# Fossil Collecting Report

March 2009

Daniel A. Woehr and Family and Friends

Side Note: Since I now know that my girlfriend's parents are following this rambling log of field exploits, and I haven't met them yet, I'll do my best to sound all professorial and whatnot…

March 7, 2009: A Long Term Collecting Goal Attained

With winds prognosticated to pump out of the south at 15 MPH all day, John Jackson and I wavered in coming up with a plan….his stomping grounds or mine? We wanted to do something with the canoe, venturing into areas not easily trodden by the masses, yet continuing drought conditions limited our options. In addition young Weston Woehr would be with us for the duration so a safe, comfortable, and insanely productive venue was required. John was leaning toward something up his way, but I pushed a little harder and presented a convincing case why my turf required immediate scrutiny. Actually I wanted to explore a section of a certain stream, the "Arroyo of Anonymity" for those interested (mua ha ha), where I had found some rare ammonites in the past but now hoped for more. Our plan of attack on this stream shifted back and forth a few times but ultimately we settled on a float plan that resulted in a bountiful harvest of specimens well above and beyond anything we could have anticipated.

It was an awkward put-in, but soon we were underway with me at the bow, John at the stern calling out orders, and young Weston in the middle observing nature. Clear green pools gave spectacular views of sunfish, Rio Grande perch, catfish, carp, turtles, frogs, and snakes…we were looking into a veritable aquarium and the spectacle was quite captivating for young Weston's eyes, especially seeing turtles plod along the silty bottom kicking up cloudy trails in their wake. The stream was low. Portages were required every few hundred yards, but still we pressed on. Before long we simply ran out of water; the stream transformed into a parched gully flanked with high gravel bars. A little reconnaissance hike was in order to size up our options: look for stuff here or carry the canoe upstream? Soon the question answered itself.

"I found an arrowhead!!!", young Weston wailed as he ran toward me. Upon inspection it was clear that Weston had not found an arrowhead, but a uniface flint scraper, actually much harder to discern as an artifact than an actual point. So kudos to Weston for having such good eyes linked to an open mind. Now I have no doubt that he'll find a point of his own in the near future once rains revitalize some of our prime point producing localities.

**FIG 1:** Weston's first artifact find, a uniface scraper (Site 417)

As the buzz of Weston's find began to wear off we found ourselves standing on a large, continuous bench of Escondido formation limestone (66 MYA) which I had never been able to collect before due to it being covered by water on prior visits. Soon we spotted many *Sphenodiscus pleurisepta* ammonites eroded in section in situ, many with hollow calcite filled chambers eroded open. As we worked away from the center of the stream bed and out toward the edges where erosion effects were lessened we began finding complete ammonites in the bedrock, and many of them! There were 2-3 species of ammonites present here, all of them hard to find in Texas, but when a good site is found, they can be had in numbers. *S. lenticularis* and *S. intermedius* are said to outcrop in the same zone as *S. pleurisepta* and *Coahuilites sheltoni*, all similar looking ammonites so I'll have to bone up and try to ID these specimens.

At any rate we enjoyed a couple hours of happy chiseling, the head of my 3 LB hand sledge ultimately beginning to separate from the handle just as the blisters on my fingers made themselves evident. That two hours presented quite a festive flurry of collecting madness. John found 4 ammonites encased in the bedrock within a 2 foot circle. I ran hard and fast and let my sledge and chisel ring out often. Even young Weston spotted 3 nice specimens which I beat out for him. Together Weston and I got 33 ammonites and 3 *Eutrephoceras nautiloids* while John grabbed 15-17 ammonites and one nautiloid.

**FIGS 2-7:** Escondido formation Site 417 this and next 2 pages showing Weston Woehr, John Jackson, and the author

**FIGS 8-9:** Weston Woehr pointing out a *Turritella* gastropod with a *Sphenodiscus* ammonite in the foreground this page, proud boy with a self found *Sphenodiscus* next page (Site 417)

**FIGS 10-26:** Escondido formation ammonites *Sphenodiscus* c. f. *pleurisepta* in situ and prepped as found by Weston Woehr and the author (Site 417)

**FIGS 27-28:** Escondido formation nautiloids *Eutrephoceras* sp. in situ and prepped (Site 417)

Weston's wails of hunger coincided with satiation of my urge to take more fossils, so we began our arduous hike back to the boat. My back pack was completely full and I still cradled a 12 inch ammonite in my arms for the duration. I suspect that I was lugging an extra 100 LBS of long dead weight.
My hips didn't like the load but adrenaline prevailed. Soon the boy and I were enjoying our little picnic in the boat

complete with chicken salad sandwiches, Nilla wafers, and Diet Coke. We dangled our feet off the canoe in clear water as bass swam up to look at us. Life was good.

