FOSSIL COLLECTING REPORT

February 2012

Daniel A. Woehr and Friends and Family

February 4, 2012: South Texas Fossil Team Deployment

It rained in South Texas so I assembled an ad hoc team of paleo enthusiasts for a Saturday outing into some of my favorite area paleo environs. First of course was lovely Ms. Brett. Brian Evans also joined forces with us. Ron Hunter from D.C. happened to be in town as well, and I completed our phalanx of paleo ninjas this day.

Good smoked bacon, eggs, toast, good coffee, even good creamer…a great start to our morning. Brian met us on my driveway with military timing and we piled into his van and peeled down the street like the A-Team …to the Corsicana Formation! Soon we stepped back in time 68 million years….

Inches of rain had fallen on the site since our last visit, but once we spent some time scuffing our kneepads up along on all the busted oysters and whatnot, we all noted quality finds coming to hand much more slowly than usual…was the site finally tapping out? No time to contemplate; we continued our slow crawl, hoping our eyes and brains would register every bit of symmetry and order amongst the disorder that could slowly take the form of a quality fossil, our minds doing their best to extrapolate form based on barely exposed diagnostic features…

Ms. Brett and I made shoulder to shoulder crawling passes at the exposure while I put Ron on what I felt to be the highest percentage crabby section and Brian explored both hither AND yon, hoping to catch wayward and elusive echinoids and crabs. Early in the game Brett grabbed a good example of the most ornately appointed gastropod available in these 68 million year old sediments, *Striatocostatum bexarense*. We supplemented her take with a number of echinoids *Hemiaster bexari*, and I was doing my best to bestow expert tutelage by pointing out a few in situ and partially exposed. She proved to be a quick study.

FIGS 1-8: Corsicana Formation crab carapaces and claws *Dakoticancer australis* this and next 7 pages (Site 349)


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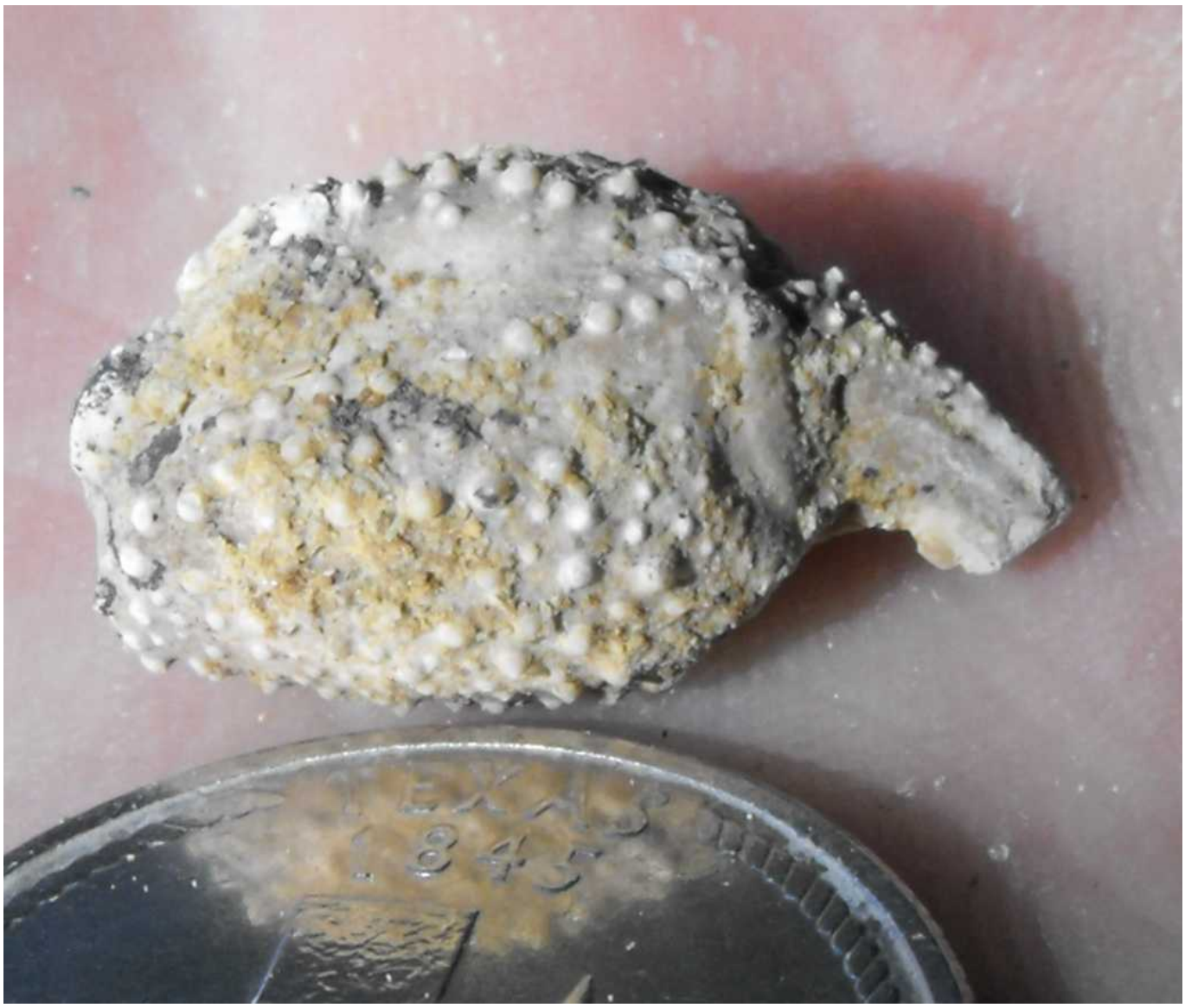

The crab patch didn't pay out for Ron, so he migrated to other portions of the exposure. Brett and I found a *Dakoticancer australis* crab carapace with a cheliped and claw showing, the little critter seemingly crawling out of his marly sepulcher like a little crustacean zombie. The montmillorinitic shrink-swell character of this lithology tends to explode these fragile crabs once expose by rain, so we weren't able to salvage the appendage with claw, and the carapace itself was split in half. But its still a keeper. Exploded crabby bits served as crustacean milestones in our purposeful crawl.

Ron brandished a perfect, large for species bivalve *Trigonia castrovillensis*, a detailed and beautiful mollusk. Bivalves and gastropods made up the bulk of our encounters, some worth keeping considering the limited remaining life of the site, and we may have stumbled upon some *Baculites* straight ammonite sections as well.

