

# FOSSIL COLLECTING REPORT

## July, 2006

### Daniel A. Woehr and Friends

July 1, 2006: Pleistocene Promised Land

San Antonio collector and friend Tom Fisher suffered through a grueling 36 mile river trek with me a couple months ago, enduring painfully slow boat speed due to a low pitch prop as well as broken shear pins attributed to low water and a rocky bottom. The collecting was the least productive I had ever experienced as we explored a new stretch of river. Still I was able to coax him out this past weekend to help me cover a 37 mile stretch of proven fossil-rich gravel bars and banks in the same little boat, this time equipped with a high pitch speed prop. In addition I was prepared with a dozen homemade shear pins, fresh batteries for the GPS, lots of fuel, a full cooler, rain jacket, etc.

We hooked up at 2 a.m. and took staged 2 vehicles 37 river miles apart at a couple bridges. A little too gung ho, we had to wait a half hour or so for the first hint of dawn so we could push the boat in the water and begin to navigate the labyrinth of submerged obstacles which often provide a hint of surface disturbance to indicate their presence. Rain chances were in the 50%-60% range for the day, with no chance of rain upstream, i.e. no chance of flash flooding in our area.

Our first 2 gravel bars were duds. I immediately hoped this trip wouldn't be a repeat of the last or Tom might sour to the possibility of future river trips. The third bar several miles downstream gave us a taste of things to come. Tom quickly scored a nice horse tooth while I managed a black and mineralized partial pelvis with joint fossa (depression) intact, a matrix encrusted bison or horse calcaneum (heel bone), a palm sized chunk of carapace from a large turtle or tortoise, and a few other large and heavily mineralized bone fragments.



**FIGS 1:** Horse calcaneum (heel bone) left, unidentified hip socket center, tortoise shell right (Site 314)

We were loaded a bit heavily, so we spent 10 minutes cutting up and devouring a big seedless watermelon while underway to jettison a little weight, chucking rinds all the way. We arrived at 2 adjacent gravel bars where I had picked up various bones, teeth, and even a spear point last year, but they were duds this time. I began to fear that other motivated collectors like ourselves had scoured the area ahead of us, but later convinced myself that our level of insanity is indeed rather rare, so 37 miles of river should put us in some remote and untouched areas. Things began to pick up as we headed downstream.

One large bar produced a new find for me, a cool fossil coyote jaw with black carnassial and canine teeth intact. This was a welcome find. Scraps of bone began to show up in numbers. This is typically the stuff I end up donating to kid's programs, but Tom was so bone hungry that I gave him all this rough material. Tom couldn't understand somebody giving this stuff away. With a chuckle I told him "wait till you see what I keep." This wasn't

to sound snotty, but I only have space at this point for high grade stuff and must necessarily part with B grade specimens.



**FIG 2:** Pleistocene coyote jaw *Canis latrans* (Site 141)

The overcast skies kept things more comfortable than I was used to for this time of year, but about  $\frac{3}{4}$  of the way through our course our luck ran out. Black, swirling skies enveloped us, giving us just enough time to don rain jackets before the rain hit, and when it hit, it hit hard. We were enveloped in whiteout conditions with visibility cut to a scant 200 yards. Thankfully winds were light, but I still had to cut speed to 5 MPH to allow me to concentrate on my bailing efforts. With a topless Gatorade bottle I must have bailed tens of gallons of water from the boat during the hour we were in the middle of all this, thunder crackling over our heads all the way.

Finally we reached a good looking gravel bar so I beached the boat, wiped off my glasses, pulled the brim of my hat down, and began a purposeful walk on the bar. It was interesting to see gravel gullies actively being cut from the bars and forming deltaic fans at the river's edge. The wetted gravel actually presented better collecting in that contrast with the surrounding mud and sand was increased. Tom was quick to lay hands on 8 bone and tooth specimens within 5 minutes. I walked the water's edge and noticed a big fist sized clump of brown porous bone emerging from the sand...some sort of guttural Tim Allen woofing was my instinctive reaction. Tom fetched a digging tool and I began to loosen the sand and gravel around this thing as the rain continued to pour into the trough I had dug, forming a mote around it. This thing kept getting larger and larger as I dug until I finally lifted it from the bar...it was a huge 9.5 inch diameter mammoth femur ball with a little bit of femur shaft still attached. I thought the one I found last summer was big, but this thing makes the other look like it came from a juvenile.