**FIGS 29-30:** Weston enjoying a sandwich and a little canoe time (Site 417)

Then came the task of paddling back to the car, stopping for the occasional drag or portage. Young Weston had a good time when we let him hang off the back of the canoe as we paddled to drag him through the water. He enjoyed being dead weight. We stopped at a large gravel bar to prospect for spear points and such. I landed one more eroded *Sphenodiscus* ammonite before heading higher on the bar for a leisurely look around. Then it caught me completely off guard….A MAMMOTH TOOTH WAS AT MY FEET! This was the last thing I expected to find at this locality, having never seen a Pleistocene bone here before. Clearly we had found a site where people don't look for this sort of thing as evidenced by the tire tracks over my mammoth tooth which broke it in half. No matter as it was a fairly clean break. After 4 years of constant searching I was elated to finally realize my loftiest of collecting goals. Stubbornness and perseverance ultimately prevailed, and it will take a while for this all to sink in. Meanwhile back at the car John suggested that I pipe some celebratory tunes….so Iron Maiden, Three Dog Night, and Grand Funk Railroad all took turns while young Weston pounded the air drums in the back seat.

**FIGS 31-42:** The author and his first mammoth tooth (Site 417)

Had we stopped then it would have been a spectacular day in its own right, but the day was still young so we pressed on. Piling into one vehicle we ambled over to a distant, inactive clay pit also in the Escondido formation. Here we all fell down on hands and knees and crawled for an hour grabbing shark, ray, fish, and reptile teeth and vertebrae as fast as we could pick then up. Finds were dominated by *Squalicorax pristodontus* (crow shark), *Serratolamna serrata* (mackerel shark), *Ginglymostoma lehneri* (nurse shark), *Rhombodus binkhorsti* (ray), and *Enchodus ferox* (saber tooth herring). I saw a few broken *Ischyrhiza mira* (sawfish rostral teeth) as well. Even young Weston got into the act and grabbed some teeth although the gypsum crystals really struck his fancy. We called it quits when we had 100-200 teeth each. So how do a father and son top off a day like this? With ice cream and a nap, of course…….

**FIG 43:** John Jackson taking the high road, Weston Woehr taking the low road (Site 86)


**FIGS 44-45:** From the Escondido formation Nurse shark teeth *Ginglymostoma lehneri* above, ray teeth *Rhombodus binkhorsti* lower right and *Rhinobatos* sp. lower left (Site 86)



**FIGS 46-47:** From the Escondido formation crow shark teeth *Squalicorax pristodontus* above, mackerel shark teeth *Serratolamna serrata* below (Site 86)


**FIGS 48-49:** From the Escondido formation fish teeth *Enchodus* sp. top left, unidentified top right, miscellaneous broken teeth and teeth in matrix below (Site 86)


**FIGS 50-51:** 4 shark and one reptile vertebrae above, Weston Woehr below (Site 86)

**THE END**

March 12, 2009: Glen Rose Quickie

When the rain stopped I decided that a straight shot home for me after work was not the best way to expand my fossil collection, so I headed north into the exposures of the Glen Rose formation (108 MYA) known to produce nice echinoids. The soft marls erode readily with rain, and by catching the ground still wet, contrast between the fossils and the surrounding sediments is greatly improved. And being quite the opportunist, I tend to leverage these factors to my advantage at every opportunity.

My first stop was a familiar Upper Glen Rose exposure bearing an exquisite fauna of diminutive echinoids found only by close range crawling on all fours. I like to get so close to the ground in fact that I often wear elbow pads in addition to knee pads and do somewhat of a belly crawl across the ground, my nose inches from the ground, my eyes surveying less than a square foot at a time.

I was short on time this particular outing, so I concentrated on a small area that had recently proven ludicrously productive for my good friend John Jackson and me. Paydirt was struck within minutes, and soon I had amassed a few *Salenia* echinoids and one coveted *Orthopsis comalensis* echinoid.


**FIG 52:** Glen Rose fossils: top row, left to right – crab claw *Paleopagurus banderensis*, two crinoids columns *Isocrinus annulatus*, bottom row, left to right – echinoids *Orthopsis comalensis* followed by two *Salenia* sp. (Site 161)

Complacent with my finds I packed it up after 45 minutes, drove another half hour or so to another site in the *Salenia texana* zone at the contact of the Upper and Lower Glen Rose formations, and gave chase to more echinoids. Dusk was creeping in and threatening to shut down my assault earlier than planned, but recent rain was just enough to knock the dust off the site, revealing its treasures.

