

Fossil Footnotes

Central Texas Paleontological Society
June 2004

President's Message

Mike Smith

Well, it's been a short month. I confess I don't have much to say. No smart remarks, please.

Member news: John Hinte has been in and out of the hospital with a kidney stone that doesn't want to leave. Let's hope his last visit was the final one. He needs to get well soon. I got a kayak and I don't like wearing the life vest. Since I told my wife I would wear it whenever I was out alone (making it easier to find the body and claim the insurance) John needs to heal up.

Because of the early meeting this month (WEDNESDAY, JUNE 2) and some travel scheduled for next week, I am writing this before the field trip to NTC. I look forward to showing you all the entire fish I intend to find this time.

The field trip in June is a long distance one, to Oklahoma. There will be more info at the meeting. Given the popularity of crinoid bulbs at the auction, I expect we may have surprisingly high attendance for such a distant trip.

- Mike

June Meeting is set for

Wednesday June 2

Same time and same place

Just a different day

The speaker for the June meeting is not yet definite. Jon who was to speak to us in May will be having surgery on his knee just about the time our meeting will be held. But don't give up on us yet; I think there is a good possibility for a speaker yet, but we

will not know until after the newsletter has been sent out.

May Field Trip

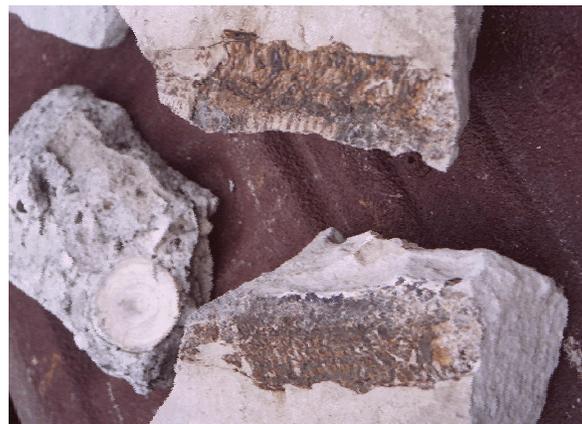
The May field trip was on Saturday, May 22nd. And even though I have not yet received an official report from our field trip guru, I have it on good authority that everyone there had a great time. I even heard that a visitor, Michelle Joseph of Cedar Park was quite successful finding several really great things: a shark vertebra about 3" in diameter, a mosasaur tooth tip, and an almost complete 12" fossil fish.

Congratulations, Michelle! (Michelle is in a white shirt standing just in front of the pole)

X



May 22nd NTC field trip



Michelle's fish and vertebra

John Hinte

We would like to wish John a speedy recovery. He has been dealing with a kidney stone. A recent update, John will have a little more exploration on Tuesday, May 25, and home the same day. We wish for him the best of care the doctors can provide and for him to **Get Well, John!!**

June Field Trip

The June field trip is tentatively set for Saturday, June 12 traveling to Oklahoma. As Mike mentioned in the President's message, the crinoid bulbs will be one of the things to be found.

A definite date and time to be announced at the June 2nd meeting.

An article provided by Mike Smith

Bird Evolution:

"Surprise Hummingbird Fossil Sets Experts Abuzz"

Erik Stokstad

Science 2004 304: 810-811.

If it's hummingbirds you're after, the New World is the only place to be. Of the 300-plus species of the hovering, nectar-sipping birds, almost all live in Central and South America, and experts agree that all species of modern hummingbirds evolved there. But now, fragile bones in 30-million-year-old rocks from southern Germany show that hummingbirds were once much farther flung than anyone expected.

Wider range. Hummingbirds, such as *Amazilia rutila*, live only in the Americas today, but they once inhabited Europe.

Hummingbird history has long been shrouded in mystery, chiefly because the delicate-boned creatures have left so few fossils. A few fossils of what appeared to be primitive hummingbirds have turned up in the Old World, but as far as anyone knew, their modern descendents never set wing in Eurasia. The new fossil, called *Eurotrochilus inexpectatus* is the first ever of a modern-looking hummingbird. When Gerald Mayr of the Forschungsinstitut Senckenberg in Frankfurt, Germany, came across two partially prepared specimens of the creature in a museum drawer in Stuttgart, "I didn't have a real idea what it was," he says. But closer inspection revealed evidence that the specimens were hummingbirds. The

clinker was the short, stocky humerus with a bony knob that probably allows the wing to rotate during hovering flight. Mayr describes the discovery in the May 7 issue of *Science*.

