

Fossil Collecting Report
January 2009
Daniel A. Woehr and Friends and Family

January 1, 2009: New Years Day Bust

My good friend John Jackson and I needed to get out of the house on New Years Day and did so with a 14 mile exploratory canoe trip on a Texas river where we met air temperatures of 32-38F. We weren't exactly sure what to expect as the Kevlar canoe sliced through frigid waters leading us to many gravel bars and banks which we dutifully explored. In the end we didn't find much in the way of fossils or artifacts except for a cool looking layer of lignite eroding out of a cut bank which contained some petrified logs, a part of which I dug out of the bank and brought home. We did however experience a rare, close up sighting of an otter sliding into the water then swimming around with his head above the surface briefly. And a pack of 5 or 6 red and black wild hogs exploding through the brush on a nearby riverbank added some excitement too. In the end we had fun and got some much needed exercise after all the holiday (over)eating.



FIGS 1-8: A bank exposure of Wilcox (Eocene) sandstone with a black lignite seam bearing petrified wood (Site 490)











January 4, 2009: Two Can Canoe, Can You?

With persistent drought conditions leaving us few collecting options, John and I opted to take a remedial look at a

river stretch that I hadn't yet shown him. This was an aggressive trip for me, 20 paddling miles including side creeks. Again we found ourselves grid searching myriad gravel bars and perhaps a few banks. Again we saw pack of maybe 10 wild hogs from 30 to 100 pounds, all black this time. We fared a little better in finding stuff, but most days result in a heftier take.

Best finds this trip definitely went to John. He picked up what looks like the proximal half of a giant ground sloth femur, a couple associated horse upper molars, and a double horn core of a rare antelope, either *Tetrameryx* or *Capromeryx* in my estimation. The way he found the antelope specimen was ironic. He picked up a sandstone concretion of the approximate size and shape of this rare double horn core, laughingly pronounced it as such, threw it down on a rock where it broke in half, and happened to glance down and see bone in the middle of this long, skinny, broken open concretion....that turned out to be exactly what he had jokingly presented! Very cool, best find of the day, and biggest surprise of the day. He took several vertebrae of various sorts as well.



FIG 9: An injured bird ready for release by John Jackson



FIGS 10-11: Two views of a creek we explored





FIGS 12-13: Vertebrae and femur fragments this page, turtle and tortoise fragments next page (Sites 305-308)





FIGS 14-16: Mammoth enamel and tusk fragments above, mammoth limb bone fragment below, John Jackson with partial sloth femur next page (Sites 305-308)





FIGS 17-19: Horse teeth (Sites 305-308)



FIGS 20-23: Horse teeth and metapodial above followed by John's *Tetrameryx schuleri* antelope horn cores in a sandstone concretion in various stages of prep (Sites 305-308)





FIG 24: Various old bottles (Sites 305-308)

I on the other hand found a horse metapodial, horse lower molar, a few other odds and ends including a big piece of mammoth bone that I inadvertently kicked, broke, and had to glue back together, and a few old bottles. Neither of us found the spear points we were after.

Still it was a good trip, we got some good exercise including the last mile where we clocked ourselves at 6 MPH, and we were humbled by Ma Nature at one point as a cold norther tickled the backs of our necks and then dumped hard, cold rain on us for a while. Special thanks to John for bringing an extra rain parka!

January 10, 2009: Returning to My First Fossil Love – Jacksboro

I had to meet a professor in the DFW area on Saturday, so I grabbed my friend Tom Fisher at 3 a.m. and made a run 4 hours north to a spectacular fossil collecting locality a little west of Fort Worth. Jacksboro is a Pennsylvanian age (300 MYA) marine exposure comprising the Finis shale overlain by the Jacksboro limestone. This site contains a huge and diverse fossil fauna which is why I cut my teeth on this site 5 years ago. I sort of burned out on it, but not having been there in a while, it was fun to drag along a buddy who had never been there.

The site is a borrow pit next to the earthen dam that created Lost Creek Reservoir. Both the shale below and the limestone above contain abundant and well preserved fossils. Tom and I spent 4-5 hours crawling around the slope speed bagging brachiopods, gastropods, *Conularia*, corals, orthocone cephalopods, goniatites, and other assorted treasures. It is easy to come home with 1000 specimens from the site if that is your goal, but after a while one becomes picky on what to pick up. I really got a kick out of finding some spectacular goniatites, both the pyritized micromorphs as well as the larger specimens.