I took a handful of *Salenia texana* echinoids, even a *Coenholectypus planatus*, but the prize came as I was crawling the edge of a ditch….a knobby regular echinoid came into view, and I can still recall my mind processing the image and realizing that it was an extremely rare *Phyllacanthus texanus* echinoid, one of the few cidarids found in Texas. Even more peculiar was that I had found another one squashed but complete just 6 feet away from this one a couple months prior.


**FIGS 53-55:** Glen Rose fm echinoids *Salenia texana* and one *Coenholectypus planatus* above, rare *Phyllacanthus texanus* next two frames (Site 445)

This specimen was the smallest of its kind I had ever seen at about 1 inch diameter, but then again I've only seen 3, all in my collection. Considering the fact that I'm always happy to find even partials of this species, a complete specimen in any condition makes for a banner day….or night in this case as darkness was soon upon me and calling for an end to my search. Little did I know that this splendid find was only foreshadowing of finds to come later in the month….

March 14, 2009: Echinoid Odyssey, Day One

After a couple months of discussion and planning the time had come for me to lead an Upper Cretaceous echinoid collecting trip across South and West Texas on behalf of the Mississippi Museum of Natural Science. Museum Curator George Phillips and an undergrad student named Mark were first to show up at my house on Friday night followed by friend and fellow Dallas Paleontological Society member Adam Armstrong. George and Mark showed up with a nice *Echinocorys texanus* from a played out Anacacho formation (78 MYA) site which they hit earlier in the day for some bonus collecting.

**FIGS 56-58:** Huge Anacacho fm echinoid *Echinocorys texanus* found by George Phillips and his grad student Mark (Site 86)


10 CM

After throwing down some breakfast tacos we were on the road and by about 8 a.m. we rolled into our first site, a quarry west of San Antonio in the Anacacho formation. My confidence level at this site was lukewarm because the boulder piles we generally hunt are hard limestone that weathers slowly. However a couple inches of rain across our entire collecting area earlier in the week bumped up the odds at all of our localities, including this one. And the fact that the quarry manager said no other collectors had visited the site this year added encouragement.

So with knee pads, hand sledges, and chisels de rigeur, we began the task of climbing the piles and looking over, under, and around the boulders. Happy chiseling rang out from all around me throughout the morning, and I got to contribute quite a bit to the noise as well. In fact the chiseling became so vigorous at times that I began to overheat despite the cool climes so I lost my shirt for a while.

We circled back to the vehicles to compare notes. I arrived with a 5 gallon bucket full of echinoid specimens, most in matrix. The predominant species was *Phyllobrissus cubensis*, and I took quite a few nice specimens, a couple larger than normal. I also grabbed a good example of the rare and recently described echinoid *Hardouinia bowlesi*, named after friend and fellow collector Brian Bowles. In fact, he and I were collecting on a Dallas Paleo Society trip in this quarry 3-4 years ago when he found what would become the holotype specimen. In addition I took some sort of obscure spatangoid similar to a *Hemiaster texanus* or *Linthia variabilis*. The jury is still out on positive ID. The other guys shared similar success so collectively we took a bumper crop of echinoids, certainly enough to justify our efforts.

