

Fossil Footnotes

President's Message

Greetings. It is going to be a short note this month. I have been preoccupied with my sinuses. I had them roto-rooted (that's not the official medical name for the procedure) and then while things were healing they inserted a plastic superstructure inside my nose, which was torture. The doctor came in a week after surgery to remove it and said, "I was going to take these out, but I read a paper by a doctor in Germany who gets great results leaving them in for 9 months." I almost passed out before realizing the sadistic nature of his humor. Anyway, I am back to normal, hopefully soon better than normal, and feel the need to collect.

Sorry I missed the field trip. Thanks to Marc for leading us. See the trip report elsewhere in this newsletter.

We are still finalizing details for the next field trip for March 13. Come to the meeting or give Ed Elliott a call.

WARNING! We may be meeting in a variety of rooms this year. For March, we are in the Board Room. But it is not available for most of our meetings this year. We are currently trying to get a single consistent room for the rest of the year, probably in the Shapiro Building where we were last month. In the worst case, we might even have to switch meeting days for some months, but I hope that it does not come to that.

Mike

March Program

March 9th our speaker will be Bryan Wilbur from the University of Texas. Bryan is from California, and is working on his thesis here at UT on a really neat echinoid. (Hopefully we can wrangle another talk from him about the echinoid that Greg says expands like an accordion.)

His talk this month will be on the Burgess Shale of British Columbia. It sounds very interesting!

Greg is also working with Chris Jass from the University of Texas for a talk on April 13 on Collecting in the Dakotas. These guys are so very busy with their schedules; we need to make a good show of attendance in support of them.

Join us at the LCRA Building in the Board Room.

February Field Trip

It was a clear, crisp morning for our field trip to Killeen. An unprecedented 31 members met at Marc de Vries' house in Harker Heights. Marc is an avid echinoid/shark tooth collector and was kind enough to take us to some of his sites in the area. While at his house, we had a chance to view his collection. The consensus of opinion was that we all wanted to collect from his display cases.

We walked to the first site, then after that we car-pooled to somewhat lessen the size of the caravan. By the end of the day, we had visited seven different outcrops. There was no way to keep track of everything found with so many people. A very conservative estimate would be to say at least 120 *Salenia mexicana* were picked up, probably many

more. I am sure at least a dozen *Phymosoma texanum* were collected. Marc and John Hinte both found a *Tetragramma taffi*. While several ammonites were found, Margaret Clark's *Engoneceras* was a prizewinner. A few nautiloids were also found; I think they were left behind. Good ones in the Walnut are hard to come. Very nice *Parasimilia* corals were in abundance. A few sites yielded some very detailed gastropods. As with all Walnut- Comanche Peak outcrops, bivalves were plentiful.

A beautiful day, lots of good company and a variety of outcrops all loaded with fossils. What more could a collector want? Many thanks given to Marc for sharing his localities and hospitality. *Ed Elliott*



February 2004 Field trip to Killeen

Picture courtesy of Ed Elliott who is taking the picture

Texas Crinoids

A talk given to CTPS Tuesday Feb. 9, 2004 by Danny Harlow As explained by Greg Thompson

Crinoids are not common in Texas, but if you look hard enough, long enough, they can be found. Danny showed us plenty of proof of that, including a door prize, a full crinoid crown from the Bridgeport spillway.

Crinoids can generally be found in sediments of the lower Ordovician up to the Permian-Triassic extinction event. (That event killed out the closely related Blastoids.) Crinoids are an extant subphylum (which means they still exist today) so they are found from the Permian - Triassic into modern seas and sediments, (probably diminished numbers).

Texas has sediments of Permian age and Pennsylvanian age that will contain crinoids. Danny's collecting, and talk focused on the Pennsylvanian age sediments and crinoids found there. A North - South trending area west of Ft. Worth, called the Ft. Worth basin, is filled with Pennsylvanian sediments. This basin is filled largely with material eroding off the, then HUGE Ouchita Mountain range.

Danny told us that all Texas Crinoids are in the Subclass: *Inadunata*. That is a BIG help for identifying crinoids found in Texas.

Danny's talk ended with all of us admiring his Texas crinoids. Fabulous examples of Danny's fossils were shown displaying Danny's extraordinary fossil preparation ability. The Cambrian crinoid-looking fossils are not technically "Crinoidea".

