May 2, 2009: Working the Creeks after a Big Flush

A 10 foot wall of water had scoured some creeks earlier in the week, so my friend and collecting buddy John Jackson and I decided that a trip to Central Texas was in order to get first dibs on some choice fossils. The first creek was still up a bit, so we deployed a canoe to survey the mix of Holocene (recent up to 10,000 year old), Pleistocene (locally 10,000 to 50,000 year old), and Ozan (78 million year old) deposits. The snakes were out, and there were a few log jams to navigate over and around as well, but we managed to find a few things worth keeping.

Old snuff bottles from the 1920’s-1940’s were found en masse. But there was more good glass to come. We grabbed a couple Prohibition era whiskey bottles, old Milk of Magnesia bottles, even a bottle of “Volcanic Oil” and a bottle of Dr. J. Hofstetter's Stomach Bitters, a cool early 1900’s square brown cork top bottle in excellent shape. Rumor has it that this same stuff was utilized during Civil War times.

FIGS 1-5: Early to mid 20” century bottles from Site 500 this and next 2 pages
My first fossil find was a Pleistocene lower horse molar. Then we encountered a big log jam requiring us to slide the boat over the top. In the process the boat began to flip, and not wanting our cameras, phones etc. to go overboard, John dutifully grabbed to steady the hull. The only problem was that his paddle was still in hand, resulting in a judo snap directly to my temple as I was balancing on a log.

I now know this was a ploy to gain a distinct advantage in collecting for the remainder of the day. While my head was spinning and double vision set in, John picked up two broken spear points and a monstrous red mosasaur caudal (tail) vertebra with a 3 inch diameter centrum – one that I had just walked within 3 feet of. The truth hurts sometimes!
FIGS 6-7: John Jackson’s mosasaur caudal vertebra (Site 500)
Pressing on, we decided to stomp another creek along a stretch I was quite familiar with. Here the Georgetown formation (101 MYA) presented a rich diversity of well preserved marine fossils. We kicked things off in what I think was near the contact of the Denton and Fort Worth members of this formation. Here John hacked a decent *Macraster pseudoelegans* echinoid out of the marly limestone while I worked higher up the bluff and found 3 or 4 decent *Mortoniceras* ammonites...in fact John said I was the “Mort-ician” that day........

Farther along the creek we encountered a bluff capped by yellow, *Kingena wacoensis* brachiopod laden gritty limestone of the Mainstreet member of the Georgetown formation. Down near the base in a tumbled block I happened upon a decent *Coenholectypus* sp. echinoid, my first from this site, and a *Paracyamatoceras texanus* nautiloid. Farther up the bluff I happened upon a small but very well preserved *Mortoniceras drakei* ammonite, another welcome find.

FIGS 8-10: *Mortoniceras* sp. ammonites from Georgetown fm this and next page (Site 217)
FIGS 11-14: Honkin' huge echinoid *Macraster pseudoelegans* from Georgetown fm this and next page (Site 173)
Pressing on we worked one last bluff, this one in the Fort Worth member I believe. Generally sparse in fossils but having presented some spectacular finds in the past, I kept my eyes peeled for ammonites and echinoids. True to form on both counts, this site once again gave up the goods. I grabbed 2 *Macraster* echinoids, one a monstrous, palm sized specimen in wonderful condition, the other a diminutive specimen slightly compressed and dotted with pyrite crystals.
Complacent with the day’s finds, we retired to John’s house and grilled over pecan wood some axis deer steaks and wild pork chops marinated in Italian salad dressing and served with steamed broccoli. It was a feast much enjoyed by John, his wife Bonnie and myself.

May 3, 2009: One More Round at the Globator Pile

For once I slept in till 9 a.m. and after Bonnie whipped up some eggs for us John and I proceeded to the pile of Georgetown limestone that on previous visits had produced Salenia, Goniopygus, Tylocidaris, and numerous Globator whitneyae echinoids. Armed with knee pads, gloves, chisels and 4 LB hand sledges, we were pretty serious about it this time. Recent rains had scoured the rocks of loose dirt, making the treasures therein a little bit easier to see.

