chapter of Utah Friends of Paleontology met September 11, 1997 at 1594 W. North Temple, Salt Lake City. The meeting was called to order by UFOP treasurer, Sue Dickey.

Sue welcomed guests, William H. and Eileen Thompson, and new members, Mark Olsen and Bruce Thompson.

The minutes for August were approved as printed in the bulletin.

Sue Dickey gave the treasurer's report. The new balance as of September 11, 1997 was \$1,433.70, after an income of \$25 from membership dues and expenses of \$76.40.

### Preparation lab update

Martha Hayden reported the UGS groundbreaking September 10 for the core sample library and paleo lab on Redwood Road. Construction may be completed by the first of the new year so that UFOP can do lab work there.

Utah Museum of Natural History lab construction is still in progress. Forty five volunteers signed up for lab training and there is room for 26. These people need to be trained for opening in October. Training is scheduled

For Wednesdays and Saturdays for four weeks. Additional training in November will be arranged. People can also be used in instructors' lab. Limits on numbers of people in training are space and the number of air scribes available.

### Field trip updates

Rose Difley reported that dinosaur bones have been successfully removed from the Price Canyon North Horn Formation site. North Horn Mountain sites have not been worked or visited due to bad weather. There is still some chance that the sites may be visited before winter conditions end the field season in this high altitude locality. Excavation planned for an eggshell site there has also been delayed because the Forest Service has not yet given the final ok for this project to proceed.

Martha Hayden reported on the Ferron site. Work that includes heavy labor is planned for Thursday to Sunday, if anyone is interested. Work is still progressing on the main vertebral column and a skull is being excavated. Weekend field work is still planned through November.

Martha also reported on the Carol site. CEU holds the permit on this site and John Bird will be there. They are still looking for volunteers to work this site

this coming weekend. Contact Ray Jones at 581-6141 for directions to the site.

The Dalton Wells site is now being worked. Ken Stadlman should be contacted by those who are interested in participating in this dig.

### Geologic Society of America (GSA) convention opportunities (October 20-23)

Review by Martha Hayden: Sharon Walkington is coordinating volunteers for the booth. She is sending a sign-up sheet around tonight for volunteers. These names need to be submitted to GSA.

UFOP will have a booth at this convention to sell T-shirts and book bags. The booth will be set up Sunday, October 19. For the booth display, action photos of people working at the excavation sites need to be selected.

Martha also asked for a TV with a built-in VCR and videos from some of the sites to use at the booth. Each chapter is supplying funds to buy T-shirts, and to finance the booth. The passes and chairs. This money should be returned in T-shirt sales. The Great Basin chapter needs volunteers for the booth Wednesday, October 22. Other chapters are supplying people the other days of the convention.

### Planning session for the Society of Vertebrate Paleontology (SVP) in 1998

Discussion led by Dave Gillette: The SVP meeting is being held in Snowbird Wednesday, September 30 to Saturday, October 3, 1998. Eight hundred to one thousand geologists and paleontologists attend these meetings, and some well known people are giving papers which could be an opportunity for UFOP members to hear. There are pre and post-meeting field trips in which Utah geology could be shown off.

Since Dave is a chairman at the meeting, he has some input on plans, and UFOP could participate. Ways in which UFOP could serve is to lead or sponsor field trips, a snack break, or a social, host a reception to honor volunteers, or help students and foreign people by opening their homes as places to stay during the convention. Opportunities and other ways to serve might be to plan a booth similar to that at the GSA convention, or to rent vehicles for field trips.

Dave would like some ideas or suggestions by November and finalization of those ideas by December. He needs some definite suggestions to

take to the UFOP board meeting at the end of October.

A sign-up sheet was passed around and members divided into brainstorming groups to discuss several of the ideas.

## Dinotour 1996: the Gobi Desert! By Vaclav Marsovsky

The Mongolian word for 'desert' is 'Gobi' and that is where four members of the Alberta Palaeontological Society could be found in September 1996.

Philip Currie, Mike Skrepnick, Vaclav and Mona Marsovsky were participants in the 14-day tour organized by the Dinotour organizing committee and Nomadic Expeditions of New Jersey. There were about 20 of us in total.

Clear skies were with us as we left North America over Nome, Alaska on the 11.5-hour flight from Vancouver to Beijing. We had 24 hours in Beijing to get over our jet lag, tour the Forbidden City and then take a two hour flight on Mongolian Airlines to Ulan Bataar, the capital of Mongolia. By now we were getting good at filling out customs forms, having completed our eighth.

To set the scene, upon landing in Mongolia, the countryside reminded me very much of Alberta and the weather was like Albert's too. The landscape consists of grass-covered hills with shrubs in the coulees not unlike Nose Hill Park in Calgary. The city, however, was nothing like Calgary. We were greeted by our Mongolian guides (partners of Nomadic and the official state tourist agents) with a comfortable bus and by the horses grazing freely in the airport's parking lot. On the way to town the road passed by a ger (Mongolian tent) (suburb, just one of several that surround the city, and a large coal-burning power plant on the west-upwind-side of town. In addition to electricity, the plant supplies large above-ground steam pipes (in need of repair) running all over the city. All along the way one is constantly reminded of the Russian influence: the Russian-style architecture, block-style apartment buildings, the cars and buses on the streets, the tank that made it to Berlin, and finally the statue of Lenin in front of our hotel.

Our morning flight with the domestic airline MIAT lasted 90 minutes and took us to the provincial capital Dalandagzad, in the heart of the Gobi. To our surprise the Gobi was green and the land flat with a long mountain range to the south disappearing on the western horizon. A 20-passenger bus was waiting for us and off we went to the ger camp about an hour to the west. There are several dirt roads leading out of town; however, with no signs anywhere the Mongolian drivers enjoy a great deal of job security. The only way you know where the roads go is by having traveled them.

