

FOSSIL COLLECTING REPORT: NOVEMBER, 2006 Daniel A. Woehr and Friends

November 5, 2006: A Gaggle of Goniophorus

It's funny how little sleep you need when you are having fun. After a busy Friday night I got my family up at 2:30 a.m. and ran them to the coast for a day of fishing. We didn't catch much but enjoyed the suds nonetheless. I traded fishing for fossiling gear and got up at 2:30 a.m. Sunday for a pre dawn run to Waco where I was joined by fellow fossil enthusiast Robert Bowen in the gathering gloom of dawn. After wolfing down a pile of home made breakfast tacos we descended onto our selected study area in the Del Rio fm (99 MYA). This would not be my typical blind, rudderless search for fossils but rather a series of "surgical strikes" on discrete fossil zones which Robert over time has been able to pinpoint using his own field observations.

Our first stop was at a zone of roveacrinids (floating micro crinoids) which Robert claimed were present in nearly countless quantities. Robert probably found a half dozen before I found my first, but I was happy to add something new to my collection. Robert dumped a gallon or two of water over a large area to improve contrast and cure my fossil blindness to no avail. I still couldn't find anything in the wetted area and Robert followed up behind me and lifted another crinoid which he announced by saying, "Now there's an obvious one." I regained credibility by lifting a big *Leptostyrax* tooth from right next to this area.

We began working some gullies and Robert found nice *Hemiaster calvini* and *Holaster nanus* echinoids while I found half of a dime sized fish vert which I fumbled and never saw again. Small pyritized ammonites including *Mantelliceras*, *Mariella* and *Eoscaphtes* were common finds which kept me entertained all the while. We then examined a 3 square foot area where Robert had located a nest of pyritized and compressed *Coenholectypus* echinoids with spines attached. Over the last couple of years he found scores of specimens there and this day found 2 more which he handed to me (very cool). Pressing on we worked areas of concentrated pyritized fossils and added a number of cute little ammonites to our day's take.



FIGS 1-2: Del Rio fm fossils including roveacrinids (floating microcrinoids) left and pyritized *Eoscaphtes subevolutus* ammonite (Site 46)



FIGS 3-5: Pyritized ammonites (clockwise from upper left) *Mariella bosquensis*, *Mantelliceras* sp., *Eoscaphtes subevolutus*, *Adkinsia bosquensis* above, corals *Parasimilia graysonensis* and gastropod lower left, shark tooth *Leptostyrax macrohiza?* lower right (Site 46)



FIGS 6-9: More from the Del Rio fm including asteroid starfish arm, echinoid *Goniophorus scotti*, shark teeth *Leptostyrax macrohiza?* and *Cretolamna appendiculata* above, compressed, pyritized echinoids *Coenholectypus nanus?* with articulated spines below (Site 46)

Our final search area was another small zone perhaps only 10 x 20 feet where Robert had serendipitously discovered a concentration of nano scale *Goniophorus* echinoids in scattered thumbnail sized flakes of matrix. Each piece of matrix contained a dozen to several hundred of these cool little echinoids resting on a bed of spines. Robert and I began a parallel crawl a few feet apart and he was picking up these nano slabs one after another while I saw none. He felt sorry for me and switched sides only to resume finding more where I had just worked. FINALLY I found one of my own. I would have never found this zone or the fossils in it without Robert rubbing my nose in it. Continuing our search I ended up with 8 flakes totaling hundreds of echinoid specimens. Robert probably tripled my take, bringing his 2 trip total to about 100 flakes totaling over 1000 specimens. These are quite rare so I am especially grateful to have been guided to the site while it still produces. Other finds on this belly crawl included larger *Goniophorus* echinoids and *Cretolamna appendiculata* shark teeth for both of us.



FIGS 10-11: Spectacular mortality slabs of tiny *Goniophorus scotti* echinoids on beds of spines (Site 46)

We broke away around 10 to change gears and do a little site exploration. In the back of my truck was my 2 man kayak begging for action, and before long we were in an area river which presented several geological formations within our 8 mile course.

In certain stretches we were able to maintain a pace of over 3.5 MPH, but these opportunities were sporadic. Extremely shallow conditions required us to drag the yak for approximately half of the trip. At one point I was walking behind the yak as Robert pulled it and noticed a trail of blue corkscrews behind it. The river bottom was shaving plastic off the boat so fast I wondered if it would still float us all the way to the van.

The Denton formation was the first Washita outcrop encountered. The brown limestone was rich in *Gryphea* oysters and *Neithea* scallops but held nothing of interest to us. Pressing on a couple miles we encountered a long exposure of gray, thinly bedded limestone and marl. Here we began finding *Macraster* echinoids and *Mortoniceras* ammonites pretty quickly along with *Pleurotomaria austinensis* gastropods and *Rastellum carinatum* razor clams. Examination of the fauna suggested that we were looking at the Weno fm, about 102 MYA.