**FIG 59:** Rare and recently described Anacacho fm echinoid *Hardouinia bowlesi* (Site 84)

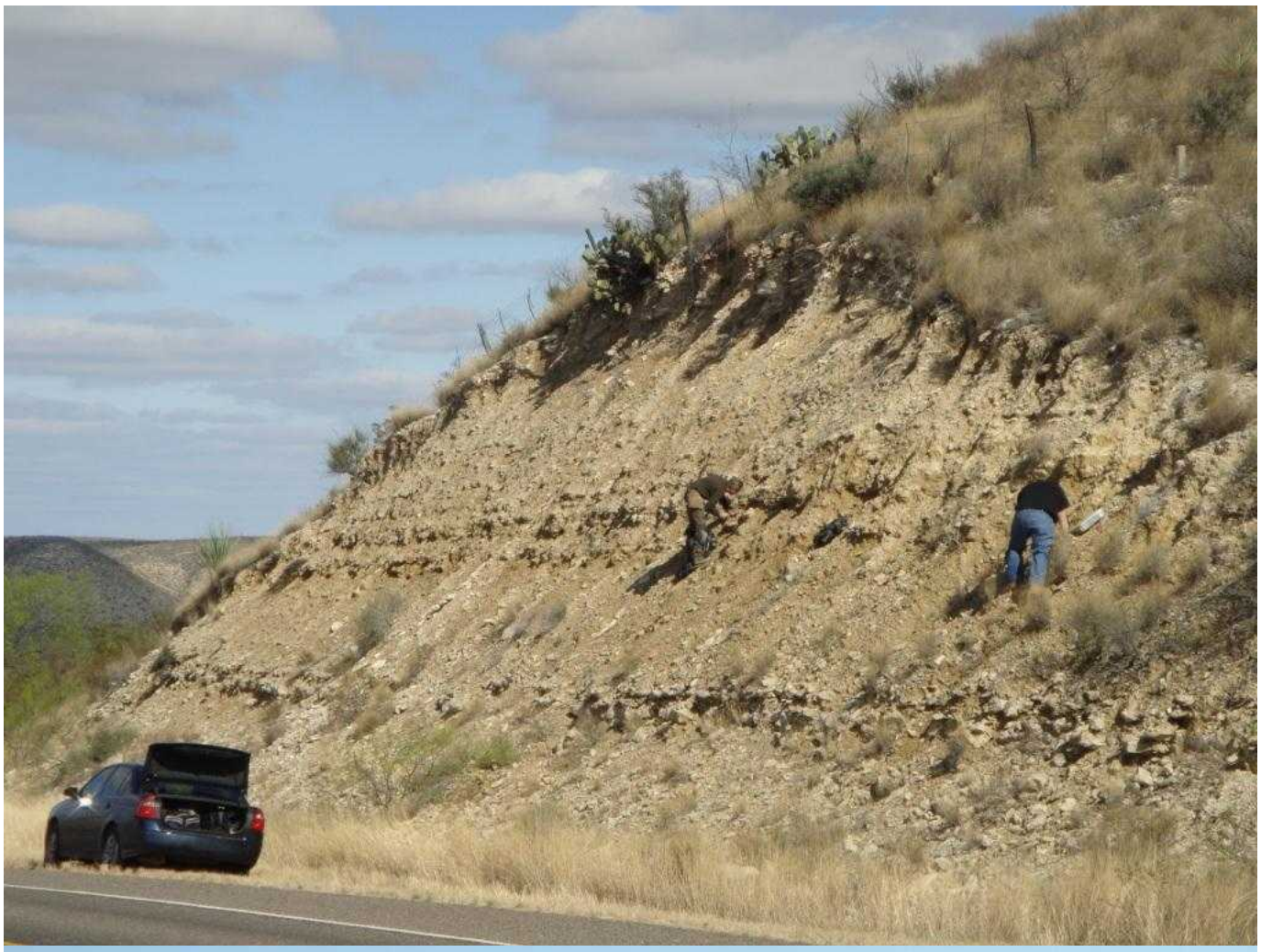
**FIGS 60-67:** Anacacho fm echinoids *Petalobrissus (Phyllobrissus) cubensis* (Site 84)

A long drive took us into west Texas where the topography and vegetation screamed “desert”. A small double road cut in the uppermost Boquillas formation (90 MYA) was our destination, and a worthwhile one at that. My two other

trips to the site in the last year revealed that the site was positively filthy with echinoids, namely the spatagoid *Mecaster batnensis* (formerly *Hemiaster jacksoni*), *Coenholectypus nanus*, and an obscure and yet to be identified holasteroid.

*Mecasters* littered the ground both as weathered out specimens and clusters in limestone nodules. We all found all we wanted. In fact, it was easy to be picky and just take the best specimens. George found 3 of the weird *Holasters* loose on the exposure while I found 2. But my objective here was not surface collecting. Instead, I climbed high in the exposure to bulk sample a soft, marly zone rich in all 3 species of echinoids, namely *C. nanus*.


**FIGS 68-70:** Left to right the author Dan Woehr, Mississippi Museum of Natural Science paleo curator George Phillips, and Adam Armstrong ready to attack the Boquillas fm (Site 448)



**FIGS 71-73:** Boquillas fm echinoids *Mecaster batnensis* (formerly *Hemiaster jacksoni*) from Site 448


**FIGS 74-78:** Boquillas fm echinoids *Holaster* sp. above followed by *Coenholectypus c.f. nanus* next 4 frames (Site 448)


1845
2004


2004

The echinoids in this layer are often smaller than those found in the limestone, but better preserved and easier to prep. I took about 15 gallons of matrix from this zone for later soaking and screening. George followed in my footsteps (or more accurately foot holds) and took several bags of his own for the museum and some fellow collectors. I guarantee hundreds of echinoids for each of us from this zone, in addition to floating micro crinoids and other foraminifera for those willing to pick through the smallest gravel once screened, dried, and condensed.

A long haul put us in our motel around 12:30 or 1 a.m., but we all fell into a slumber with visions of echinoids dancing in our heads……..