**FIGS 3-4:** Mammoth femur ball (Site 315)

The rain began to lighten up as we reached a big red, gravelly bank. It was steep and slick but we still managed not to fall in the river. In one of the gullies I found a nice piece of fossil turtle plastron plus a long process from some sort of thoracic vertebra. Pressing downstream we hit a couple more productive gravel bars, some of my favorites in the state as a matter of fact. Here I was able to wrangle a cool partial alligator jaw, a couple nice horse teeth, and several solidly mineralized vertebrae. Tom grabbed a few nice partial bones as well.



**FIGS 5-6:** Tom Fisher hard at play left, in situ bank finds including unidentified vertebral process, scapula fragment, and turtle plastron fragment right (Site 157)



**FIGS 7-12:** *Alligator mississippiensis* jaw fragment above, same gator jaw plus horse tooth and unidentified skull cap center left, several views of 2 horse teeth remaining frames (Site 132)



**FIG 13:** Various mineralized vertebrae (Site 132)

Several miles downstream we hit a couple more bars, and on one I found a perfect horse astragalus (ankle bone) hiding in the sand. At one point I had found good mammoth bones on these bars in the past, but not this day. Our final stop was another long, tall gravelly bank which produced some turtle shell fragments eroding out where I had found some a year or so ago, but nothing more. With plenty of daylight left we decided to pull out and quit while we were ahead.



**FIGS 14-16:** Two views of a horse astragalus (ankle bone) above (Site 137), white but fossilized turtle shell fragments below (Site 179)

After dragging all of our equipment back up to his car, Tom realized he had left his keys in my truck 37 MILES UPSTREAM! Now we had a dilemma on our hands. I quickly hashed out a plan that I knew would get us on the road soon. I had Tom put his car hood up and lay low in his car, figuring that one muddy river rat is less intimidating than two to passers by. Then I unloaded Tom's wallet, straightened my hat and stood roadside waving his wad of cash in the wind. After a dozen or so cars whizzing by I had confirmation of something I had known for a long time: I wasn't born with good looks! Before long a nice black gentlemen pulled over and gave me a ride after I told him the situation. The conversation was interesting and I wasn't quite comfortable with all the Budweiser he went through as we cruised the winding, wet roads but he eventually dropped me off at my truck. I'm glad there are nice folks in the world as sometimes we all need a leg up.

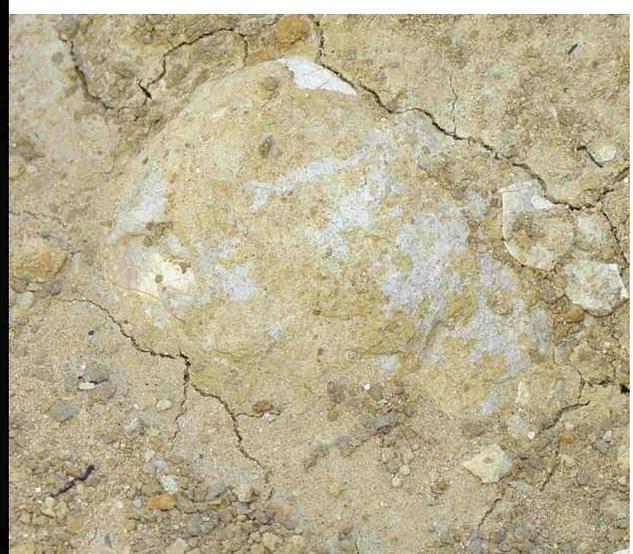
Tom and I were underway by dark. He was still sort of kicking himself, but I reminded him that good friendships are built on stupid stories. At least we didn't get hurt or stuck in the river somewhere. I found the whole ordeal rather comical even as it was unraveling. I also let him know that long after the misery of the day is over, the fossils still remain, made all the more priceless by virtue of the price we paid for them. I'll bet Tom is already working on his wife for our next trip.

July 4, 2006: Corsicana Cornucopia

With all the rain we had last weekend I knew that although we had just visited the Corsicana site the previous Sunday, the regenerative nature of this exposure would present many new fossils. The site lived up to my expectations. A 3 hour crawl produced first a very nice *Dakoticancer australis* crab carapace with leg nubs present followed by a second stellar specimen presented upside down with the belly, tail, and 4 legs excellently preserved. The third specimen was crushed worse than any others I've seen from the site. I also lucked into roughly 30 echinoids, mostly *Hemiaster bexari*, but I do recall seeing a *Plesiaster americanus* and a damaged *Phyllobrissus cubensis* in the mix. A handful of *Baculites*, gastropods, and a half *Scaphites*-type ammonite also came to hand, and I left by 10 a.m. when it started getting hot. On with the Independence Day festivities.



