

# Fossil Footnotes

Central Texas Paleontological Society

February 2005

## President's Message

Happy New Year!

The new board is officially in place. I am honored to be the club's President for 2005 and I want to sincerely thank all of the board members who agreed to volunteer their time to assist in making CTPS a success. It should also be recognized that many other members who are not on the board donate their time to the club in many valuable aspects and it is truly appreciated. The dedication and involvement of the members is what makes this a very special organization. Thanks to all.

I also want to thank Mike Smith for his excellent job as President in 2004 and his hard work on the club website. There is a large amount of data available. Please access and use the site to your advantage.

Our January meeting was attended by a number of new faces. It's good to see our club is reaching out in a number of areas and attracting new members.

Our first field trip of the year was to the Jacksboro area and will be covered in detail by Ed Elliott in the Newsletter field trip report.

Many of you already know that the wife of past club member Quentin Martin, who passed away

in 2004, called Mike and donated Quentin's fossil collection to the club. We all miss Quentin but his memory will live on and we truly appreciate the donation. Many of the pieces are of such high quality that we will have Grand Door prizes at Fossil Fest for many years to come. There are also many pieces that will be used in the Club spring auction for fund raising and meeting door prizes.

Don't forget that the club is developing an extensive Library and the contents of which can be viewed at the website. Contact Hollis or Greg Thompson if you see something you would like to check out.

Last but not least, please send in your 2005 dues to Treasurer David Lindburg or pay at the next meeting.

See you in February!  
Danny

**February Meeting to be held on  
Tuesday, February 8, 2005**

**Our Newly Designed Web Site**

<http://www.texaspaleo.com/ctps/index.html>

## **Paul Sereno Wednesday Feb 2 UT Geology Informal Talk**

We have reserved room 3.222 (new wing) for an informal seminar by Paul Sereno next Wednesday (February 2) at 4:30. No title yet, but it is likely that he will be talking about dinosaurs. Please feel free to pass this information on to anyone who might be interested. Paul, from the University of Chicago, will be visiting the CT lab January 31st - February 4th. He will be scanning a new sauropod from Africa.

Cheers, Matt  
Matthew Colbert, Ph.D.  
Univ. of TX High-Resolution X-ray CT Facility  
The University of Texas at Austin, Geol Science

**&&&**

### **Texas Fossils to Travel to Maine?**

We now have a new assoc. member, Clayton Carkin, a teacher in Maine. He would like to get a few Texas fossils for his classroom.

One option would be to put a note in the newsletter. (And here it is.)

Another option would be to request folks bring a few things to a meeting and the club pay postage to ship them to him.

This would need to be discussed at the February meeting.

**&&&**

### **Upcoming Shows**

**February 19-20, 2005** Williamson County Gem & Mineral Show, Georgetown Community Center, San Gabriel Park, Georgetown, Texas

**February 19, 2005** Gary Bowersox will come to Austin to talk about his travels and adventures in Afghanistan. His talk will be held at the Austin Gem & Mineral Society's Clubhouse from 1:00

PM until 5:00 PM. Gary is a very colorful and interesting person who has traveled to Afghanistan to buy gemstones many times over the past twenty plus years.

The charge is only \$10.00 per person and promises to be very intriguing. Light refreshments will be served.

Contact Hollis Thompson at 512 341-0212 or [dopsticks@sbcglobal.net](mailto:dopsticks@sbcglobal.net) for additional information or a registration form. Gary is being sponsored by the Texas Faceters' Guild.

**February 26-27, 2005** Clear Lake Gem & Mineral Society show, Pasadena Convention Center, 7902 Fairmont Parkway

**March 12-13, 2005** Gulf Coast Gem & Mineral Society, Corpus Christi, Texas

**April 1-3, 2005** Southwest Gem & Mineral Society 45<sup>th</sup> Annual Fiesta of Gems Morris Activity Center on Coliseum Road

**April 8-10, 2005** M.A.P.S. Expo XXVII, Western Illinois University, Macomb, Illinois

**&&&**

**Have You Paid Your Dues?  
Please check your label to see if it  
is time to mail in your dues.**

**&&&**

### **2005 Tentative Field Trips**

This is the tentative schedule for this year's field trips

Feb 12th	Hwy 21
Mar 13th	Bandera
Apr 16th-17th	Kent or E. Texas
May 14th	Brownwood
June 18th-19th	Oklahoma
July 16th	Brazos Canoe
Aug 13th	Non-Vertebrate Lab (UT)
Sept 17th	Midlothian
Oct 15th-16th	Sulfur/Red River
Nov ???	Kerrville
Dec ???	

