

April 15, 2007: Building a Mammoth One Bone at a Time

On a day when I really should have been finishing up my taxes I opted to take the boat for a spin on one of my favorite rivers in search of Pleistocene bones and such. I delight in the fact that this material is present in so many drainages around that state and enjoy exploring various rivers accordingly. I set out with mediocre expectations but finished the day with some exquisite finds. Launching from a clandestine access point I pressed 5 miles or so upstream, stopping to grid search the various bars and banks along the way. I grabbed a few fist sized vertebrae, some turtle shell fragments, various limb bone ends and a couple nice horse teeth in the process, nothing out of the ordinary but still fun to pick up. The best find early in the day looked at first like a turtle scute but thicker. I flipped it over and confirmed my suspicions; it turned out to be a giant armadillo osteoderm *Glyptotherium texanum*, always a welcome find and the second I've taken from this bar in as many trips. Glyptodont scutes are cool finds since they are easy to distinguish as something definitely extinct, not always the case with the various horse and bison bones that turn up so often.



**FIGS 61-62:** Misc bone fragments and vertebrae (Site 381)



**FIGS 63-64:** Unidentified vertebra and cow/bison astragalus (ankle bone) above, cow/bison wrist bone (scapholunar) and medial phalanx below (Site 381)



**FIG 65:** Glyptodont scute *Glyptotherium texanum* (Site 382)



**FIGS 66-67:** Horse teeth and unidentified phalanx (Site 382)



**FIGS 68-70:** Fossil horse tooth as found, misc leg bone fragments (Site 382)



**FIGS 71-73:** Unidentified, large proximal femur (Site 383)

Doubling back downstream I decided to stop at a gravel bar where I had never found even a bone scrap in the past. The bar is at a sharp turn in the river and is composed of heavy cobbles and large rocks forming an undulating surface of ridges and gullies. While walking back to the boat empty handed my eyes quickly scanned the bottom of a gully and locked on a curious shape with a fist-sized hole going through it. It took a couple seconds for it to register that this was a big vertebra, but what was that big rock lying on top of it? The “rock” was attached to the vert, and this thing was massive! I ran back to the boat to get my camera for some images as found. Flipping the specimen over revealed exceptional centrum detail. This massive 10 x 12 x 5 ¼ inch specimen was the mammoth vert I’ve been looking for! It appears to be a cervical vert, probably the axis (second vert behind the skull). The sides of this thing were touching the inside walls of my 5 gallon bucket and it came within 3-4 inches of the rim – no chance of stuffing 2 of these bad boys in a bucket!

With the winds of good fortune now at my back I steamed past my put-in point and 8 or 10 miles farther downstream, again picking up various horse and bison vertebrae and limb bones, now appearing diminutive in scale. I landed on a big bar where I found an exceptional camel neck vert the previous summer and saw a man and his wife fishing there. I zigzagged across the bar picking up bones and made my way over to talk to them. It turns out the man was a regular guest on the ranch and had been picking up bones and teeth over time himself. He had been trying to find somebody to ID his material but the junior college was of no help to him. I gave him my email address and asked for images. From what he drew in the sand I’d guess one of his better finds was a sloth tooth or peccary canine. When he mentioned a “big porcelain thing” and I asked if it looked like a bunch of stacked plates joined and turned on end with one surface worn smooth his eyes lit up. I told him he probably had a mammoth tooth. “Hot damn!” was his reaction.

I grabbed another couple nice vertebrae and a curious looking jaw with teeth unlike any I've picked up in the past then made my way farther down river for more of the usual turtle, horse, and indeterminate bones. It took me an hour to motor back to the launch point. Rather than break my fragile body getting all the equipment back up the bank I deployed 300 feet of good rope and let my truck do the work. Back in my garage I gazed fondly upon the 5 big Ziploc bags of bones and teeth then broke through the door beaming with success. Even the wife, normally jaded and blank faced when forced to review my finds, found the big vert to be of particular interest. And hearing the reaction of my 5 year old was priceless when he saw this thing...."Whoa!!!!"