FIGS 17-20: A *Dakoticancer australis* crab from Corsicana fm Site 248



**FIGS 21-26:** More *D. australis* specimens from Site 248. Ugly specimen hiding in situ lower right, remain frames of same belly-up specimen



**FIGS 27-29:** Corsicana echinoids *Hemiaster bexari* in situ top left, *Phyllobrissus cubensis* and *Plesiaster americanus* top right, *Hemiaster bexari* below (Site 248)



**FIGS 30-32:** Corsicana gastropods top left, bivalves *Neithea bexarensis* and *Plicatula mullicaensis* top right, *Lima* sp. below (Site 248)

July 8, 2006: A Paleo Taste of San Antonio

With more rain falling during the week I opted to once again work the local fossil circuit. I anchored the trip with one proven site then went about exploring new sites for the rest of the day. Once again I found myself at the Corsicana site as gloom gave way to a new morning. In the dim light I had to begin my crawl with my face a little closer to the ground than usual, but I was quickly rewarded when I locked eyes on a cool *Dakoticancer australis* crab staring back up at me. After pocketing a handful of echinoids I spied a bit of white, bumpy shell peeking out of a marl clod. Again this was a *D. australis* crab, only this time quite a bit larger than the last. Not bad for 30 minutes work covering 25 yards.

Things slowed down a bit from there, with a *Eutrephoceras planoventer* nautiloid, partial *Scaphites*-type ammonite, and several *Baculites* sp. straight ammonites coming to hand. An hour later I found another jumble of legs jutting out of a marl clod. This turned out to be only half a crab carapace, but it had 4 legs intact out past the knees so it still has character. I think I may have totaled a dozen *Hemiaster bexari* echinoids before pulling the plug and moving on to other sites. I still get a kick out of a comment from my friend Tom Fisher who I took to this site once or twice. "Dan, you keep crawling around finding these "crabs", but personally I can't tell them from a piece of drywall." To each his own!



**FIGS 33-38:** More *D. australis* crabs from Corsicana Site 248 with 4 frames of specimen 1 above and 2 frames of specimen 2 below



**FIGS 39-44:** A large and well preserved crab carapace *D. australis* from Corsicana Site 248



**FIGS 45-48:** Corsicana nautiloid *Eutrephoceras planoventer* above, echinoids *H. bexari* below (Site 248)



**FIGS 49-54:** One more look at finds from Corsicana Site 248 including echinoids *H. bexari* above, bivalves *P. mullicaensis* center left, a small but well preserved *Trigononia castrovillensis* remaining frames

After striking out in an abandoned Austin Chalk pit I found a large lake circumscribed by Pecan Gap chalk bluffs up to 30 feet high and strewn with boulders of the same gritty white chalk. The place was a polluted, nasty mess but I made rounds nonetheless. In short I landed a few decent *Pachydiscus* ammonites, some *Baculites*, and a nice bivalve or two before my throbbing head beckoned me back to the air conditioned climes of the F250.



**FIGS 55-57:** *Pachydiscus paulsoni* ammonites from a strange lithology mapped as Pecan Gap Chalk (Site 316)



**FIGS 58-61:** More *P. paulsoni* ammonites above, *Baculites* sp. and unidentified bivalve below (Site 316)

A 2 mile hike later took me to an expansive creekbed exposure of Austin Chalk which apparently doesn't see much collecting pressure. Noting changes in lithology as I headed upstream, a familiar nodular limestone came into view. I slowed down and scanned the surface thoroughly as I had seen this type of rock to hold ammonites in the past. Before long I had looked over 15 or 20 ammonites from 14 to 24+ inches, although most were eroded by  $\frac{1}{4}$  or  $\frac{1}{2}$  of their original thickness making extraction by chisel and hammer a destructive proposition. I'll need to return with a diamond saw, epoxy and dolly if I plan to take any of these big *Peroniceras*, *Parapuzosia*, or *Prionocycloceras* specimens. Hot and lazy, I only took 2 small and easily removed specimens, possibly *Peroniceras* and *Parapuzosia*.



