

FOSSIL COLLECTING REPORT
June, 2006
Daniel A. Woehr and Friends

June 5, 2006: Let it Rain

A little rain had fallen in San Antonio, so I opted for a quick look at the construction site I found in November in the Corsicana formation, about 67 million years of age (MYA). With just an hour to look around in the evening I could only give a cursory look to a small part of the exposure. My efforts weren't in vain however as I got maybe 8 or 10 *Hemiaster bexari* echinoids and two nice *Dakoticancer australis* crabs, each with one claw intact. These crabs have such robust size and intricate detail that I don't think I'll ever get sick of finding them. I may have 15-20 in my collection at this point, each different from the others in preservation of legs, claws, facial and belly features, etc. At this exposure I can never get over how just a little rain can leave one of these crabs so prominently displayed in sharp contrast to the rest of the exposure without being seen the previous trip. In addition to the rarity, quality, and sheer numbers of specimens, the regenerative nature of this site is what keeps drawing me back.



FIGS 1-5: Two *Dakoticancer australis* crabs from the Corsicana fm, both with one claw intact (Site 248)



FIGS 6-7: Corsicana echinoids *Proraster dalli* (crushed specimen) and *Hemiaster bexari* left, gastropod *Striatocostatum bexarensense* right (Site 248)

June 10, 2006: Pleistocene Redemption

With the sting of my April Pleistocene fiasco worn off I gathered my research notes on a new and little discussed stretch of a Texas river where I've never been before. I get quite a charge out of exploring new sites, often choosing them over proven sites. The thrill of the unknown draws me like a moth to flame. I launched my little boat around 7:30 a.m. and began my trek upstream, the boat loaded with an extra prop, 30 shear pins, and all the tools required to rip the power head off the engine if required. You see the spooky part about running a new river course is not so much the remoteness or the tree snags jutting ominously above the water, the rapids, or other obstacles you can see, but the submerged logs and rocks which seem to lash out at your lower unit when you are running along at wide open throttle. Confident that I could manage these issues I pressed on....and on....and on.....for a full 11 or 12 river miles before encountering the first promising exposure of Pleistocene terrace deposits. Just as I was about to pat myself on the back for some fine navigating, BAM – VROOOOM! I broke my first shear pin.

Suddenly I was in a 5 mile stretch of good gravel bars around every bend, some peppered with wild hog tracks and wallows, but none touched by human footprints. I was in my element, so to speak. I commenced my grid like search of what I felt was the highest percentage portion of the first bar, and payback came swiftly. Soon I had my first gallon Ziploc of goodies in the boat. There were many fragments of turtle carapace and plastron from several species including *Terrapene carolina* (box turtle), *Apalone xxx* (soft shelled turtle), and XXX. I also found some big, flat, inch thick sections of plastron which could have come from the land tortoise *Hesperotestudo crassiscutata*. I got a few vertebrae illustrating varying degrees of mineralization as well as a fine horse tooth and a bison tooth.

I pressed on upstream, grounding out several times in the increasingly broad and shallow river. Inconvenient, but well worth the effort. I continued to get a nice horse tooth on every other bar, and probably 1-2 nice vertebrae per bar of varying sizes, colors, and degrees of mineralization. I took miscellaneous foot bones, leg bones, and ribs from a number of critters too. Each of the ancient turtles must have been born with a grenade inside as shell fragments were everywhere.

One of my best finds of the day was exposed as just a little brown point of bone projecting from the sand. When I tugged at it it got bigger and bigger and transformed into a double hand sized, narrow cervical vertebra. The only thing I can think of that lived in Texas during the Ice Age which had this big and narrow of neck vertebrae was the extinct camel or long legged llama *Hemiauchenia megacephalus*. This was a prize find for me.