FIGS 9-10: Corsicana Formation straight ammonites *Baculites* sp. this page, echinoids *Hemiaster bexari* next page (Site 349)


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FIGS 11-12: Corsicana Formation bivalve *Trigonia castrovillensis* below,, echinoids *Hemiaster bexari* center and *Diplodetus americanus* above, gastropods *Napulus*, *Anchura*, perhaps *Buccinopsis* or *Stantonella* next page

(Site 349)


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FIGS 13-14: Corsicana Formation oyster *Pycnodonte mutabilis* this page, bryozoans *Dysnoetopora celleporoides* next page (Site 349)

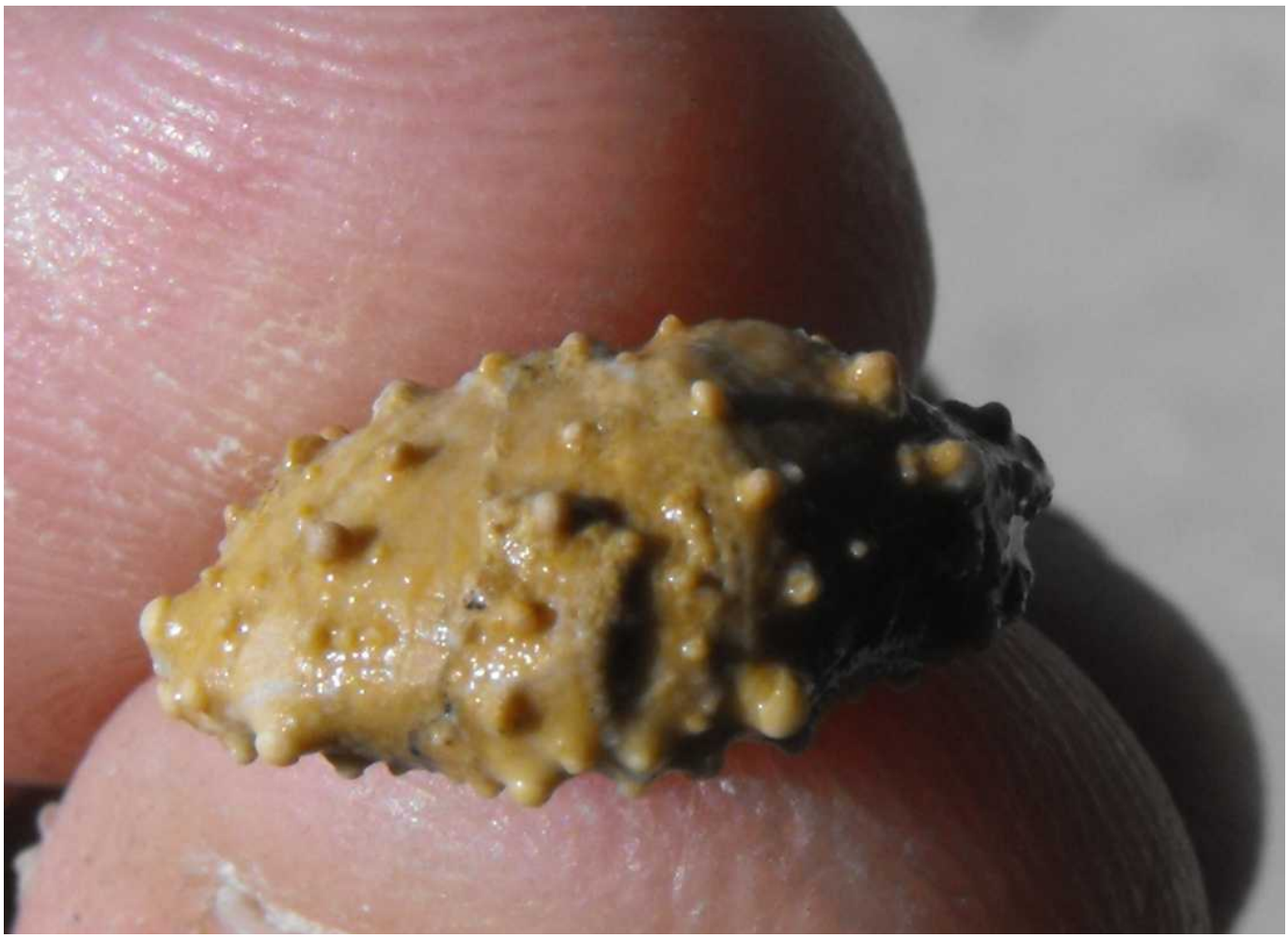
I spent a bit of time collecting some items of interest for an out of state grad student including oysters *Exogyra costata, Pycnodonte mutabilis*, and *Ostrea mesenterica*, bivalves *Plicatula mullicaensis, T. castrovillensis*, and some I'll leave to him to identify, and an assortment of gastropods. Then, since 4 people had worked the entire main exposure by that time, I half heartedly fell in behind where one of the others (left unnamed) had worked, just looking for common mollusks. I immediately lay eyes directly on the only good *D. australis* crab carapace of the day, and my sinister giggle brought my colleague over with hurried steps and a countenance of concern. I

didn't have the heart to keep it, but I'll prep it for the new owner. I divied up my *Hemiaster* and *Diplodetus* echinoids for distribution amongst the others in attendance.

FIG 15: Straggling Corsicana Formation crab carapace *Dakoticancer australis* (Site 349)

Next site, same zone, scratch. On to a nearby third site, again same zone. I tried to put all 4 of us in the best zones available to save time, with my personal priority being to drop lovely Ms. Brett in the hottest zones. She snagged a few *H. bexari* echies, as did the rest of us. When one guy walked over talking to me, I stopped him in his tracks with a yelp, then reached quickly between his feet and handed him a little "pretty in pink" shark vert that he may have otherwise mashed. We didn't find any good crabs, but I blindly stumbled onto a cute little juvenile echinoid *Codiopsis*, a new species which someday I hope to see named after my family, i.e. *woehri*.

FIGS 16-18: Corsicana Formation echinoid *Codiopsis* sp. nov this and next 2 pages (Site 248)



FIGS 19-20: Corsicana Formation shark vertebra this and next page (Site 248)

Back at the van it was clear that Ron had experienced a wardrobe malfunction, not a la Janet Jackson, but more in the kneepad department…the main strap let loose 1 hour into their first use. Not good.

With modest success blowing wind in our sails, it was time to explore other areas I had in mind after logging some road miles. Construction giveth, and construction taketh away…this time it giveth, fortunately perfectly timed to give us all a taste of the action. We found 2 new sites with extremely limited repeat potential, but available potential was spread amongst us fairly well.

After time spent systematically grid searching a number of streets in various stages of construction, all too recent to show up in online satellite images, 4 sets of eyes snapped and locked onto a strip of yellow rock piles…chatter in the van was thick with excitement and promise of this prospective site. Upon close inspection, we were looking

at piles of Austin Chalk (84 MYA). Finds in these strata are typically sparse, but sometimes impressive, so we dispersed and billy goated all the piles as fast as we could without missing anything obvious.