A short distance downstream was a large tributary creek which had a few *Macraster* and *Holaster* echinoids in the gravel float. Pressing up the creek bed we encountered a few more *Mortoniceras* ammonites. Before jumping back in the boat and heading off I sent Robert up one bank and I took the other to look for evidence of Indian campsites near the creek mouth up on the first terrace. Somebody apparently had had the same idea and I located a spot where a midden was being excavated and screened with inferior tools not much better than sandbox toys. However there were lots of flint flakes, land snails, and midden rock present in the fine river soil. I may return to this area at some point to see if any points can be located.



FIGS 12-13: Robert Bowen at Site 360 examining the Weno member of the Georgetown fm



FIGS 14-19: *Mortoniceras* sp. ammonites from Georgetown fm sites 360 and 361 above, Site 361 lower left, *Leptomaria austinensis* gastropod from Site 360 lower right

The remainder of the day presented very few fossils for the amount of energy expended. We saw Mainstreet, Del Rio, and Buda exposures that were quite sparing in fossils. I dug out a large 4 whorl *Plesioturritites* ammonite from the Del Rio and gave it to Robert as I have many in my collection already.

At this point the hard river bottom became quite irregular with all the eroded potholes and valleys hidden from view in the fading light. My knee began to twinge from the constant stumbling. At one point I slipped on some algae and did the splits just like James Brown – I'm glad Robert didn't see that. After another half mile of boat dragging I again slipped in shallow water and came down right on my hip bone and ended up prostrate in cold water up to my neck – not a fun time in the dark still and hour from the van. I jumped in the yak and Robert dragged my wounded carcass most of the way back. Just before our take out point we got drenched in a cloudburst.

While this was all good fun for weekend warriors like us, I must admit that I'm scratching this particular river trip off my future hit list. While we did encounter large banks for Eagle Ford shale and limestone at dusk in need of further exploration I have no plans to repeat this entire course as scenic as it was due to the drudgery of dragging a boat for miles. We certainly earned what we kept.

November 11, 2006: The Corsicana Kid

After sleeping Friday night bundled up in the log cabin fort in the back yard Weston and I arose at dawn, threw some gear together, and headed for a couple local sites in the Corsicana formation (68MYA). We spent an hour or so crawling around the most familiar site and located a number of keeper specimens. While the site was light on echinoids, I was fortunate to land several nice *Dakoticancer australis* crabs, some with claws, and a few honorable mentions. Switching gears we headed to another site and found the collecting to be just the opposite. Here we found no crabs but landed about 35 echinoids including 2 nice *Proraster dalli* specimens and the balance *Hemiaster bexari*. Not to be outdone, Weston went to town collecting oysters. Crawling around can be tough when your kid continues to load your pockets with 2 LB oysters. At any rate, Weston was quite pleased with his Tonka truck load of *Pycnodonte mutabilis* and *Exogyra costata* oysters and made sure Mama acknowledged his proficiency in the field.



FIGS 20-23: 4 views of crab *Dakoticancer australis* specimen 1 from Corsicana fm Site 248



FIGS 24-28: *Dakoticancer australis* specimen 1 top left, specimen 2 top right, specimen 3 remaining views (Site 248)



FIGS 29-32: *Dakoticancer australis* specimen 4 all views, note tail in lower left view (Site 248)



FIGS 33-36: Partial *Dakoticancer australis* specimen 5 all views, note claw and 2 gastropods in nodule (Site 248)



FIGS 37-39: Corsicana echinoids *Proraster dalli* (2) and *Plesiaster americanus* (1) above and *Hemiaster bexari* below (Site 348)



FIGS 40-44: Echinoids *H. bexari* above and second row left, bivalve *Lima* sp. second row right, miscellaneous bivalves third row down, bivalves *Neithea bexarensis*, *Plicatula mullicaensis*, *Lima acutilineata* and others below (Site 348)



FIGS 45-49: Corsicana bivalves *Lima acutilineata* above, gastropods *Turritella* sp., *Gyrodes* sp. and others second row, gastropods *Gyrodes* sp. and *Striatocostatum bexarensis* third row, mystery fossil (possibly crustacean) and oyster *Pycnodonte mutabilis* below (Sites 248 and 348)

November 12, 2006: Fort Worth with Friends

With an adjustment to the weekend fossil roster my coworker backed out of his first North TX fossil expedition and I slid my friend Farley Katz into his spot for some tag team driving to the Fort Worth area beginning at a ridiculous 2 a.m. At daylight we were in a road cut exposing the lower Cretaceous Pawpaw formation (101 MYA) for several feet in section. Here the brown and gray Pawpaw clay was overlain by the Mainstreet formation, a hard, yellow, thick bedded limestone. Within a few minutes I had picked up a fish vertebra hiding in a clay nodule while Farley picked up a nice pyritized *Mariella worthensis*, an ammonite with a cone shaped spire. After 15 minutes we were joined by Dallas friend and collector Brent Dunn and we moved off to a large construction site also exposing the Pawpaw where we found essentially no fossils of interest. Chasing our tails back to the road cut we found a couple more goodies including 2 golden pyritized ammonites *Engonoceras serpentinum*, one in particularly good condition.



