

**FOSSIL COLLECTING REPORT**  
**February 2008**  
Daniel A. Woehr and Friends

February 2, 2008: River Trip from Hell

I had talked one of the guys from work, Mike Anguiano, into doing an exploratory kayak trip on a narrow, meandering Texas river on this particular Saturday and he was up for the adventure. On that note we had our trucks staggered 10-12 river miles apart for a point to point float trip that would hopefully result in spear points, Eocene leaf fossils, and perhaps some Pleistocene bones and teeth. I had my little outboard engine on the transom for the deep stretches and a paddle for the shallows. Anticipation ran high, but in the end results were sub par. That however ended up being the least of our worries.

The river was choked with fallen trees, creating "strainers" which can wreak havoc on missions such as ours. We approached just such an obstruction a half mile after our launch and a change in current direction caused us to get slapped sideways against the log. In an instant the port side of the kayak plunged under the water and we both jumped onto the log and barely kept the yak from flipping. Not a good start.

We were well past the point of turning back despite the abundance of impassible snags. Many times we had to drag the yak up steep banks and then through the woods for 30 to 300 yards to get back in the water and continue. At around the 1 mile mark we again found ourselves losing control of the craft and slamming into some tree limbs, this time flipping the boat completely, breaking the engine off its mount and dumping it into the river. Soaked to the core, I probed around the bottom in the 3 foot deep current, located the engine and yanked it onto a nearby gravel bar while Mike fought to hang onto the half righted boat with one hand and a tree with the other. I started the engine and was happy to see it still functioning.





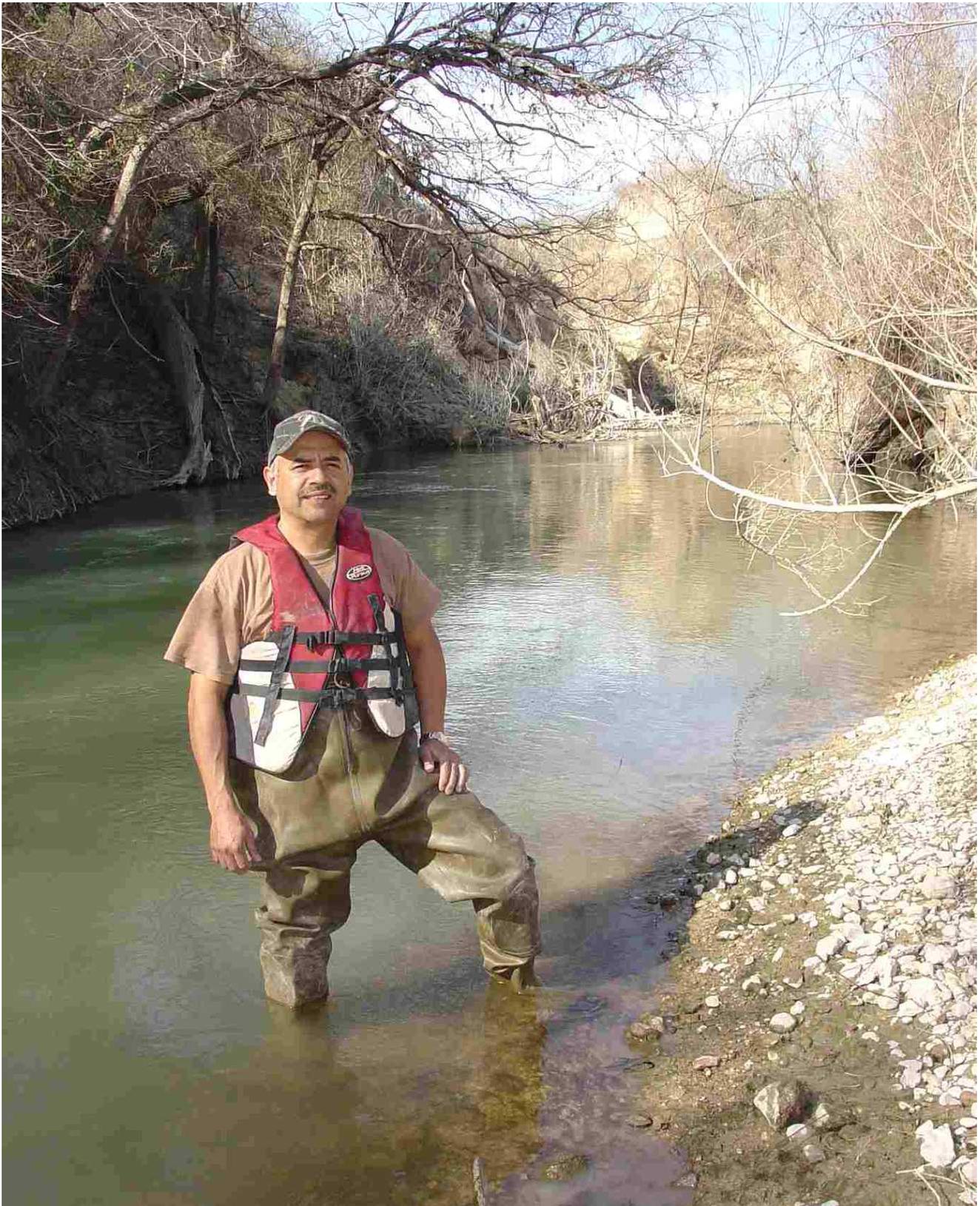
**FIGS 1-2:** Calamity on the water resulted in my outboard snapped clean off its mount