FIGS 21-22: Brian Evans with his Austin Chalk ammonite *Parapuzosia americana* this page, imprint of unidentified ammonite next page (Site 585)

Brian scored first, and perhaps best with a wonderful 10-11 inch diameter ammonite tentatively ID'd as *Parapuzosia americana*. I followed suit with a ribbed ammonite, perhaps *Submortoniceras*, which was missing part of the juvenile whorl. I gave it to Brian as a practice piece in his air scribing efforts.

Then I spotted a very nice 5 inch nautiloid in a boulder, perhaps *Eutrephoceras campbelli*. As I was heading toward Ms. Brett to grab her tools, I spotted a very nice ribbed ammonite in a portable limestone block, possibly *Submortoniceras*, so I toted it back to the vehicle then transferred ownership of said nautiloid to Ron, and he beat it out of the boulder to seal the deal.

FIGS 23-26: The author with Austin Chalk nautiloid *Eutrephoceras campbelli* this and next 3 pages (Site 585)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FIGS 27-28: The author's Austin Chalk ammonite *Submortoniceras*(?) sp. this and next page (Site 585)

Not to be left in the dust, Ms. Brett followed her own compass and landed a high grade little ammonite all on her own, this too possibly *Submortoniceras*. I carefully reduced the boulder to something I could place in a backpack then expedited it to the vehicle.

FIGS 29-31: The author's Austin Chalk ammonite, possibluy *Submortoniceras tequesquitense* this and next 2 pages (Site 585)

I tried to funnel the troops back to the troop carrier, and as I walked back with Brian, we noticed we had one devoted straggler....Ms. Brett. This was the first time Brian had met her, and taking note of all factors, including her motivation in the field as she wrung final minutes out of her search, he remarked to me, "She's too good for you!" ....to which I retorted, "I know..."

The body count wasn't high, but everyone walked out with something of quality, and there is no cause for complaint when that's the case at a small site with this many people.

I took the group to a small site, once a productive graded lot, now largely covered by grass and buildings. I have tentatively identified the strata to be upper Campanian in age, perhaps Bergstrom Clay or equivalent, directly overlying the Pecan Gap formation, thus placing it around 71 MYA. I had arrived at this tentative conclusion based on the echinoid and ammonite fauna found at the site 8 years prior. We found a few square feet of bedded exposure present, and Ms. Brett scored a cute little *Hemiaster* c.f. *wetherbyi* echinoid there.

FIG 32: Ms. Brett wresting a *Hemiaster wetherbyi* echinoid from the Bergstrom Clay (Site 79)

Our next and final stop continued the serendipitous wave we were riding, this time in the form of a temporary exposure where ongoing sodding activity will soon permanently reclaim the underlying strata. This was the same mystery formation mentioned in the preceding paragraph, and the slightly gritty, peanut butter colored marl and slightly harder limestone layers again gave up the roughly preserved echinoids, *Baculites*, bivalves, and gastropods characteristic of the formation.

Top finds were a rough regular echinoid found by Brian, possibly a *Salenia*, and a few echies that happened into my pocket, most notably *Petalobrissus (Phyllobrissus) cubensis*, then a few spatangoids reminiscent of something in the *Proraster/Plesiaster/Linthia/Toxaster* range. Further study is required once cleaned up.

FIG 33: The author and his scare-do and a few unidentified spatangoid echinoids from the Bergstrom Clay (Site 586)

FIG 34: Bergstrom Clay echinoids *Petalobrissus cubensis* (Site 586)

FIGS 35-36: Unidentified Bergstrom Clay echinoids this page, perhaps *Diplodetus, Schizaster, Proraster* this page, Baculites straight ammonites and unidentified gastropod next page (Site 586)

We pulled the plug on our productive day, satisfied with our finds and chilled to the bone. Mexican food hit the spot that night, culminating a fine day of superlative camaraderie, group and individual success.

February 5, 2012: The Blue and The Gray Join Forces (well sort of…)

So the Sunday follow up hunt was shared between the New Yorker (Ron) and the Yankee carpetbagger now calling himself a Texan (yours truly). Our target was primarily echinoids of the Glen Rose Formation (108 MYA) and the Walnut Formation (105 MYA) hopefully liberated by recent waves of precipitation.

Although I had caught wind of recent echinoid gathering efforts by other collectors at our first site, we hedged our bets on the previous day's rain and visited this particular site in search a few itsy bitsy teeny weeny stragglers of the echie variety. Slow crawling nose to mud is not Ron's preferred form of hunting, but he quickly adapted and hit paydirt in the form of a *Salenia* echinoid. I followed up with 3 or 4 more as we headed out.

FIGS 37-38: Glen Rose Formation echinoids *Hyposalenia* sp. above, crinoids columnals *Isocrinus annulatus* and forams *Orbitolina texana* below, close up of echinoids next page (Site 161)

Our second site was in the Upper Glen Rose Formation, and true to form of many other Glen Rose echinoid sites, the echies tend to be concentrated in the soft marl layers. We concentrated on just such a layer, and our combined 30 minute take of *Loriolia rosana* echinoids numbered about 20, with a few real screamers in the bunch that will round out Ron's Glen Rose collection pretty well.

Not far away we drove up to our final site, this time in the Walnut Formation, Bee Cave Marl member I believe. Anyway, we again targeted a recessive marl layer for best chances of encountering our quarry. Summarized results: an hour or so netted us maybe 15 echinoids *Coenholectypus planatus*, plus maybe 10 echinoids *Loriolia whitneyi* (?), again welcome additions to Ron's accumulation of Texas finds.

FIGS 39-40: Walnut Formation echinoids *Coenholectypus planatus* this page, *Loriolia c.f. whitneyi* next page, all in the raw (Site 454)


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February 6-8, 2012: Ron Runs Solo

With me at work, I sent Ron off to investigate some sites in the Glen Rose Formation. His day brought to hand about a half dozen nice echinoids *Salenia texana*, more *Loriolia rosana*, a scarce *Paraengonoceras* ammonite, and all the bivalves and gastropods he cared to pick up. The next day took him to a freshly washed Walnut Formation exposure, netting him several nice *Phymosoma texanum* echinoids among other things. The next day found him at 2 other Walnut sites, again filling his pockets with more nice *Phymosoma texanum* and *Heteraster texanus* echinoids.