FIGS 25-30: Various Finis shale goniatites including *Schistoceras*, *Paraschistoceras*, *Vidrioceras*, *Gonioloboceras*, and *Eoasianites* this and next 4 pages (Site 64)











FIGS 31-32: Finis shale orthocone cephalopods *Michelinocheras* above, brachiopods *Juresania* and *Composita*, bivalves *Myalina*, *Yoldia*, and *Astartella*, horn corals *Caninia* and *Lophyphyllidium* below (Site 64)



FIG 33: Enigmatic Finis shale fossil *Conularia* (Site 64)



FIGS 34-36: Finis shale gastropods sorted by genus, left to right, top row: *Straparollus* followed by *Euphemites*, *Bellerophon*, and *Pharkodonotus*, middle row *Strobeus* and *Meekospira*, bottom row *Trepospira*, *Glabrocingulum*, *Worthenia* (Site 64)

We only worked about half of the site and decided it was time to head to Grapevine to Mark McKenzie's house to meet with Dr. Robert Reisz from the University of Toronto. Dr. Reisz studies the Permian fauna found in the Dolesse Quarry in Richards Spur, OK, a unique site with rare and well preserved 280 million year old reptile and

amphibian skulls and bones. Each of the people invited to meet with Dr. Reisz was fortunate enough at one point to collect in the quarry and Dr. Reisz was eager to examine all we found. Some of us had even collected new species of reptiles, the most diagnostic of which were represented by complete skulls. The paper describing Mark's microsaur skull should go out within a month, while the research on my skull should go out within a year.

It was good to meet Dr. Reisz as well as to hang out with a bunch of old friends. I'd have to say it was my first "fossil party" ever...and it really wasn't that nerdy after all!



FIGS 37: Corsicana gastropods *Turitella* and others, straight ammonite *Baculites columna*, bivalves *Neithea bexarensis*, echinoids *Hemiaster bexari* (Site 349)

January 17, 2009: Remedial Glen Rose

John Jackson and I started off with grand plans for a weekend of exploratory stream prospecting but at the last minute settled on an intensive study of San Antonio area Cretaceous marine exposures to get our fix. Considering the drought and all I didn't have high hopes for our collecting prospects considering ongoing dry conditions combined with potentially constant competitive collecting pressure on area exposures. However cabin fever and the previous week's paltry ¼ inch of rain nudged us afield at 7:30 Saturday morning.

Our first site was a marl flat in the Upper Glen Rose formation, some 108 million years of age. I arrived a little before John and with gloves, kneepads, and elbow pads began an up close and personal crawl of the gravel patches at the site. I was soon rewarded with a few crab claws *Paleopagurus banderensis*. John joined in on the action and soon we were picking up wonderful examples of undescribed *Salenia* echinoids between 4 and 10 mm diameter.