With things under control we figured we'd just paddle from there on out...where was the paddle?!?! Soon we concluded that the paddle had sunken and our broomstick used to push off of logs and banks was gone as well. What are the odds of losing redundant modes of propulsion all at once? We were truly up the proverbial creek without a paddle. We kept a good attitude about it all, but floundered ridiculously in the water as we paddled with our hands. Soon I snapped a few tree limbs off to aid in pushing away from obstructions with a constant eye open for upgrading our primitive accessories.

We were moving along nicely and then hit a submerged stump dead center, flipping us both out of the boat and capsizing it in a deep hole. Mike struggled as his chest waders filled while I clung to the hull in the frigid water. Life jackets and cool heads certainly helped us to extricate ourselves from this unfortunate twist of events. It was good planning to strap everything to the kayak or we would have lost cameras, wallets, keys, phones, the engine, etc. Mike's phone and camera were soaked but mine were dry and again the engine still started despite being submerged for 5 minutes.

While we drained our boots and and wrung out our shirts I climbed up the bank to spy an old farm building collapsed down a hillside. I climbed up and picked out the best board I could find, a half rotten 1 x 4 x 6 with with a few rusty nails jutting out. I worked out the nails and then was forced to rely heavily on my new paddle.





**FIGS 3-4:** Soggy dogs Dan Woehr above with stylishly recycled paddle and an adventurous Mike Anguiano below

For the next 6 miles I continued to paddle with the old board. We even got a picture of me in this ludicrous predicament – think Beverly Hillbillies meets Deliverance and you have the picture. We stopped and scanned several gravel bars and 100 foot vertical banks but in the end we found NOTHING. Tired of portaging and running out of daylight, we still had about 4 miles to go. We knew we'd never make it to Mike's truck by nightfall.

Downstream we finally heard voices and rounding the corner we saw a half dozen young guys fishing. I greased one guy's palm with a crisp Andrew Jackson to drive us to Mike's truck and it was the best spent 20 bucks in my entire life. With one last heave I chucked the old board back into the river. My raw hands had had enough, not to mention my wrists as pinching a board with your fingers and using it as a paddle is not a very ergonomic setup.

There are several morals to this tale of chagrin and consummate failure on the water:

- Always wear your life jacket regardless of river size, your experience on the water, weather conditions, etc.
- Always strap everything that you expect to take home to the boat
- Double Ziploc everything you care to keep dry
- Always carry cash
- When exploring for new sites, be willing to expect the occasional strikeout
- Always tell a family member your specific float plan, preferably with a map and put-in and take-out times

#### February 5: Echinoid Lunch

On Tuesday I took the opportunity to revisit a certain Austin Chalk (75 MYA) exposure not far from my office that had been recently denuded by a brush fire as San Antonio is experiencing a winter drought. I had found a few things at this exposure in the past, most notably a big shark tooth blade, a *Cymatoceras* nautiloid, and a several *Hemiaster* echinoids. I didn't have high confidence in finding much but serendipity prevailed on this outing. My first find was half of a large spatangoid (irregular or heart shaped echinoid), sort of a lackluster specimen but good indicator of being in the right zone.