The chart is the stratigraphy of Fort Worth Basin

Age	Group	Formation	Thickness ft.
PERMIAN			
PENNSYLVANIAN	CISCO GROUP	Putnam Formation	125-175
		Moran Formation	150-200
		Pueblo Formation	150-200
		Harpersville Formation	200-275
		Thrifty Formation	100-200
	CANYON GROUP	Graham Formation	100-600
		Caddo Creek Formation	30-150
		Brad Formation	175-250
		Graford Formation	170-450
		Palo Pinto Formation	50-100
STRAWN GROUP	Mineral Wells Formation	500-800	
	Millsap Formation	1,800-3,000	
BEND GROUP	Smithwick shale	400	
	Marble Falls Ls.	400-500	
	Barnett Shale	0-50	
Cambrio Ordovician			

Minutes of the February meeting

By Eric Seaberg

The normal meeting room was double booked and the meeting took place in another adjoining building. Danny Harlow gave a nice presentation on the Morphology of Crinoids and then narrowed the focus to Texas Crinoids and the unique geologic history of the areas that crinoids are typically found in Texas. Danny also brought in several nice examples of the different types of crinoids he has in his collection. His presentation was based on his personal experience collecting and two references:

- 1.) Carboniferous and Permian Crinoids of Texas, R.C. Moore and F.B. Plummer
- 2.) Fossil Invertebrates, Boardman, Cheetham, Rowell 1987

Many members brought in their finds from the Jacksboro field trip. There were many interesting items to debate about and ogle.

March Field Trip Planned for East Texas

The latest word on the March 13th field trip is that it will be a trip to East Texas for Oligocene wood in the morning and Eocene marine fossils in the afternoon. The weather will determine your attire. If it rains, or has rained, boots will be needed since the wood is found in the creeks. Otherwise, tennis shoes will work fine.

We are to meet at Stump's Restaurant, near Sam Rayburn Dam on 255 at 8:00 A.M. Saturday March 13th.

Just so we have a landmark, these directions start from Lufkin. Come to the meeting on March 9th for all the details. If you cannot come to the meeting, get in touch with Ed Elliott. Ed promises we will not be disappointed.

Start out going southeast on US 69 toward Zavala. Turn left onto Highway 63 East (at Zavala). Turn left onto Road 255. At this point start watching for Sam Rayburn Dam and the Stump Restaurant. It is probably more than five miles from the turnoff.

Pseudo-Lizards in the West

an article from Danny Harlow, not sure of the source

Small pseudo-lizards scurried beneath dinosaurs in the West

Some of the mightiest of the dinosaurs trod the earth of what is now western Colorado, and so did some of their smallest relatives. The extent to which small lizard-like creatures - neither dinosaur nor lizard - populated the same lands is now becoming clearer, said Dr. John Foster, curator of paleontology for the Museum of Western Colorado's Dinosaur Journey in Fruita.

In a just-published paper, Foster said the West, and more particularly western Colorado, was once home to a creature whose only known relatives now live on islands off New Zealand. The pseudo-lizard known as *Eilenodon*, discovered in the Fruita Paleontological Area in 1981, once covered the world with its cousins, other lizard-like creatures.

"These guys were everywhere," even more common than lizards in the Morrison Formation, Foster said. Since their discovery in 1981, tiny chunks of jawbone have been discovered in what now is the Rocky Mountain area. □ *Eilenodon* has now been found in Grand County, Utah, and the Colorado counties of Mesa, Montrose and Fremont.

Patterns of wear and jaw formation suggest *Eilenodon* was a plant and seedeater, Foster said.

The discoveries "give a broader picture of the fauna" of the day, Foster said, and leaves a mystery for investigators of the fossil record. Dinosaurs now are being linked to birds, but the evolutionary record of *sphenodontids* such as *eilenodon* is now even hazier, he said. The creature seemed to disappear 125 million years ago, but the most recent finds place it at 90 million years old. That gap still needs explanation, as does the more recent fate of the creatures, which now are tied only to the tuatara, which exist today much as they did in the late Triassic Period, but only off New Zealand.

The January Field Trip

For a week we listened to gloomy weather reports of rain all day Saturday. Yet at 8:00 that morning, there

were still 24 members and guests gathered at the courthouse in Jacksboro, Texas. We had all listened to John Hinte's exuberant talk about the wonders of Finis Shale outcrops and were ready to hunt fossils, rain or shine. Luck was with us. It wasn't cold or too windy, and only sprinkled a little. The collecting was even better than advertised.

With this many collectors in the field, I wasn't able to see all the good finds. It would be nice if there were a way for everyone to get together at some point and compare notes. On a long distance trip and with everyone having different schedules and leaving at different time—it's difficult. I will report those finds I saw. Eric Seaberg, Mike Smith, and Janet Root, all found nice ammonites. Gary Rylander found a good nautiloid. John Hinte picked up a beautiful *rostroconch*, the first I had seen. Tom bowers picked up several shark teeth. I am certain that there were many nice finds that I missed seeing. Apologies to those overlooked.

