

FOSSIL COLLECTING REPORT

December 2010

Daniel A. Woehr and Friends

December 16, 2010: Dessau Formation Discoveries

On a whim I revisited a local outcrop of Dessau Formation (Austin Group, 85 MYA, marine limestone) on my lunch hour and was both rewarded and humbled by what I had missed on prior trips. My first find when spotted revealed itself as a small patch of dimpled calcite under a light veneer of yellow chalky marl. A few hand sledge whacks later I took the inflated *Hemiaster* echinoid out in a block of yellow matrix.

Glancing upward higher than I had looked before, I spotted the globose form of an unidentified *Cardiaster* echinoid tattered by the elements but naturally extricated from the clutches of the Dessau. Just a foot to the right I spotted a dime sized patch of convex calcite, this time hiding a more complete example of this same species of *Cardiaster* roughly the size of a racquetball.

Finally, another dubious looking curved but weathered surface in the face of the exposure, once beaten out with the hand sledge, taken home, and lightly scrubbed, turned out to be yet another *Cardiaster* well worth dragging home. This proved to be a fruitful lunch hour!



FIG 1: Dessau Formation, Austin Group (Site 16)



FIGS 2-3: Dessau echinoid *Hemiaster* sp. this and next page (Site 16)





FIGS 4-8: Dessau echinoids *Cardiaster* sp. this and next 3 pages (Site 16)







December 18, 2010: Glen Rose Formation in Good Company

I took the opportunity to take a very special first timer into the field this particular day. Brett seemed intrigued with my fossil collecting exploits and perhaps a little hungry for the thrill of discovering her own goodies afield, so I was happy to introduce her to the pursuit. Dearth of rain for the last couple months left me with some reservations...prior collecting (including my own!) and parched conditions often mean diminished residual potential. However, this day we were pleasantly surprised by the cornucopia of echinoids found at each of the four sites we visited. All sites were marine exposures of Glen Rose Formation, 108 MYA.

The first site was a field a dumped piles from the *Salenia texana* zone. My prior work there had left collecting a bit slow in certain areas, but the more overgrown spots, which I avoided during warmer months with concerns of

encountering snakes, saw none of my "collecting predation" and were thusly more bountifully appointed with echinoids this round.

Our first good find was a large section of a *Nerinea* gastropod. Careful trenching around the specimen with chisels popped some matrix off the top, revealing about twice the length we saw initially. With patience, the entire cinnamon twist shaped specimen came out largely intact. Brett took a shine to it so it will reside in her budding collection.



FIGS 9-19: Brett finding her first Glen Rose echinoids *Salenia texana* this and next 9 pages (Site 357)





















FIGS 20-22: Glen Rose echinoids *Heteraster obliquatus* and *Palhemiaster comanchei* this and next page followed by partial crab claw *Paleopagurus banderensis* and *Neithea* scallop (Site 357)





FIGS 23-27: Glen Rose gastropods *Nerinea* sp. this and next 3 pages (Site 357)







Other finds included "algal fruiting bodies" *Porocystis globularis* and spatangoid echinoids *Heteraster obliquatus* and *Palhemiaster comanchei*. Soon Brett was getting picky about what she felt like portaging in her catch bag. The main draw however were the splendidly preserved examples of the ornate regular echinoid *Salenia texana*. After showing Brett a few good specimens before our hunt, I advised her to keep that shape in mind and look for order amongst the disorder afield. At times I would spot one, tell her it was within a certain 2 foot circle, then let her find it. We scored a couple impeccably pristine examples a few inches apart this way. They'll both remain in matrix once prepped.

Before long Brett was finding killer *Salenia* of her own, and I was happy to contribute my finds to her collection as well since I have plenty of these things already. After adding a cool hermit crab claw *Paleopagurus banderensis* to her take we were on our way.

Our second site was a small exposure of Upper Glen Rose marl known to kick out a few echinoids from time to time as well. The nature of the exposure and lithology of the rock were a bit different from the first site, adding to the appeal for Brett. I must admit that a little variety in scenery and species found keeps me interested as well. Anyway, I spotted a few *Loriolia rosana* echinoids and let Brett tune her eye for them as well as build her chiseling skills in freeing them from the marl. She proved to be a quick study and was soon speed bagging plenty of echies on her own.