I wondered aloud how long it would take us to score the first echinoid so we agreed to start the stopwatch. While John and I both picked up numerous pyritized Neithia scallops and Rastellum oysters, John managed to grab another Goniopygus echinoid. I spotted several Globator whitneyae echinoids and reduced them to possession. In fact, 7 minutes into our search I located a rock containing 3 of them! They must have been gregarious critters as at least one other time that morning when I found one specimen, then split the rock on that same layer, multiples came to hand. In the end I took 11 G. whitneyae specimens, 6 being perfect. As easy as we made this look, this species is not all that common. In fact, this is the only site where I’ve encountered them. With that in mind, I even took the partials and damaged specimens with me.

FIG 15: John Jackson working diligently in his search for Georgetown fm echinoids (Site 190)
FIGS 16-22: Scarce echinoids *Globator whitneyae* from Georgetown fm this and next 2 pages (Site 190)
FIGS 23-25: John Jackson’s ultra rare Georgetown fm echinoid Orthopsis sp. (Site 190)
FIGS 26-27: John’s nice pyritized *Macraster* sp. echinoid above, the author’s oyster and gastropod below (Site 190)
FIGS 28-29: Pyritized oyster above, pyritized *Neithea* scallops below (Site 190)
FIGS 30-32: Pyritized Neithia scallop and oysters Rastellum carinatum above, nautiloid Paracymatoceras texanum below, all Georgetown fm (Site 190)

And that brought our leisurely weekend of collecting to a close. While walking across a bench of yellow Mainstreet limestone en route back to my car I happened to look down and notice one last fossil worth taking home – a spectacular example of the nautiloid Paracymatoceras texanum, diminutive in size but wonderfully detailed. That capped off the weekend and made for a photo finish.

May 10, 2009: Corsicana Under Seige

The last time I had visited the Corsicana fm site (68 MYA) was a couple weeks prior with my 7 year old son, Weston. Our visit had followed a decent rain, but his attention span did not allow for a thorough crawl of the site, so this time when he was off with his mama for Mother’s Day festivities I seized the opportunity to give the place a good look solo. The recession may be beginning to lift as evidenced by increased construction activity at the site. About 25% of the prime collecting area had been graded by heavy equipment on my prior visit, and this time about 50% was obliterated. What was left was the very best of the crab and echinoid zone, but its days may be numbered. Thusly, I gave the area 4 hours of intense scrutiny on all fours despite nagging knees.

Finds were very good that day. Echinoids Hemiaster bexari were found by the handful, and I picked up a more rare Linthia variabilis as well. Something in a small marl nodule caught my eye; it turned out to be the tip of a tan bladed
shark tooth jutting out of the matrix and implying that the buried root may be intact. The *Dakoticancer australis* crabs however stole the show. I may have absconded with 5 or 6 decent carapaces, two being real whoppers approaching 2 ¾ inches diagonally. I simply could not believe how much I had missed on my last trip. Perhaps this is testament to me dutifully keeping an eye on the boy? (I say this for all the mothers out there).

**FIGS 33-44:** An outstanding day for *Dakoticancer australis* crabs from the Corsicana fm, shown both in situ and prepared, this and next 8 pages, note claws and ventral (belly) details (Site 349)
FIGS 45-47: Fish palatine fang *Enchodus ferox* this and next 2 pages (Site 349)
FIGS 48-49: Shark teeth and crab claw finger (Site 349)
On my last trip I had found a fairly complete crab eroding out of a hillside and noted that had I had proper tools with me at the time, I could have perhaps extricated it in a block of matrix with legs largely intact. Instead with a small screwdriver and a rock I had beaten and pried until the legs broke apart. This time I went back to dig out more pieces of the legs for hopefully a resurrection and reconstruction of a decent specimen. In the process I dug a piece of adjacent matrix out of the way and noticed legs jutting out of both sides of it….hmmmm… I packed that chunk along with me hoping to prep a very complete crab out of it in my garage very soon.

A monsoon rain could possibly breathe new life into the site, but the realist in me suggests that I may soon be out of luck. Still, I’ve been fortunate to work the site for 3 ½ years nearly free of collecting competition, and have assembled quite possibly the most complete collection from this formation known to the collecting community. Every year or so I stumble upon a stellar site in one formation or another….good thing I found a new one a couple months back!