FIGS 41-44: Glen Rose Formation echinoids *Leptosalenia texana* this and next 2 pages followed by *Nerinea* sp. gastropod (Site 133)

FIGS 45-46: Rare Glen Rose Formation ammonite *Paraengonoceras* sp. this and next page (Site 550)

FIGS 47-52: Walnut Formation echinoids *Phymosoma texanum* this and next 5 pages (Site 484)


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FIGS 53-54: Walnut Formation echinoids *Phymosoma texanum* from Site 404 this page, Site 50 next page

It takes the pressure off the host to see the guest gathering goodies each day afield! However, good rain will need to fall steadily before I can promise upcoming guests productivity like this again, and that's a tall order when the rule seems to be DROUGHT. Ron lucked out in some ways to experience some of the few cloudbursts the sites have seen in 18 months.

February 7, 2012: Taking a New Player to a Pleistocene Playground

Ms. Brett had heard me talk for over a year about fun canoe trips targeting Pleistocene (roughly 10,000 to 50,000 years of age) terrestrial vertebrate remains, so with her interest piqued, we finally pulled the trigger on a trip for her. It's been my objective to take her the best fossil venues I can offer, showing her enough variety to see what sort of collecting suits her best. I'm happy to step up my guiding efforts on her behalf in light of her recent return from Iraq.

Her take on the details mirrors my own...once on the water life is fun, but when loading and unloading equipment, life is not fun. But most days the fun and finds outweigh the yeoman's work, and this day would be no different.

Slighted by daylight this time of year, we opted to kick things off with the aid of artificial lighting. We brought the sun with us well before dawn with 2 high intensity tactical flashlights with lithium batteries, either of which capable of illuminating the entire valley for 400 yards. Nice!

FIG 55: Ms. Brett and the author…I wish I could say we looked this chipper at the end of the day, but this was just the beginning….

She was at a disadvantage at the beginning of our quest…hunting at night for things she's never sought before left her bringing me stream concretions by the armload for scrutiny….the overwhelming majority were unfortunately rejects at first. But with daylight and lots of sand/gravel bar hopping, she proved a quick study, and I supplemented her observations with my own knowledge of deceased critter osteology and comparative anatomy.

Rolling back to our night hunt, I got us started with a horse upper molar, *Holmesina septentrionalis* (giant armadillo) osteoderm (bony body armor plate), partial sloth tooth, and mammoth tooth enamel plate. We added this to a growing stash of various turtle, *Hesperotestudo* tortoise and mammalian bone fragments, and we were

off to a good start. A subsequent bar put Brett in position for a nice horse upper molar encrusted with gritty caliche or sandstone, anchoring her day with her first really good find.

FIGS 56-57: Unidentified Pleistocene sloth tooth this and next page (Site 379)


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FIGS 58-61: Pleistocene armadillo osteoderm *Holmesina septentrionalis* this page, *Equus* horse upper molar next 3 pages (Site 379)

FIGS 62-63: Pleistocene *Mammuthus columbi* cervical vertebra this page, mammoth tooth enamel plate next page (Site 379)

FIGS 64-65: Pleistocene turtle shell fragments this and next page (Site 379)

Stippled shell fragments are soft shelled turtle *Apalone ferox*

FIG 66: Unidentified Pleistocene scapulae (Site 379)

Things were hit or miss after that...a flooded carburetor on the boat motor required on the water shade tree mechanic service, and I found the problem to be a stuck float valve which I remedied, but not before dropping 2 screws into the current, luckily snatching them both from the sandy bottom before the current claimed them permanently. This whole affair cost valuable time, but we thoroughly enjoyed the balmy climes in the meantime....t-shirts in February....Yankees, eat your hearts out! (As a Yankee carpetbagger, I can say that!)

FIGS 67-68: Ms. Brett with a *Bison* or *Paleolama calcaneum* this page, the author next page (Site 381)


STEARNS

FIGS 69-71: Pleistocene *Alligator mississippiensis* cheekbone this page, camelid distal metapodial next 2 pages (Site 382)

FIGS 72-73: Pleistocene deer tooth *Odocoileus virginianus* this and page gives new meaning to “blue tooth technology” (Site 381)


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FIGS 74-75: Unidentified Pleistocene acetabulum (?) this page, worn mammoth (?) vertebral centrum next page (Site 426)

FIGS 76-79: Unidentified Pleistocene cervical vertebra this page, unidentified skull fragment next 3 pages

(Site 426)

FIGS 80-81: Unidentified Pleistocene bones this and next page – ignore ammonite in background (Site 426)

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FIGS 82-84: Unidentified Pleistocene distal mandible this page, unidentified bones next 2 pages (Site 426)

FIGS 85-87: Unidentified Pleistocene scapula this page, unidentified turtle and tortoise plastron fragments next page followed by a 20th century bottle (Site 426)

FIGS 88-89: Pleistocene *Equus* horse teeth (Site 382)

FIGS 90-91: Pleistocene deer sized distal radius this page, unidentified turtle shell fragments next page (Site 382)

Brett and I each found a nice vertebra, then I found a horse lower molar and beautiful, gem grade blue deer tooth while Brett brandished an alligator cheek bone. With daylight and our energy stores wearing down, the final 2 bars resulted in a few more victories for us. After many fake out concretions , Brett produced a rare *Tetrameryx schuleri* antelope double horn core, the crown jewel of our finds this day, and a wonderful trophy for her first ever Pleistocene day. Next she found a bison or llama calcaneum, fully mineralized, and I lucked into a *Glyptotherium* osteoderm (body armor of another armadillo like beast).

FIGS 92-95: The author this page followed by Ms. Brett's spectacular *Tetrameryx schuleri* antelope double horn core next 3 pages (Site 308)

FIG 96: *Glyptotherium* osteoderm (Site 308)

FIGS 97-98: Unidentified proximal femur and other bones this page, 20th century bottle next page (Site 308)

Twas a long and grueling day, but togetherness, great weather, and a steady stream of high grade, varied finds made it all worth it. I think she may be interested in a repeat.

February 11, 2012: 3 Prongin' it with The Boy

Three prongs of adventure that is…wild hog hunting, fossil and artifact collecting on the Flowers Ranch with Weston and Ron. My chief objective this trip was to put Weston in position for the best of everything the ranch had to offer.

Upon arrival, there was already a 125 pound brown sow in the trap, so we handed young Weston a .22 pistol to let him dispatch the beast with a few rapid head shots, quickly taking his first porker. Later that night Weston and I shared a blind, and after dark while The Boy slept soundly on the floor wrapped in a blanket, I spied a couple white hogs under the feeder 110 yards away in the darkness. My .45-70 sang its song and gravity did its work quickly on my butterball 110 LB sow.

