Paleo Footnotes

Newsletter of the Paleontological Society of Austin

Austin and Central Texas

Volume 2, Number 2 – February 2007

President's Note

Time to try again. I don't recall ever having been "iced out" for a monthly society meeting. Then again, it would have only been our second regular monthly meeting of our new organization. The good news is our **program** will be presented, as planned for January, by member **Michael Bobbitt** of Georgetown. I hope to have twice as many folks come this month, since no one came last month to our cancelled meeting. Weather permitting, of course. My mantra since last month has been " Gotta go collecting, gotta go collecting,..." So, finally, I get to go tomorrow.

The PSA board did get a chance to meet last month. Field trips were penciled in. You remember field trips? That was also cancelled last month, unfortunately, due to the possibility of icy weather. The Jacksboro trip would have been great for that Sunday, but who would have known. Being held hostage at ice cycle point by the weather predictors hopefully won't happen again.

Two new areas were added. One is local. And some farther afield trips were discussed, and Colorado in the hot summer was excitedly put in. One summer trip was expanded to include a museum in Houston, with maybe a beach trip for diehards. The tentative list of field trips can be found at our society's web page.

An item of immediate interest is designing a **new logo**. The contest is on. Bring in your drawings for this month's meeting. Come on Hal, come on Danny, let's see your musings. The preferred way of presentation will be something that can be **done in an electronic form**. This is better detailed for reproduction. But, all ideas and forms will be considered. (* prizes offered to all who participate. *) A new logo will allow us to produce two items. One will be new name tags. The second will be signs for displays at PSA functions.

Saturday, March 24, PSA will participate in ***Discover Nature!*** **at the Texas Memorial Museum**. I will ask for volunteers at the meeting, or e-mail me if would like, for this event. The times of the event are 10am - 4pm. Honor PSA with one or two hours of commitment. Details provided at the meeting.

--- John

Next Meeting

Mike Bobbitt: A Passion for Ammonites

A little about Mike:

Mike has been interested in fossils since he was a young boy. In 1991 he started collecting and immediately developed a passion for ammonites. Mike grew up in Galveston. Served in the military in Viet Nam and 'worked all over the world' (let's ask him about the Zulus!). Received a 'science degree' from A.C.C. Married to Mindy Threadgill for 19 years (met while living in Houston working for Shell Oil Co.) Presently they live in Georgetown and Mike works for Seton in the Cat Scan Dept.

And most importantly..
He has a widely renowned collection of ammonites.
See you there

Tuesday February 20th, 7:00PM
Austin Gem & Mineral Society Building
6719 Burnet Lane, Austin, TX

Minutes of the January Meeting

Yet again there are no official minutes from the last meeting due to it being cancelled. Let's all hope the winter is finally winding down and we have no more cancellations of meetings or field trips.

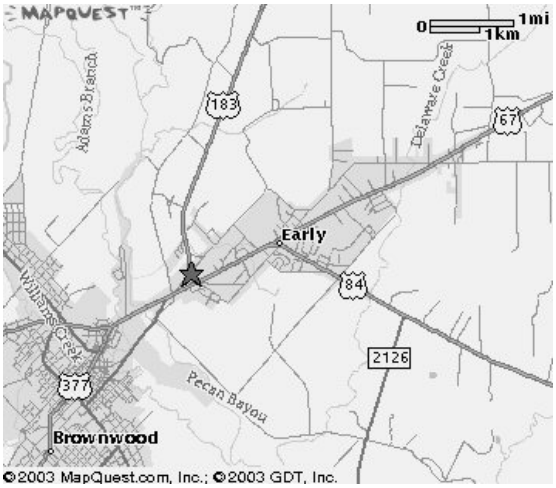
February Field Trip to Brownwood & the Wilson Clay Pit

When:

Sunday, February 25th,
We will meet at 8:30am at the Heartland Mall parking lot in Early, Texas.
Don't be late as we will be caravanning from here on.

Directions:

From Austin, take 183 through Goldthwaite to Brownwood.
The Heartland Mall parking lot is on the right just before 183 branches off from 377 going West into Brownwood on 377/67. You can't miss it.
On the map, highway 84 heading into Early is 183 coming from Goldthwaite



What to expect:

The Wilson Clay pit is in the Moran formation. There has been ongoing discussion as to whether this is the Upper Pennsylvanian or Lower Permian. Fauna includes brachiopods, corals, nautiloids , bivalves, rare trilobites, bryozoans, crinoids (typically *Delocrinas*) and occasional gastropods. But the traditional prizes from this site are the shark teeth. The more common is a *Petalodus* sp. Rarer is *Peripristis semicircularis*.