March 15, 2009: Echinoid Odyssey, Day Two

Adam and I overslept till 8 or 9, but soon the group wolfed down some tacos and got back on the road. Destination: a stream exposure of the Anacacho limestone that we had surveyed the prior year. Finds were sparse at our starting point, but Adam laid hands on a nice example of the echinoid *Salenia pseudowhitneyi* while George grabbed a couple stream worn examples of the irregular echinoid *Mecaster (Hemiaster) texanus* plus an *S. pseudowhitneyi* of his own as well as a rare *Coenholectypus hondoensis*.

As the action waned Adam and I began a stomp along the stream bed. Adam's success was pretty good on *Trachyscaphites spiniger* and *Pachydiscus paulsoni* ammonites while I grabbed a couple nice echinoids which I later learned from George could constitute a new species, *Paraster (Linthia)* sp., a predecessor to *Linthia variabilis,* and rough *Eutrephoceras* nautiloids. Late in the game I told Adam "You go get the car while I take one last look over here…" By the time he brought the car around I told him to join me as I had landed 5 *M. texanus* echinoids…by the time he reached me I had 12 so there was additional jump in his step!

A depression in the stream bed gave way to a soft, marly zone rich in echinoids. We each overloaded our pockets here. George did not answer his phone so we proceeded to take every last visible specimen from this small exposure.

**FIGS 79-81:** Anacacho fm echinoids *Paraster sp.*above (possibly a new species) followed by nautiloid *Eutrephoceras* sp.(Site 168)

**FIGS 82-87:** Anacacho fm site 495 aka “Woehr’s Waller” being surveyed by grad student Mark and the author with two close ups of echinoids *Mecaster texanus* in situ


SVP

**FIGS 88-90:** Anacacho fm echinoids *Salenia pseudowhitneyi* above collected by George and Mark followed by two more *Salenia pseudowhitneyi* echinoids and a rare *Rachiosoma hondoensis* collected by the author (Site 495)


2004

**FIGS 91-94:** Possible new species of echinoid from the Anacacho fm *Salenia* sp. above collected by the author this and next 3 frames (Site 495)

**FIGS 95-99:** The author's take of Anacacho echinoids *Mecaster texanus* (Site 495) followed by George Phillips posing at another Anacacho outcrop (Site 496)

**FIGS 100-103:** A few significant echinoid finds from Site 496 by George and Mark – a rare *Codiopsis castroi* followed by *Hemiaster* sp.

A final glance around revealed a nearby gully later to take on the name “Woehr’s Waller” which proved worthy of exploration. My first step down into this ditch gave me that magical sensation of serendipitous discovery I so crave and enjoy…I could see a dozen *M. texanus* echinoids by my feet within the first 2 steps! A glance down the sloping

edge of the ditch revealed countless others. I screamed for Adam to high tail it to my position, bringing my phone with him.

I knew I needed to get George on the scene with his camera to document things properly for his museum report. I cannot describe the self restraint that was required to keep me from scooping up every specimen within sight as quickly as I could, as if they would otherwise get away. It was like busting a piñata in front of a bunch of 3 year olds and then telling them to wait as the candy hit the ground. Adam and I worked fringe areas until George and Mark arrived, and in the process Adam got a few more *S. pseudowhitneyi.*

Once site pictures were shot we performed a thorough 4 man sweep of the area. We each found at least one decent *S. hondoensis* and a pile of *M. texanus*. In fact, I nearly filled a 5 gallon bucket with *M. texanus*. Not all were in good shape but they were easy to clean and are hard to obtain species. Some have hairlike spines intact on the plastron (underside) making them that much more desirable specimens.

In addition I took a rare echinoid Rachiosoma hondoensis, my first from the Anacacho formation, and a nickel sized regular echinoid that we all found perplexing…it appears to be a new species of the genus *Salenia*! I didn't know it at the time, but between the *Paraster* and the *Salenia,* I may have found 2 new species within an hour. In the end George and Mark took a large ammonite and a rare *Codiopsis castroi* echinoid as well…not a bad haul, and now I have a new pet site to return to from time to time.

Well I couldn't drag these guys to my area without taking a stab at the Corsicana formation (68 MYA) where we joined forces with another friend, Farley Katz. Knee pads and gloves were the rule here as most of the fossils are small in this formation. Strangely my trip there a few weeks prior with my girlfriend revealed more echinoids in drought conditions than this trip did after 1.5-2 inches of rain.

However there were still moments of noteworthy discovery. We all grabbed a few echinoids *Hemiaster bexari*, but I was lucky to add *Linthia variabilis, Plesiaster americanus, Proraster dalli*, and *Cardiaster leonensis* to the mix. We each found crabs *Dakoticancer australis* in condition ranging from very good to exploded in the ground and unrecoverable. I took home 6 or 8 decent crabs.