FIGS 99-104: Young Weston's first wild hog this and next 3 pages followed by The Old Man's butterball sow

FIGS 105-109: Yegua Formation petrified wood this and next 4 pages (Site 587)

FIG 110: Weston's unidentified spear point (Site 587)

The next day Weston and I found a few partial Indian artifacts and tons of petrified wood, Eocene in age, perhaps Yegua Formation some 45-50 million years old. Weston and I saw several hogs come out that night and I let him take all the shots. Moving hogs in low light at 225-250 yards is no way to cut your teeth with success, but Weston managed his pumping chest and composure well during the "tooth, fang, and claw" ballet. The .243 rang out 3 times, and it was more important for him to get the experience under his belt with the Old Man than for us to lay all that meat on the ground, so I'm quite pleased with the outcome.

February 15, 2012: Opportunistic Austin Chalk Adventure

With no parenting responsibilities this particular evening, I sidetracked my normal drive home from work to capitalize on remaining daylight combined with the effects of recent bands of rain that had fallen in previous weeks on a small Austin Chalk outcrop that has produced a few echinoids for me in the past.

FIGS 111-113: Austin Chalk echinoids *Hemiaster texanus* (?) this page, unidentified regular echinoid spines next page (Site 16)

Odd!


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FIGS 114-117: Unidentified Austin Chalk ammonite left, perhaps *Menabites*, *Parapuzosia americana* right and next 3 pages (Site 16)

On hands and knees I scoured the tiny exposure carefully, and a steady stream of small rewards came along soon after the start. I was hoping for more yellow *Hemiaster* (*Mecaster*?) echinoids as found in past visits, and I got 5 of them. But perhaps more interesting was sign of cidarid or salenid echinoids, specifically in the form of many spines, most broken but a couple very close to complete. I was hopeful of finding a complete test, but that was asking a bit much that day, so I picked up a couple half ammonites, possibly *Submortoniceras* and *Parapuzosia*, as stratigraphic markers for the site.

Barely dirty and a few finds richer, I made my way back to the house.

February 18, 2012: Once Again Afield with Ms. Brett

Rain was falling, and I was prepared to forget about continued fossil acquisition for the remainder of the weekend, but a highly motivated Ms. Brett seemed pretty gung ho to hit the field, so we did exactly that after dropping by Einstein Bros. Bagels. Rain began to subside and soon we were on hands and knees on a very spongy Corsicana Formation, eager to see what Ma Nature had hosed out for us.

Collecting conditions held promise. A little rain tends to wash out new fossils and leave them in sharper color contrast with the ground than during dry conditions, yet fragile fossils are even more so when wet, in part due to the shrink/swell characteristics of the sediment during wet/dry cycles, promoting fracture. Forget all that…the best time to collect is when you have the time.

Still working with a grad student on the molluscan component of the fauna at this network of sites, so I grabbed a bunch of things for him to prep and reposit at the university, mainly bivalves *Trigonia castrovillensis* and *Plicatula mullicaensis* and a host of gastropods. I'll soon be bulk sampling the area at prescribed intervals and shipping the samples off for analysis. I look forward to learning as much as I can about the microfossils and paleo environment of this sequence as possible before its gone for good. Brett and I however had our eyes open for other critters, like crabs, ammonites, nautiloids, echinoids, shark and fish material.

The site seems to be underperforming in terms of volume of quality finds based on my 6 years experience there, and perhaps this is a harbinger of the end of collecting there, however impressive finds still trickle in for us on an ongoing basis, and this day was no different.

FIGS 118-119: Unidentified Corsicana Formation crab claw fingers this and next page, the hooked one the first occurrence I've seen in this formation (Site 349)

FIG 120: Corsicana Formation crab claw *Dakoticancer australis* in situ (Site 349)

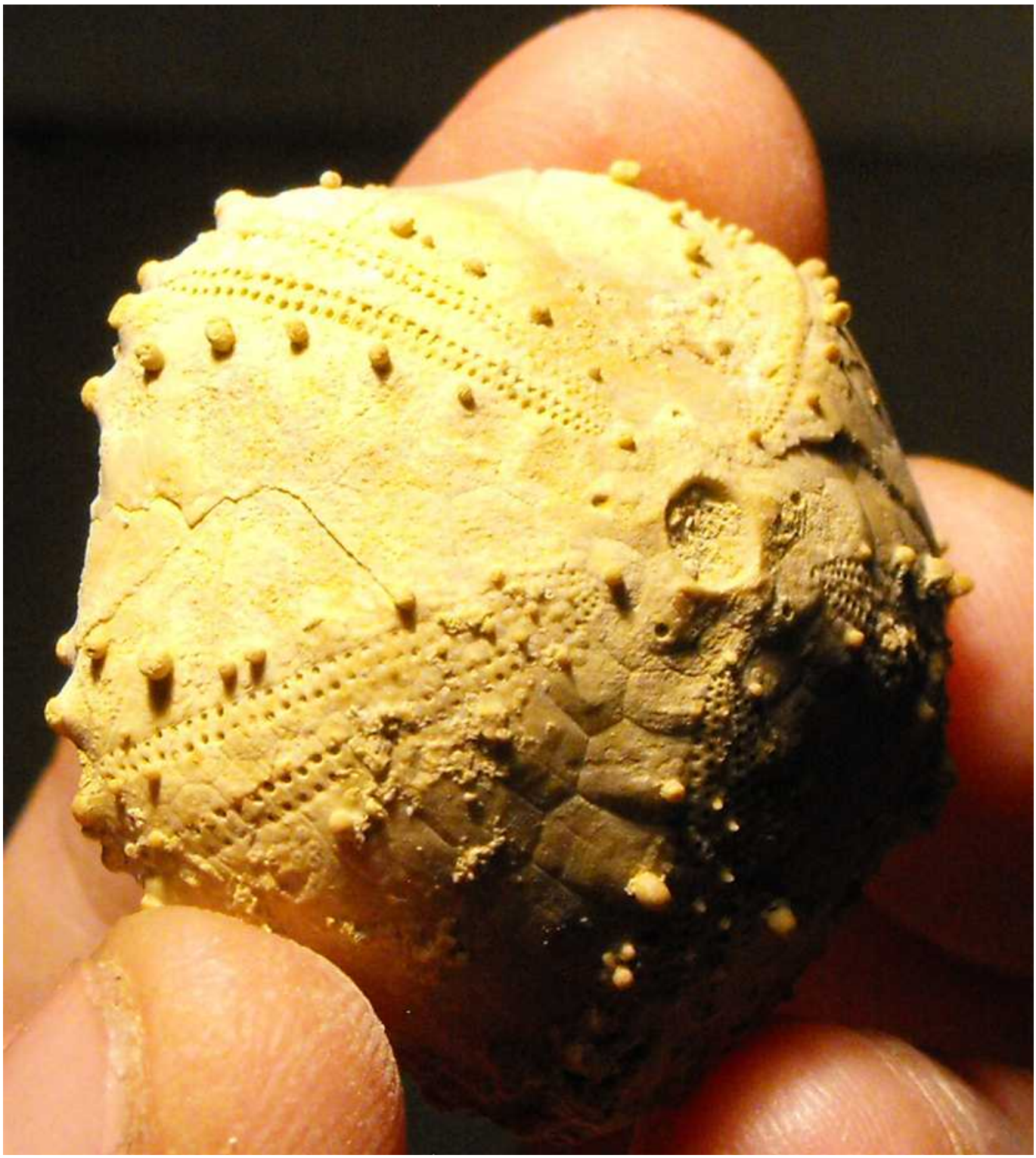
FIGS 121-125: Chance find in the Corsicana Formation, this and next 4 pages. Nodule originally picked up just for the 2 gastropods presenting together, crab carapace *Dakoticancer australis* not noticed until mud washed off nodule at home (Site 349)