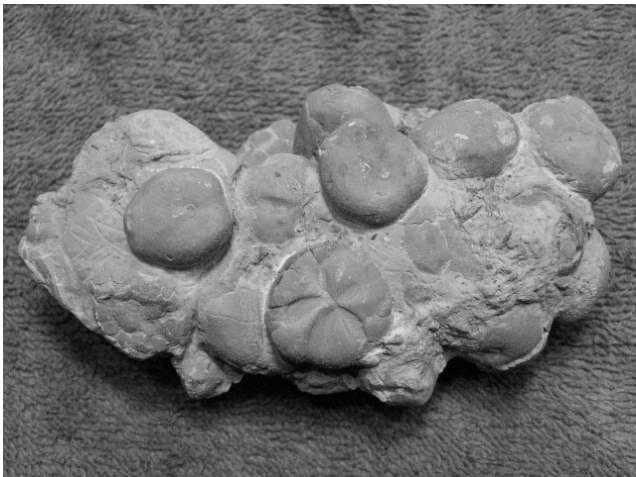
## Fossil of the Month

Two fine specimens recently collected by Ron and Janet Root and photographed at the January meeting.



*Holectypus*

*Coenholectypus transpecosensis*. Lower Cretaceous (Washita). It was found in Culberson County, Tx near Hurds Draw (approx 31 degrees north, 104 degrees west) by Janet Root.



*Plesiaster americanus* cluster  
Upper Cretaceous  
Navarro formation  
Austin Group  
Travis County

It should also be noted that Bill Kidd and Ed Elliott, through research from an old publication, has identified the crab claws that many of us have found at the Canyon Lake boat ramp locality as *Paleopagurus banderensis*.

## December Field Trip

By Ed Elliott

It was a beautiful day for a field trip: cool and crisp but not really cold under a sunny sky. Ten members and guests met at the mall in Early: Bill Kidd, Bill Thompson, John Hinte, Dennis, Cindy and Sarah Fryar, Dave Lindberg, Hal Hopkins and Corey Gage. It was a good turnout considering it was the weekend before Christmas.

From Early, we caravanned to the Brownwood Spillway. When we stopped to sign the registry, there wasn't one. Lake Patrolman R. L. (Bob) Pacatte came out to explain that there was still a small amount of water coming over the spillway and no one was allowed in. We went to the overlooks and didn't see a problem, but rules are rules. If you're thinking about going in the future, prevent a similar situation by calling 325-784-5487 or check [bpacatte@bcwid.org](mailto:bpacatte@bcwid.org).

By consensus we decided to go to Wilson Quarry, always a great place to collect. This is the Moran Formation, which some authors place at the top of the Pennsylvanian, some at the bottom of the Permian. Upon arrival, as usual, we all scattered. Some people had to leave early (before sunset) so I didn't get to see what everyone picked up. There were quite a few *Delocrinus* cups found. I believe that Dennis said Cindy had found a nice one. Bill Thompson found a nice one in matrix. The prize goes to John for most of a beautiful crown; for a change this time it was the cup that was damaged. There were many partial *Petalodus* teeth found but I didn't hear of any good ones. There is always a good selection of brachiopods picked up as well as several species of *Lophophyllidium* corals. From what I saw a broad selection of bivalves were collected. My unusual pickups for the day were a large specimen of *Rhombopora*, a bryozoan and four gastropods.

For whatever reason, gastropods are the one group that is seldom seen at Wilson. These were *Bellerophon* sp.