When I broke my second shear pin it just became too hard to motor any farther upstream. Everything went according to plan when changing the shear pin until I tried to put the prop back on. Apparently the new prop had a narrower shear pin slot than the last prop, so all the shear pins I made were about .030 inch too long. I ended up spending a half hour grinding down a pin on a piece of sandstone to get things back in order. Undaunted, I ditched the boat and hoofed it about 3 miles and 5 bends farther, fording the river to search each bar. This was a fortuitous move. I continued to grab good horse teeth, plus I picked up a good percentage of a small mammoth tooth, perhaps a juvenile spit tooth. Next I laid hands on a 3 inch piece of mammoth tusk, plus some more good vertebrae, ankle, and foot bones.



FIGS 8-12: Pleistocene terrace deposits above, next 3 frames show a cervical vertebra possibly from the long legged llama *Hemiauchenia megacephalus* (Site 303), partial mammoth tooth on gravel bar bottom right (Site 302)



FIGS 13-18: Mammoth tooth and tusk fragments above (Sites 301, 302, and 306), osteoderm of bony armor scute from giant armadillo *Holmesina septentrionalis* next to modern armadillo scute for scale (Site 307), horse and unidentified toe bones remaining frames (Sites 303 and 307)



FIGS 19-22: Two mammal calcanei top left, possibly deer and horse (Sites 303 and 306), horse (short) and camel (long) toe bones top right (Sites 307 and 308), bison teeth bottom left (301 and 307), unidentified bone bottom right (Site 303)



FIGS 23-28: Turtle scutes first 5 frames, miscellaneous bone fragments bottom right (Sites 301-308)

The next bar upstream revealed another prize find – a perfect osteoderm (bony skin armor scute) from the 6 foot extinct armadillo *Holmesina septentrionalis*. This is my best example of the genus to date. Just one more bar...just one more bar...I must have psyched myself into this 3 times before getting spooky about leaving my boat unattended any longer. The return march was comical...the day's success was measured in terms of how fast gravity tried to rip my pants down, my cargo pockets choked with all manner of fossilized teeth and bones. It took two hands on the belt loops just to keep going, especially when wading stomach deep in the river, all the while trying to keep my camera high and dry.

Within mere feet of the boat I picked up another 2 or 3 fold section from one end of a mammoth tooth, sort of ugly but distinguishable for what it is. I may have to ditch the moniker of "Dan Woehr, Hunter of Toothless Mammoths" although I'm REALLY jonesing for a whole elephant tooth.

By 8 p.m. I was off the water, my 35 mile round trip a complete success – no injuries, no equipment loss, engine still running, boat still floating, truck still waiting for me, and best of all, lots of cool bony vestiges of beasts of yore to annex into the Woehr Collection, plus a big load of neat partials to distribute to kids at the DPS shows. I've really been getting into this whole risk/reward thing lately. With ample planning the successful trips well outweigh the lackluster ones.

June 17, 2006: Voyage of the Texoma Fossil Barge

With a North Texas fossil tour in store for Saturday, I picked up fellow collector Farley Katz after work on Friday and surprisingly made it through Austin rush hour traffic with little trouble. Ahead of schedule, we seized the opportunity to poke around the Georgetown formation in Williamson County. Farley steered us in to a strip of rock piles he had found while driving through weeks before. Things looked quite promising immediately. A jumbled mixture of blue/gray and tan nodular limestone peppered with pyrite and various marine fossils held high potential for holding the ammonites and echinoids we were after. I'd say with about 50% certainty that we were looking at the Fort Worth member of the Georgetown formation, about 102 MYA.