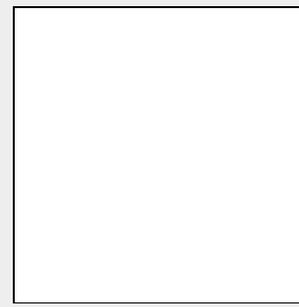
Simply as an example I will list a few things I found that day. Fourteen different brachiopods, ten gastropods, five corals, eight bivalves, two crinoid cups, conularids, bryozoans, fish/shark coprolites and large pieces of a variety of ammonites and nautiloids. For it's great faunal diversity, I would say the Lake Jacksboro Spillway (Finis Shale, Graham Formation, Cisco Group) is one of the best Pennsylvanian sites I have ever hunted. I think I speak for everyone when I say, "When are we going back?"

Eight of us decided we hadn't had enough of the Pennsylvanian and stayed over in Mineral Wells for Sunday. First we went to the dump for some more marine fossils, and then to Lake Palo Pinto for some plant material. It was a truly great weekend and field trip. Thanks to all who helped make it happen.

Ed Elliott

***See you at the meeting,
Tuesday, March 9th***

From ABC News Online



Extinction theory questioned (Reuters)

Doubts raised over dinosaur extinction theory

Scientists have raised fresh doubts about the theory that an asteroid

or comet strike about 65 million years ago wiped out the dinosaurs.

Looking in a crater off Mexico's Yucatan, researchers say the collision that formed the crater happened too far back in time to have caused dinosaurs' extinction by itself.

Some evidence has led scientists to suggest that an asteroid or comet strike triggered volcanic and climate changes that eventually wiped out the dinosaurs. When the crater was found off the Yucatan, it seemed like the perfect event.

Researchers led by Gerta Keller of Princeton University and including experts from Germany, Switzerland and Mexico have been examining samples from below the surface of the crater.

In this week's issue of the *Proceedings of the National Academy of Sciences*, they write: "Since the early 1990s the Chicxulub crater on Yucatan, Mexico, has been hailed as the smoking gun that proves the hypothesis that an asteroid killed the dinosaurs and caused the mass extinction of many other organisms at the Cretaceous-Tertiary (K-T) boundary 65 million years ago."

When they core drilled out of the middle of the crater data suggests it dates back more than 300,000 years even before the K-T boundary.

Therefore, it has been said that this event "did not cause the end-Cretaceous mass extinction as commonly believed".

The searchers studied a sample that extends 1,500 meters below the current surface of the crater, which is more than 200 kilometers wide. Other samples have included tiny pieces of glass-like rock that could have been melted during an asteroid impact, and which seem to date to

the 65-million-year point, give or take a few hundred thousand years. This core sample showed fossils that suggest the crater was blasted out 300,000 years before the K-T boundary. Magnetic evidence also suggests it is older than previously believed.

The findings would support an alternative theory that the dinosaurs and other forms of life were wiped out in a series of disasters that changed the earth's climate, Keller's team said.

They also noted other craters dating to around this time exist but none are big enough to have caused world-altering changes by themselves.

But the meteors or asteroids hit at the same time as a busy period of volcanic activity known as Deccan volcanism, as well as when greenhouse-type atmospheric warming and major extinctions occurred.

"The Chicxulub impact occurred at a time of massive volcanism which led to greenhouse warming," Keller said in an email interview.

The name Deccan comes from an area of what is now India where a massive amount of molten material surged up from near the earth's core 65 million years ago. It would have brought vast amounts of carbon gases to earth's surface, causing a warming effect that would have wiped out many species of plants and animals.

"This finding suggests that the K-T boundary impact [and volcanism] may have been the straw that broke the camel's back, rather than the catastrophic kill of a healthy thriving community." Now they need to find the actual crater left by whatever made this final blow.

They have suggested that one known as the Shiva crater in India, dating to around the same period, is perhaps the one. "There is evidence for a third impact, which occurred about 150,000 years after the K-T mass extinction," Keller said. This impact may have made it harder for plants and animals to recover from the worldwide effects of the blasts from space and from within the planet.



New Dinosaur Species

Two Dinosaur Species Found in Antarctica

(Reuters) - Two new species of dinosaur, one a quick-moving

meat-eater and the other a giant plant-eater, have been discovered in Antarctica, U.S. researchers said on Thursday. The 70 million-year-old fossils of the carnivore would have rested for millenniums at the bottom of an Antarctic sea, while remains of the 100-foot-long herbivore were found on the top of a mountain.

It was determined that they would have lived in a different Antarctica -- one that was warm and wet, the two teams of researchers, both funded by the National Science Foundation (news - web sites), said. The little carnivore -- about 6 feet tall -- was found on James Ross Island, off the coast of the Antarctic Peninsula.