**FIGS 104-105:** Corsicana fm fossils including crabs *Dakoticancer australis* above, echinoids *Linthia variabilis, Plesiaster americanus, Proraster dalli,* and *Hemiaster bexari* below(Site 349)


**FIGS 106-107:** Rare Corsicana fm echinoid *Cardiaster leonensis* (Site 349)

**FIGS 108-109:** Corsicana fm bivalves and gastropods *Trigonia castrovillensis, Neither bexarensis, Gyrodes, Proraster dalli,*above, shark vertebra*, Baculites* straight ammonite, and bryozoans below (Site 349)

**FIGS 110-111:** and others followed by the author sizing up the outcrop (Site 349)

It was truly a splendid trip that could not have gone better. I personally took 15 species of echinoids, and as a group we took 17-18. It was a smashing success actually which the 3 more seasoned of the group can fully appreciate as this does not happen very often. Mark on the other hand may need to experience a few more rough days in the field before he realizes that ludicrously productive exposures and scientifically significant specimens often do not occur together, certainly not at every site visited over the course of a weekend. Good times, good friends, good finds….what more could we ask for?

March 19, 2009: A Paleozoic Pilgrimage

Occasionally I run back to my home town of Cincinnati to commiserate with family and friends. I spent 5 days back home last week to tangle with my girlfriend and our mutual high school friends for good food, loud, live music, and dancing…it was like our 20 year reunion all over again, but on a smaller scale with closer knit friendships. Having somewhat of a type A personality, I got up at daylight to collect fossils a couple of mornings after long nights of good times.

Greater Cincinnati is known globally for its excellent exposures of fossil rich Ordovician (440 MYA) limestone and shale. I took my friend's husband Don Margroum out Thursday morning to a hillside where I had found a nest of *Ectenocrinus* crinoids (sea lilies) a couple years prior. We found a few straight cephalopods in the *Endoceras/Orthoceras* spectrum from this hillside exposure of the Kope formation, but found no more crinoids crowns.

**FIGS 112-116:** Ordovician Kope fm Site 363 this and next 2 frames followed by 2 shots of orthocone cephalopods *Endoceras* from the same site

**FIG 117:** Partial crinoids crown and cephalon from *Cryptolithus* trilobite (Site 363)

**FIGS 118-119:** Crinoid columnals (Site 363)


**FIGS 120-121:** Fossil hash above including gastropods, crinoids columnals, and *Cryptolithus* trilobite parts above, trilobite tracks(?) below (Site 363)

**FIGS 122-123:** Kope fm gastropods *Cyclonema* and *Sinuites*? (Site 363)

**FIG 124:** *Tentaculites* or *Cornulites* worm tube (Site 363)

Moving across the valley to a similar hillside exposure, we found lots of nice cephalopods in addition to the gastropod (snail) *Cyclonema bilix*. I had described to Don the appearance of a crinoids crown, and he brought me a nice one missing the cup. It had the head of a *Cryptolithus* trilobite next to it making a nice presentation and confirming the stratigraphy as being Kope formation. We pulled the plug early so I could cook a Mexican breakfast for us and our lovely ladies.

March 20, 2009: A Paleozoic Punch in the Face

I simply had to return the next day to survey the remainder of the hillside. Only this time it was 30F and windy, and I was wearing mesh river shoes with no socks! I was worried more about my physical discomfort this time than about finding stuff, so I only managed a few cephalopods and slabs of crinoidal limestone. Still it was fun to get out, and I got a few site photos, and it was close to our friends' house so it was well worth the trip to collect an exposure I don't get to see very often. So with a shower I fell back into party mode and held on tightly for another wild ride the rest of the weekend….

March 26, 2009: After School Special

It was a Thursday after work, hard rain had recently fallen across South Texas, and I had nothing better to do…..so I ventured to some nearby, small exposures of the Walnut formation (105 MYA) in search of echinoids before nightfall. Not knowing what to expect at the first site, I was pleasantly surprised with the results. An hour of crawling both sides of the road resulted in several nice *Coenholectypus planatus, Heteraster texanus*, and one *Loriolia rosana* echinoid.

**FIG 125:** Walnut fm fossils, top row, left to right echinoids *Loriolia rosana* and *Heteraster texanus* followed by unidentified bivalve, bottom row *Coenholectypus planatus* echinoids (Site 455)

Packing it up I headed for the second site, also a road cut, and smaller still in aerial extent. However another hour of crawling and looking revealed several *Phymosoma texanum* echinoids in addition to the well preserved *C. planatus.* I was on a roll.