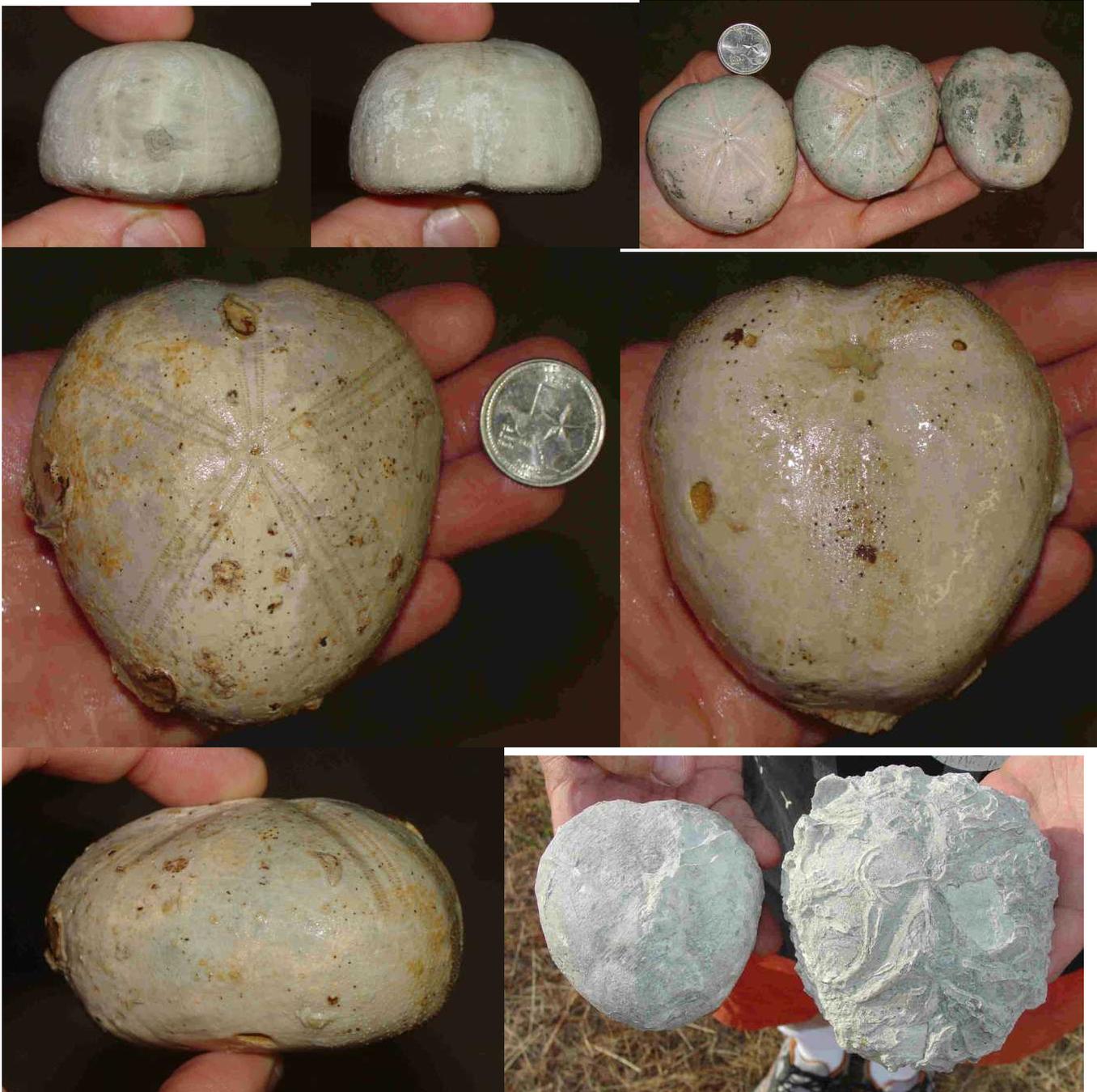
Farley was quite to lay hands on a couple nice *Macraster pseudoelegans?* echinoids. I soon followed suit in our 20 minute inspection of the site. I believe in total we each got a half dozen *Macraster* and *Holaster simplex* echinoids, with Farley's whopper Mac tipping the scales at a couple pounds easy. We each got 2 or 3 in excellent condition with little compression or wear, and some were decorated with specks of pyrite as well. In addition I collected one small *Mortoniceras* ammonite before we moved on.

