FOSSIL COLLECTING REPORT

January 2012

Daniel A. Woehr and Friends and Family

January 21, 2012: South Texas Buckeye Bash

My good friend Frank Holterhoff made his way down to South Texas to collect with me over the weekend for the first time in a long while. He hangs his hat in the DFW area these days, but we share the common thread of growing up in adjacent school districts in the Cincinnati area, and I enjoy rolling out the red carpet for "my homeboys". Throw in a mutual interest in fossil echinoids and a good time is guaranteed no matter who is doing the hosting.

We haven't had site regenerative rains in a while, but we opted to crawl around my parched Corsicana fm site (68 MYA) despite my giving the place a hard look a month prior immediately following a decent rain. Divide and conquer we did while young Weston slumbered the day away in the back seat of my truck after staying up all night at a buddy's house the night before. This was not all bad…a comfortably resting kid affords an uninterrupted block of focused collecting time, so this was good for all stakeholders in our outing.

I let Frank choose his pick of exposures. While I recrawled a few sections of my hunting area, the bulk of my efforts went into fringe areas that I might not have thoroughly searched during my last visit. Results were better than expected. Two nice *Eutrephoceras* nautiloids presented themselves first, followed by a *Schizaster variabilis* echinoid in a block of matrix, then echinoids *Proraster dalli* and *Diplodetus americanus*, quantity one each. A diminutive gaggle of *Hemiaster bexari* echinoids kept them company in my catch bag.

FIGS 1-3: Corsicana Formation nautiloid *Eutrephoceras* sp. this and next 2 pages (Site 349)

FIG 4: Corsicana Formation echinoids *Hemiaster bexari* (Site 349)

A few more vestiges of cephalopods came to hand as well, including *Baculites* sp. sections and stratigraphically diagnostic partial specimens of the ammonite *Discoscaphites*. I took a couple suspected crabs *Dakoticancer australis* playing peek-a-boo in marly nodules; subsequent preparatory efforts confirmed their identity as such.

FIGS 5-6: Corsicana Formation *Baculites* sp. ammonite left, unidentified eroded tooth middle, unidentified horn coral right and next page (Site 349)

FIG 7: Roughly preserved Corsicana Formation crab *Dakoticancer australis* (Site 349)

FIG 8: Partial Corsicana Formation ammonites *Discoscaphites* sp. left and upper right, unidentified Pachydiscid lower right (Site 349)

Other mollusks included the flamboyantly ornamented gastropod *Striatocostatum bexarensis*, quantity 3 specimens, all exemplary representatives of this eye catching taxon. Bivalves *Trigonia castrovillensis* and *Plicatula mullicaensis* were worth picking up, as were sundry other gastropod molds. Shark and *Enchodus* fish teeth showed themselves when the sun came out, but perhaps my favorite find was fragmental evidence of a rare cidarid echinoid represented by 5 or 6 articulated test plates. I continue to daydream of finding an intact test.

Frank's cooler finds included an ultra rare *Cardiaster leonensis* echinoid and an interesting little horn coral, the first I've ever seen from the formation.

FIGS 9-11: Corsicana Formation gastropods *Striatocostatum bexarense* this and next 2 pages (Site 349)

FIGS 12-13: Corsicana Formation gastropod *Xenophora* sp. this and next page (Site 349)

FIG 14: Unidentified Corsicana Formation gastropods with phosphatic preservation (Site 349)

FIG 15: Corsicana Formation bivalve *Lima guadalupensis* (Site 349)

FIG 16: Corsicana Formation oysters *Ostrea mesenterica* (Site 349)

