



Fossil Footnotes

Central Texas Paleontological Society
October 2002

President's Note

in the main meeting room at LCRA

Happy New Year!! I hope everyone had a great Holiday season. The club Christmas party was well attended and a lot of fun. Thanks to the Thompson's for hosting the event. We will present a new slate of Officers to be voted on at the next meeting. See the proposed list in the newsletter.

It has been an honor to be your President for the past year and I appreciate everyone's help over the course of the year to make our club a continued success. This club truly has an active and generous membership that is a joy to be a part of. THANKS! Our continued support of the new board will insure 2003 will be another fun and prosperous year. See you all at the January meeting.

Danny

Membership Renewal Time

It's that time of year. The date in the upper right core of your address label indicates when your membership expires. If it is less than 6/03 send in a check to ensure uninterrupted newsletters! If it is empty, you are a Life Member or receiving a complementary newsletter. (If you just requested information about the club ignore the date. You should receive 2 newsletters.) Let Mike Smith know if you think your membership has been recorded incorrectly.

January Meeting

Our speaker will be Jeri C. Rodgers, A PhD grad student in Paleontology at the UT Geology Dep. The we will be

Slate of Officers and Board Members for 2003

This is what we have so far. Anyone eager to fill a spot (say as Treasurer), speak up!

President:	John Hinte
Vice-President/Show Chair:	Danny Harlow
Treasurer:	Mike Smith
Secretary:	Ron Root
Speaker Chair:	Kathleen Howard
Field Trip Coordinator:	Ed Elliott
Newsletter Editor/Website:	Mike Smith:
At Large Board Position:	Gene & Sheri Siste



The Grand Door Prize for 2003
Reproduction of slab of multiple Phacops sp.,
Devonian, Sylvania, Ohio

Meeting Minutes

No minutes. We had a great Christmas Party. Maybe the best average present quality we have seen. Thanks to Hollis and Greg for hosting. And I think everyone up north owes them a special thanks! For the first time in a while they didn't have to drive for an hour to get to the party. Of course, I did, but turn-about is fair play.

Molting Habits May Have Led To Extinction Of Trilobite

Molting, that periodic ritual in which arthropods shed and replace their outer skeletons, can be a dangerous time for the creatures. Just ask the trilobite. Research published by a Michigan State University paleontologist suggests that an inconsistent molting style, coupled with inefficient physiology, contributed to the demise of these prehistoric relatives of today's crabs and lobsters nearly 250 million years ago. "They would shed their old exoskeleton any way they could," said Danita Brandt, a faculty member in MSU's Department of Geological Sciences whose findings were published in the Australian paleontology journal *Alcheringa*. "They had to improvise."

On the other hand, today's modern arthropods molt the very same way every time. The same suture opens every time, letting the animal out. "When the same technique is used, there is less of a chance that things will go wrong," she said. "Molting is a very dangerous time for an arthropod. A lot of things can go wrong."

Brandt's proposed connection between arthropod molting and evolutionary fate is based on two pieces of evidence: the inconsistency of molting patterns that characterize trilobites, in contrast to the consistent patterns seen in modern arthropods; and her observation that certain trilobites that had fewer body segments tended to live longer -- evolutionarily speaking -- than those that had many segments. "Trilobites with fewer segments probably had a lower risk of molting-related accidents, and may have shed their old exoskeleton more quickly," she said. "These are traits of modern arthropods that act to minimize the period during which the animals are vulnerable to predators."

Brandt also noted that trilobite molting differed from molting in modern arthropods in another potentially important way: many modern arthropods resorb minerals from the old exoskeleton or consume their molted exoskeleton, thus conserving resources. "There is no evidence that trilobites used these conservation strategies," she said. "Apparently trilobites were faced with the

considerable task of rebuilding a heavily calcified skeleton 'from scratch' with each molt."

At one time, trilobites were one of the more evolutionary successful animals to roam the early world's oceans. The crab-like creatures, some of which were as small as a fingernail while others were nearly a foot long, thrived, especially during the Cambrian Period. It was at the end of the Paleozoic Era that the trilobite disappeared. For years the trilobite's extinction had been blamed on a sudden increase in the numbers of trilobite predators. Fossil records show that the number of trilobites began to drop as other aquatic animals, such as fish and squid, began to increase. "But it's highly unlikely that predators ever eliminated an entire group," Brandt said. "Another argument against predation alone is that other arthropods continue to thrive even today despite the proliferation of predator groups." Other theories linked to trilobite extinction include climate change, sea-level fluctuation, and even the effects of meteorite impact. However, the correlation between these possible causes and the pattern of trilobite extinctions is not consistent, Brandt said. "I think there is a biological 'wild card' that complicates the correlation of trilobite extinction with environmental factors, and for the trilobites I think that wild card **was** the unique challenge they faced during molting," she said.

Calendar

(Field Trips tentative)

<i>Date</i>	<i>Event</i>
January 14	CTPS meeting
January 18	Field Trip: Killeen
February 11	CTPS meeting
February 15	Field Trip: Brownwood
March 11	CTPS meeting
March 15	Field Trip: Jasper (wood)
April 8	CTPS meeting
April 12	Picnic and Auction
May 13	CTPS meeting
May 17	Field Trip: Midlothian (?)
June 10	CTPS meeting
June 21	Field Trip: Banderra
November 7-9	Fossil Fest , Old Settlers Heritage Association, Round Rock, TX

Club Contacts, 2002

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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, 3701 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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