

FOSSIL COLLECTING REPORT

April 2010

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April 3, 2010: Upper Cretaceous Solo Gig

I hadn't done a full scale paleo excursion in quite some time so it felt good to go out and abuse my body for 13 hours dawn to dusk, accumulating a few rewards for my efforts at each stop. The day's plan came together late in the week and a couple buddies weren't able to work with that schedule so I opted to go about my itinerary alone – I enjoy blazing my own trail at times anyway.

The first destination was a pit in the Anacacho Formation (78 MYA) of South Texas that I visit from time to time. It is known to produce echinoids and scattered ammonites and I once again found that to be the case. From 8 a.m. until past lunch I looked over a series of boulders and banged out all manner of goodies.



FIG 1: Anacacho fm gastropods *Gyrodontes* sp. with interstitial asphalt permeating the limestone matrix (Site 84)



FIGS 2-6: Calcified Anacacho fm gastropods *Turritella* sp. this and next 2 pages (Site 84)





A couple of asphaltic gastropods came into view and will make interesting paper weights set in matrix on self displaying pedestals. A small slab of calcified *Turritella* gastropods is preserved in sharp contrast to the other snails mentioned. But the meat and potatoes of my take home pay came in the form of echinoids, *Phyllobrissus cubensis* being most abundant, some quite good condition. One spatangoid (heart urchin) came to hand, perfectly preserved, and it looks quite similar to *Mecaster texanus*. Rare for this site, I have many examples from other localities.



FIGS 7-15: Rare Anacacho fm echinoids *Hardouinia bowlesi* this and next 7 pages (Site 84)

















FIGS 16-17: Anacacho fm echinoid *Mecaster texanus* this and next page (Site 84)





FIGS 18-21: Anacacho fm echinoids *Phyllobrissus cubensis* this and next 2 pages (Site 84)





However, this site presents a larger, more impressive, more rare echinoid at times...one so rare in fact that it is only known from this locality, and the holotype (first specimen) was found by my friend Brian Bowles on a group trip to the site 5 or 6 years ago. It was cool for me to be along on that trip when a new species was found. At any rate, my efforts produced 4 of these *Hardouinia bowlesi* specimens ranging from nearly complete to complete. One was lying loose on the ground, 2 came out with minimal effort, but one was set so deeply in a huge boulder that I had to retrieve my mighty 20 LB, 2 handed sledge to methodically reduce the boulder down to something more portable.

A helically spiraled, yellow form caught my eye as I billy goated from rock to rock. It was a rare and reasonably complete *Bostrychoceras polyplacum* ammonite set in the middle of a 400 pound orange boulder. The rock varied in hardness, and it was quite fortuitous that one side of the ammonite was attached to hard limestone, but most of it was buried in soft, fine grained sandy matrix. This allowed me to easily smash the boulder into manageable sized chunks without breaking the specimen, then later with my air scribe blow the sandy matrix out from between the coils, resulting in a spectacular specimen showcased in 3D relief – very impressive, even for non collectors. It is a splendid mix of art and nature.



FIGS 22-24: Anacacho fm ammonite *Bostrychoceras polyplacum* this and next 2 pages (Site 84)







FIG 25: Anacacho fm geodized burrow (?) (Site 84)

Switching venues I took a quick stroll along a familiar cypress lined stream bed and perused a couple overlooked boulders of Anacacho limestone. No spectacular finds...I think I took 3 or 4 more *P. cubensis* echinoids in less than perfect condition.



FIGS 26-28: A view of Anacacho fm Site 158 followed by 2 echinoids *Phyllobrissus cubensis* found there



¾ of my daylight hours were gone but I wasn't through. I just so happened to have my kayak with me so I headed off in another direction and dumped it into a pristine South Texas stream and clipped off a few miles. Before me lay an exposure of the Escondido Formation (66 MYA) known to produce gastropods and ammonites in isolated spots. These isolated spots are hard to find but once found can be quite productive as is this one, one of my personal "honey holes".

Honey on this day came in the form of honey colored *Sphenodiscus pleurisepta* ammonites, and some sweet specimens made it into my backpack. I had a fabulous time banging out specimen after specimen from 2 to 13 inches diameter. In the end my yak was burdened by 20 ammonites plus one fat, fist sized gastropod, probably a new species for my collection.



FIGS 29-42: Escondido fm ammonites *Sphenodiscus pleurisepta* and possibly other species of the same genus, this and next 12 pages (Site 417)



























FIGS 43-45: Unidentified Escondido fm gastropod this and next 2 pages (Site 417)





Hard work has its rewards, and also its price.....a full tilt Saturday cost me half of Sunday in sleep!