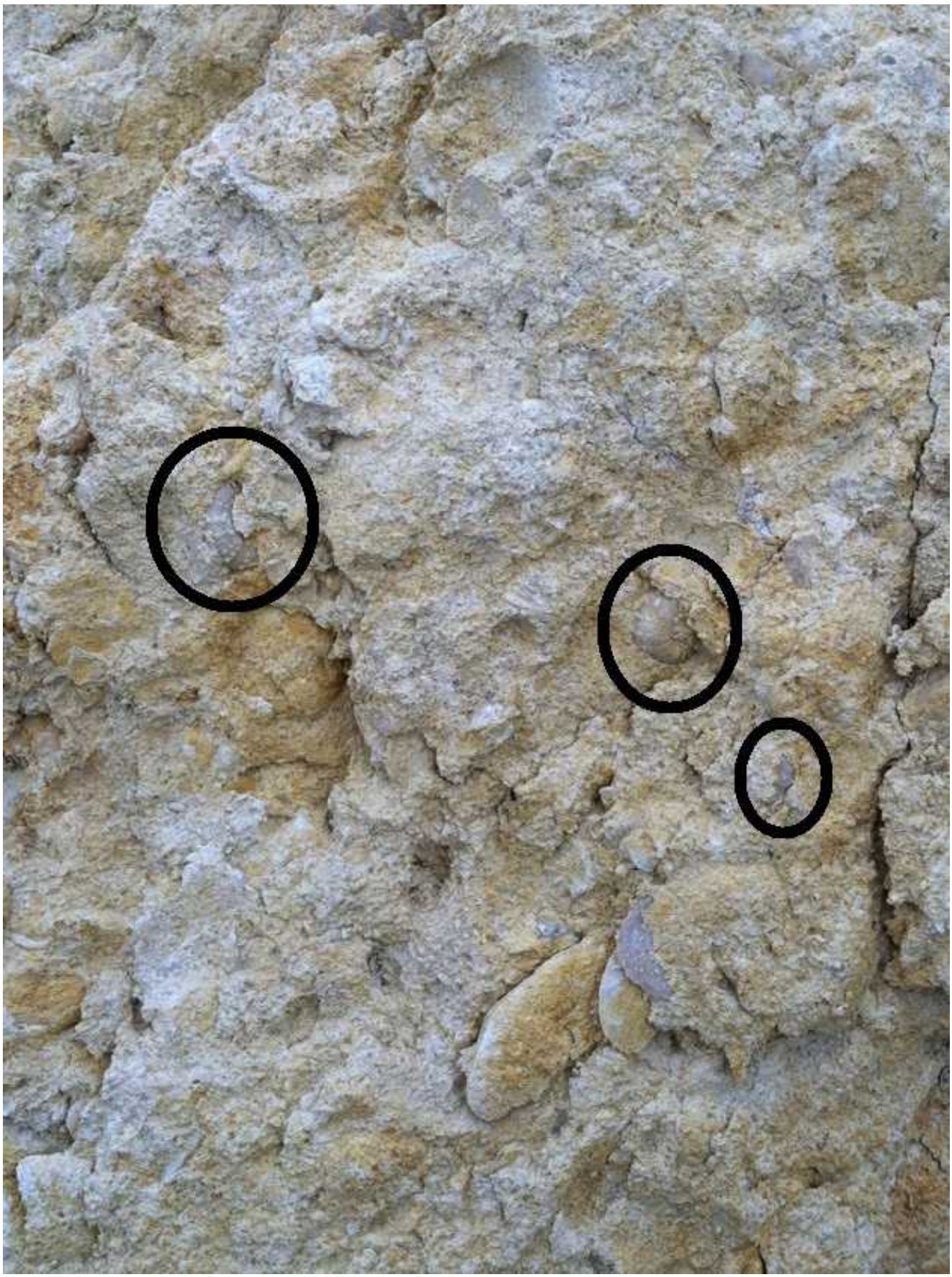
FIG 17: Corsicana Formation bivalves, clockwise from top center: *Neocardium* sp., *Neithea bexarensis*, *Trigonia castrovillensis*, *Plicatula mullicaensis* (Site 349)

FIG 18: Corsicana Formation gastropod *Napulus* sp. stuck to scallop *Neithea bexarensis* (Site 349)

Back at the truck Weston rose to ride his bike while I spread out my finds and let Frank take what interested him. A now spry Weston was interested in a food fight, so I indulged him…and exchanged airborne remnants of chicken salad sandwiches…no clear victor. Bill Miller's chicken, Starbuck's Frappucinos and on to the next and final site…..