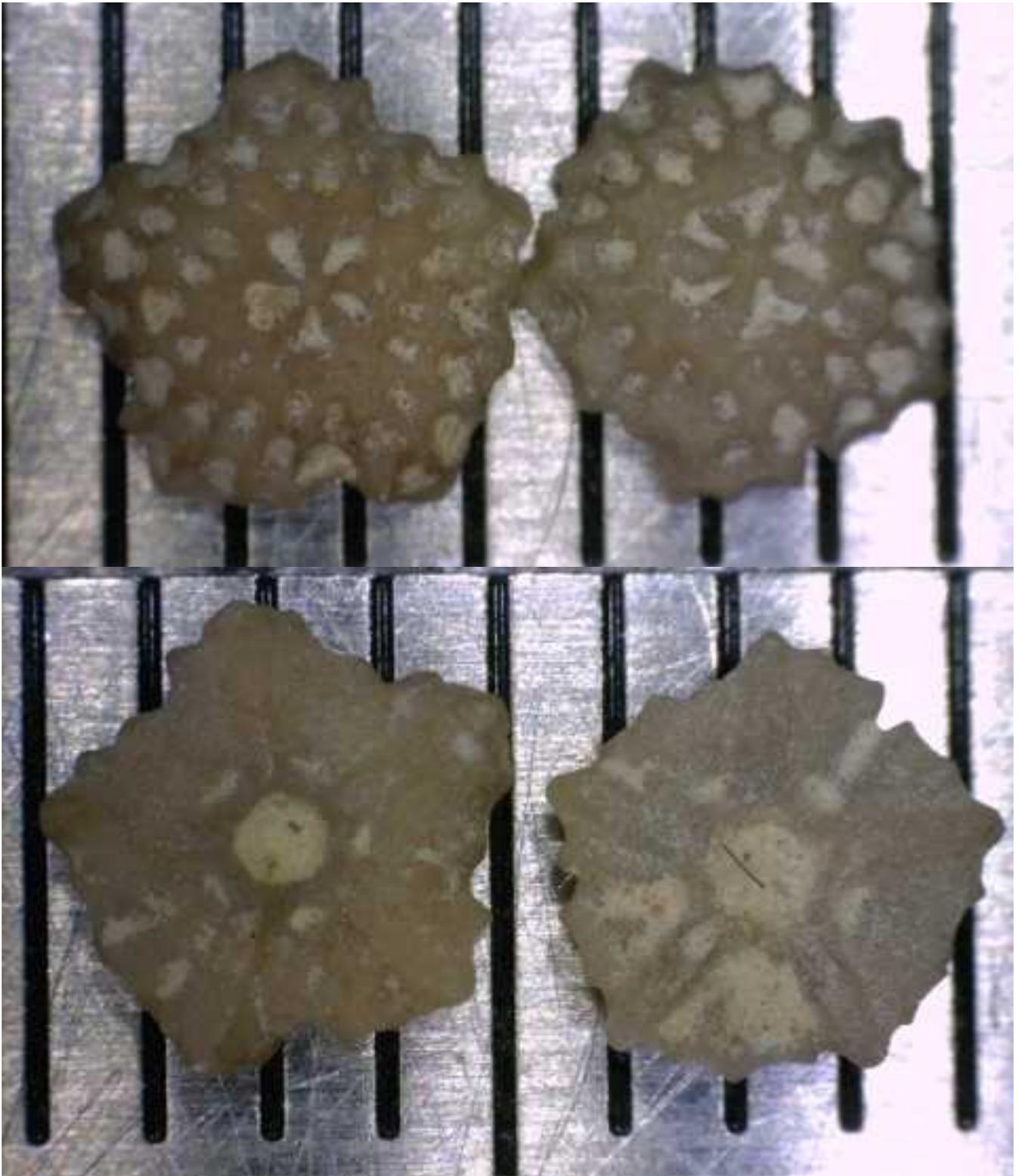
We kept at it for 3 ½ hours until the skin on my knees began to protest. But in that time we got 18 echinoids between us including a splendid *Globator hancockensis*, the remainder *Salenia*. I also picked up two rare and

tiny floating micro crinoids as well as a nice fish tooth and as usual a handful of *Isocrinus annulatus* star shaped crinoids columnals. John brought his camera and laptop and was able to make live photo uploads to a fossil forum we frequent for other members to see. Has John started a trend here? "Fossils found while you wait?"



FIGS 38-45: Unidentified Glen Rose fish tooth followed by various *Salenia* echinoids in situ this and next page (Site 161)





FIGS 46-47: Unidentified Glen Rose floating crinoids (Site 161)



FIGS 48-55: Various *Salenia* and *Globator hancockensis* echinoids, fish tooth, floating crinoid, *Paleopagurus banderensis* crab claws, and *Isocrinus annulatus* crinoid columnals this and next 4 pages (Site 161)









FIGS 56-58: Healthy deer followed by a freakishly disfigured buck (Site 161)





Our second site was a graded area in the *Salenia texana* zone that I had found several months back and not looked at lately. Construction had disturbed the surface, but the ensuing $\frac{1}{4}$ inch of rain then exposed perhaps 10 more *S. texana* echinoids for us.



FIG 59: Glen Rose bivalve and echinoids *Salenia texana* (Site 445)

The next site was sort of a crap shoot – I had eyeballed it from a distance for some time and only now made my way over to collect it. The presence of *Heteraster* echinoids and *Orbitolina* forams made me think at first that we were in the *S. texana* zone again, but the bivalves and other fauna soon showed differently. A *Loriolia rosana* echinoid and 3 *Coenholectypus planatus* soon allowed me to conclude that we were standing in the Upper Glen Rose formation several horizons above the *S. texana* zone.