Good friends, good conversation, good locality, a beautiful day-what more could a fossil hound want?

&&&

## **Discover Magazine January 2005**

2004 Year In Science (article provided by Ed Elliott)

### **Australian Crater Implicated in Global Rubout** *by Kathy A. Svitil*

Paleontology-In a massive extinction about 250 millions years ago, 90 percent of Earth's sea creatures and up to 80 percent of its terrestrial species vanished. Some scientists attribute the Great Dying to a gigantic asteroid or comet impact, similar to one in Mexico that obliterated the dinosaurs 185 million years later. In May, researchers reported they located what may be the telltale scar in a large underwater dome off Australia's northwestern coast.

Other investigators had previously suspected something extraterrestrial about the dome, Bedout (pronounced "bee-doo") High, because its uplifted area is a common feature of impact craters. And tentative dating pegged Bedout at 250 millions years old, within the ballpark of the extinction. Intrigued, geochemist Luann Becker of the University of California at Santa Barbara and her colleagues examined cores extracted from deep within the dome. They found glassy minerals with a disorganized crystalline structure characteristic of violently smashed and internally rearranged rocks.

"It looked like it had been through a pretty catastrophic explosive event," Becker says. "There were minerals that occur only as a result of an impact." Becker and her colleagues dated the materials more precisely, to 250.7 million years. They also located melted minerals of a similar age across Australia and other parts of the world, which at the time formed the southern super continent Gondwanaland. Gravity data and seismic soundings revealed a ring surrounding the central dome, traits similar to Mexico's Chicxulub crater.

Researches skeptical of Bedout's origin say it might be volcanic; Becker counters that Bedout sits on a passive continental margin, where volcanic activity has been traditionally absent. The 125-mile-wide-crater could have been created by an object, 6 to 9 miles across, possibly big enough to help trigger major geologic events. Becker notes the crater coincides in age with the breakup of Gondwanaland, the opening of the Indian Ocean and extreme volcanism across the Siberian Plains-plus, of course, the massive extinction.

"Those events caused a lot of change in the environment. And when a number of different places where an organism could run and hide are affected at once, they can't run and hide anymore."

&&&

### **January Field Trip**

By Ed Elliott

It was, as expected, a cold dreary morning when we met at the courthouse in Jacksboro. I was surprised at the turnout. Normally I don't include the attendance list when there are 17 names, but these people drove a good distance, knowing they were going to freeze their whatsits off. They deserve mention. Gary and Cathy Rylander, Mike Bobbitt, Mitch Scoggins, Rosemary Smith, David Lindberg, Ron and Janet Root, Mark and Margaret Clark, Camille and Sergai Hemlock, Vitale Arctur, Paul Hammerschmidt, Bill Kidd, Bill Thompson and I almost forgot, me, Ed Elliott.

As we drove to the Lake Jacksboro spillway, the lake was high and covered in fog. The temperature was in the 30s and didn't hit the 40s until noon. I wasn't bothered-I was dressed like "Nanook of the North". Mainly I wasn't bothered because, as always, the collecting was great. This location (Finis Shale, Graham Formation, Cisco Group) always has such a varied fauna that to list what was found would fill a full page by itself. Many things found here, I have never seen elsewhere. A great variety of gastropods and brachiopods were picked up and at least five kinds of corals, including the pretty

little *Paleacis*. Gary picked up a beautiful example of *Acanthopecten*. Bill Kidd collected a nice *Brachycycloceras normale* nautiloid. There were several *Moorecoceras* and *Liroceras* sp. And Mike Bobbitt got a nearly complete *Tainoceras*. For the ammonites, I picked up a nice *Eothalassoceras* sp. And I saw several nearly complete *Gonioloboceras* sp. Add conularids and a variety of crinoids and what a site!

By 1:30 or so, the consensus was to move on. We drove over to the little quarry by the lake and, as I expected, it was under water. Fifteen minutes later we were on our way to Mineral Wells and the cut on Union Hill Road... I am uncertain as to the formation, but I believe it to be Canyon Group. The main draw here is the Paragassizocrinus crinoid cups. Also found were some small Favosites coral colonies, brachiopods, a conularid, nautiloid pieces and several types of gastropods.