FIGS 19-21: Pyritized oysters *Ilymatogyra arietina* from the Del Rio Formation, courtesy of Frank Holterhoff

Hello again, Glen Rose Formation (108 MYA)! Frank's focus here was acquisition of a handful of *Loriolia rosana* echinoids while I indulged young Weston in other pursuits not limited to coasting on his bike down a big steep dirt hill, racing to the top of a mulch pile and rolling down, and sending rocky avalanches down steep bluffs….he doesn't have a big brother so I often change hats to keep things fun for him. He and I each grabbed a couple *Loriolia* while Frank nailed maybe 10 or so. Dinner time rolled around, and in being honest with myself, I rightly chose a salad…..



FIGS 22-25: Weston's Glen Rose Formation echinoids *Loriolia rosana* this and next page followed by his unidentified gastropod (Site 550)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January 22, 2012: Austin Chalk Anticlimax

After church Frank requested an on site tutorial of a locale that in the past had produced for me some very rare and interesting echinoids in the *Cardiaster/Phymosoma/ Hemiaster* spectrum. Drought of the century + slow weathering outcrop + Dan looked here hard a year ago = not good hunting at the moment. Faulting and folding made for complex and interesting geology, but few desirable fossils, except for a freak crab or ghost shrimp claw I encountered, the first crustacean material I've seen at this site, or in the entire formation for that matter.

FIG 26: Unidentified crab/shrimp claw from the Austin Chalk (Site 16)

FIG 27: Austin Chalk echinoid *Hemiaster texanus* (?) along with unidentified regular echinoid spines (Site 16)

Frank departed for more Glen Rose action while I played family man and took my son and girlfriend out for a day of ice skating, air hockey, video games, pinball, and putt putt golf....good times, good fossils, all with a renewed emphasis on balance in life....

Followers of my reports have surely noticed that fossil collecting takes place in somewhat of a boom and bust cycle. Persistent drought takes some of the urgency out of my long distance fossil pursuits as some trips are simply not worth the fuel, given the conditions. Soon enough, the pendulum will swing in the direction of more time spent afield, but for now I'm content to prep my mountainous backlog of specimens from fall trips.

January 29, 2012: Casual Collecting in Great Company

Back to this concept of balance in life, I wasn't thinking fossils when we started the weekend. Ms. Brett had recently come home from deployment in Iraq, so maximizing her good times was my new priority, placing on the back burner my indulgence in fossil quests as was the modus operandi in the fall while she was gone.

After living in tents for months, I was surprised at Brett's warm reception to camping out at Guadalupe State Park Friday night with Weston and me...back to tent life. Persistent cold made the campfire our lifeline to comfort. But when it burned down late in the night, the 3 of us heard a cast of marauding raccoons raiding our food supplies...at one point I heard them try to open the cooler which was 1 foot from the tent. I had to place our Radio Flyer wagon on top of the cooler to guarantee breakfast for ourselves. Weston and I truly enjoyed hearing the coons fighting and hauling off our food in the middle of the night, but more so Ms. Brett's reaction to hearing all this for the first time in her life....CLASSIC!

Next Brett and I dropped off the boy and headed to Austin for good times, good food, and good music to the tune of Guero's Taco Bar, 6th Street people watching and street pizza, 4th street coffee bars, deluxe accommodations at the Omni, then a wonderful and anticipated culinary event the next morning, the gospel brunch at Stubb's BBQ, complete with balcony table overlooking the live 5 piece gospel band.

Now back to the fossils. With half a day left, blue bird skies, perfect temperatures, and recent rains, we picked a couple spots not too far out of our way for some leisurely if not back handed fossil hunting. I happened to have some tools and gear in the back of my car. We each got one glove, one knee pad, and a hammer. The chisel was joint property.