**FIGS 62-64:** *Parapuzosia* sp. ammonite from Austin Chalk Site 317, *Heteraster obliquatus* echinoid and *Douvillicerias?* ammonite fragment from close to Site 133

After striking out in another creek I headed up to Bulverde where I hooked up with another DPS member briefly with land in the family. We spent an hour or two looking around the property, not finding any arrowheads at an old Indian campsite, but later locating a few *Heteraster obliquatus* echinoids followed by a rare fragment of a ribbed ammonite, possibly *Douvillicerias*.

I had enough wind left for one more site, but it sounded as if more field time would be counted against me when I got home, so home I went.

#### July 15, 2006: Misadventures of a South Texas Paleo Carpetbagger

Once again I decided to run north for a jab at some of the better fossils available in North Texas. My journey began around 2 a.m., and I arrived at my first site in Williamson County at 3:30 a.m. A buddy had tipped me off to a construction site in the Georgetown fm (100 MYA) that had been productive for him, so I stopped for a look on my way to Dallas. In the headlights I found two big rock piles, so I climbed around for an hour looking for things in the beam of my flashlight. Based on the fossils I found and a little familiarity with other area exposures I believe I may have been looking at the Fort Worth member of the Georgetown formation.

The piles were a jumble of gray and tan matrix. I targeted the gray as in my experience it contained better preserved echinoids and other fossils at times dusted with pyrite. This approach did not disappoint, as the pyrite encrusted fossils gleamed back at me that night like a disco mirror ball.

I found a half dozen *Holaster simplex* echinoids at this site, all of which I later threw on the “kiddie fossil” pile in my garage upon daylight inspection. I also ran into a large *Paracymatoceras* nautiloid which was so deeply buried in a

boulder that I broke it when attempting to remove it. I did however come out with some keepers. I got several cool *Gryphea* oysters and *Rastellum carinata* razor clams covered in pyrite, the best I've seen to date. As I was getting ready to leave I spied a very large glob down between some rocks which turned out to be the largest perfect *Macraster* echinoid I've ever seen, perhaps a *pseudoelegans*. I was quite pleased with this find.



**FIGS 65-68:** Pyritized razor clams *Rastellum carinata* from the Georgetown fm first 3 frames, *Gryphea* sp. oysters bottom right (Site 320)



**FIGS 69-73:** A large and well preserved echinoid *Macraster* sp. first 4 frames, second pyritized *Macraster* sp. below, both from the Georgetown fm (Site 320)

Heading north to Ellis and Johnson Counties I drove by a series of potential sites which either offered no access or poor exposure. Finally I found a decent site around 6:30 or 7, a creek exposure of Eagle Ford shale and limestone.

I ended up only collecting for 20 minutes and took home one limestone flag with 2 bones jutting out of it. Both appeared reptilian, possibly a turtle femur and carapace fragment.



**FIGS 74-76:** Turtle bones extracted from a piece of Eagle Ford limestone float (Site 321)

Around 8 a.m. I hooked up with a buddy and began exploring exposures of the Lower Britton fm (92 MYA). This unit is poorly exposed, but finds can be rewarding with persistence and patience. My buddy soon picked up an eroded nickel sized fish vertebra and a couple *Squalicorax falcatus* shark teeth while I landed 3-4 *S. falcatus* teeth, two *Ptychodus* teeth, some fish vertebrae, a *Coniasaurus* vertebra, and an eroded *Enchodus* jaw.



**FIGS 77-79:** From the Lower Britton fm are shark teeth *Ptychodus* sp. and *Squalicorax falcatus* top left, fish teeth including *Enchodus* sp. jaw top right, miscellaneous fish vertebrae and *Coniasaurus* sp. (primitive mosasaur) vertebrae below (Site 318)

Moving on to a site in the basal Kamp Ranch member of the Arcardia Park formation (90 MYA) we spent an hour or so beating the heck out of hard limestone slabs to extract some shark teeth. We found dozens of *S. falcatus* teeth, several *Ptychodus* teeth, and my buddy got a big *Cretoxyrhina mantelli* tooth or two. In addition several nice *Prionocylus* ammonites were beaten into submission.



**FIGS 80-81:** A few fossils from the Kamp Ranch limestone (basal member of the Arcadia Park fm, Eagle Ford grp) including shark teeth *Ptychodus* sp., *Cretoxyrhina mantelli*, and *Squalicorax falcatus* left, ammonite *Prionocyclus* sp. right (Site 319)

The 100 degree climes prompted us to quit around 5 or so, and I picked my way through a few dud sites on the way home. Now for the misadventure part. I pushed my luck a bit too hard and ran out of diesel for my first time ever. Fortunately I coasted to a halt in a parking lot in Waco just a couple hundred yards from a gas station which sold diesel. Still things weren't exactly convenient and I cost myself an hour or so.