FIGS 60-61: Glen Rose echinoids *Heteraster obliquatus*, *Loriolia rosana*, *Coenholectypus planatus* this and next page (Site 491)



Next John took us to a flat he had located by aerial photographs. Upon walking on the exposure I didn't like the way the rocks were looking and was about to pronounce the area sterile. John however was walking on a lower horizon and found many *S. texana* echinoids. Finding new sites is a blast and this one is all his.



FIG 62: Three Glen Rose echinoids *Salenia texana* in situ

John then took me to one more Glen Rose site he had found with his Dad some months back. It was chock full of *Orbitolina texana*, the small disc shaped foram that occurs profusely in most echinoid bearing exposures of the Glen Rose. However, I've noticed that while the presence of *O. texana* often accompanies echinoids in this formation, its presence doesn't guarantee echinoids, which were what we were after. So this site had innumerable forams, and I picked up a few little dense slabs of them, but other than a very nice fist sized gastropod I saw little of interest at this site.



FIGS 63-64: Unidentified Glen Rose gastropod this page, forams *Orbitolina texana* next page



Pressing on to one final site, a field of dumped piles from the *S. texana* zone, we found only a few *Salenia* as I would expect considering the thorough job Farley and I did there a few months back during a hard rain. Still, the site presented some surprises...John slaughtered a few *Salenia* in one area along with some crab claws, but his most impressive find was a perfect *Tetragramma texanum* echinoid in 3D spiny splendor. I took a partial *Phyllacanthus* echinoid in addition to a rare floating comatulid crinoid that looked like a Chinese lantern. I spotted this specimen and plucked it from the marl just as one of my friends rung my cell phone, to which thanked her for bringing lady luck.



FIGS 65-69: Glen Rose echinoids *Palhemiaster comanchei*, *Phyllacanthus texanus*, and *S. texana* alongside *Nerinea* gastropods this page, echinoids *H. obliquatus*, *C. planatus*, *P. comanchei*, and *Tetragramma texanum* next page, unidentified floating crinoid following page (Site 357)







Wandering back to John, I found him blindly scratching around in the marl with his trusty rock hammer and rolling out *Salenia* echinoids. Employing his technique I took 3-4 of my own. As I left John was still scratching around in the dirt and milking the last bit of daylight out of the day. Good times, good finds, and very light on gas....all the makings of a spectacular day.

January 18, 2009: Corsicana Coup de Grace

I got up at a leisurely hour and made a solo trip to the Corsicana exposure (68 MYA). Expecting little I was very pleasantly surprised with the outcome. My first find was a jaw dropping 4 inch *Pachydiscus* ammonite, perhaps the best one I've seen in that formation – ever. But the fun didn't end there. Over the course of 2-3 hours I laid hands on 6 *Dakoticancer australis* crab carapaces in varying condition. Then an extremely rare echinoid came to hand – *Codiopsis stephensoni* – and I've only found 5 of this species in the 2000-2500 echinoids I've taken there in 3+ years. 30-40 more echinoids jumped in the bag with the *Codiopsis*, all *Hemiaster bexari* except for one juvenile *Proraster dalli*. I had no room to complain at this point after making such great finds in short order. That ammonite is absolutely spectacular in all its fiery orange glory. Come on rain!



FIGS 70-73: Corsicana formation ammonite *Pachydiscus* sp. this and next 3 pages (Site 349)









FIGS 74-76: Corsicana formation echinoid *Codiopsis stephensoni* in situ this page, same specimen prepped along with *Proraster dalli* next page (Site 349)





FIGS 77-83: Corsicana formation echinoids *Hemiaster bexari* followed by crabs *Dakoticancer australis* in situ and prepped next 4 pages (Site 349)











FIG 84: Corsicana formation bivalve and gastropods (Site 349)

January 24, 2009: Will the Corsicana Produce Yet Again?

Once again young Weston eagerly accompanied the Old Man to the hallowed Corsicana formation collecting grounds, and once again our time together sampling Ma' Nature's sweet splendor made for quality time between a man and his son. Knee pads, gloves, and screwdrivers were de rigeur once again, and our purposeful crawl resulted in myriad treasures.