Our next stop was the Lake Palo Pinto Spillway for the Mingus Shale, Strawn Group. There are a variety of plant impressions – some 3-D, in a sandstone matrix. A flood event deposited a jumble of plant material, including large logs, into a distributary's channel-fill deposit. With the sun waning, most of us spent our time looking for little nodules containing a variety of ferns and leaves.

For trips to this site in the future, a call ahead will be needed. While we were unloading our gear, a Constable pulled up and asked very nicely what in the world were we doing. We explained and he said that no trips had been authorized. After informing him of our many trips in the past, he said that we would probably be left alone because it was assumed we were from a university. I trotted out the names of Dr Sprinkle and Dr. Mollineux and talked (BS'd) about our affiliations.. He made a phone call and got us approved, very decent of him. In the future, we need to contact the Palo Pinto Water District and speak with E.W. Hendrick at 940-325-6358. The mention of a university affiliation seems to open doors.

Since Gary had informed us that the Dallas Club had hunted the Mineral Wells dump the preceding weekend, we elected to go to the Bridgeport area on Sunday, meeting at the Jacksboro Courthouse again. We then caravanned to Runaway Bay. This area is the Lake Bridgeport Shale, Grafford Formation, Canyon Group. We were down to nine people and it was in the 20's with a strong wind blowing off the lake. Very Cold! And very few fossils. A few gastropods and a few stray corals. We gave two sites a long look to no avail. At the borrow pit, just before we left, Bill Thompson picked up an ammonite in matrix.

By the diversion channel in Bridgeport, we had better luck. Echinoderm plates and spines, small crinoid cups, *Heliospongia* specimens and a variety of gastropods and a small brachiopod. The site under the water tower also provided some nice specimens. The two sponges *Girtyocoelina* and *Girtycoelia*, numerous small *Delocrinus* cups and one *Allagecrinus* cup found by Bill Thompson.

This was the last stop and we all headed home. Out of eight sites, five were very good. I think everyone had a good time collecting the Pennsylvanian and are looking forward to coming back.

&&&



### Treasurer's Report:

January 1, 2005

\$7715.02	Beginning balance
- 5.50	Account maintenance fee
- 83.37	January newsletter
- 92.60	Christmas party
- 75.00	Tapir fund donation
+ 298.00	Dues, 1 hat, 1 T-shirt
<hr/>	
\$7757.55	Balance as of Jan 25

We are about \$200 ahead of where we were last year at this time.

David Lindberg



Mike received this via email:

This is a **thank you note** from the Chay, the young man who won the grand door prize at Fossil Fest. It's pretty neat, Thank you Chay for your drawing.

&&&

## Early mammal snacked on a dinosaur

This article compliments of Tom Bowers  
The Associated Press Jan. 12, 2005

Scientist also find fossil of dog-sized early mammal.

Villagers digging in China's rich fossil beds have uncovered the preserved remains of a tiny dinosaur in the belly of a mammal, a startling discovery for scientists who have long believed early mammals couldn't possibly attack and eat a dinosaur.

Scientists say the animal's last meal probably is the first proof that mammals hunted small dinosaurs some 130 million years ago. It contradicts conventional evolutionary theory that

early mammals were timid, chipmunk-sized creatures that scurried in the looming shadow of the giant reptiles.

In this case, the mammal was about the size of a large opossum, and the victim was a 5-inch "parrot dinosaur."

A second mammal fossil found at the same site claims the distinction of being the largest early mammal ever found. It's about the size of a modern dog, a breathtaking 20 times larger than most mammals living in the early Cretaceous Period.

Considering the specimens in tandem, scientists suggest the period in which these animals lived may have been much different than is commonly understood as the Age of Dinosaurs -- a time dominated by long-necked, 85-ton plant-eaters and the emergence of terrifying theropod hunters with bladelike teeth and sickle claws.

It appears that at least some smaller dinosaurs had to look over their shoulders for snarling, meat-eating mammals claiming the same turf.