Ed's cell is 512 657-7581; John's is 512 636-4673; Mine is 512 789-4477

Mike Smith

Naming Periods and Epochs

by J. W. Downs

Most of us know the sequence of the geologic periods and epochs, but how they received their names remains obscure. Most of the Paleozoic periods have distinctly English sounding names since much of the early work in geology was done in England. The names of epochs in comprising the Cenozoic era sent me to the encyclopedia since I had few clues for the naming of *Oligocene, Miocene, Pliocene*, etc.

To memorize the sequence of geologic periods, Stephen Jay Gould held contests each year for his students to devise a mnemonic to help them remember. My favorite for the Paleozoic was: **C**ountless **O**bese **S**oldiers **D**rive **M**iles for **P**epperoni **P**izza. Professor Gould said that some of the best mnemonics were "underground" and he would blush to print them.

Geologic periods and eras have invariably ended by mass extinctions. There is little doubt about when one period ends and another begins, but the exact date of these boundaries changes as new information is processed. In **The Outline of History**, H. G. Wells gave the start of the Paleozoic Era as 360 or 36 (MYA), Mesozoic 260 or 26, and the Cainozoic (Cenozoic) as 40 or 4 MYA. The book was published in 1920 and used the best information available at that time. Even then, the span of geologic time seemed incomprehensible.

When Mark Twain visited the Eiffel Tower he observed that if we were to use that structure to scale the age of the earth, mankind would be represented by the thickness of the coat of paint on highest point. He went on to speculate that it was doubtful if the entire structure had been erected with the sole purpose of holding up that layer of paint.

The International Commission on Stratigraphy is constantly refining the boundaries of geologic time. In the latest round, **Carboniferous** has been reinstated as a period with *Mississippian* and *Pennsylvanian* as epochs. **Tertiary** and **Quaternary** have been replaced with **Paleogene** and **Neogene**, but not without some protest.

Acceptance of change is hard even in the scientific community. Plate tectonics was not readily accepted until the evidence was incontrovertible, and evolution is still having an acceptance problem. Even Louis Agazzis*, a contemporary of Darwin, never accepted evolution. Max Planck observed, "An important scientific innovation rarely makes its way by gradually winning over and converting its opponents. What happens is that its opponents gradually die out and the growing generation is familiarized with the idea from the beginning."

Late Precambrian Era

Ediacaran (630 - 542 MYA) Named for Precambrian rocks in the Ediacara Hills of the Flinders Mountains in South Australia. Formations of this period are also found in Leicestershire, England. Duration = 88 MY.

Paleozoic Era

Cambrian (542 - 488.3 MYA) Named for *Cambria*, the Latin name for Wales.
Duration = 53.7 MY.

Ordovician (488.3 - 443.7 MYA) Named for the *Ordovices*, a Welch tribe. Defined by Charles Lapwroth and recognized in 1906. Duration = 44.6 MY.

Silurian (443.7 - 416 MYA) Named for a Celtic tribe in Wales. Duration =22.7MY.

Devonian (416 - 359.2 MYA) Named for Devonshire, England. Duration = 56.8 MY.

Carboniferous (359.2 - 299 MYA) Named for the vast quantities of deposited coal. Duration = 60.2 MY.
The two epochs:
Mississippian (359.2 - 318.1 MYA) Duration = 41.1 MY.
Pennsylvanian (318.1 - 299 MYA) Duration = 19.1 MY.

Permian (145.5 - 251 MYA) Named for the Provence of Perm, Russia. Recognized in the 1840s and documents the largest mass extinction in geological history to date. Duration = 48MY

Mesozoic Era

Triassic (251 - 199.6 MYA) Named for the 3 distinct layers (red beds, capped by chalk followed by black shale) found in Germany and northwest Europe.
Duration = 51.4MY.

Jurassic (199.6 - 145.5 MYA) Named for the limestone deposits in the Jura Mountains where Germany, France and Switzerland meet. Duration = 54.1 MY.