April 17, 2010: Paleo Plan B

As late as Thursday night I still thought I could run to North Texas for the weekend and still dodge all the rain forecast for South Texas. But alas, overnight rain chances went from 20% to 80% for my areas of interest, thus wiping out Plan A. Once the skies let up a bit I salvaged the last 9 hours of Saturday for a little local collecting.

First stop: the Corsicana Formation (68 MYA). Not yet ready to be written off, this site still produces after heavy rain, however rain and spring climes are conspiring allow vegetation to reclaim the site. The sloppy quagmire on this day still released a few treasures into my waiting hands. I picked up 2 or 3 dozen echinoids including one *Linthia variabilis*, one *Plesiaster americanus*, one *Proraster dalli*, and the remainder more common *Hemiaster bexari*. A couple rough crabs *Dakoticancer australis* also hit the bottom of my bag.



FIGS 46-47: Corsicana fm crab carapaces *Dakoticancer australis* above, echinoids *Linthia variabilis* (2), *Plesiaster americanus*, and *Proraster dalli* below (Site 349)



FIGS 48-49: Corsicana fm echinoids *Hemiaster bexari* above, bivalves *Trigonia castrovillensis*, *Plicatula mullicaensis*, and unidentified below (Site 349)

Relocating to a site in the Glen Rose formation (108 MYA), recent rains had coaxed out 2 or 3 decent *Salenia texana* echinoids plus my largest *Coenholectypus planatus* ever from the formation, complete but somewhat flattened.



FIGS 50-51: Glen Rose fm echinoids *Salenia texana* and *Coeholactypus planatus* above, *H. obliquatus* and crab claw finger *P. banderensis* (Site 357)

My next site in this same horizon produced several more *S. texana*, then skies the color of a week old bruise brought in a sideways downpour. Bolts dropping in the distance didn't confront me much, but a nearby flash and

thunderous boom ultimately sent me packing for the protection of my vehicle. 10 minutes later I was able to find still more *S. texana* exactly where I had just hunted, the gullies scoured by 3 inch deep water that subsided as fast as it appeared.



FIGS 52-53: Glen Rose fm echinoids *Salenia texana* this and next page (Site 445)





FIG 54: Glen Rose fm unidentified gastropod, bivalves *Liopistha* left and *Arctica* right (Site 445)

With minimal collecting time remaining I proceeded, and it was unsettling to observe that I seemed to be chasing the maelstrom. Darkening skies were once again overhead, yet my dogged persistence prevailed. A 20 minute search turned up several echinoids *Loriolia rosana* while micro rockslides sloped and fell down the face of the Upper Glen Rose exposure....not exactly the safest place to be without a hardhat so I pressed on to one final site.



FIG 55: Glen Rose fm echinoids *Loriolia rosana* (Site 249)

Knee pads and elbow pads were all that was between me and ground the consistency of Mom's chocolate pudding. My last hour was spent looking as if I had dropped a contact lens as the target fossils were quite diminutive in scale, measuring roughly 3 to 10 mm, requiring a somewhat myopic approach to collecting.

Again in the Upper Glen Rose, my take comprised 18 echinoids, mainly variants of the genus *Salenia*, plus a cool little shark tooth *Protolamna sokolovi* and my first fish vertebra from the formation. Satisfied with my take, I left the site after having worked less than a quarter of the huntable area, with only cloud to ground lightning and the echolocating twitter of feeding bats overhead in the twilight sky to keep me company.



FIG 56: Glen Rose fm echinoids *Salenia phillipsae* and *Salenia* sp. along with *Salenia* sp. spine and crinoid columnals *Isocrinus annulatus* (Site 161)



FIG 57: Glen Rose fm unidentified fish vertebra, shark tooth *Protolamna sokolovi*, and unidentified crab claw finger (Site 161)

April 18, 2010: Paleo Plan C

With many watersheds swollen throughout the state I stayed glued to the couch for most of the day, then ultimately found the motivation to sniff out some local Walnut Formation exposures (105 MYA).

Site 1 produced a couple *Heteraster texanus* echinoids in good preservation. Site 2 gave up a decent echinoid *C. planatus*, as did Site 3. Each site was only worth 20 or so minutes of my time, affording me plenty of time to cut the lawn for the first time this year. We generally don't argue too much with rain in South Texas, but I sure wish it could have waited a few days...