The first micro site was a closet sized cut through some Eagle Ford age (90 MYA) limestone, shale, and bentonite – I've tentatively called this outcrop South Bosque Formation in the past, but I'm not absolutely certain of formation. Anyway, I showed Brett how to target the thin lenses of glauconitic shell hash amongst the limestone stringers. We soon found the proper lithology and I pointed out the phosphatic nodules and ground up fish bone hash...it looked like a really old, spread out can of salmon in some ways. We mined out the right strata, turned slabs on end and split them on natural bedding planes, and lo and behold, shark and fish teeth made the scene.

FIG 28: Ms. Brett searching the layers of the South Bosque Formation for shark teeth (Site 165)

FIGS 29-30: South Bosque Formation *Cretoxyrhina mantelli* shark tooth in situ this page, as prepped next page (Site 165)


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FIGS 31-33: South Bosque Formation shark teeth *Cretoxyrhina mantelli* this and next 2 pages (Site 165)

An hour of this produced maybe 30 teeth or so between us (or so we thought...more came during prep). Shark tooth finds were dominated by *Squalicorax falcatus* (crow shark), with cameo appearances of *Carcharias* sp. and a couple *Cretoxyrhina mantelli* teeth, the best one, a one incher with tips of the root knocked off, going to Ms. Brett. We even found a couple rare partial sawfish rostral teeth *Onchopristis dunklei*. We bailed out when we hit diminishing returns. I hit this little known site maybe once a year to allow proper weathering, and I was happy to share it with her when once again huntable and productive.

FIGS 34-36: South Bosque Formation shark tooth *Squalicorax falcatus* below, base of rare sawfish rostral tooth *Onchopristis dunklei* above, close up next page, second similar specimen following page (Site 165)

FIGS 37-38: South Bosque Formation unidentified shark vertebra this page, fish vertebrae next page (Site 165)


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FIGS 39-54: South Bosque Formation shark teeth *Carcharias* sp. this and 15 next pages (Site 165)

FIGS 55-56: South Bosque Formation fish tooth *Enchodus* sp. this page, *Pachyrhizodus* sp. and one slender, unidentified fish tooth next page (Site 165)

FIGS 57-63: South Bosque Formation crow shark teeth *Squalicorax falcatus* this and next 6 pages (Site 165)


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Pressing on, we changed venues to Brett's favorite, ECHINOIDS, this time in the Glen Rose Formation (108 MYA). I was confident that this little known site would produce a number of ornately appointed *Leptosalenia texana* echinoids, and although a slow start had me worried, the next half hour met or exceeded expectations.

I gave Brett what were historically the most productive sections of the exposure, taught her the lithology, faunal relationships and zonation of the target echinoids, and turned her loose solo for a round of satisfying individual achievement while I perused less productive areas.

When we regrouped we had a combined suite of perhaps 15 *L. texana* echinoids including maybe half of them in great condition. Some of the ones I saw in Brett's bag appeared to have every tuberde intact, with no distortion of the test…in other words, impeccable. She remarked that this was one of her favorite and most productive echinoid outings to date…and this is precisely why I tend to save my best and favorite sites for family and very close friends.

FIG 64: Glen Rose Formation echinoids *Leptosalenia texana* (Site 445)

FIG 65: Glen Rose Formation echinoids *Heteraster obliquatus* (3) and *Pliotoxaster comanchei* top right (Site 445)

FIGS 66-67: Unidentified Glen Rose Formation bivlave this page, various bivalves and gastropods next page

(Site 445)

I gave Brett all my finds and now she is keenly interested in the fossil hunting pursuit…in fact she wants me to teach her all I know about fossil prep and I look forward in doing so. She also wants to delve into Texas geology to gain a deeper understanding of the fossils we find, in context. I look forward to fast tracking her in this mission as

well. Part of the appeal in all this for both of us is in giving our minds something new and exciting to chew on since our college days are so far behind us. I've never met a woman sincerely into this to this degree, so I'm quite enthusiastic about transferring my acquired paleo knowledge to her at the fastest rate she finds enjoyable. Field time just got that much more fun. Onward and upward.