A few minutes later at the base of the slope amongst the ashes I spotted a peculiar globose form in the yellow limestone which I soon recognized as an upside down echinoid. I got it out intact in a chunk of matrix and took it home not knowing species or if the matrix would allow for easy prep. At home intermittent work with the air scribe and brash brush with water raised my eyebrows as I got deeper into the job. Soon it was clear that I had found a well preserved, fully inflated example of a species I'd never encountered. Once fully prepped I began shooting out emails to other serious echinoid collectors. I believe that I may have located one of the best preserved *Pseudananchys stephensoni* echinoids that I could ever expect to see in my lifetime in my collection or anyone else's. It could be some undescribed species of *Cardiaster*, a related genus, but at this point *P. stephensoni* is the only documented species of Holasteroid form so I'll stick with that ID until someone can prove otherwise.



**FIGS 5-11:** Rare and problematic Austin Chalk Holasterid echinoid *Pseudananchys stephensoni* or *Cardiaaster* sp. this page and next 4 pages (Site 16)









#### February 9: Quick Hit on the Glen Rose

On Saturday I sampled some decent Glen Rose fm (108 MYA) road cuts on an abbreviated trip close to home. The first cut was in the Upper Glen Rose fm and gave up a number of *Heteraster* sp. and *Loriolia rosana* echinoids in a decent state of preservation. Since I collect this area after each rain I don't have to mess with too many over weathered specimens anymore. The second road cut bisected a lower horizon in the Upper Glen Rose and gave up another handful of the same species of echinoids. My final stop was a creek site exposing the *Salenia texana* zone which marks the contact of the Upper and Lower Glen Rose formations. Here I landed 4 *Salenia texana* echinoids, one being perfect, and a single small regular echinoid *Tetragramma texanum*. I saw some signs of previous collecting in these areas but really didn't mind as the take was still pretty good.



**FIGS 12-13:** Glen Rose echinoids *Heteraster* sp. (spatangoids or heart shaped echinoids) and *Loriolia rosana* (regular or round echinoids) from Site 28



**FIGS 14-15:** More *Heteraster* and *Loriolia* echioids above (Site 27), spatangoid *Palhemiaster comanchei*, 4 regular echioids *Salenia texana*, and lone *Tetragramma texanum* below (Site 436)





**FIGS 16-17:** Close ups of the best *S. texana* found at Site 435 that day





FIGS 18-20: Close ups of the cute little *Tetragramma texanum* from Site 436

## February 18, 2008: Strike while the Iron is Wet

I had trouble deciding where and when to collect last weekend. 100% chances of heavy downpours were forecast from San Antonio all the way up through Lake Texoma. Hanging loose and watching the weather unfold in various parts of the state on Saturday, I nixed any plans in South and Central TX as the "100% chance of heavy downpours and possible large hail" amounted to not much more than a light sprinkle. Parts of North TX were another story though. In fact certain areas got 1 to 2.25 inches of precipitation so I knew where I was headed: Fort Worth here I come!

My friend Frank Holterhoff had offered to show me his secret honey hole echinoid site in the Grayson formation (99 MYA) several months ago, but being an opportunist I waited for heavy rainfall before committing to the trip. In fact I began needling him before the rain even fell so that I wouldn't be springing myself on him last minute. I left San Antonio around 11 p.m. Saturday night high on anticipation and ultimately slept 3-4 hours in the back seat of my truck just south of Fort Worth.

On Sunday morning I made solo hits on a couple sites while Frank was at church. I kicked things off at a buddy's small site in the Pawpaw formation (101 MYA) which is known locally to produce an interesting suite of diminutive pyritized fossils. The precipitation and minuteman timing in this case produced great finds, but the going was sloppy and I constantly had to remove 10 lbs of clay from each boot and kneepad. Gravelly areas in the brown and gray clay all deserved a closer look as they often held abundant fossils, mainly little ammonites ranging from 1/8 to 1 inch in diameter. In fact over the course of an hour or so I picked up about 40 of these ammonites including *Plesioturrilites worthensis*, *Engonoceras serpentinum*, *Scaphites* sp., and others. But the best ammonite was a whopper 2.4 inch *E. serpentinum* perfectly preserved with its intricate sutures well preserved. The fun didn't end there however. I also picked up several *Xanthosia* crabs and one *Cretacorantina*, none larger than a thumbnail. Throw in a few fish verts and a partial brittlestar arm for good measure and suddenly my drive felt justified. All these specimens however barely filled up 1/8 of a sandwich bag.