March 14, 2009: The Finest of Field Specimens

My girlfriend Rene’ flew in from Florida for a long weekend in Texas, and part of my job as Chamber of Commerce poster boy was to show her the various things I find intriguing about South Texas, both in nature as well as in town. Friday morning we opted to enjoy the Texas outback and maybe pick up a few paleo souvenirs for our effort. After wolfing down a few breakfast tacos I took lovely Rene’ on a hike up a remote stream bed exposing the Anacacho formation, a marine limestone and marl sequence roughly 80 million years old.

“Let’s walk on that other side – I’ve never looked there before,” I told her. When we reached a chalk bench studded with oysters and phosphatic molds of *Baculites*, bivalves, and gastropods I told her to look closely as I’ve seen shark teeth in this sort of situation in other formations in the past. No sooner had I said that, I found a nice little tan shark tooth jutting out of a chunk of chalk. Later with a little cleaning the root was revealed.
FIGS 51-63: The author recovering associated mosasaur bones and vertebrae and shark teeth this and next 7 pages (Site 503)
I was caught completely off guard by what I saw next – vertebrae – 4 of them, all in a line with a foot or two between each. I backed up and had Rene’ start taking pictures. I’ve never found decent mosasaur remains in that part of the state before, so this was a significant find for my personal collection. Mosasaurs were apex predators in Cretaceous seas as they were toothy reptiles with powerful flippers. 2 of the verts are in decent shape, the others a bit weathered. I let Rene’ know that this was the closest thing to a dinosaur dig to be had in my part of the state.

Continuing along our planned course I took Rene’ to 3 eroding banks with echinoids *Mecaster texanus* absolutely spilling out of them. She needed no help spotting them and I saw her high grading as her bag got heavy. In the end she took about 50 or 75 specimens including a cool cluster of 3 or 4 of them. I took about as many, plus I was fortunate to lay hands on a slightly eroded but coveted regular echinoid *Salenia pseudowhitneyae*. We were lucky to have shade most of the time, but before long the heat started to work on us. Lovely Rene’ was content to Crackberry her friends while I worked the last bluff. On our walk back to the truck we agreed that she may be able to talk her kids into cleaning all her finds if she let them keep a few.
I had one more site in mind that would be a slam dunk for shark teeth, this time a pit in the Escondido formation, about 66 million years old. I had asked a few buddies to leave the site alone for a couple rain cycles so that Ms.
Rene’ would have a productive collecting experience. We crawled around for about a half hour or so and Rene’ again proved to be a quick study, picking up 100 shark teeth or so. I grabbed a few of my own in addition to ray, fish and reptile teeth, and gave most of my finds to her (not just the broken ones, hahaha).

FIGS 70-72: Rene’s better Escondido fm shark teeth *Squalicorax pristodontus, Serratolamna serrata, and Odontaspis* sp. above, followed by her imperfect specimens and finally the authors take of the same shark tooth species in addition to nurse shark teeth *Ginglymostoma lehneri*, ray teeth *Rhombodus binkhorsti*, fish teeth *Enchodus ferox* and unidentified reptile teeth this and next page (Site 86)
Many good finds were made in the field that day, but lovely Rene’ was clearly the finest specimen of them all! With the hard work behind us we shared a chicken snitzel in a sleepy little saloon and then dropped our spent hides in the Guadalupe River for a 2 hour float down the river in 64 degree water. With a pound of Rudy’s BBQ brisket and some ice cream we capped off our day of adventure, then hung out at my house with good friends, also from our high school graduating class.

March 17, 2009: Corsicana Resurrection

After dropping Rene’ off at the airport I was mindful of the 2.3 inches of rain that had fallen the day before on the Corsicana site and made a beeline there, kneepads in hand. In short I spent 2-3 hours there and found the place to be well refreshed. I took about 8-10 crabs *Dakoticancer australis* of varying size, some with legs, some legless carapaces, all welcome in my collection. 5 shark tooth blades came to hand as well, their glint giving them away in the bright sunlight. I also took a double handful of echinoids, mostly *Hemiaster bexari*, but there were 3 or 4 decent *Plesiaster americanus* and 2 small *Proraster dalli* thrown in as well. Not bad for a site that I thought might soon be dead.