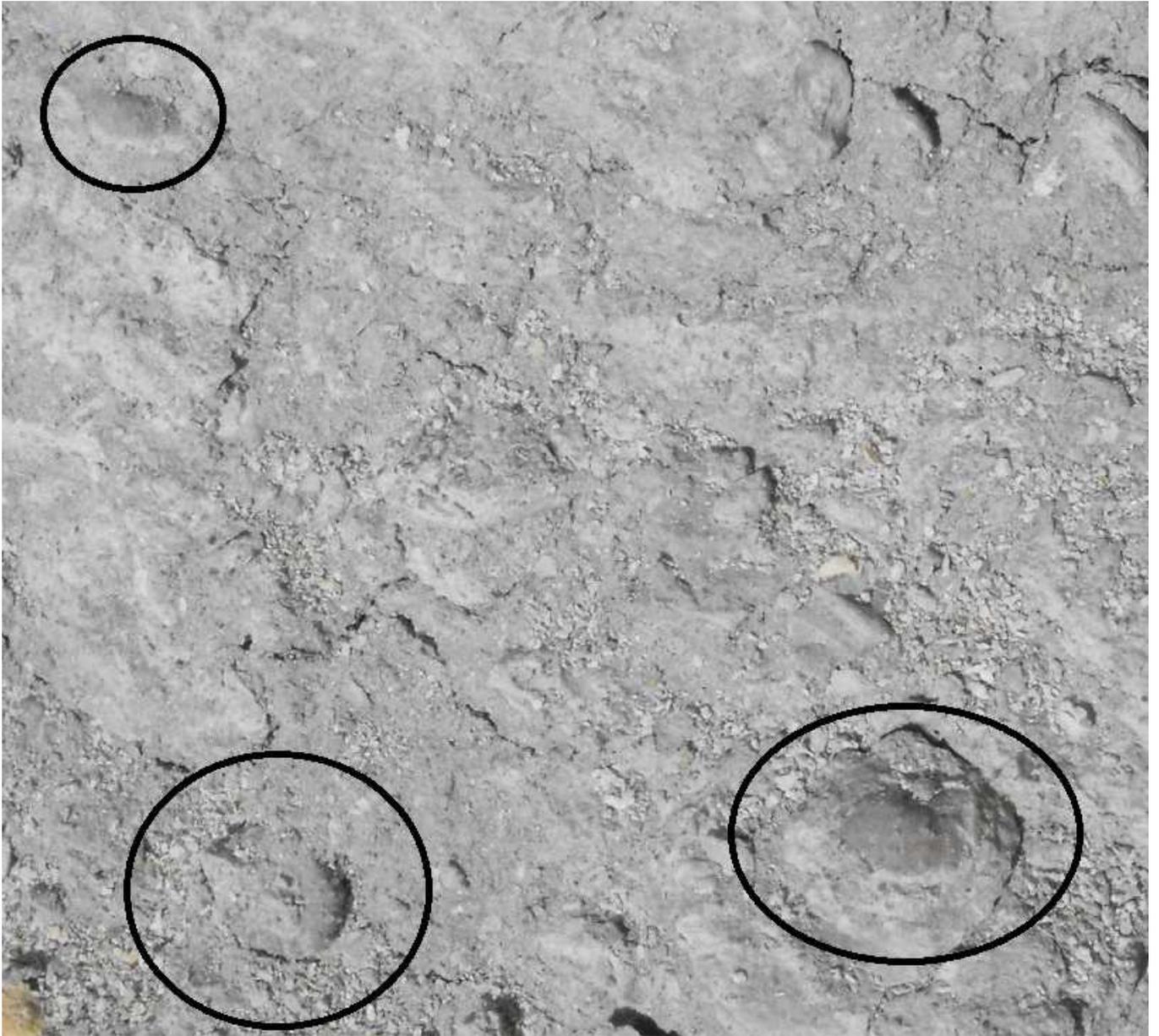


FIGS 28-35: Glen Rose echinoids *Loriolia rosana* this and next 7 pages (Site 249)















Our third site was a marl flat known to hold diminutive examples of *Salenia* and other echinoids in the 5-8 mm range, so we came prepared with gloves and gel kneepads to chase these little gems at close range. While crawling around for an hour or so side by side I was able to once again play the "Where's Waldo" game with her, helping her lock in on this exercise in shape recognition.

Most of these echinoids were the size of a pea, and she got pretty good at spotting them, and I supplemented her take with some of mine...aside from the more common *Salenia* we picked up some "super exotics" including an *Orthopsis comalensis* and a *Goniopygus texanus* which will make it into a Riker mount. In between our echinoid finds she found the *Isocrinus annulatus* crinoid stem segments to be of interest...but we pulled the plug on this site after an hour and moved on.



FIGS 36-39: The author in pursuit of Glen Rose micro echinoids including *Orthopsis comalensis* followed by 2 *Salenia* sp.this and next 3 pages (Site 161)







FIG 40: The author's take of Glen Rose micro echinoids including, clockwise from top left, *Goniopygus texanus*, *Orthopsis comalensis*, and *Globator hancockensis* above, *Salenia phillipsae* flanked by two *Salenia* sp. below (Site 161)



FIGS 41-42: Brett's take of Glen Rose *Salenia* echinoids to the left of *Phylacanthus* echinoid plate and crab claw *P. banderensis*, crinoids columnal *Isocrinus annulatus* above and next page (Site 161)



Our fourth and final site took us once again back to the *Salenia texana* zone, and here the lack of rain plus my prior collecting endeavors had decimated our *Salenia* take, but we did manage to grab 3 or 4. A bewy of bivalves, gastropods (namely *Tylostoma tumidum*) and *Porocystis* algae balls put some heft in her catch bag and sealed the deal on success for her first day afield, also a day even a seasoned veteran like myself could enjoy, in part for the finds but mostly for the company.