**FIG 126:** Walnut fm echinoids *Phymosoma texanum* (spiny) and *Coenholectypus planatus* (smooth) from Site 459

Still, my day was not over. There was a nearby road cut that I had noticed from the distance and driven by several times in the past, deterred by the gated community status. This time I parked below, walked around the gate, and worked the small road cut with nothing but friendly exchanges with well heeled passers by. Nerd speak quickly ended the conversations (Ha!). Back to the task at hand, I worked the 2 foot thick zone of tan, nodular, marly limestone with good success – a couple *P. texanum* and several more well preserved *C. planatus*.

**FIG 127:** Walnut fm echinoids *Phymosoma texanum* (spiny) and *Coenholectypus planatus* (smooth) with a few unidentified bivalves thrown in (Site 494)

My work was done and I was quite happy with the productivity of the sites. Now they'll need time and rain to weather again to proper collecting potential. And to think I used to drive 150 miles each way to pick up some of these species…As I walked back to my car, observing a herd of 20 axis deer crossing the road 20 yards ahead of me was a fitting end to the day…

March 28, 2009: Another Weekend for the No Girls He-Men Club

Young Weston and I spent our Fiday night at my office where about 100 classic cars, hot rods, street rods, funny cars, and top fuel dragsters showed up to flip their hoods and in some cases blow some flames. Bleeding eardrums, choking exhaust, free BBQ, good times!

Around 8 a.m. on Saturday the boy and I showed up on the doorstep of our good friend John Jackson in Central Texas. We joined forces for a weekend of fossil collecting throughout the area. Our first stop was a site I had retired a couple years ago and recently handed off to John. Recent construction activity and recent rains seemed to have refreshed the area so we went in for a look.

I couldn't believe how productive our time there was. About 3 hours of intense scrutiny turned up many ammonites, nautiloids, and *Neithea* scallops, most of which were studded with big cubes of flashy pyrite, a very cool presentation appreciated by collectors and non collectors alike. Even Weston developed an eye for this stuff as we cruised the various spoil piles. The steady "ching-ching-ching" cadence of steel on steel denoted the presence of many good specimens.

While crawling our last spoil pile we were happy to see yet more *Mortoniceras* ammonites, but a curious egg shaped form eroding out of a block of gray limestone caught my eye….it was a rare and perfectly preserved

echinoid *Globator whitneyae*! My first ever! I love adding different species to my personal take of Texas Cretaceous echinoids. Apparently so does John. Soon after, I heard him say, “Man, I have *Globator* on the brain!”….”Well I have *Globator* in my POCKET! Mua ha ha!”, I retorted. Soon he found a *G. whitneyae* of his own, albeit crushed, but apparently complete, still a great specimen.

**FIG 128:** Weston Woehr and John Jackson surveying the Georgetown formation (Site 190)

**FIGS 129-131:** Scarce Georgetown fm echinoid *Globator whitneyae* (Site 190)

**FIGS 132-135:** *Mortoniceras* ammonites from the Georgetown fm this and next page – note pyrite on some specimens (Site 190)

**FIGS 136-137:** *Paracymatoceras texanum* nautiloid found in the Mainstreet member of the Georgetown fm by John Jackson above, pyritized scallops *Neithea georgetownensis* below (Site 190)

**FIGS 138-140: P**yritized scallops *Neithea georgetownensis* above, gastropod *Gyrodes* and oyster *Lopha* lower left, scallop *Neithea wrighti* lower right (Site 190)

**FIG 141:** Weston Woehr with his big flint chopper, the only artifact found by the 3 of us all weekend (Site 190)

With John's *Paracymatoceras* nautiloid and another great *Mortoniceras* ammonite in hand I thought the Woehr's had been shown up….then Weston screamed that he had found an arfifact, and indeed he had….a large 4 ½ inch flint chopper, his best artifact yet and his second this month. The boy is on a roll!

After an hour car ride we hiked to a creek exposing the 108 MYA Walnut formation. Weston had a good time picking up nice *Heteraster* echinoids here, while John and I concentrated on *Phymosoma texanum*, pocketing about a dozen of them with the majority going to John. All were in very good condition.


**FIGS 142-145:** *Phymosoma texanum* echinoids from the Walnut fm (Site 123)

A half hour's drive put us at a huge hillside cut abutting a new shopping center, also in the Walnut fm. We all 3 started in what I remembered as an area of concentrated echinoids, and true to form, this area spit out several nice *Phymosoma* and *Heteraster* specimens. The tiered exposure presented us with lots of huntable area, so John took the upper tier while Weston and I worked a more safe ground level. Echinoids, gastropods, and bivalves all come to hand, some covered in cool looking pyrite, specifically from the unleached gray layers. My prize find from this site was a cute little *Engonoceras* ammonite in matrix, rarely found intact in this formation.