FIGS 73-74: Corsicana fm crabs *D. australis* this and next page (Site 349)
FIGS 75-78: Corsicana fm echinoids *Plesiaster americanus* this followed by *Proraster dalli* and finally *H. bexari* next page (Site 349)
FIGS 79-80: Corsicana fm nautiloid *Eutrephoceras* sp. above and various gastropods below (Site 349)
March 18, 2009: A Change of Scenery

Monday found me in Southern California on business, the San Diego/Carlsbad area to be exact. That evening I hit the field with my internet research in hand. With the sun setting in the west over the Pacific I scrambled down the face of Sunset Cliffs and found a layer of Pleistocene tide pool deposits about 40 or 50 feet above modern sea level. This was Bay Point formation which features a broad faunal spectrum of mollusks.

The scenery was breathtaking but the fossils looked much like modern shells. Still I took good numbers of gastropods, limpets, and other shells which will find their way into my collection. Since I may be out here more often this summer on business I joined the Southern California Paleontological Society and hope to connect with other collectors either on club trips or private field excursions.
FIGS 82-86: Several views of California coastal Site 503 plus the gastropods and limpets found there, this and next 4 pages
May 23, 2009: Memorial Day Weekend Fossil Odyssey Day 1

I made it home from a business trip near San Diego around midnight Friday, crashed at 2 a.m. after packing the car, and picked up young Weston at his aunt's house around 8 a.m. Saturday. I hit the ground running in other words. We wolfed down some breakfast tacos en route to yet another riparian fossil venue. After lunch we slid the kayak down the precipitously sloping river bank without incident, assembled all manner of gear and gadgetry to our vessel, pulled the rip cord and churned up a little foam in our wake. Again young Weston is privy to the best of my sites as I always strive to provide his young eyes with the most interesting and captivating outdoor venues available.

As we motored along my mind ran through a montage of all the possible Pleistocene finds that the gravel bar could provide...bones...teeth...how about younger Holocene stuff? Spear points? Old bottles? Would the boy have fun and stay comfortable and safe? Soon the bar loomed into view and we beached our trusty floatable and set foot onto shifting ground.

Finds at first were slow to come. Then Weston bellowed out, "Hey I found something with horse teeth in it..." Instantly I knew that Weston's find was significant and could very well be the find of the trip. It was a *Paleolama minifica* jaw with 3 blue teeth, and the open bottom of the mandible revealed perfectly preserved roots - this was easily a better camelid dentition specimen than currently in my own collection. Kudos to young Weston for making such a spectacular find which will soon end up in one of his personal display cases.
FIGS 87-91: Young Weston Woehr scored the first find, which ended up being the find of the day, a stellar section of *Paleolama mirifica* mandible this and next 2 pages (Site 373)
FIGS 92-94: Section of Pleistocene mammoth femur. This and next 2 pages (Site 373)
FIGS 95-102: Turtle plastron fragment, unidentified bone, and Weston’s first mammoth tooth fragment followed by the author’s spectacular sloth vertebra this and next 6 pages (Site 373)
FIGS 103-106: Horse teeth and Pleistocene gastropod this and next 2 pages (Site 373)
My finds were dominated by broken horse teeth. Weston was content to pick up old bottles (too recent to be collectible in my mind, i.e. trash) but I was fortunate to stumble across a mammoth femur head with about 10 or 12 inches of shaft remaining. It was a bit weathered but still a cool find in anyone’s book. Still farther down the bar I stumbled upon an odd looking, large vertebra half buried in the sand and gravel. It turned out to be a ground sloth vertebra in good shape with partial processes intact, again a good find by all standards. I also picked up a palm sized chunk of mammoth tooth with 2 folds of enamel. Weston saw it and said, “Hey, I picked that up and put it back down thinking it was a piece of petrified wood!” I handed over to him his first ever piece of mammoth tooth.

Pressing on miles ahead Weston and I landed on yet another bar, this one more sand that gravel. I headed to the gravel concentration at the head of the bar and scored only a horse mandible missing all the teeth and an unidentified vertebral centrum. Then Weston’s wailing pierced the wind and I saw him running my way with a peculiar gait. His river shoes were a bit tight and had blistered his heels, so he had stepped barefoot onto a briar which stabbed a full 3/8 inch directly into the ball of his foot. I had to pin him down to yank it out fast and soon the wailing stopped. Time to buy the kid a new pair of shoes!
FIGS 107-110: Unidentified vertebra and horse lower molar this and next 3 pages (Site 140)
Yanking the boat out of the water, we drove a while and redeployed at another part of the river. Dusk was nearly upon us but we still managed to lay hands on a couple of decent vertebrae and a horse tooth from one gravel bar. It was dark enough when we got out of the river for me to teach the boy the art of lightning bug baseball using a canoe paddle. Good times! After a nice dinner we settled in for the night next to another river valley miles away. With a spritz of bug spray we cracked the windows of the car and settled in for 8 hours of solid sleep.