Large gastropod *Turritella vertebroides*, smaller gastropod unidentified with juvenile oyster *Pycnodonte mutabilis* stuck to it

An oddly curved crab claw came to hand, the first of its kind I've ever seen at the site or in this age of sediments. Brett and I both grabbed a few sparsely scattered echinoids *Hemiaster bexari* over the course of a couple hours, and I had a juvenile example of *Diplodetus americanus* hit the bottom of my catch bag as well.

I'm always mindful of the possibility of the pending new species of *Codiopsis* echinoid I've seen at this site, and alerted Ms. Brett of the specific zone it hails from, and can be found in bedded layers there or washed downslope. As we split apart to continue our search, I was fortunate enough to find another example of this impressive form, and it was a rather large and complete one with good tubercle preservation, but slight distortion of the test; still an impressive specimen.

FIGS 126-136: Impressive Corsicana Formation echinoid *Codiopsis* sp. nov. in situ and as prepped this and next 10 pages (Site 349)



FIGS 137-138: Corsicana Formation echinoids *Diplodetus americanus* this and next page (Site 349)

FIGS 139-140: Juvenile Corsicana Formation echinoid *Proraster dalli* this and next page (Site 349)

FIG 141: Corsicana Formation echinoids *Hemiaster bexari* (Site 349)

FIGS 142-145: Corsicana Formation nautiloid *Eutrephoceras* sp. in situ with an *Anchura* sp. gastropod this and as prepped next 3 pages (Site 349)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About this time the hunger bell went off, first for Brett and then for me, so I hurriedly walked the rest of the exposure stooped over, hoping to catch any impressive macro fossils peeking out for the first time in 68 million years. I lucked into a couple gooduns in my haste, most notably a nice coiled nautiloid of the genus *Eutrephoceras*, and juvenile *Proraster dalli* echinoid.

FIGS 146-147: A rather complete Corsicana Formation gastropod *Anchura* sp. in matrix this and next page (Site 349)

FIG 148: Corsicana Formation gastropod *Gyrodes petrosus* (Site 349)

FIG 149: Corsicana Formation gastropods *Drilluta*, *Remera*, or *Graphidula* left, most likely the latter, perhaps *Bellifusus* right (Site 349)

FIGS 150-152: Corsicana Formation bivalve *Crassatella* sp. with rare shell replacement this and next 2 pages. This species is usually preserved as a steinkern, or internal mold (Site 349)

FIG 153: A bevy of Corsicana Formation bivalves including *Trigonia castrovillensis* far left, *Cardium tippanum* above right of it, *Plicatula tetrica* just right of quarter, two scallops *Neithea bexarensis* center, three *Plicatula mullicaensis* low and far right, two unidentified top right (Site 349)

FIG 154: Corsicana Formation encrusting bryozoan *Conopeum spissamentum* or *C. nelsoni* ((Site 349)

We pulled the plug, "left 'em bitin'" as we say in the fishing world. And continuing our marine theme that afternoon, we enjoyed lunch at Sea Island Shrimp House to round out the experience. And it's a good thing we quit when we did, as once indoors we noticed that Ms. Brett had sunburned her cute lil self as we didn't anticipate or plan for any sunshine on this day.

February 19, 2012: Preferred Partnering in the Pleistocene

Not having done much field work in the Pleistocene of Texas in a while, I decided to make a move that direction on this particular day, and this time I once again had Ms. Brett in tow. It was an aggressive day marked by an early alarm and subsequent pick up at her house, but pouring coffee down our throats helped get us moving.

Daylight came and found us at the edge of a stream marked on the geo map as Pleistocene Terrace Deposits, and this first put-in was a hard one that almost broke Ms. Brett's spirit. Covered in mud with shoes sucked off her feet every other step, she worked to maintain a positive attitude, but scant finds at the first network of gravel bars did little to offset the amount of work required to put ourselves in position. In fact the mud in places had a deep dish

French Silk pie type quality about it, and I think a pair of tennis racquets strapped to Ms. Brett's feet would have been a good move.

FIG 155: The author caught in action (Site 132)

FIGS 156-158: Pleistocene *Bison* or *Paleolama* astragulus this and next 2 pages (Site 132)


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FIG 159: Unidentified scapula (Site 132)

FIGS 160-161: The author at Site 140 this page, whiskey jug found there next page

Our combined take was just a few bones, the best one being a camel or bison astragulus (ankle bone). I couldn't help but comment on her cute little muddy figure…

On to site two after a bit of driving…this time the put in was a bit easier, more direct and less muddy, so she agreed to take her chances once again. Our gravel bar of choice turned out to underperform expectations, yet there was no sign of human activity in the area…hmmm….I picked up a couple broken horse teeth plus a couple interesting bone fragments, and called for a realignment in our strategy. A *Glyptotherium* osteoderm for Brett was a nice find, as was an interesting, hopefully Indian piece of broken pottery for me. Brett enjoyed the pleasant collecting conditions yet also saw the need to pull the plug and move on…so we did.