Our next site was an old reliable one. Not far from the truck Farley picked up a couple more big Macs, one as big as an outstretched hand, a bit battle scarred and covered with worm tubes. I pressed on to a more remote section of the exposure and was quickly rewarded with a 14 inch *Mortoniceras* ammonite which came out of the ground without a fight. I also lucked into a small *Mortoniceras drakei* ammonite, another large but partially compressed *Macraster*, and a good *Holaster simplex* echinoid.

Our next site was a stretch of highway construction which has been covered within the past couple weeks. Oh, well...as sites disappear others emerge, and with this site gone, at least I have a good suite of fossils in my collection from past trips there. We had no room to complain anyway after such a solid start to the weekend.



FIGS 29-31: *Holaster simplex* echinoid from the Georgetown fm (Site 309)



FIGS 32-38: From the Georgetown fm two more views of the same *Holaster simplex* plus several *Macraster* sp. echinoids, the last frame showing 2 specimens collected by Farley Katz and the remainder by the author (all Site 309)



FIGS 39-44: More from the Georgetown fm including pyritized *Neithea* sp bivalve and *Rastellum carinata* "denture clam" above (Site 309) followed by strangely pyritized echinoid *Macraster* sp. and large ammonite *Mortoniceras* sp. center, *Holaster simplex* echinoid in matrix and *Mortoniceras drakei*? ammonite below (last 4 specimens Site 173)

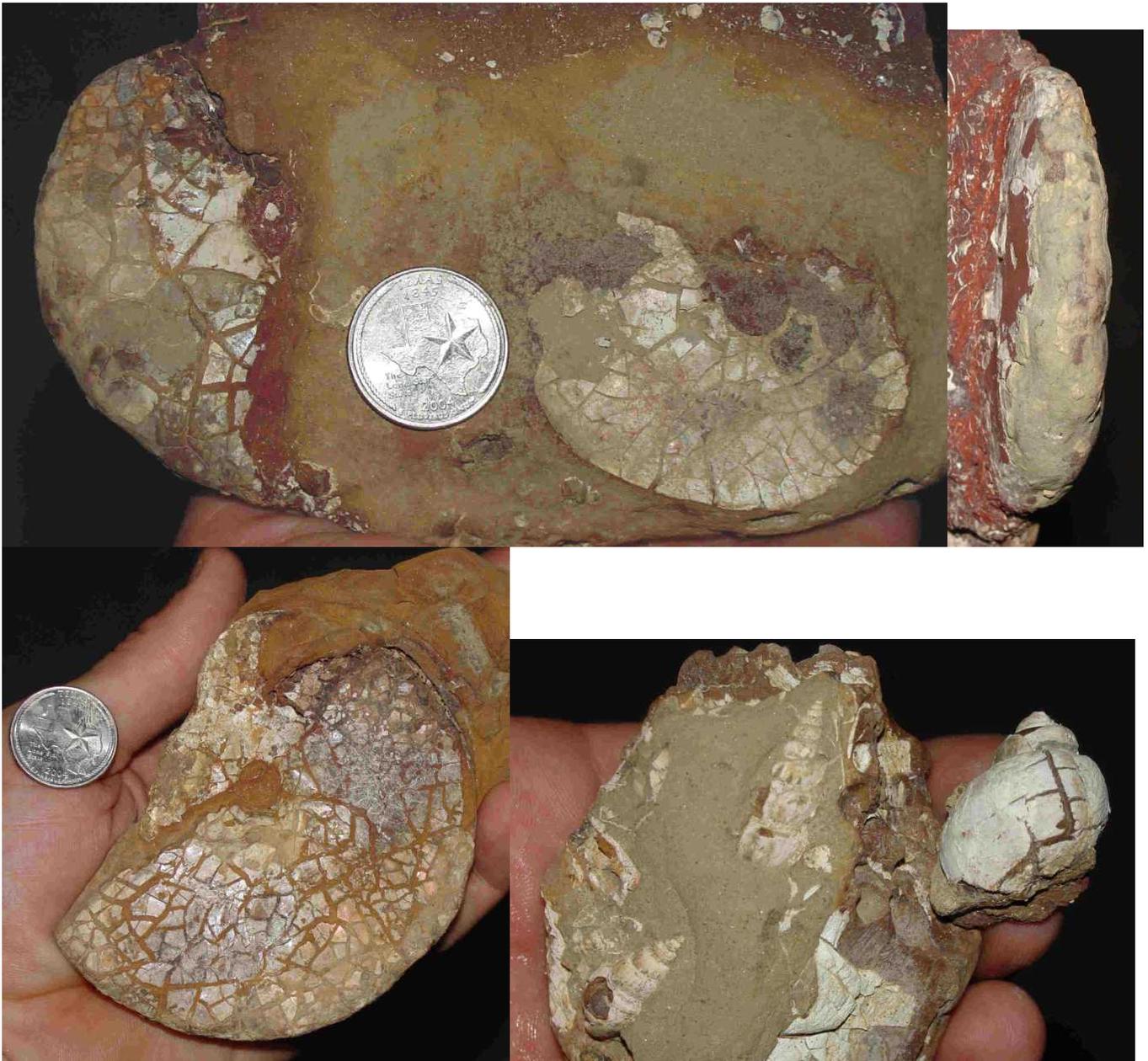
We stayed the night at the home of fellow fossil collector Brent Dunn north of Dallas and got 4 hours of sleep before piling into my truck and heading still farther north. At 8 a.m. we rolled into the parking lot of a Lake Texoma marina where I had rented a ski boat which would serve as our fossil sled for the day. I had charted a course for us which would complete my circumnavigation of the main body of the lake over a series of boating fossil trips. We concentrated on areas I had not visited before.