May 24, 2009: Memorial Day Weekend Fossil Odyssey Day 2

I started my morning with a mouthful of sour milk - it made its way out much faster than it went in. Wonderful. I then surveyed the distant cloud lightning to the south and decided we could make a quick run on the river, but I packed rain jackets just in case. In short I found only one fossil, half of a horse metapodial, then as we pulled off the water and considered yet another put-in, the lightning got closer and made the proper choice abundantly clear.
Once we were underway the conditions got pretty fierce, so we headed for an Eocene marine locality out of harm's way. Young Weston made the first find yet again, this time a sting ray pavement tooth of the genera *Myliobatis* and *Aeobatis*. We gave it 20-30 minutes and turned up a number of small shark teeth, just enough to justify our time and effort. With a piggyback ride through the weeds I had the boy back in the car and charging toward our next destination.
Our good friend John Jackson met us at a collecting locality he had recently happened upon, a large spoil pile near a housing development. Tan and gray chunks of soft clay and marl were weathering down and exposing breathtaking nodules and pyramids of pyrite as well as a host of marine fossils. John was hoping that by seeing and finding fossils first hand at this site that I could help ascertain the formation of the rocks were we were surveying. Under the pounding Texas sun we crawled around the top of the hill, freshly eroded by hard rain the day before. Tiny pyritized ammonites of at least 3 genera came to hand including *Prionocyclus* and *Worthoceras*, most encrusted with pyrite crystal "tumors". In addition John and I took *Ptychodus whipplei* shark teeth and oddly preserved *Hemiaster* echinoids partially crushed and encrusted with pyrite. Weston was quite content to pick up pyrite crystals as they were iridescent and plentiful.
FIGS 113-121: John Jackson and Weston Woehr scouring the outcrop at Site 502 for pyritized *Prionocyclus*, *Worthoceras*, and other ammonites this and next 4 pages
FIGS 122-125: Ptychodus (shark crusher tooth) and Hadrodus (triggerfish) teeth followed by pyritized and compressed echinoids Mecaster batnensis (?) and spectacular loose pyrite crystals this and next 3 pages (Site 502)
FIGS 126-129: Our lethal friends Mr. Rattlesnake and Ms. Black Widow at Site 502 this and next 3 pages. (This site now off limits to Weston!)
With perhaps a mild expletive John called us over for a look with cameras on the ready. It turned out he had grabbed a clump of grass with a 3 foot rattlesnake coiled underneath. No harm done but it made for an exciting time. Young Weston reveled in the experience. If that wasn't enough John then flipped over a rock to reveal a large black widow spider, also presenting a Kodak moment. With plenty of fossils in hand it was clearly time to pull the plug on collecting for the day (piggybacking Weston through the weeds of course) and have a bite to eat - Cajun was the preferred option this time.

May 25, 2009: Memorial Day Weekend Fossil Odyssey Day 3

A solid 8 hours of sleep at John's house coupled with a fantastic breakfast of pancakes, bacon, eggs, and grits expertly prepared by John's wife Bonnie put us in top form for continued collecting on Monday. And of course the opportunity to drive John's dog Lucky nuts with a laser pointer gave Weston the boost required to rejoin us in the field. With recent rains still ponded on the ground we knew that the Walnut formation (105 MYA) of the Killeen area would provide us a decent shot at some nice echinoids. The first site was a big bluff bordered by muddy pig slop at the base. You can't show a 7 year old a mud hole and then tell him to stay out of it, so Weston and I took the low road while John took the high road.
Soon *Heteraster texanus* echinoids were coming in hand over fist, and even Weston was speed bagging them faster than a grocery boy. Then the good stuff made a showing....I closed my hand on 5 nice *Phymosoma texanum* echinoids, my personal best take that day. John took many *H. texanus* and a couple *Engonoceras* ammonites to boot. Muddy up past his knees, my little suckling pig wallowed in a puddle before getting into my car. This afforded us just enough time to see another couple walk onto the site and take up the search for fossils.....I felt bad about their collecting prospects working behind us, but since we covered so many miles to get there, I'm glad it was our detachment of enthusiasts that reached the site first.