By mid-afternoon we arrived at the Flaming Cliffs, also called Bayn Dzak. The weather was sunny and warm, at 20 degrees C, and a steady "Gobi" wind was blowing. The Flaming Cliff exposure is only a couple kilometers long marking a step between the flat land to the south (higher) and the flat land to the north (lower). The bus dropped us off at the top of the cliff. A great view of the red sandstone cliffs and badlands lay below us. Phil provided a brief explanation of what the bone looks like, having visited here once before, and most of us joined him as he climbed down into the badlands.

The entire section is fossiliferous from top to bottom. The bone is white or light colored, only partially permineralized. This is the Djadochta Formation, Upper Cretaceous. The Djadochta fauna at the Flaming Cliffs has minimal diversity but there is an abundance of material to find. The dinosaurs represented here include *Protoceratops*, *Oviraptor*, *Velociraptor*, *Irodonitids* and *ankylosaurs*. There are also lizards and small mammals – rodents of the Cretaceous. One will not find *Tarbosaurus* or *hadrosaurs* here; they occur in younger formations in the Gobi. There is some speculation that Asia and the northwest corner of North America (west of the interior seaway) were connected by a land bridge during the Cretaceous. This may explain why *Tyrannosaurids* and *hadrosaurs* are so closely related on the two continents but it does not explain why the *ceratopsians* are missing.

Accompanying us was a sedimentologist from the museum who not only provided interpretation of the formation but also was the official state representative providing authorization for us to be at the site. These areas in Mongolia are becoming more protected and supervised. There are plans to preserve it for future generations as a reserve or national park.

Shortly after arriving at the cliffs, we bumped into the Dinamation tour led by Dr. Bob Bakker. Bob's group had arrived two days before us and would spend a total of eight days in the Gobi. After two days of prospecting they were able to show us where they had found dinosaurs. Bob was anxious to show us "Skull Alley", a label he had assigned one of the coulees. Several members of our group followed. There was a *Protoceratops* skull at almost every bend in this narrow coulee, hence the name. I counted seven *Protoceratops* skulls in a distance of about 100 meters at various stages of weathering out of the red sandstone. At the site of the farthest one, Bob whipped out his notebook and began

sketching, starting with what was visible and then filling in the rest, ending up with a complete sketch of a *Protoceratops* skull from memory. Then he compared the fossil and the sketch, making the case for his interpretation. He invited us to help them with the excavations and jacking; however, for the time being the Dinotour group was more interested in prospecting and discovering for ourselves. We stayed late at the site the first day, returning in the dark to our ger camp about an hour's drive to the southeast. The Dinamation group was staying in twin-size nylon tents at the site. For them, the basic necessities included two solar showers (for a group of 20 people) and a water closet behind a cloth screen, wide open in the direction of the cliffs -- can't beat the view!

Next day we drove the hour to the cliffs in a steady rain. Upon arrival at the site and after a brief talk by the Mongolian sedimentologist the rain stopped. There was no greasy bentonite to worry about; the moist sand does not even stick to shoes and dries quickly.

Our group spent the day prospecting. We drove 2-1/2 hours west of camp to a site called Tigrigiin Shiree. This is where the fighting dinosaurs were found. The site is about as big as the flaming cliffs. Again, it is an escarpment surrounded by almost flat terrain to the north and to the south. The color of the exposure is like ordinary buff beach sand. Apparently it is the same Djadochta Formation, but the color is very different from the red of the Flaming Cliffs. There was one lonely sand dune at the foot of the escarpment. This was the only sand dune we saw in the Gobi during our entire trip!

In the distance to the south was than long mountain range we had been following since Dalandagzad, plus there was another range of mountains to the west with a few volcanic cones, 40 million years old. Trace fossils of burrowing animals are everywhere. Some look like rebar and have the same dark brown, rusty color, others are smooth and twist, some join together and split again. *Protoceratops* skulls and skeletons were showing up everywhere as soon as we started prospecting.

The Dinamation group, which also came to this site, started working early on one *Protoceratops* skull. The top of the skull was just becoming exposed so the elements had not had time to destroy it -- it was in perfect condition. Excavating the sand was easy: it offered about the same resistance as beach sand. The bone was white, while the teeth were light brown in color with their preserved enamel. The two fangs on each side, two centimeters long, hanging down from the premaxilla were really striking. Perhaps it was their brown color set against the light colored sand still filling the mouth of the dinosaur that made them stand out so. The fangs are an unusual feature, I thought, for an herbivore. The single row of erupted diamond-shaped cheek teeth were different from the familiar ceratopsian battery and reminded me more of *Iguanodon* teeth with their ribbed features. The teeth were single-rooted, like those of hadrosaurs, rather than typical double-rooted ceratopsian teeth, and they were hollow.

On the second day at Tugrigiin Shiree the wind picked up, which made the conditions unpleasant. One of our members found a hand of a small theropod. Phil identified it as belonging to *Velociraptor* by the shape of the claw. He and Bob Bakker excavated it together. The Dinamation group found some remains of a baby dinosaur. The vertebral centra were about 3 mm across.

Upon our return to China we spent a few days touring Beijing. We visited the Natural History Museum. The dinosaur hall was filled with casts of a few large dinosaurs. The mammal exhibit on the second floor, on the other hand, had real fossils.

We also went for a very short visit to the Institute of Vertebrate Paleontology and Paleoanthropology (IVPP) in Beijing. The tour concluded with a visit to the Great Wall last of a long string of highlights of the trip.

[excerpted from a reprint from Alberta Palaeontological Society Bulletin, December 1996]