FIGS 58-59: Walnut fm echinoids *Heteraster texanus* and unidentified bivalves above (Site 455) followed by echinoids *C. planatus* below (Sites 459 and 494)

April 23, 2010: Duck Creek Ammonite Roundup

Rain the previous weekend had washed out my collecting Plan A, but since I was off work on Friday I saw the break I was looking for. Only it rained again, so I pulled over and slept in my vehicle for a while. As the pitter patter of aqueous splatter subsided I went about my plan of exploration. Site information is the life blood of the pursuit of fossils, so at times I need to get off my posterior, do some research, then commit to an exploratory trip with no guaranteed finds.

This time things worked out for me. Deploying my boat in a Texas stream, I traced natural exposures of the Washita Group, specifically a 103 million year old zone referred to as the Duck Creek Formation in North Texas,

and the Georgetown Formation in Central and West Texas. An hour or so of navigation brought me to bluff and adjacent gravel bar where this zone was outcropping. It was easy to ascertain the zone as it was marked with characteristic ammonites *Eopachydiscus marcianus*, *Idiohamites fremonti*, and *Mortoniceras* sp., index fossils of this age. It was a picturesque stretch of stream although finds at first were rather sparse. I took a decent *Mortoniceras* and *Idiohamites*, both preserved to some degree with calcite replacement.



FIGS 60-61: Duck Creek fm ammonites *Eopachydiscus marcianus* this and next page (Site 533)





FIGS 62-64: Partially calcite replaced Duck Creek fm ammonites *Mortonicerias* sp. left and *Idiohamites fremonti* right, this and next 2 pages (Site 533)





When I happened upon another limestone bench my paydirt got much heavier. In rapid succession I banged out 4 *Eopachydiscus* ammonites up to 18-20 inches then stacked them like poker chips at the water's edge while I retrieved the boat – my gamble paid off. They presented quite a load and I'm certainly glad I had the foresight to bring my weightlifting belt this trip.



FIGS 65-67: 2 pairs of Duck Creek fm ammonites *Eopachydiscus marcianus* in situ this page, as prepped next page (Site 534)



A pile of BBQ brisket and a long drive later, I found myself eyeballing another put-in at a different stream. Shuttling gear down to water level and later back up is never my favorite part of the trip, but in this case rewards were again quite heavy so when mixed with the required exercise to get everything back to the vehicle, they were bittersweet rewards at the time.....now that I'm well rested, they are more sweet than bitter.

The moderately long boat run put me face to face with a bluff several hundred yards long, again in the Eo zone. Soon I realized that my research was about to pay off handsomely...I had found a large, essentially virgin exposure rich in ammonites exposed just above water level. Many Eos and Morts were damaged by weathering and I saw no pot holes where others had been extracted, indicating that I had indeed found a very special place. Some sites are only good once in a great while once collected, so I figured I'd "git it while the gittin's good". All I had to do was paddle along and step out to bang ammonites out when they looked worth taking.



FIGS 68-79: Duck Creek fm Site 535 followed by 11 pages of in situ and prepped shots of *Mortonicerias* sp. ammonites concluded by a group shot of *E. marcianus* ammonites

























FIGS 80-81: Duck Creek echinoid *Macraster elegans* in situ above, as prepped next page (Site 535)



This drill went on for at least couple hours while I carpeted the bottom of the boat with ammonites large and small. Just after extracting the last of a dozen of the better preserved ammonites available from the far end of the exposure my chisel slipped off the slope and into the abyss.

Then I happened to glance up and spot a curious globular object 15 feet above water level. I scaled the steep exposure and lay hands on what turned out to be a fine example of the echinoid *Macraster elegans*, then found another slightly rougher specimen at water level.

Once again it was worth all the trouble, fuel, and lost sleep. The day wove itself into life's tapestry of great experiences in the untapped outdoors, something I hope to experience countless more times before I depart this earth.

April 24, 2010: Half Day ManVenture

I awoke early and had most of the previous day's finds prepped and photographed by the time young Weston made his way out to the garage. "What will we do today?", he asked. "Why don't we paddle the kayak around today?", I offered. We struck a deal, and after some ice cream we were on our way.