Our first stop was a bluff at the water's edge exposing a section of clay and ironstone near the contact of the Weno and Pawpaw formations, about 98 MYA. By inspecting and flipping each red ironstone slab I was fortunate to find the keel of a nice 75 mm *Engonoceras serpentinum* ammonite jutting out. I used this specimen to help calibrate the eyes of the other guys as they were not familiar with this locality or lithology.

A second larger exposure brought better results. We all found large slabs of well preserved *Anchura* gastropods, their white nacre in sharp contrast with the brick red ironstone. Some of the gastropods even had the "digits" which line the aperture of the shell, a feature rarely preserved in TX gastropods. Brent began randomly splitting concretions and was rewarded with a very nice *E. serpentinum* before we packed up and moved on.



FIG 45: Superb ammonite *Engonoceras serpentinum* found by Brent Dunn when randomly cracking ironstone slabs in the upper Weno fm (Site 187)



FIGS 46-49: More from the upper Weno fm including ammonites *Engonoceras serpentinum* above and lower left, *Anchura* sp. and unidentified gastropod bottom right (Sites 187 and 194)

A small site in the Fort Worth fm which produced many echinoids for me on my first visit there last summer has now been found and collected heavily by others. Still, we managed to collect a few *Macrasters* and *Holasters* before moving on. The best part of this site was watching Brent miscalculate the water depth as he exited the boat, resulting in an unceremonious splash where he temporarily disappeared from sight. I should not have laughed too hard as you'll soon find out.



FIG 50: Brent's unceremonious plunge

A long bench of Goodland limestone (105 MYA) which emerged from water level and formed a bluff 20-30 feet high and several hundred yards long was our next stop. This site was rich in *Oxytropidoceras* ammonites at one point but has seen heavy predation by other collectors as indicated by scores of ammonite impressions in the surface of the exposure. Still, after 20-30 minutes I was able to reduce one nice ammonite to possession before skies became ominously gray and light drizzle set in.