**FIGS 74-79:** Perfect atlas vertebra from Columbian mammoth *Mammathus columbi* – shown as found lower right (Site 393)













**FIGS 80-82:** Fossil horse mandible encrusted with sandstone matrix (Site 384)



FIGS 83-84: Misc limb, pelvis, and antler fragments (Site 384)



**FIGS 85-86:** Unidentified pelvis fragment with complete acetabulum or socket (Site 394)



**FIGS 87-88:** Unidentified vertebrae (Site 384)

#### Breaking the Work Week Grind

I was able to access some Pecan Gap (72 MYA) and Austin Chalk (80 MYA) exposures in town during the week on the way home from work and grabbed a few Upper Cretaceous cephalopod fossils worth keeping.



**FIGS 89-90:** Austin Chalk nautiloid *Cymatoceras hilli* (Site 394)



**FIGS 91-92:** Pecan Gap ammonites *Pachydiscus travisi* top left, *Trachyscaphites spiniger porchi* top right, *Didymoceras reevesi* below (Site 20)

## April 21, 2007: Mixed Bag at the Coast

I made my way down to the Coastal Bend early Saturday morning, bought 30 live shrimp, and shoved my little boat into the ICW around dawn in moderate but building winds. My quest was 2 fold. I ran 6 or 8 miles of "the ditch" stopping to lob shrimp into likely fish hideouts, the rest of the time walking dredge spoils in search of Pleistocene marine and terrestrial fossils. I struck out on fossils although there was a huge amount of big rock on the spoil islands. Finally I pulled into a little cut and began a short wade along a shoreline dropoff. I was surprised to see a Spanish mackerel jump that far back in the bay so I quickly threw a shrimp into the fracas and was rewarded with a nearly instantaneous hookup. I didn't hook a mack this time however; the culprit was a feisty 15 ½ inch speckled trout. Just as I strung my fish up 2 boats full of potlickers were onto me, idling their 22 foot boats right through the fish and shutting down all the action. It's a drag when people have to ride on the coat tails of an average guy with a 35 year old, 12 foot, beaten up jon boat. Maybe they should sell those expensive boats and invest in some fish finding skill.

By this time the wind blew my little boat off the water so I packed up and headed for the fossil sand dollar pit I had found the year before. Bad news – there were dump trucks actively filling in the sand dollar hole as I arrived. Good thing I took hundreds when I had the chance. I hope the buddies I told about the site made it there before its demise.



**FIG 93:** 15.5 inch speckled trout caught on live shrimp

Pressing on I dropped my little boat in a coastal stream where I had found nice Pleistocene material on a scouting trip, naming the cut in the bank "Glyptodont Gulch" in honor of my first ever *Glyptotherium texanum* scutes (body armor plates) found there. That was several floods ago so I had high hopes of good finds this time. I rounded a sharp corner at full speed and startled Mr. Alligator so badly that he flopped sideways in the water from the bank. Miles from my put-in I finally idled up to Glyptodont Gulch.

While there were plenty of other high banks en route but for some reason this was the only one that had a concentration of vertebrate fossils. I noticed lots of bone fragments interspersed with numerous freshwater clam shells eroding out from up high, making me wonder if I was looking at an Indian campsite eroding out. Soon I was finding well preserved chunks of turtle shell, a broken alligator tooth, and lots of indeterminate bone chunks. It was cool to find fossil gar scales scattered over the exposure as well, being the first occurrence I've personally seen in TX first hand. I picked up a few nice little fish and turtle vertebrae as well. Rounding the corner I made 2 of my better finds as I readied to leave: a debris field of bone eroding down slope which should piece back into a good portion of a large pelvis and a nearby glyptodont scute, signature fossil of the exposure.