FIG 162: The author with Holocene deer skull *Odocoileus virginianus* (Site 373)

FIGS 163-164: Pleistocene *Equus* horse molars (Site 373)


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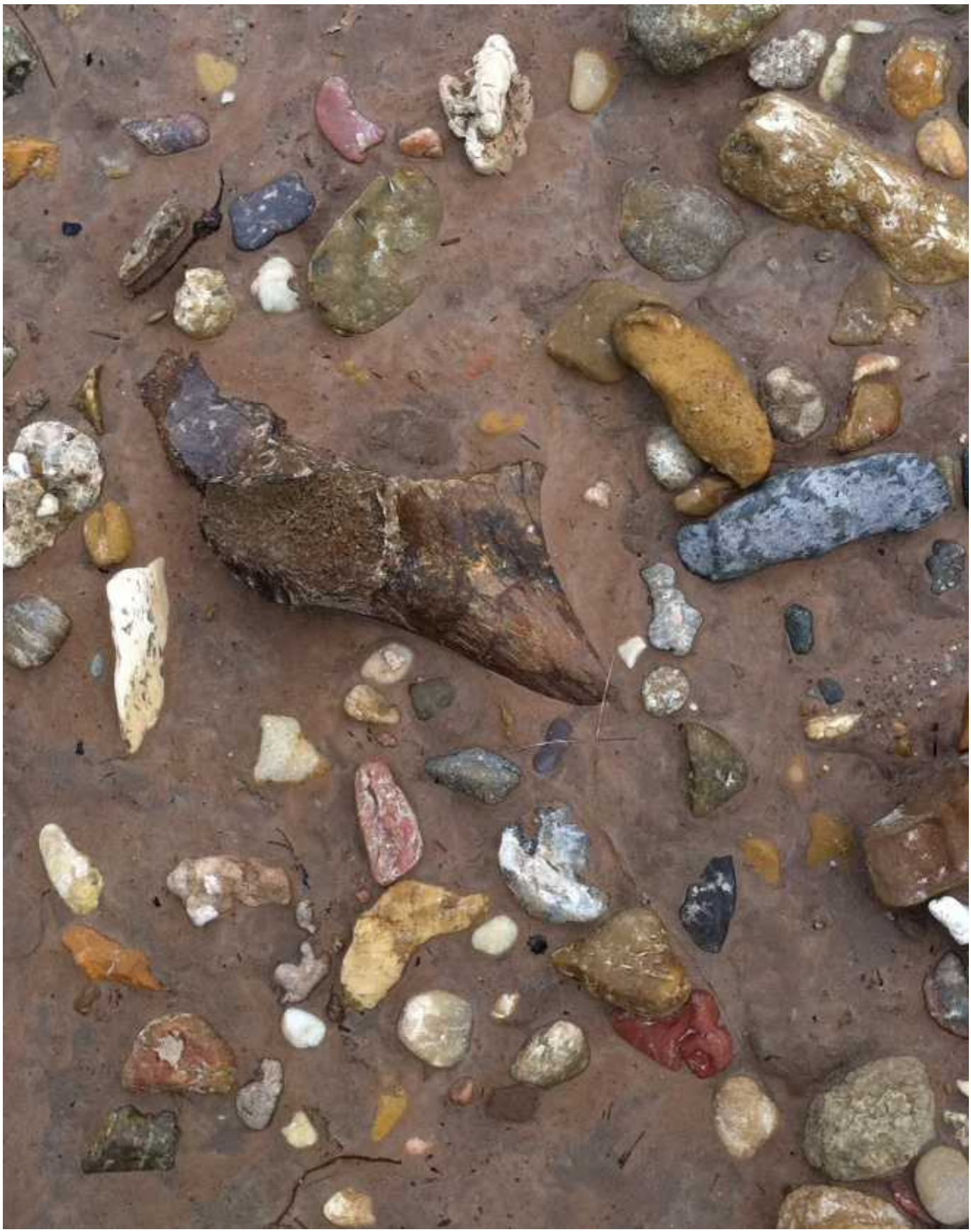

FIGS 165-168: Unidentified Pleistocene proximal radius-ulna this and next 3 pages (Site 373)

FIG 169: *Equus* horse metapodial (Site 373)

FIGS 170-172: Ms. Brett's Pleistocene *Glyptotherium* osteoderm this and next 2 pages (Site 373)

FIGS 173-176: Interesting bowl fragment…I'm hoping its old (Site 373)

Our third boat put-in began very late in the afternoon, so I had to budget our remaining daylight. Gravel bars and mud banks appeared with great potential, and while doing a slow drive by one particular bank, I kept quiet while Ms. Brett pointed out a promising looking red sandstone and gravel concretion with yellow, bony looking shapes jutting out from high above water level. Jumping out of the boat to investigate, the mystery concretion turned out to have a complete *Paramylodon harlani* right scapula encased within. This extinct 3000 pound ground sloth was one of the more odd looking characters of the Texas Pleistocene, and we welcome its museum grade remains into the collection.

FIGS 177-192: Rare Pleistocene ground sloth *Paramylodon* right scapula this and next 14 pages (Site 414)

Preserved intact despite thin sections thanks to encasing sandstone...exquisite preservation

Our next gravel bar gave up a nice discolored bison tooth with sandstone adhered…no question of the age of this one. Brett enjoyed picking up old bottles while I scratched around looking for bones and teeth, and on our next bar we picked up a nice horse tooth, deer sized scapula, and what looks like the proximal end of a mammoth phalanx (toe bone).

FIGS 193-195: Pleistocene *Equus* horse molars this and next 2 pages (Site 414)


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FIGS 196-197: Pleistocene bone end of “mammoth proportions” this page, possibly a distal tibia, Bison/Camel sized distal femur next page (Site 414)

The encroaching night stole our daylight, and darkness made me feel how tired I was by this point. I had to pull over and nap a couple times on the way home, finally rolling into my driveway around 11:30 p.m. It was an arduous day, but persistence paid us dividends, most notably to a now smiling Ms. Brett.

February 24, 2012: After School Special

Ahh…daylight….days waxing longer have afforded me the luxury of quick local hunts after work these days as parenting obligations allow. In short I made quick cleanup hits on a couple new sites we found a couple weeks back. I tend not to concentrate very well nor be very thorough when hunting in groups…I'm a better ambush predator than pack hunter.

First site…Upper Campanian…formation still a mystery to me, but probably Bergstrom. Rain fell since our last visit, hence the timing of my outing. In short we did a pretty decent job of clobbering echinoids last time, but I did find one *Salenia (hondoensis*?) this time, damaged but significant and rare just the same. I also found a couple rough *Pachydiscus* ammonites, enough to make this guy just a bit giddy. A few bivalves later it was time to move on for economy of daylight.

FIGS 198-199: Bergstrom Formation *Pachydiscus* ammonites this and next page (Site 586)

FIGS 200-201: Bergstrom Formation *Baculites* straight ammonite this page, unidentified bivalves next page

(Site 586)

Final site…the Austin Chalk piles found on our group trip. Again I often find my most efficient pace and am most thorough alone or with my girlfriend or son. 30 minutes of hunting produced one nice little ribbed ammonite in matrix sitting right out in the open…*Submortoniceras*? I'll take it! Oh how I love midweek bonus hunting….

FIG 202: Austin Chalk ammonite *Submortoniceras* c.f. *tequesquitense* (Site 585)

February 25, 2012: Questin' with Weston

Ms. Brett left town suddenly Saturday morning for the birth of her first grand daughter, so young Weston and I opted to seize the day for the express purpose of paleo pursuit....actually, closer to the truth, he squawked a little

bit since I pulled him away from his neighborhood buddies (he had just slept over at one kid's house Friday night, for cripe's sake) but once we were underway, he was having fun exploring new backroads and construction areas with The Old Man. Dropping Brett off at the airport early, I putzed around the house for a while and ultimately got us on the road by noon.