Gastropods including the highly ornamented *Striatocostatum bexarensis* came to hand; bivalves *Lima sayrei* and *Trigonia castrovillensis* also crossed our palms en masse. We didn't find any museum grade specimens of the crab *Dakoticancer australis*, but we disinterred some lesser examples including an articulated set of chelipeds (claws with all the appendages) and had a fun time doing it. But I'd have to say our strong suit that day was echinoids. We got a double handful of the more common *Hemiaster bexari*, and we got a helping of more odd species as well including *Proraster dalli*, *Plesiaster americanus*, *Linthia variabilis*, and *Cardiaster leonensis*. Condition ranged from impeccable to squashed but complete, but I tend to hang onto the rare ones even if a bit damaged as they are still scientifically significant.

On the way to our favorite hamburger joint, Weston told me, "I love you Dad. I'm really glad we did this today". And that my friends is more important than the biggest pile of rocks.....



FIGS 85-86: Corsicana formation crab *Dakoticancer australis* followed by nautiloid *Eutrephoceras* sp. (Site 349)



FIGS 87-89: Corsicana formation echinoids left to right *Proraster dalli*, *Plesiaster americanus*, *Linthia variabilis*, and *Cardiaster leonensis* top and ctr, *Hemiaster bexari* below (Site 349)



FIG 90: Corsicana formation bivalves *Neithea bexarensis*, *Lima sayrei*, and *Trigonía castrovillensis* followed by gastropods *Striatocostatum bexarense*, *Anchura* sp., and others (Site 349)

January 31, 2009: Closing Out a Solid Month of Collecting

John Jackson and I once again joined forces early on a winter day in Central Texas with frosty ground and steaming breath. Our prospecting sortee into construction area in the Georgetown formation was a bust, so we quickly turned our attention toward our main venue, a stream exposure of South Bosque formation (90 MYA) that has given up lots of shark teeth for me in the past.

We arrived prepared for the task at hand. I brought a dolly with a monster sledge hammer and pry bar attached with tie wraps as well as my backpack containing hand tools. While shark teeth were our main interest, staying in tune to Ma Nature's clues along the way can pay out in spades at times. A limestone slab that had eroded out of the bluff and tumbled down had caught my eye...specifically the spiral form on it....close inspection revealed a pyritized ammonite surrounded by several calcitic crystallized ammonites on the same slab! John and I traced the layer of origin and extracted several slabs containing more of these little treasures.



FIGS 91-96: Unidentified ammonites from the South Bosque formation (Site 102)





Back to our original goal, we took the time to trace the lens of glauconitic shell hash lower in the formation which entombed the shark teeth we were after. This red layer of oyster hash and phosphate nodules is in most places capped by several inches of limestone overburden, so when we each found an area to work, we took turns with the big pry bar to leverage the overburden out of the bank and let it tumble down slope in chunks of up to 100 pounds.

Huntable area at this site has been reduced by repeat trips (in part mine) and sadly due to diminishing returns this may be the last time this site was worth visiting, but we did manage to take a handful of teeth each, my booby prize being a pristine 1.03 inch *Cretoxyrhina mantelli* tooth. We spent some time splitting rock to reduce the weight and volume of our take, loaded our buckets with glauconite matrix, and then took on the arduous task of getting all this stuff back to the vehicles – no small feat.



FIG 97: John Jackson's South Bosque ammonite and shark teeth *Ptychodus anonymus*, *Squalicorax falcatus*, and *Carcharias* sp. (Site 102)



FIG 98: The author's South Bosque ammonite and shark teeth *Cretoxyrhina mantelli* (center), *Squalicorax falcatus* (left), and *Carcharias* sp. in matrix left, fish palatine fangs *Enchodus* sp. right (Site 102)

Our final stop was a series of well known road cuts in the Walnut formation (105 MYA). Since they are well known, we arrived with a lil sumpin' up our sleeve.....ladders. We figured that most collectors would not go to the trouble of accessing the uppermost reaches of the exposures, and apparently to some limited degree we were right. While there were *Neithea* (scallop) aplenty, only 4 echinoids came to hand: My *Coenholectypus planatus* in partially crushed condition, my *Loriolia* (?), John's *Heteraster texanus*, and finally his *Phymosoma texanum*.



FIG 99: *Coenholectypus planatus* and *Loriolia rosana* echinoids from the Walnut formation, Bee Cave Marl member (Site 457)

With drought conditions in full force we haven't had the erosion required to wash out new fossils, so we didn't have enough sites to sustain an entire day. With a handshake we were off in different directions and getting on with the weekend.