Not yet named, the animal probably floated out to sea after it died and settled to the bottom of what was then a shallow area of the Weddell Sea, said Judd Case of St. Mary's College of California, who helped find the fossils.

Its bones and teeth suggest it may represent a population of two-legged carnivores that survived in the Antarctic long after other predators took over elsewhere on the globe.

"For whatever reason, they were still hanging out on the Antarctic continent," Case said in a statement.

A second team led by William Hammer of Augustana College in Rock Island, Illinois found the 200 million-year-old plant-eater's fossils on a mountaintop 13,000 feet high near the Beardmore Glacier.

Now known as Mt. Kirkpatrick, the area was once a soft riverbed. Hammer and colleagues were scouring the area for fossils after having found other new species there in the 1990s. The team included Peter Braddock, a mountain safety guide.

"I jokingly said to him, 'Keep your eyes down. Look for weird things in the rock'," Hammer said in a statement.

"He had marked four or five things he thought were odd, including some fossilized roots. But I realized that one of these things was bone: part of a huge pelvis and ilium."

The animal would have been a primitive sauropod -- a long-necked, four-legged grazer similar to the better known as brachiosaurs.

"This site is so far removed geographically from any site near its age, it's clearly a new dinosaur to Antarctica," Hammer said. "We have so few dinosaur specimens from the whole continent, compared to any other place, that almost anything we find down there is new to science."

This information was taken from a Canadian based website

Texas Gem & Mineral Shows

March 6-7, Big Spring, TX - Big Spring Prospectors Club. 35th Annual Gem & Mineral Show. Howard County Fair Barn, 79720. 6th, 9-5; 7th, 10-5. Jerald Wilson, 432-263-4662.

March 6-7, Corpus Christi, TX - Gulf Coast Gem & Mineral Society. Bayfront Plaza Convention Center, 1901 N. Shoreline. 6th, 10-6; 7th, 10-5. Hank Swan, 361-857-2405, www.pyramid3.net/~gcgms.

March 26,27,28 The Fiesta of Gems, Morris Activity Center on the ground of the Coliseum San Antonio Southwest Gem & Mineral Society hosting

Apr. 3-4, Plainview, TX - Hi-Plain Gem & Mineral Society. Annual Gem, Mineral, & Jewelry Show. Olly Tiner Center. Tommy Day, 806-293-7656.

Apr. 10-11, Abilene, TX - Central Texas Gem & Mineral Society. Abilene Civic Center, N. 6th and Pine Sts. 10th, 10-6; 11th, 10-5. Sallie Lightfoot, 325-692-4642, slightfoot@aol.com.

Apr. 16-18, Alpine, TX - Chihuahuan Desert Gem & Mineral Club. 14th Annual Gem Show. Alpine Recreation Center. 16th, 9-6; 17th, 9-6;

18th, 10-5. Donna Sue Trammel, 432-426-2924, 432-426-9027, paradiseranch5@hotmail.com.

May 1-2, Waco, TX - Waco Gem Mineral Club. 44th Annual Show. Waco Convention Center, Chisholm Hall. 1st, 10-5:30; 2nd, 10-5. John Simonson, 254-756-2537, jsimonson@hot.rr.com.

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Club Information

The Central Texas Paleontological Society is a scientific, non-profit, community-based organization devoted to the study of fossils, advancing the state of the science, educating the public, and collecting fossil specimens. Most of us are amateurs, fascinated by fossils, who love to collect.

Meetings are held on the second Tuesday of each month at the LCRA building, 3700 Lake Austin Blvd. (between Redbud Trail and Enfield Ave.) at 7:00 PM in the LCRA Offices Board Room of the Hancock Bldg. **The public is cordially invited** to attend these meetings as well as our field trips held throughout the year.

Annual dues are: \$15 per person or \$18 per family, which includes a subscription to this newsletter, membership in the South Central Federation of Mineral Societies, and liability insurance coverage for club activities. Associate membership is \$10 per year and includes a subscription to this newsletter.

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About the Newsletter

Fossil Footnotes is distributed once a month prior to each meeting. Contact the Membership Chair to subscribe or obtain a sample-issue. If your mailing-label has a date marked with a colored pen, it means your membership has or is about to expire. Please send your check to the club Membership officer or bring it to a meeting.

We accept material from club members (and non-members at our discretion) including, but not limited to, information relevant to club activities, fossil collecting, paleontology & geology, and science education. Feel free to reproduce original material contained in this newsletter for educational purposes (including other club newsletters), so long as you credit the newsletter issue and author, if applicable. Send submissions by e-mail or hardcopies to the Editor (see above) at least two weeks before the meeting. Expect some publication delays for exotic formats.

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