**FIGS 21-23:** 2.40 inch pyritized ammonite *Engonoceras serpentinum* from the Pawpaw fm this and next 2 frames (Site 176)







**FIGS 24-25:** Pyritized Pawpaw ammonites *E. serpentinum* above, *E. serpentinum*, *Scaphites* sp. and others below (Site 176)



**FIGS 26-27:** Pyritized Pawpaw fm ammonites *Plesioturritites worthensis* (Site 176)



**FIGS 28-29:** 4 Pawpaw crabs *Xanthosia* sp. left, *Cretacorantina* sp. far right (Site 176)



FIGS 30-31: Unidentified Pawpaw fish vertebrae (Site 176)

From there I proceeded to a well known abandoned pit in the Duck Creek formation (103 MYA) and proceeded to canvass the site for echinoids. While walking down the trail into the pit I scored my first find, a nice 2 inch *Macraster elegans* pressed face down into the trail. I only spent about 45 minutes in the pit and focused just on the couple areas where I had found success in the past. The rain had done me a favor, causing a couple more *Macrasters* and a *Holaster simplex* to drop out of the wall. I pressed on to an area that in the past had exposed a few Macs in the wall and this time too found a very nice one half jutting out of a marly layer as I tiptoed across the narrow ledge and gazed higher. On the way out I picked up a couple small *Mortoniceras* ammonites that upon closer inspection turned out to be giveaway grade.



**FIG 32:** *Macraster elegans* echinoid in situ, Duck Creek fm (Site 138)



FIG 33-34: *Macraster elegans* echinoids from the Duck Creek fm (Site 138)



**FIG 35:** *Holaster simplex* echinoid from the Duck Creek fm (Site 138)

At around 11 I hooked up with Frank at his site. We first worked a graded area that had been rained on hard the day before. Quickly I landed 2 rough but scarce echinoids *Pseudananachys completa* plus a large *Coenholectypus* sp. Frank also found some of the latter. From there we dropped into a big pit and things got very interesting. In rapid succession I grabbed 3 very nice *P. completa* specimens and I had been moving so fast that Frank pulled another one out of my foot print. There were 2 lithologies exposed in the pit, gray alternating layers of marl and limestone overlain by tan marl and limestone. For whatever reason we found our better preserved and inflated echinoids in the tan layer. The gray layer however presented some nicely preserved nautiloids, many of which came home with me, including one that turned out to have a shark tooth pasted to it once I scrubbed it at home.





**FIGS 36-37:** A few views of Grayson Site 437



**FIG 38:** *Coenholectypus* sp. echinoid in situ, Grayson fm (Site 437)



**FIG 39:** *Pseudananchys completa* echinoid in situ, Grayson fm (Site 437)



**FIG 40-45:** *Pseudananchys completa* echinoids this and next 5 frames, my best specimen first 3 frames, Grayson fm (Site 437)









**FIG 46:** Nautiloid *Cymatoceras* sp. partially covered in pyrite, Grayson fm (Site 437)



**FIGS 47-48:** Grayson nautiloids *Cymatoceras* sp., the gray one with a *Carcharias* sp. shark tooth near the living chamber (Site 437)

We dropped into a second pit and finds were a bit more scarce, but by circumnavigating the entire pit I was graced with a few good finds including another large *P. completa*, a nice *Coenholectypus* sp. echinoid, a cute little *Goniophorus scotti* echinoid, and a *Leptostyrax macrohiza* shark tooth in a big limestone slab that I was able to reduce to a more portable size. Of course more nautiloids came to hand as well. We examined some spoil piles of the underlying Mainstreet limestone here as well and found a profusion of brachiopods *Kingena wacoensis* and Frank landed a very nice nautiloid.



**FIG 49-50:** *Pseudananchys completa* echinoid this and next frame, Grayson fm (Site 437)





FIG 51-53: *Coenholectypus* sp. echinoids these and next frame, Grayson fm (Site 437)





**FIG 54-57:** *Goniophorus scotti* echinoid this and next 3 frames, Grayson fm (Site 437)









FIGS 58-59; Shark tooth *Leptostyrax* sp. and nautiloid *Cymatoceras* sp. found in the Grayson fm (Site 437)



**FIGS 60-61:** Frank's superlative nautiloid *Cymatoceras* sp. above, profusion of brachiopods *Waconella* (*Kingena*) *wacoensis* below, both from the Mainstreet formation (Site 437)

We regrouped at another part of the site where much of the gray matrix had been spread out and rained on. We headed in opposite directions and systematically worked our respective exposures. We each grabbed several more *P. completa* echinoids. I was happy to land a couple *Phymosoma volanum* as well as more nautiloids.