We ended up at a Walnut Formation site (105 MYA) that I've enjoyed a few times over the years, freshly washed by a decent rain. It consisted of a graded lot abutting a steep slope, and naturally the boy in us both took us billy goating uphill...but not until The Kid stole my hammer and put as much vertical space between us as possible.

FIGS 203-204: Walnut Formation exposure and young Weston in action at the locality (Site 484)

This site has lots of echinoids, dominated by *Heteraster texanus*, and I couldn't refuse some of the better ones, but I was really after some of the more desirable regular echinoids. My lateral scuttling, intended to trace a certain echinoid bearing layer, took on more of a zigzagged pattern, the tug of war between toes, fingernails, and gravity shifting all the time, with Newton's Laws sorting things out to my chagrin at times.

FIGS 205-206: Weston's various Walnut Formation exposure gastropods this page including an impressive *Anchura* lower left, his echinoids *Heteraster texanus* unprepped next page (Site 484)

But my downwardly mobile travails were ultimately rewarded as the mantra “To the motivated go the spoils” once again sang its sweet song. Besides the “pedestrian” finds such as *H. texanus*, I was quite pleased to lay hands on 3 complete spiny regular echinoids *Phymosoma texanum* and one unexpected, dome shaped, complete echinoid *Coenholectypus planatus*.

I showed Weston these finds and he said, “Dad, you are making me feel bad cuz I’m not finding anything like that”.

“Let’s look in the ditches by the truck”, I retorted.

Scant minutes later, in the distance I heard, “OOOOoooh! I just found the best round echinoid of the day!”

The Kid doesn’t cry wolf when it comes to fossils. He had found an outsized *Tetragramma* echnoid, much less common than my now “pedestrian” looking *Phymosoma*, his apparently complete, undistorted, and well protected by matrix. For the record, his WAS the best find of the day, and it is a better example of the genus than I have in my own collection. Good job kid! The Old Man beamed with pride…

FIGS 207-210: Our better Walnut Formation echinoids this page, most notably Weston's showstealer *Tetragramma* shown more detail over next 3 pages (Site 484)

FIGS 211-216: Walnut Formation *Phymosoma texanum* echinoids this and next 5 pages (Site 484)


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FIGS 217-218: Walnut Formation *Coenholectypus planatus* echinoid this and next page (Site 484)

FIGS 219-220: Walnut Formation *Heteraster texanus* echinoids this page followed by *Arrhoges* gastropod next page

(Site 484)

Not one to waste time gloating, I ushered us on to the next site, also in the Walnut. Daylight was fading, but we still made good use of it. Weston grabbed some nice gastropods and *H. texanus* echinoids while I grabbed more of the same plus one cute, complete 3 inch *Engonoceras* ammonite lying out in the open.

FIGS 221-222: Walnut Formation *Engonoceras* ammonite this and next page (Site 404)


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FIGS 223-230: Walnut Formation *Heteraster texanus* echinoids this and next 7 pages (Site 404)


TEXAS
2004

FIG 231: Pyritized Walnut Formation gastropods (Site 404)

One last quick hit, Georgetown Formation (102 MYA), and once again Weston found the only decent fossil, a cute little *Macraster* echinoid.

FIGS 232-233: Weston's Georgetown Formation *Macraster* echinoid this and next page (Site 173)

We slammed greasy cheeseburgers and fries in celebration of the day…if a rockfall doesn't kill me, this road food certainly will. A short drive later found us crashed out for the night in the back of my truck.

February 26, 2012: Questin' Part 2: All in the Family

Funny how The Kid stops making fun of my middle aged physique when he wakes up cold in the middle of the night and wants to get in my sleeping bag. Daylight came, and so did opportunity. With the boat in a Texas stream, we plied our way into the Pleistocene.

The Kid was enthused this particular day and I let him take point on all the gravel bars and banks we visited. Two steps ahead of me, he screamed out some good finds. A perfect, glassy brown camel phalanx (toe bone) was followed by a proximal femur of some sort, both his finds. I followed suit with a bison or camel astragulus (ankle bone), then a horse upper molar.

FIGS 234-236: Weston's unidentified Pleistocene proximal femur and camelid phalanx this page, more views of same phalanx next 2 pages (Site 379)

FIGS 237-239: *Equus* horse molar this and next 2 pages (Site 379)


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Not to be outdone, Weston played the mammoth card, producing a nice calcaneum (ankle bone), then a large proximal tibia of bison or camel proportions. His 1950's-60's era 10-2-4 Dr. Pepper bottle struck his fancy as well.

FIGS 240-246: Weston and his *Mammuthus columbi* calcaneum and possible *Bison* proximal tibia this and next 6 pages (Site 426)


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FIG 247: Pleistocene turtle shell fragments (Site 426)

We found bone scraps here and there, our take dominated by turtle and tortoise fragments. Then I picked up a nice glassy brown horse proximal phalanx (foot bone) and a nice mineralized proximal tibia of some sort. Weston played in the sand drift on the downstream end of a gravel bar, remarking that it was like he was at the beach. Cold as it was, he was running around in a t-shirt, up to his knees in flowing water, building sand castles, laughing and playing while I got prostrate on the bar and tipped my hat forward for a spell after putting away a heaping roast beef sandwich.

FIGS 248-250: Weston and his vintage Dr. Pepper bottle this and next 2 pages (Site 382)


Pepsi
GOOD FOR


5 1/2 OZS.

FIGS 251-252: Horse molar and proximal phalanx this and next page (Site 382)

FIGS 253-254: Unidentified Pleistocene mammalian proximal femur, heavily mineralized, this and next page

(Site 382)


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FIG 255: Rough but heavily mineralized preservation of this unidentified Pleistocene mammalian diaphysis

(Site 382)

We regrouped and pressed on to another area to try our luck once again. Finds were sparse. Weston took point again, found a few bottles not quite old enough to make it into our house, then smoked me with a beautiful caramel colored horse upper molar. Way to go, kid!

FIGS 256-257: Weston's strong finish with this Pleistocene *Equus* upper molar this and next page (Site 414)

Popeye's Chicken and Biscuits made up our celebratory fare, and my gosh we walked into that place looking like a couple rednecks...me muddy with holes in the front of my shirt, Weston with a black tank top, camo pants, and no shoes. No shortage of fun or adventure between us, and that's for sure. When Weston gets older and these adventures become fewer and farther between for various reasons, I hope that he looks back on them with joyful introspection and nostalgia, and passes the stories on down to his own kids, and shows them finds we made all those years ago...