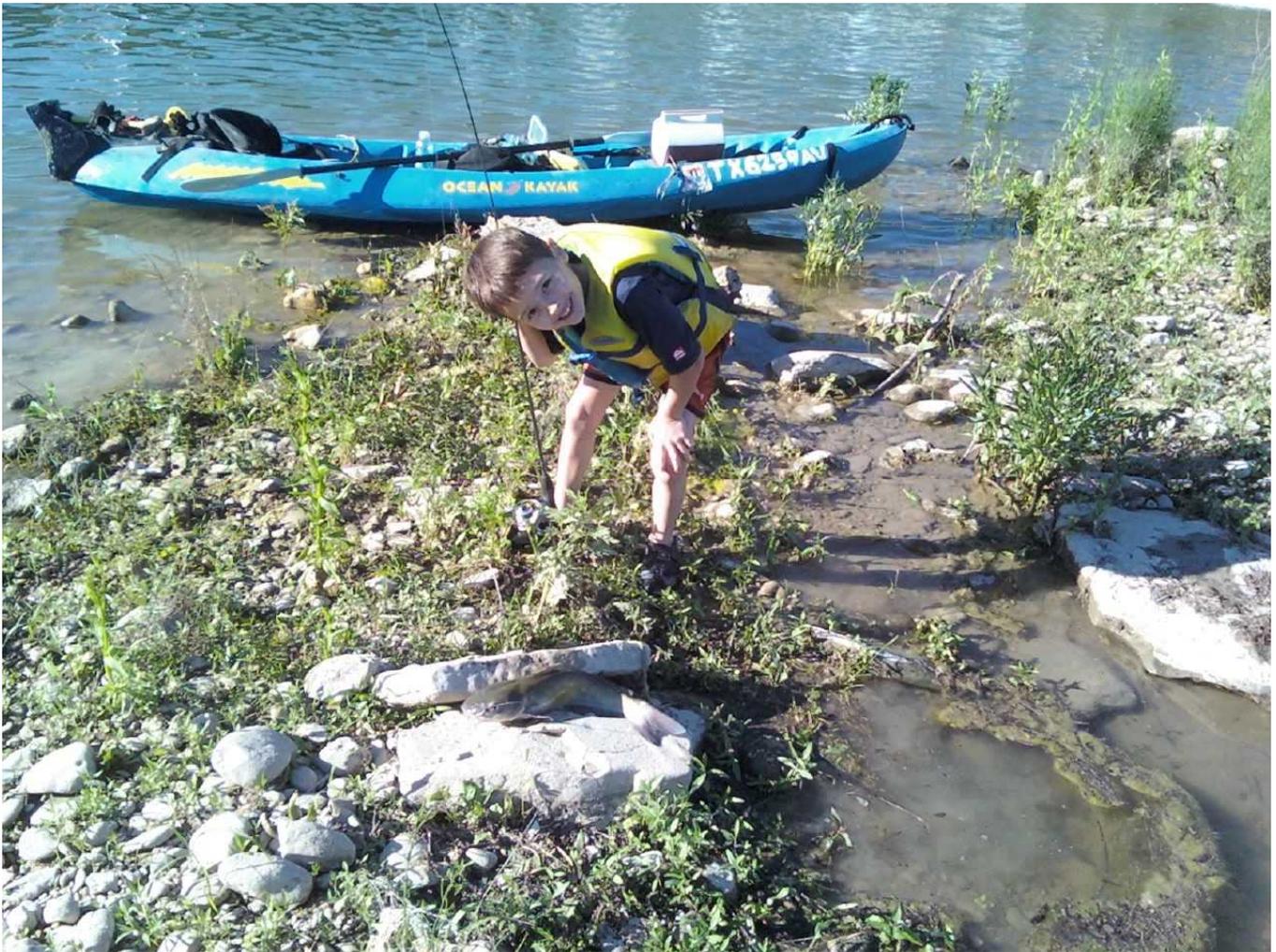
While slipping my kayak into the stream I made a very welcome find – my 4 pound hand sledge that had apparently fallen out of my pack last trip and ended up on the stream bottom 2 feet down. Soon Weston and I were on our way, pressing toward a distant exposure of Escondido limestone (66 MYA), the very same site I had visited 2-3 weekends prior. Only this time was a multi pronged adventure – fossils, swimming, and fishing.



FIGS 82-86: Young Weston swimming, frolicking, and wrangling turtles and catfish (Site 417)