"This new evidence gives us a drastically new picture," said paleontologist Meng Jin of the American Museum of Natural History in New York City, a co-author of the study in Thursday's issue of the Journal Nature.

Other scientists who did not work on the bones described the discoveries as "exhilarating."

"This size range really has surprised everybody," said Zhexi Luo of the Carnegie Museum of Natural History in Pittsburgh, who digs in the same area of northeast China. "It dispels the conventional wisdom."

The fossils were found more than two years ago in Liaoning province. The specimens were taken to a Beijing lab, where they were cleaned and analyzed by Chinese and American scientists.

The dinosaur-eater belongs to a species called *Repenomamus robustus*, known previously from skull fragments. This squat, toothy specimen is more complete; lying on its side, it measures a

little less than 2 feet long, and probably weighed about fifteen pounds.



On *R. robustus*' left side and under the ribs in the location of its stomach are the fragmented remains of a very young *Psittacosaurus*.

This common, fast-moving plant-eater is known as the "parrot dinosaur" because it had a small head with a curved, horny beak. Its arms were much shorter than its legs. Adults grew to be 6 feet long, but the one that was devoured was just 5-inches.

The remains still are recognizable; indicating that *R. robustus* ripped its prey like a crocodile, but probably had not developed the ability to chew food like more advanced mammals.

"We can still see articulated limb bones," Meng said. "It must have swallowed food in large hunks without being chewed.

Twenty times the size of other mammals, the larger, second fossil also is a *Repenomamus*, but considerably larger. It measures more than 3 feet long and probably weighed more than 30 pounds. Scientists have named it *R. giganticus*.

It weighed 20 times more than most of the 290 known early mammal species, Meng said. Its head is 50 percent larger than *R. robustus* and its body was larger than some dinosaurs that were living in the region.

Being so much larger means that *R. giganticus* probably behaved differently than most other early mammals, which ate insects and seeds. A larger mammal could roam and hunt

aggressively, preying on young dinosaurs.

"*Giganticus* is in a league by itself," Luo said. "It's the world champion so far for body mass in any Mesozoic mammal."

This new class of predatory mammals has set off new speculation. Originally, scientists believed that mammals remained small because larger dinosaurs were hunting them. Only after dinosaurs went extinct by 65 million years ago did surviving mammals begin to grow larger, they reasoned.

Now, the presence of larger mammals is reversing some of the speculation. The Liaoning region already is famous for its trove of small-feathered dinosaurs and early birds.

"Maybe small dinosaurs got larger -- or got off the ground -- to avoid rapacious mammals," wonders Duke University paleontologist Anne Weil.

Equally mysterious is how these specimens died in the same area at the same time. While neither show evidence of being hunted themselves.

The Yixian rock formation in which their bones were encased was a combination of river sediments and volcanic ash called tuff. The formation also includes the fossils of insects, frogs and other creatures, suggesting a mass die-off.

"It's possible that poisonous volcanic gas killed the animals when they were sleeping," Meng said. "Then there was a catastrophic explosion that buried the whole thing."

&&&

**Geo News:** as told by the National Geographic in the January 2005 (thank you Hal Hopkins)

Geology: **an addition to the Geologic Timescale has been approved** by the International Union of Geological Sciences.

The Ediacaran Period, named for the soft-bodied organism that thrived at the time, now precedes the Cambrian and extends back as far as 635 million years ago.

## **New Evidence Supports Terrestrial Cause Of End-Permian Mass Extinction**

Two hundred and fifty million years ago, ninety percent of marine species disappeared and life on land suffered greatly during the world's largest mass extinction. The cause of this great dying has baffled scientists for decades, and recent speculations invoke asteroid impacts as a kill mechanism. Yet a new study published in the December issue of *Geology* provides strong indications that the extinction cause did not come from the heavens but from Earth itself.

An international team of scientists led by Christian Koeberl from the University of Vienna studied rock samples taken from deep in the Carnic Alps of southern Austria and the western Dolomites in northeast Italy. Their findings promise to fuel what is already one of the hottest debates in earth science.