FIG 62-63: *Pseudananchys completa* echinoids above, *Phymosoma volanum* below, Grayson fm (Site 437)



FIG 64-65: Two *Phymosoma volanum* and same *G. scotti* as before below, Grayson fm (Site 437)



It was getting late in the day and I still had over 4 hours drive to get home on a work night so I pulled the plug, thanked Frank for his hospitality, and stayed awake thinking about the good fortunes of the day.



**FIG 66:** Twas a delightful day of doggypadding through the quagmire

February 23, 2008: Flush with Fossil Sand Dollars

One of my out of state fossil buddies has been begging me to get him a load of Pleistocene sand dollars lately so I obliged yesterday when winds at the coast allowed me to run miles across the open bay near Corpus Christi, TX in my 12 foot jon boat. In a couple hours I picked up 23 LBS of *Mellita quinquiesperforata* sand dollars and a few gastropods. I didn't expect to find that many since I worked the site pretty hard a year ago, but the constant forces of Ma Nature combined with remoteness of the site worked in my favor.



**FIGS 67-78:** Late Pleistocene sand dollars *Mellita quinquiesperforata* (Site 228)















**FIG 79:** Unidentified gastropods (Site 228)



**FIG 80:** One for the conchologists out there (Site 228)

Afterward I drove around scouting for excavations on dry land. One produced a number of bleached Pleistocene shells as well as a few fish bones which I believe are gill plates. I got a few horse tooth fragments and a very ugly shard of mammoth bone as well.



**FIGS 81-82:** Various Pleistocene bivalves and gastropods above, fish gill plates, bison and horse tooth fragments below (Site 324)

Next came the weird part of the trip. I was driving along as a car turned a corner and a lady in her 60's riding her bike while staring off into space collided with the car and went flying through the air, landing hard on her elbow and head. I did a u-turn to help her out but she was on her feet when I got there. Her head looked OK but her elbow looked pretty messed up. She didn't want a ride so I straightened her handle bars and saw her walk her bike off in the direction she was originally headed. Only this time she kept her eyes straight ahead.

It's hard for me to run to the coast without fishing so I anchored my boat under a bridge and threw live shrimp in the channel at dusk. I was hoping for an oversized black drum but ended up throwing back a small speckled trout and a small redfish, but ultimately landed a fat 20" tiderunner speck after dark. Fishing was slow overall, but the trout fried in cornmeal supplemented with a bait shrimp boil left my family of 3 pushing away from the fat and happy with leftovers for tomorrow.



FIGS 83-84: Undersized trout and red caught in Humble Channel and released



FIGS 85-86: Fat 20 inch speck that fell to a live shrimp

I love those double dip trips!

Side Note:

I got tired of breaking shear pins when running my boat in shallow rivers and didn't feel like paying \$100 for a prop guard so I designed and fabricated my own from 304 stainless steel. The side plates are plasma cut .075 stock and the struts are 3/16 rod. My welds are ugly but strong. At full throttle in still water the additional drag takes me down from about 12 MPH to 10.5 MPH, but in the long haul my average speed should be equal or better since I won't have to mess with shear pins on the river nearly as often. I suppose a rock or stick could get wedged in it and break a shear pin anyway, but the design should deflect the engine away from most submerged obstructions. I tried to balance strength against drag and opted to just protect the bottom third of the prop swing reasoning that that is where most of the contact takes place. Now I'll need to see what happens to it when I hit a log at full throttle. Since this thing clamps around the skeg, structural strength of the skeg should remain uncompromised.

Should I need to replace a prop and/or shear pin, I'll have in my dry box the prop puller I devised and fabricated on lunch hours after a buddy gave me a rough idea of what he's used in the past. By drilling through my glass filled nylon props on centerline I was able to make clearance which allows a bolt to push off the prop shaft and pull the prop off.



**FIGS 87-89:** Home spun prop guard and prop puller