FIGS 43-45: Glen Rose *Salenia texana* echinoid followed by various bivalves and gastropods this and next 3 pages (Site 445)





December 29, 2010: Brachiopod Bingo with a Bonus

Christmas in Cincinnati...snow on the ground...good times with family...painful sled riding crashes....shooting down remote controlled helicopters with Nerf machine guns in the basement with my son, brothers and cousins on Christmas Day...these were good times. But fortunately later in the week temps rose, snow cover diminished, and I was afforded a shot at a small portion of a road cut on such and such roadway which had proven productive for me in the past. My semi educated guess is that it comprises the Fairview Formation, roughly 440 MYA. Each time I've visited the place I've made spectacular finds, not many of them, but one or two killer finds per visit, last time in June. This trip would be no different.

And so I worked the only sliver of the exposure I could see this time, a stretch I had never canvassed before. I quickly found a profuse zone of brachiopods *Rafinesquina ponderosa*...my radar went up as this brachiopod often serves as host for epifaunal (attached) organisms such as edrioasteroids, a rare form of primitive starfish like echinoderm. After slipping a number of nice *Rafinesquina* brachs in my pack I spotted it...my first edrio! Almost an inch across, this complete example of *Isorophus cincinnatiensis* is worth a spot in one of my Riker mounts.

After a few *Platystrophia* brachiopods and a few large bryozoans I packed it up and headed out, quitting while I was ahead.



FIGS 46-49: Ordovician Fairview Formation brachiopods *Rafinesquina ponderosa* this and next 3 pages (Site 292)









FIGS 50-51: Ordovician Fairview Formation brachiopods *Rafinesquina ponderosa* encrusted by bryozoans followed by large section of same bryozoan (Site 292)



FIG 52: Ordovician Fairview Formation edrioasteroid *Isorophus cincinnatiensis* (Site 292)

December 31, 2010: New Years Eve Countdown in the Ordovician

A couple days of rising temperatures and light rain had done a good job of melting snow in the Cincinnati area. This afforded me one last shot some Ordovician outcrops before I had to hit the road for a New Year's Eve bash with a high school friend later that night in Nashville. So at daylight I had pulled my car off the shoulder and began working an area road cut, possibly in the Fairview Formation, for whatever long dead marine goodies might strike my fancy. Conditions were quite sloppy, with the clay like layers resembling pudding. Minor rockslides were the norm that day, some underfoot, and I took a couple minor spills to the jeers of passing motorists yelling out their windows and beeping horns at me. Alas, I was the lone idiot on the nearly vertical sloppy slope.

However my toils were not in vain as I was able to lay hands on some very collectible goodies. I grabbed a few *Orthoceras* cephalopods, two breathtaking mortality slabs of well preserved *Loxoplocus* gastropods, a few *Cyclonema* gastropods, and some decent *Rafinesquina* and *Platystrophia* brachiopods. At one point I found a small hash slab with a good *Cyclonema* gastropod and part of a crinoid crown, but the piece de resistance was a small slab containing 5 crinoid crowns in varying states of weathering, the first multi crown association I've encountered to date.



FIGS 53-55: Ordovician Fairview Formation matrix slab showing rare crinoids *Anomalocrinus incurvus* and large *Cyclonema* gastropod on a bed of bryozoans this and next 2 pages (Site 292)







FIGS 56-65: Impressive Ordovician Fairview Formation matrix slab exposing 5 crinoid crowns *locrinus(?)* and *Cincinnaticrinus* (last slender specimen) this and next 8 pages (Site 292)

















FIGS 66-72: Ordovician Fairview Formation *Orthoceras* sp. orthocone nautiloids this and next 5 pages (Site 292)













FIGS 73-77: Ordovician Fairview Formation *Platystrophia* brachiopods this and next 3 pages, *Hebertella* brachiopod third page as well (Site 292)









FIG 78: Fairview Formation *Ambonychia* bivalve (Site 292)



FIGS 79-85: Fairview Formation *Loxoplocus* gastropods this and next 4 pages (Site 292)











FIGS 86-87: Fairview Formation this *Constellaria* page, *Hallopora* ???????? next next page (Site 292)



Just as I was finishing up my 2 hour, 1 man party, The Fuzz showed up to shut me down. He said that a passing motorist had called me in (get a life, passing motorist!) He checked my drivers license and I explained that my fossil pursuit takes me all over the country collecting in road cuts and I've never had a problem with legality. In addition, I mentioned that the fossil clubs I've belonged to work road cuts often in large groups.

Based on this precedent, and the fact that I had pulled my car well off the shoulder, I casually asserted that I had taken due care. He rethought his position, told me I was OK to collect, told me not to hurry, and simply reinforced that he was concerned with safety. I was on my way out anyway and later enjoyed sorting through my sack of loot. This had been quite a worthwhile month of collecting.