Eurotrochilus demonstrates that in the Old World, hummingbird ancestors had evolved the main features of living hummingbirds, such as a long, slender beak adapted for feeding on nectar, by 30 million years ago, Mayr says. That might explain why a handful of European flowers appear adapted for hovering birds, he adds. It could be that these plants first evolved with hummingbirds and were pollinated by them.

"The amazing thing about this fossil is that it's essentially a modern hummingbird," says Margaret Rubega of the University of Connecticut, Storrs. "My mind is a little blown." The finding raises as many questions as it answers. Figuring out where the early hummingbirds came from and why they became extinct, for example, will take more discoveries. For paleontologists scouting for fossil hummingbirds, the Old World may become the new place to be.

Amber

By Hollis Thompson

Millions of years ago, a forest flourished. One tree was very unique and exuded large amounts of resin which became the sticky trap, catching and holding invertebrates, small vertebrates, plant parts and other pieces of wildlife living in the forest. The animals and plants conserved in the amber from the Dominican Republic represent one of the most complete fossil records of terrestrial life in a tropical region.

We can step back in time to a forest that was lush and green some 15-45 million years ago and then it disappeared leaving behind evidence of its existence.

In the Dominican Republic, the most significant plant was the Algarrobo tree. Besides the presence of organisms in its resin, this tree provided leaves, pollen and fruits for food, homes for diverse creatures from bees to animals. While some items are more common, fruits are more rare than seeds.

Folklore credits amber amulets with improving fertility, virility and protection from depression and witchcraft and even less severe things such as headaches, sore throat, stomach pains and goiter. Legends say that Jurate, the queen of the Baltic, reigned from her underwater palace of amber. When she fell in love with a handsome fisherman, Kastytis, the god of thunder, Perkunas became so enraged that

someone like her could fall in love with a mortal man that he sent down below the sea, a powerful bolt of lightning and shattered her palace of amber. Now after storms when pieces of amber wash up on the shore, these are said to be symbols of her doomed love.

What is even more tragic is now the loss of the Pushkin Palace's Amber Room, looted by the Nazis of many priceless mosaic panels from the palace from outside of Leningrad when in 1941, they moved to Korigsberg. The Russians threatened the city in 1945 and the panels were transported west and disappeared. The search for the answers to the mystery of their disappearance has been answered only by mysterious deaths.

For those of us who love amber, our next field trip will be to Palangoa, Lithuania to the Amber Museum. My bags are packed. I just have to save a bit more money.

A walk along the beach could easily be a walk over pieces of amber beneath our feet but hardly recognizable in its raw state. But a stroll thru Tiskevicius Park leads to the stately museum, Palango Amber Museum, opened in 1963. The foundation for this museum is the collection of amber pieces from Count Tiskevicius once displayed in 1893 at the Paris Expo. The highlight of the Palango Amber museum is an entire room filled with "included" amber specimens: 15,000 spiders, insects, lizards, snails, toads, termites, and ants all displayed with the best examples under magnification. Some other examples are air bubbles showing atmosphere trapped in amber for millions of years, prehistoric trash of spider webs, leaves and bird feathers treasured by scientists who have identified over 3,000 species.

Other parts of the world are also represented by their amber pieces including rumanite from Romania, copal from Africa and burmite from Thailand. These other exhibits show the difference between Baltic Amber and amber from other parts of the world.

Amber is between 20-40 million years old and is a component of tree sap. The tree "bled" profusely, the sap was exposed to the air and the essential oils and other components evaporate leaving resin behind. A slow fossilization process begins now (oxidation and polymerization). As the resin becomes harder, it passes into the copal stage or partial fossilization. Eventually it becomes amber (extensive fossilization) with a hardness of between 2 and 3.

Amberoid comes from small pieces of amber, pressed together with heat and pressure. When it was first produced, foreign materials were absent, but now various "binders" are added in small amounts to help fuse the pieces together. Color can also be added during this process.

There are several tests you can use to make sure what you have is amber. The more tests you apply, the more chance you have of catching a fake or determining that yours is truly genuine amber.

The sense of touch can sometimes determine amber from harder substances as some who walk the beach in search of amber, picking up pieces and tapping them against their teeth quickly tells them the difference. This method is not as successful in distinguishing amber from some plastics or other resins.

The sense of sight by viewing the color of the swirl that is so typical of Baltic Amber. But be aware of the wide color variation found in amber from almost white, to light yellow to a very dark brown.