"Our geochemical analyses of these two famous end-Permian sections in Austria and Italy reveal no tangible evidence of extraterrestrial impact," said Koeberl. "This suggests the mass extinction must have been home-grown."

Layers of rocks contain a chemical testimony of environmental change through time. Asteroids and comets are chemically different from the Earth and when these objects arrive they leave a telltale chemical fingerprint in the rocks.

With the help of colleagues from the USA and UK, Koeberl confirmed the presence of the element iridium in the samples. Iridium is abundant in asteroids, comets, and other extraterrestrial material.

However, the amounts found were very small compared to those associated with the asteroid impact that many scientists believe killed off the dinosaurs 65 million years ago. At the same time, the team found no traces of the extraterrestrial isotopes helium-3 and osmium-187, commonly associated with impact events.

What the team did find, however, was evidence

of purely terrestrial processes at work. According to Koeberl, "The slight concentrations of iridium may have been deposited by sluggish oceans when atmospheric carbon dioxide levels were high and seawater oxygen levels were low. The source of the carbon dioxide was probably volcanic activity." Large areas of Earth's crust can be split by volcanic activity to create space in which oceans form. When it comes to cracking continents, however, breaking up is very hard to do.

At the close of the Permian, one such failed attempt at ocean forming led to massive volcanic activity in the heart of present day Siberia. Emissions flooded the atmosphere leading to changes in climate and patterns of oceanic circulation. "Our findings support the view that evidence for an extraterrestrial impact event during this time period is weak and inconsistent," said Koeberl. "At the same time, they suggest that widespread volcanic activity may have been the 'smoking gun,' quite literally, that wiped out much of life on Earth."

**&&&**

### **Where the Bones Are**

November 2004

*Science*, Vol. 306, Issue 5701, 1449, 26

Images of *Tyrannosaurus rex* might be everywhere, from TV shows to lunch boxes, but its bones have turned up at only a few locales around western North America. At the Paleobiology Database visitors can find out where researchers have collected particular species or tackle broader questions about patterns in the fossil record. The 5-year-old site, headed by paleontologist John Alroy of the University of California, Santa Barbara, lets you scan Alroy's and other experts' records of more than 43,000 fossil collections, dating back to more than 540 million years ago. Searching for a species returns a roster of collecting locales. Click on a particular one for a detailed profile that includes lists of other remains discovered there, descriptions of the strata, evaluations of how well the fossils had held up, and other information. See [paleodb.org](http://paleodb.org).



## Central Club Contacts, 2005

President	Vice President Show Chair	Secretary
Danny Harlow 1140 Elder Circle Austin, TX 78746 (512) 327-4535 dharlow@austin.rr.com	Ron Root 6801 Rustling Oaks Trail Austin, TX 78759 (512) 345-6718 ron_root@bnc.com	Eric Seaberg 9283 Scenic Bluff Drive Austin, Texas 78733 512-402-0433 eseaberg@austin.rr.com
Field Trip Chair,	Treasurer	Program Chair Board Member
Ed Elliott 5502 Roosevelt Austin, TX 78756 (512) 453-5390	David Lindberg 9413 Sherbrooke Street Austin, TX 78729 (512) 401-0812 DLINDBERG@austin.rr.com	Mike Smith 8324 La Plata Loop Austin, TX 78737 (512) 288-6582 msmith17@austin.rr.com michael.smith@eds.com
Newsletter Editor	Board Member	Club Founder
Hollis Thompson 207 Adelfa Drive Round Rock, Texas 78664 (512) 341-0212 dopsticks@juno.com	Gene and Sheri Siste 5329 Hanging Cliff Cove Austin, TX 78759 (512) 794-0880	Don O'Neill 2600 CR 241 Hondo, TX 78861 (830) 741-3557

### 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.

Central Texas Paleontological Society  
 P.O. Box 90791  
 Austin TX 78709-0791

**Web page:** <http://texaspaleo.com/ctps>

## **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.

**FOSSIL FOOTNOTES**  
**P.O. Box 90791**  
**Austin TX 78709-0791**