**FIGS 130-137:** Walnut fm echinoids *Phymosoma texanum* followed by *Heteraster texanus* and finally a mystery fossil reminiscent of an orthocone nautiloid internal mold this and next 6 pages (Site 404)
Our next site was recently walled in by concrete, so in short order we donned our kneepads and dropped onto yet another Walnut site, this one rich in the regular echinoid *Salenia mexicana*. I had the sense to set up Weston in the middle of the site with an umbrella to block the sun and a Gatorade to keep him hydrated, so he split his time between his comfortable bivouc and crawling alongside me cherry picking good fossils. We gave it about an hour, in which time I took about a dozen perfect *S. mexicana* echinoids while Weston got about half that many. Bidding farewell to John we began our circuitious path home.
FIGS 138-140: Walnut fm echinoids *Salenia mexicana* this and next 2 pages (Site 352)
With lunch in our bellies Weston seemed rejuvenated. I pointed out another productive site along the road and he was all for canvassing it. It was good to hear his enthusiastic voice as his speed bagging of *Heterasters* continued late on a hot day. I may have pulled a couple dozen nice specimens as well. Then we carefully shimmed along a bluff of nodular tan Walnut or Comanche Peak limestone and continued our take. At one point I spotted a nice *Phymosoma texanum* echinoid and pointed it out to Weston. I stepped behind him and then could not find the specimen. In the meantime he had dropped below me and miraculously found an identical specimen..."Just let it go, Dad..." Could I have been outmaneuvered by a kid? Its tough getting old....Soon despite gratuitous amounts of Gatorade G2, then youngster began to mutiny in the heat so we retreated to the air conditioned climes of my little car, its floor now layered under a weekend's worth of food packaging and sundry debris and detritus.

A couple of Dairy Queen dipped cones helped us along the grueling trek back home, and in the middle of his cone he lost his first baby tooth.....truly a weekend of landmark achievements for the lad.

Closer to home the recent rains prompted me to stop at one last site. Again the A/C had rekindled the boy's penchant for echinoids, so I got a good 20-30 minutes of dedicated collecting out of him. That gave us enough time to secure perhaps 8 good *Salenia texana* echinoids from the Glen Rose formation (108 MYA) plus some *Heterasters* and *Palhemiasters* plus bivalves and gastropods to boot.
FIGS 141-145: Weston Woehr canvassing Site 131 followed by *Salenia texana* echinoids found there, this and next 4 pages
It had been a full weekend for us, a non stop ManVenture of epic spectacular proportions and despite a little blood drawn and some lingering scratching of mosquito bites, we emerged unscathed and incrementally more fossil-rich. We had a great time and the boy even did his homework in the car. I'll see if he wants to go out yet again later this week......

May 30, 2009: South Texas Upper Cretaceous Exploits

This weekend it was my turn to host, so John Jackson showed up at my house around 7 a.m. as I struggled to get my gear together on time. Once we arrived at our target stream, we saw that the ongoing drought had reduced navigable flow to a series of puddles with trickles in between. We pressed on regardless, stepped out to crisscross the gravel bars in search of any and all things old and interesting. The gravel bars were expansive, the characteristic light gray gravel covered dotted with slabs of red Escondido limestone and sandstone (66 MYA).

I was pleased to pick up 3 flint scrapers and cores, but had just about given up on fossils until John showed me a slab of Escondido shell hash studded with shark teeth and bone fragments. My eyes calibrated with that filter, soon I took was picking up shark tooth slabs. We found enough goodies to justify our effort, but I had an even better site in my back pocket...
FIGS 146-149: Worked flint from the stream alluvium, *Serratolamna serrata* and other shark teeth, and *Pecten* bivalves from the Escondido fm this and next 2 pages (Site 516)
When we reached our take out point we ran into a guy and his blonde, bikini clad girlfriend beginning to carry an aluminum jon boat up the steep bank. My chivalrous instincts then kicked in – I carried the girl’s end of the boat while John got stuck carrying 2 baskets of rocks twice as far….alone….when I caught back up to him I was handed the heavier basket of rocks wrapped in a poignant expletive….its all in the rules my good friend! Take the time to reread them….mua ha ha!