Cretaceous (145.5 - 65.5 MYA) Named for the Latin word for chalk. Extensive limestone/chalk deposits in England and France (including the White Cliffs of Dover) occur worldwide. Extinction of the dinosaurs and ammonites. Duration = 80 MY, the longest period since the Ediacaran.

Cenozoic Era

Paleogene Period (formerly the Tertiary Period.) This period is divided into three *epochs:*
Paleocene (65.5- 55.8 MYA) Name derived from Greek: *paleo* (old) and *ceno* (recent) referring to the fauna evolving during this epoch. Duration = 9.7 MY.

Eocene (55.8 - 30.9 MYA) Name derived fro Greek: *eos* (dawn) and *ceno* (recent) referring to the dawn of modern mammalian fauna. Duration = 21.9 MY.

Oligocene (30.9 - 23.03 MYA) Name derived from Greek: *oligos* (few)and *ceno* (recent) referring to the paucity of new mammalian fauna after the sudden burst of evolution during the *Eocene* epoch. Duration = 10.87 MY.

Neogene Period (formerly the Quaternary Period.) This period is divided into four *epochs*:

Miocene (23.03 - 5.3 MYA) Named by Sir Charles Lyell from the Greek *meion* (less) and *ceno* (recent) because this epoch has fewer modern sea invertebrates. Duration = 17.7 MY.

Pliocene (5.3 - 1.81 MYA) Also named by Sir Charles Lyell from the Greek *pleion* (more) and *ceno* (recent) indicating a continuation of the recent. This was a reference to essentially modern marine molluscs. North and South America were joined in the late *Pliocene*. Duration = 3.5 MY.

Pleistocene (1.81 - 0.01 MYA) From the Greek *pleistos* (most) and *ceno* (recent). This epoch was marked by several glacial events A major extinction of large mammals (megafauna) including mammoths, mastodons and Smilodons began in the late *Pleistocene* and continued into the *Holocene*. Archeologists consider the end of the *Pleistocene* as the end of the Paleolithic age. Duration = 1.81 MY.

Holocene (0.01 MYA- present) From the Greek *holo* (whole) and *ceno* (new or recent.) Radioactive carbon provides accurate dating. Anthropic subdivisions are: Paleolithic, Mesolithic, Neolithic, Bronze age and Iron age. This epoch is a work in progress.

*During the 1906 San Francisco earthquake, a marble statue of Louis Agazzis fell from its high perch above the Stanford University quadrangle, landing head first and penetrating the cement pavement. The observation was made that Professor Agazzis did better in the abstract than in the concrete.

J. W. Downs

Dodo Fossils??

No complete dodo skeleton has ever been found but recently the remains of some 20 dodos were found on the island of Mauritius.

They laid single eggs, waddled rather than flew but little else is known abut the extinct dodo. They disappeared from the island of Mauritius in the 17th century, less than 100 years after colonists arrived, who had hunted them relentlessly.

All the bones were found in the same layer of the earth dating as far back as 3,000 years. Tambalacoque and ebony trees now exist only in Mauritius's mountains but Kenneth Rijsdik of the Geological Survey of the Netherlands says that this proves they once flourished in the lowlands and the dodos feasted on their fruits.
~~ *National Geographic*, August 2006. Adapted by Jean Wallace

Places to Be…Things to Do

Feb 24 – 27, Fiesta of Gems, Southwest Gem & Mineral Society Show,
Freeman Coliseum, San Antonio

Saturday, March 24, PSA will participate in *Discover Nature!* at the Texas Memorial Museum

April 28 – 29, Waco Gem & Mineral Society Show, Heart of Texas Fair Complex,
4601 Bosque Blvd., Waco

June 7 – 10, AFMS/RMFMS Convention & Show,
hosted by Chaparral Rockhounds, Roswell Civic Center, Roswell, NM

The purpose of the **Paleontological Society of Austin** is the scientific education of the public, the study and preservation of fossils and the fossils record and assistance to individual, groups and institutions interested in various aspects of paleontology.

Meetings of the **Paleontological Society of Austin** are held the third Tuesday of each month, 7:00 p.m. at the Austin Gem and Mineral Society building, 6719 Burnet lane, Austin, TX. The public is cordially invited to attend.

Annual Dues: $15/individual, $20/family and $10/associate (non-voting, receiving newsletter)

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DATED MATERIAL – MEETING NOTICE

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