**FIGS 146-148:** Walnut fm Site 404 with Weston Woehr for scale followed by the author's ammonite *Engonoceras*

**FIGS 149-152:** Walnut fm echinoids *Heteraster texanus* (Site 404)


**FIGS 153-155:** Walnut fm echinoids *Phymosoma texanum* this page and Weston Woehr with his *Tylostoma* gastropod next page (Site 404)

Another half hour ride put us in an area of undulating, oyster studded hills largely devoid of vegetation; again the Walnut formation was poised to give up its riches. Our initial focus was the echinoids *Salenia mexicana*, and we each found several decent specimens of this species, but not before John grabbed a nice *Coenholectypus*. The reddish hue of some of the echinoids was quite an interesting presentation. We moved around different levels at the site, and Weston was happy to find a big *Oxytropidoceras* ammonite, even though it was broken in the ground and not easy to bring home intact.

John soon discovered that the upper layers of the site contained *Phymosoma texanum* echinoids, some also blood red. Even young Weston got into the act and grabbed his first *Phymosoma* and was quite proud of it.

**FIGS 156-160:** Walnut fm echinoids *Heteraster* sp. and *Salenia Mexicana* above, Weston Woehr's *Oxytropidoceras* ammonite and *Phymosoma texanum* echinoid below and next page (Site 351)

**FIGS 161-162:** John Jackson's blood red Walnut fm echinoids *Phymosoma texanum* (Site 351)

Daylight waned and we turned the truck back toward John's house. We had all made good finds throughout the day, and in retrospect that big bag of peanut M&Ms may be a key reason Weston complained little during 12 hours of collecting. A tray of chicken tamales expertly prepared by John's wife Bonnie met its rapid demise when the 3 guys showed up at the house. Then after playing with their dog Lucky for a while, poor Weston was pooped out….

**FIG 163:** Weston and Lucky kicking back

March 29, 2009: A Short Day Afield Well Spent

After some deliberation we decided that our best option for Sunday was to work the Del Rio formation (98 MYA) in the Waco area. Weston instantly fell in love with the big, weathered gray exposure and the patches of mud therein. And rightfully so, as the area is choked with diminutive pyritized fossils available to those willing to spend long hours on hands and knees scrutinizing the fossilscape.

Beautiful little pyritized ammonites *Adkinsia, Mantelliceras, Otoscaphites, Engonoceras*, and *Plesioturrilites* came to hand all day long. My first noteworthy find was a small string of 3 or 4 fish or shark vertebrae with centra exposed at both ends but the center of the string covered in pyrite – very cool. Over the course of the morning I took several nice shark verts, and 7 decent teeth ranging from Leptostyrax and Squalicorax to Cretolamna. I also laid hands on one nice echinoid Goniophorus scotti plus several articulated plates of a cidarid echinoid. My hands down favorite find however was a tiny pyritized lobster carapace with legs intact on the underside – way cool!

**FIGS 164-165:** Weston Woehr canvassing Del Rio fm Site 46 this page, partial cidarid echinoid next page

**FIGS 166-168:** Shark tooth *Cretolamna appendiculata* and echinoid *Goniophorus scotti* this page, shark teeth *C. appendiculata* next 2 pages (Site 46)

**FIGS 169-170:** Shark vertebrae this and next page (Site 46)

**FIGS 171-172:** Shark teeth and vertebrae above, *Mantelliceras* ammonite below (Site 46)

**FIGS 173-174:** *Mantelliceras* ammonites above, *Plesioturrilites* ammonites below, all from the Del Rio fm (Site 46)


**FIGS 175-176:** *Engonoceras serpentinum* ammonites (Site 46)



**FIGS 177-180:** From the Del Rio fm *Adkinsia* ammonites above, unidentified pyritized lobster carapace below and next page, note leg detail (Site 46)


TEXAS
1845


**FIG 181:** Spectacular brittlestar *Ophiura graysonensis* recently given to the author by good friend Robert Bowen (Site 46)

When I met back up with John he had several nice shark teeth as well, but his best find hands down were two associated pycnodont (fish) mouth plates. Weston got into the act as well and took a number of very nice ammonites.

**FIGS 182-183:** John Jackson's associated pair of pycnodont (fish) jaws this page, *C. appendiculata* shark tooth next page (Site 46)

Again the boy lasted for the duration without a problem. A constant influx of peanut M&Ms into his craw helped keep him in good spirits, as did the time I took out of fossil hunting just to lob rocks into the pig slop to laugh at the splats. We all walked away from the site with something we needed, and thanks to John's wife Bonnie, we walked away with full bellies as well.