After a relaxing drive we descended onto our next site, also a stream exposure, this time in the Anacacho formation (Upper Cretaceous marine, 80 MYA). Since Rene’ and my serendipitous mosasaur find a few weeks prior had prompted only a cursory search of the area at the time, first order of business was intense scrutiny of the immediate area. The dirty yellow chalk peppered with oyster hash and phosphatic molds of Baculites, bivalves, and gastropods revealed other treasures such as a constant stream of shark teeth including Scapanorhynchus texanus (goblin shark) and Squalicorax kaupi (crow shark). Some of the larger teeth were well in excess of one inch, others under ¼ inch. Roots tended to be better preserved on the specimens encased in matrix rather than weathered out.
FIGS 150-157: John Jackson traversing the Anacacho fm followed by shark teeth *Scapanorhynchus texanus*, *Squalicorax kaupi*, and possibly a swordfish tooth *Protosphyraena* this and next 7 pages (Site 503)
FIGS 158-159: Phosphatic gastropod, bivalve, coiled ammonite and *Baculites* straight ammonite molds from the shark tooth zone this and next page (Site 503)
Then I saw it – a big chunk of bone I assumed was a mosasaur vertebra. But it had a long, straight, wide piece of bone jutting off from one side, unlike a vert. John and I worked together to take out the bone(s) in a large chunk of chalk, hopeful that the straight section was a jawbone with teeth. Having found quite a bit of mosasaur material in his time, John agreed that the find Rene’ and I made was indeed rare in this part of the state, especially with bones still bedded in situ. With all the bones localized and strung out in a line we think they came from the same animal. And all the shark teeth.....could they indicate an ancient scavenging event? I'll assume “no” until I see scavenging marks on the bones. I found still other, less defined bone chunks nearby and we both continued to take shark teeth all the while.
FIGS 160-176: Mosasaur pteragoid (palatine jaw section) from the Anacacho fm followed by miscellaneous additional marine reptile bones this and next 10 pages (Site 503)
Pressing on I took John to 3 bluffs bearing numerous echinoids *Mecaster (Hemiaster) texanus*. Flush with them already, I only took a couple dozen this time but encouraged John to take all he wanted. I ran out of Gatorade and began to hang in the shade, low on electrolytes. Soon I suggested that we double back, during which time I beat out an ammonite I had spotted in a boulder.
FIGS 177-182: Unidentified Anacacho fm ammonite, possibly *Peroniceras* or *Gauthiericeras*, this and next frame (Site 496) followed by 4 images of a nice *Menabites delawarensis* ammonite (Site 168)
FIGS 183-186: Echinoids *Mecaster texanus* followed by a mama scorpion and her lovable progeny (Site 496)
It felt good to dump our gear and finds in the vehicle, drink some Gatorade, and head back out to continue our vigilant search. Still more echinoids came to hand, and as we were about to step out of the stream bed I spotted something I’m quite embarrassed to have missed this many times lately. The *Menabites delawarensis* ammonite was jutting up out of the Anacacho bedrock at an angle, presenting its ribbed whorls in full view. With a few blows of my 4 LB hand sledge on my chisel the ammonite popped out of the bedrock nicely, presenting a very well preserved underside. Now that was a quite a fabulous finish!
With storms looming on the horizon we raced to the Corsicana site, also a Cretaceous marine exposure 68 MYA as noted earlier. John had not yet found one of the spectacular *Dakticancer australis* crabs I’ve jawed about for the last 3 years and hoped to finally bring that goal to fruition. As bolts dropped from the sky in the distance I spotted about ¾ of a crab in the ground and called John over to “find” it for himself. He wasn’t having any of that – he wanted to find his own. And that’s exactly what he did 2 feet later, his specimen a complete carapace that popped out of the ground nicely. I gave him my specimen to practice prep before working on his own.

Our finds had been so good that day that I had no problem springing for ice cream. Hand shaking and back slapping were in order as he dropped me off on my driveway loaded down with the day’s haul, our friendship further cemented by a memorable day in nature.