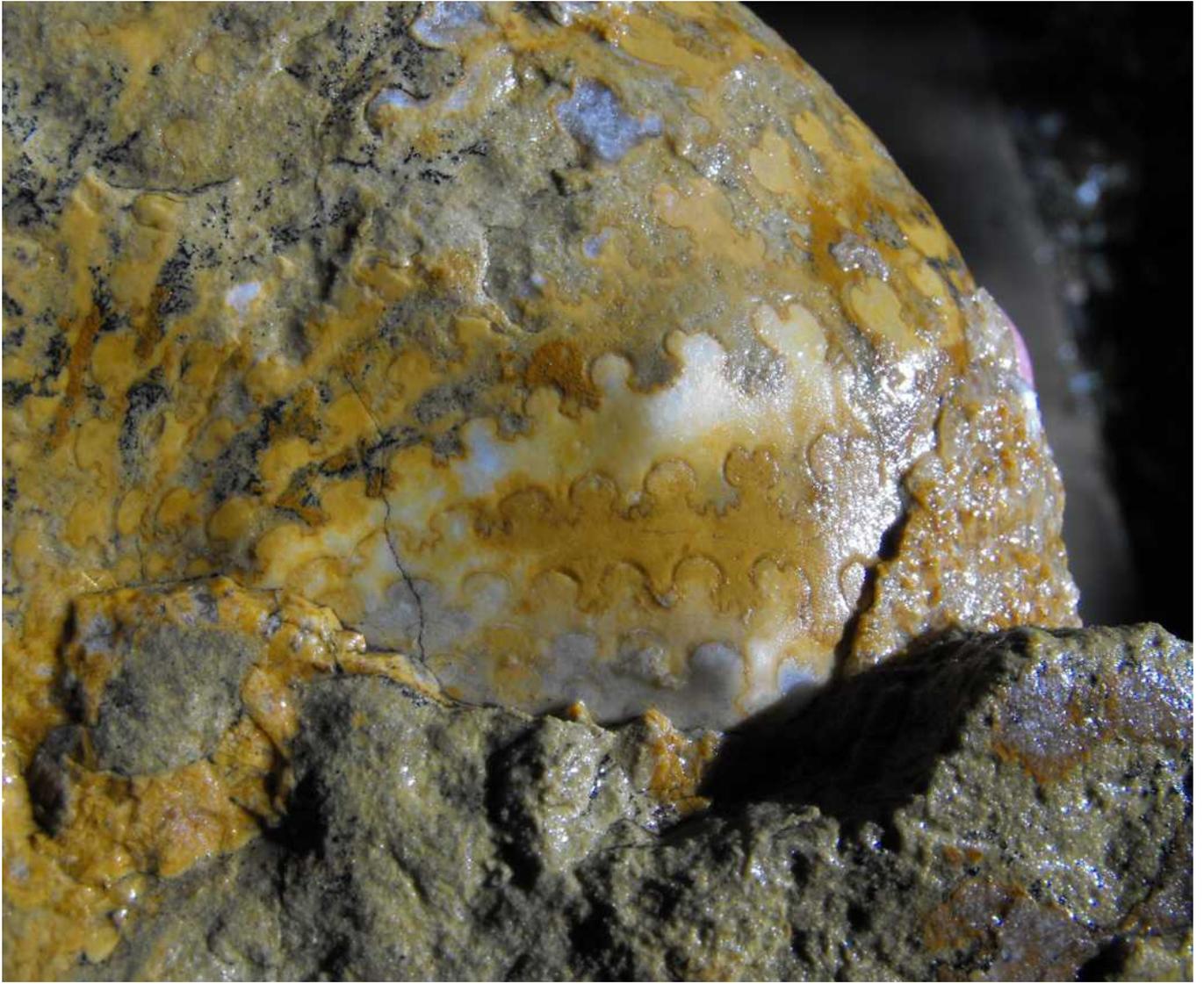


The boy wanted to swim primarily, so I parked us under a waterfall and let him frolic around in the hole just downstream. However I had some suspicions about the hole, so I threaded a dead shrimp onto a hook and lobbed it out into the deep using Weston's rod, stuck the rod butt into one of the yak's scupper holes, then joined him in swimming.

...then I noticed the rod tip dipping and bending over! We made it over to the yak as fast as we could, and Weston handled the doubled over rod while I fumbled for my camera phone for some action shots. It stripped line a couple times and headed deeper into the hole, but Weston deftly coaxed the leviathan from the deep, finally sliding the 18 inch channel cat onto the gravel bar. That's my boy!



FIGS 87-89: Escondido fm ammonites *Sphenodiscus pleurisepta* (Site 417)







FIGS 90-93: Escondido fm gastropods *Turritella trilira* this page, unidentified following 3 pages (Site 417)







I took a little time with my hand tools to beat out 3 *Sphenodiscus pleurisepta* ammonites and a bunch of cool gastropods including *Turritella trilira* from the intermittent limestone layers in the stream, but I'd have to say that the best part of the day was watching Weston slay the big cat. We threw some celebratory burgers down on the way home, filleted the fish at home, where it then went straight into the corn meal and peanut oil for a tasty late night snack. Weston ate his fill and didn't get off the couch until late the next morning.....