The station had no gas can so I tried to shuttle diesel to my truck in water bottles. This gave me just enough fuel to run down my battery, but not enough to reprime the system and allow me to run 200 yards to the gas station. I flagged down a nice guy and his family and they drove me to Walmart where I bought a diesel can, filled up, and tried to get a jump start from his truck. His battery was too weak for my truck, so I bid him goodbye and approached a young guy in a Super Duty truck just as he emerged from the Whataburger drive through. This time we got the truck started. Things could have been considerably worse had I run out of fuel 10 miles sooner. I have nobody to blame other than myself for this asinine experience, but I don't mind poking a little fun at myself even in avoidable and humiliating situations. I'm just glad I didn't have my family with me or the wailing and gnashing of teeth would have been unbearable.

#### July 18, 2006: Boy's Night Out

Four year old Weston has been begging me to take him fossil hunting lately, reminding me that he has a good eye for fossils, so I took him to the safest spot I know of locally, namely the Coriscana site. Neither one of us got too serious about it as the Tonka truck took the spotlight part of the time. Weston was content to pick up a number of oysters while I grabbed a few *H. bexari* echinoids and one trashed *D. australis* crab. I kept him hydrated in the Texas evening sun and he had a blast. When I told him we had to leave since Mama was expecting us home around 8, he said "No. How about 10:00?" That's my boy!



**FIGS 82-83:** Weston Woehr hard at work fossil collecting Corsicana Site 248 left, our *H. bexari* paydirt right

July 21, 2006: Glen Rose Echinoid Grab

I was able to slip out of work a little early last Friday to attend my wife's company picnic at her parents' Hill Country ranch out in Sisterdale. On the way home I was able to pull off at a construction site and some road cuts in the Glen Rose formation (108 MYA) to sample some regular echinoids including *Loriolia rosana* and *Salenia texana*. This wasn't a very intense search but more of a casual affair since I happened to have a little time in the neighborhood. Still, I got my fossil fix as the upcoming weekend was to be spent with 4 buddies fishing at the coast.



**FIGS 84-85:** Glen Rose echinoids including *Salenia texana* left (Site 133) and *Loriolia rosana* right (Site 28)



**FIGS 86-88:** Close up of *L. rosana* from Site 28 above, more *L. rosana* from Site 27 below

July 29, 2006: An Exploratory Push into the Pleistocene

Tom Fisher and I again hooked up at an ungodly 3 a.m. with my boat in tow for an exploratory 35 mile Pleistocene trip along a new stretch of river near an area that has given up good 10000-25000 year old material in the recent past. Unfortunately this trip did not prove to be an extension of such previous trips and it turned out to be sort of a lackluster affair. As much as I explore new sites I've learned to embrace the unproductive days as they allow me to eliminate unproductive areas from future endeavors. In that way these days still have value.

In short we canvassed some 30 gravel bars and cut banks along the river. The best gave up a paltry half dozen fragmental bones and nice horse teeth per bar; most gave up nothing. Pleistocene collecting can be quite unpredictable at times. At one point as we crisscrossed a bar we were approached by a country boy in a truck wondering what the heck we were doing on "his land." Not one to contest the finer points of public vs. private land rights when the other gentleman has a rifle across the front seat, I was somehow able to spin the conversation into a friendly one, finding myself slobbering over the mammoth tusk, mammoth tooth, and large spear points this guy had found over time on the very bar we were standing on. With a handshake we were on our way.



**FIGS 89-92:** Pleistocene vertebrate finds including unidentified pelvis fragments top left, tibia, rib, and humerus fragments top right, rodent gnawed bone middle, tortoise plastron (belly plate) below (Sites 321-323)



**FIGS 93-96:** Two views of a fossil deer skull fragment above showing partial antler pedicel, orbit, and crenulated surface of brain cavity; horse tooth below (Sites 321-323)

While there were no major finds I think Tom stole the show this time with 3 or 4 good horse teeth to his credit including one with an associated jaw fragment found right next to it, both still stained by the iron rich red sandy matrix which once entombed them. Unfortunately my camera memory was full and I was unable to capture images of his finds or the silly sight of his Ford Escort with my boat strapped to the roof. Still we had a pretty comfortable and fun day on the river with none of the silly mishaps of previous trips. Mammoths, take warning. I'm coming after you VERY SOON!