**FIGS 94-95:** Large, unidentified pelvis eroding out of a bank (Site 350)



**FIGS 96-97:** All the fragment of the pelvis collected before and after attempt at reassembly (Site 350)



**FIGS 98-100:** Unidentified limb bone above, turtle shell fragment lower left, fish vertebra lower right (Site 350)



**FIGS 101-105:** Glyptodont scute top row, various turtle and glyptodont material second row, fish and reptile vertebrae and gar scales third row, reptile vertebra in situ below (Site 350)

Sizing up my options I ran wide open throttle back to the truck, piled my gear in back, and sped north. I grabbed a couple good BBQ sandwiches and pressed on to San Antonio, to the Corsicana formation to be exact. I had one hour of light left and I planned to make the most of it. I kicked things off where I found my crab triple a couple weeks before and ran out of time that session before completely grid searching the exposure. I was happy to pick up first one *Dakoticancer australis* crab and then another this time along with 20 *Hemiaster bexari* echinoids along the way. Of course the normal plethora of gastropods and bivalves was present as well, the better ones making their way into my bag. Darkness crept in but I countered with my rechargeable lantern. I declared it a day as the light flickered and my battery cratered. I had picked up some quality material fast however so this was a well spent hour.



**FIGS 106-107:** Dorsal and ventral views of 2 Corsicana crabs *Dakoticancer australis* (Site 348)



**FIGS 108-110:** 2 more views of same 2 crabs above, third partial crab lower left, gastropod in matrix lower right (Site 348)



**FIGS 111-112:** Echinoids *Hemiaster bexari* above, gastropods *Turritella vertebroides* below (Site 348)

April 27, 2007: Private Quarry Tours and a Texas Longhorn

I was off work on a Friday for Battle of Flowers Day, a San Antonio city holiday. This made for some prime fossiling time. I've developed a few quarry contacts of late and decided to call on them for permission to fossil hunt in their operations. I hollered at a few guys to go with me but the only one that could make it was my local fossil mentor Farley Katz. The first operation was in the Sprinkle formation, a Central TX equivalent of the Ozan fm of North TX (Upper Taylor marl, roughly 76 MYA). Access to this quarry is typically denied but the president of my company knows lots of people and frequently takes them on tours of our facility. I recognized the name of one such guest as a quarry owner and asked him for collecting permission in front of my president and somehow hit a home run.

The curmudgeonly weigh station lady had not heard of our excursion and looked at us like vermin when we showed up with our self-written liability waiver. She got on the radio, confirmed our permission, and ultimately let us go about our business. The remaining employees were pretty accommodating, even pointing out where they'd found an abundance of fossils in the past.

Farley and I split up to cover maximum ground. Tan and gray nodular limestone and gritty marl hid a few treasures for us that day. I did lots of crawling and ended up with 21 echinoids including a perfect *Plesiaster americanus* and the rest *Hemiaster* sp., many in impeccable condition. I also body bagged a big ugly *Menabites* ammonite along with a smaller, ribbed ammonite that looks similar to *Eupachydiscus grossouvrei*, a killer, "Texas Longhorn" *Australiella* sp. ammonite, a couple rough *Scapanorhynchus texanus* shark teeth, and various oysters. When I caught up with Farley he had *S. texanus* and *Squalicorax kaupi* shark teeth and a nice *Pachydiscus paulsoni* ammonite among other things.

We stopped to see our ogrely weigh station girlfriend on the way out. Farley suggested that we have flowers delivered to her at her workplace, a little 10 x 20 steel shack in the middle of a big dirt flat.



**FIGS 113-116:** Sprinkle fm Site 162 above, ammonite *Eupachydiscus grossourvrei*? followed by possible crusher tooth or phosphate nodule in matrix



**FIGS 117-120:** Farley's *Pachydiscus paulsoni* ammonite above, the author's *Australiella pattoni* ammonite below (Site 162)



**FIGS 121-123:** Straight ammonites *Baculites* sp. above, 2 views of echinoid *Plesiaster americanus* below (Site 162)



**FIGS 124-127:** More views of same *P. americanus* (Site 162)



**FIGS 128-129:** 2 examples of echinoid *Hemiaster* sp. below (Site 162)



**FIGS 130-131:** Still 2 more views of *Hemiaster* sp. (Site 162)



**FIGS 132-133:** One last view of *Hemiaster* sp. above, group shot of *Hemiaster* sp. and *P. americanus* below (Site 162)



**FIGS 134-136:** 2 damaged *Hemiaster* sp. echinoids in matrix above, partial shark teeth *Scapanorhynchus texanus* (3) and *Squalicorax kaupi* (1) along with various oysters, a *Hamulus* worm tube, and a partial regular echinoid spine (Site 162)