FIG 50: From the Pawpaw fm a pyritized ammonite *Engonoceras serpentinum* (Site 260)

Brent suggested that we head off to another construction site where he had found nautiloids and echinoids in the past. I didn't have high expectations for the site but it actually turned out to be quite productive. As Brent had said, the area was littered with nautiloids which I guessed were *Cymatoceras hilli*. We saw numbers of *Plesioturritites brazoensis* ammonites as well. And after Brent picked up two *Coenholectypus* echinoids my interest was piqued.

After studying the lithology and fossils I surmised that we were looking at the lower Mainstreet formation as denoted by the presence of the underlying Pawpaw clay in the ditches. Over the course of an hour or two we must have loaded a couple gallon buckets with nautiloids, ammonites, some quality *Coenholectypus* echinoids, some huge 3-4 pound *Pachymya* bivalve molds and Farley's lone *Macraster* in pristine condition.



FIGS 51-54: Mainstreet fm nautiloids *Cymatoceras hilli* above, bivalves *Pachymya austinensis* and gastropod *Leptomaria austinensis* below (Site 362)



FIGS 55-62: Main Street fm echinoids *Coenholectypus castilloi* top and center, *Coenholectypus* sp. below (Site 362)

Around lunch time we moved on to another Pawpaw construction site which was huge and well weathered and exhibited the Mainstreet contact but we had trouble locating fossils there. We saw broken ammonites in places and just as we were getting ready to vacate the site Brent located a cool little *Xanthosia* crab. Crawling around the same general area I lifted a cool little pyritized *Mortoniceras* ammonite in a clay nodule.

Finds were still scarce we pressed on to yet another Pawpaw construction site almost under concrete. It had been a half dozen rains since Brent visited the site and this Mother Lode had apparently remained untapped ever since. In short order we were swimming in scores of beautiful pyritized ammonites ranging in size from 4 to 60 mm. *Engonoceras serpentinum* made up the bulk of the finds and they were quite welcome due to their complex suture pattern creating tremendous aesthetic appeal. The small *Mortoniceras* ammonites flanked with ventral nodes were quite welcome as well. Only a few *Scaphites* ammonites turned up and they were quickly bagged along with the

others. For a while Brent dominated the scene by finding several small and ornate *Xanthosia aspera* and *X. wintoni* crabs. My personal favorite part of the day was finding 3 crabs right next to Brent, two of a species he's been trying to collect for some time. When I picked up a *Squalicorax* shark tooth he hurled a pebble from 30 feet away which hit me in the forehead, bounced off the inside of my glasses, and ricocheted into my eye. I suppose he could have patted me on the back but I guess I was a bit out of range for that. Rounding out my take were two *Upogebia* shrimp and a *Linuparis?* lobster carapace, all quite welcome finds.



FIGS 63-68: A few gems from the Pawpaw fm including pyritized ammonites *Mortoniceras* sp. and *Mariella worthensis* above, *Engonoceras serpentinum* and others second row, crustaceans third row left to right including lobster carapace *Linuparis* sp., 2 shrimp *Upogebia* sp., and crabs *Xanthosia pawpawensis*, *X. wintoni*, *Necrocarcinus* sp., and *Cretacorantina* sp., *Mortoniceras* sp. on top of *X. pawpawensis* lower left, remaining images juvenile *Necrocarcinus* sp. or *Xanthosia* sp. (Sites 176 and 376)

We rushed to a nearby lake where Farley and I deployed my little boat, slogged through the cold, dank quagmire to get it far enough out to float, then headed for a Goodland (105 MYA) exposure across the lake. This exposure turned out to be a dud so we motored and slogged back to the ramp. As we loaded our gear back in the truck we couldn't help but notice that the people we had seen across the lake were now at the ramp, meaning that we could have WALKED to the worthless exposure rather than boat to it.

In fading light we traveled several miles to a creek in the same formation which we knew to be rich in ammonites and echinoids. White limestone alternated with soft gray marl made even softer at creek level where wet. Fossils were everywhere. At one point I found two *Oxytropidoceras* and two *Engonoceras* ammonites in situ within a 1 foot circle. Two were trashed but I recovered two. We spent less than an hour there but I ended up grabbing 4 *Engonoceras*, 12 *Oxys*, and a half dozen decent irregular echinoids *Hemiaster whitei*.

I enjoyed good times with good friends grabbing good fossils and enjoyed half the fuel bill and good sleep while Farley drove us home.



FIGS 69-71: Goodland fm ammonites *Oxytropidoceras* sp. above and lower left, *Engonoceras* sp. lower right (Site 160)



FIGS 72-73: Goodland ammonites *Venezoliceras* sp. (1), and *Engonoceras* sp. (2) above, echinoids *Hemiaster whitei* (3) and *Heteraster* sp. (1) below (Site 160)