Odor can also be used to determine true amber. The substance must be heated for this test. You can rub two pieces together, producing heat by friction without causing damage to the pieces. Or rub your thumb over a small area of the piece, and then quickly smell the piece. Amber will give off a resinous odor. Some materials from the Dominican Republic are coated with a clear hard transparent coating, making this test more difficult if not impossible. Then you might actually have to try the hot needle or hot point technique. The hot point is inserted into the pieces and amber will give off a pungent resinous odor distinguishable from plastic. Natural resins and copal are much softer and melt faster than amber, maybe even boil and tend to emit a sweet, piney odor. Remember, this does alter the surface of the piece.

Other tests include testing for the refractive index, 1.54, though this has not been determined to be correct for all amber. Specific gravity tests are done with a solution of salt and water, the density equal or slightly higher than the heaviest amber of about 1.10. Amber splinters or crumbles when cut with a knife while plastics produce shavings. Chemical methods can also be used but some methods can actually destroy the pieces being tested. Some "amber" pieces having passed all the other tests, refractive index, specific gravity, odor tests, but were determined to be fakes, mastered by experts very knowledgeable about amber. The fakes were worth

less than \$10.00 but could have been sold for at least \$500 if it had passed as amber. So as it is with gems and gemstone, Buyer Be Aware.

References: The Amber Forest, George Poinar Jr and Roberts Poinar

Amber: True or False April 1982 issue of Gem & Mineral by George O. Poinar

A Passion for Amber November 1995 issue of Rock & Gem Magazine, article by James Held

The Central Arkansas Gem, Mineral and Geology Society

Hello!

We're getting ready for our 2004 Rock Show and Swap on Saturday and Sunday October 2nd and 3rd. This year the event will be held at the Jacksonville Community Center in Jacksonville, AR from 8:30 A.M. until 5:00 P.M. both days. The address is 5 Municipal Drive and can be easily accessed taking Exit 9 (Main Street Exit) from Highway 67/167 at Jacksonville. We should have good attendance as this location is centrally located, easily seen from the Interstate, will be advertised in national publications as well as local newspapers, posters displayed over the area, and is also located just outside of the entrance/exit of the large Little Rock Air Force Base. The Community Center is large, well lighted, has electrical outlets (dealers bring your extension cords and tape) is heated/cooled, contains large clean rest rooms, kitchen facilities, dining area, and is secure. Motels, RV parks, shops and restaurants are also located close by. Refreshments will be available on site provided by a non-profit group.

Admission price is \$2.00 per person 12 years of age or older. Dealers admitted free with their paid fee.

For Dealers:

We will have a two-tiered system:

1. Inside Dealers
2. Outside Dealers.

1.) Inside Dealers will be located within the Community Center and have electricity, lighting, display tables provided, heating/cooling, and the security of their displays being locked up in the building overnight.

Cost is \$25.00 per day for each Six (6) foot table provided. Reservations are only made with pre-payment. Table allocations made by the Society.

No Refunds

2.) Outside Dealers will be located outside the Community Center building in the cordoned off portion of the parking areas. No services or tables are provided. These dealers can however "dry camp" near their display area. The cost is \$10.00 per day for a ten foot by twenty foot area. Each additional 10 by 10 foot area is an additional \$10.00 per day.

Make check payable to:

Central Arkansas Gem, Mineral and Geology Society
PO Box 448

Little Rock, AR 72203

We hope to see you there!

Ron Wilhelm, Promotion Coordinator (501) 821-2440

May Field Trip

By Ed Elliott

Our annual trip to Midlothian to visit the Ash Grove Cement Quarry (formerly known as the North Texas Cement Quarry-NTC) has ended successfully again. It was a cool, breezy overcast morning; perfect collecting weather for the eighteen members and guest who were able to make it.

I want to say something and I don't want it to sound negative. This is a spot that I've never really done well. I've never left empty handed, I always find some nice things, just not the showstopper I'm looking for. I've heard others say the same thing. Every year there is someone (or two or three) who really makes a good find. I suppose it's like being in Las Vegas and having the person next to you pull the handle and hit the jackpot. You stare at them for a moment...then you reach into your pocket for another quarter. We all want that jackpot. It is part of why we all go hunting. This Eagle Ford/Austin Chalk contact contains a wealth of fossils-all we need to do is to turn over one more rock. This year's winner is Hal Hopkins friend Michelle Joseph. She found a mosasaur tooth in matrix, a very large shark vertebra in matrix, and an excellent fish on two opposing slabs. The detail on the fish was very nice. I don't know about you, but I'll be back next year. There is a rock there I haven't turned over yet.

A great deal of thanks goes to Glen Garrett, the quarry manager. Every year he greets as old friends and spends his time and energy escorting us around. His willingness to do this makes our trips possible.



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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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