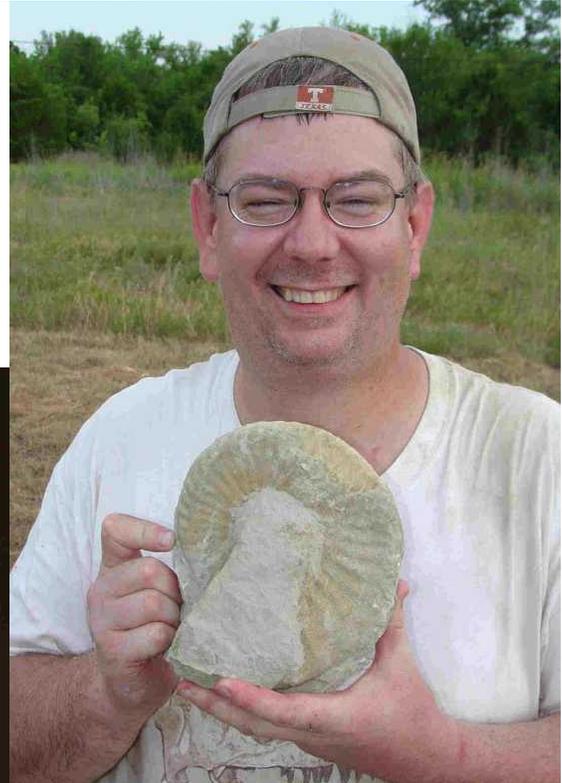
Shifting winds pivoted the boat away from shore around its anchor line, requiring the dutiful captain get a little wet to board. The Goodland limestone dropped off so abruptly just offshore that I was soon over my head. Shoes, kneepads, and an open backpack don't exactly optimize one's hydrodynamics, and neither did the ammonite in one hand or 3 pound sledge in the other. Not wanting to lose any gear, I used my Oxy as an effective swim paddle which eventually got me to where I could climb back up the exposure and get my head above water. The boys enjoyed the show.

With a wall of rain approaching and obscuring the shoreline behind us I opted to run to the Oklahoma side of the lake and take refuge in one of the coves we had planned to visit anyway. The guys either had trust in their captain or their life jackets as there was no mutiny on board. Brent couldn't help but comment however that all the other boats were heading the other direction!

We found a couple bluffs in the Duck Creek formation (103 MYA) conveniently located out of the wind and waves. Farley was the last to exit the boat and took his turn falling in the lake up to his eyes and doggy paddling to safety. We spent the better part of an hour at this exposure clawing at a crumbling limestone bench and grabbing many small dime to quarter sized ammonites. *Mortonoceras* and *Eopachydiscus* were common. At one point Brent located an association of 50 mm *Macraster* echinoids in good condition. The 3 of us followed this marly seam for 100 yards or so and each of us ended up with a handful of similar echies. On the walk back to the boat I picked up what looked like an out of place hunk of petrified wood, and upon closer inspection realized that I had picked up my only hunk of bone for the day.



FIGS 51-55: *Oxitropidoceras* sp. ammonite from the Goodland fm. top left (no site logged – fossil given away), remaining frames show Caddo site on Oklahoma side of lake which gave up several *Mortoniceras* sp. ammonites and *Macraster* sp. echinoids (Site 310 as shown above)



FIGS 56-59: *Macraster* sp. echinoids found by Dunn top left and found by the author top right (Site 310), unidentified bone fragment (Site 310), Brent Dunn with prize *Mortonicerias drakei*? ammonite bottom right

With clearing skies we ran back to the Texas side and found another Duck Creek exposure. While Farley and I found little here, Brent was yanking *Eopachydiscus* and *Mortonicerias* ammonites faster than Lucy on the candy assembly line. This was probably his best site of the day. While he continued to stack up ammonites I took a little time to pound the prop blade tips back to their original form as I had churned up the bottom a bit on approach to various shorelines.

Our final stop was the creek where Frank Holterhoff and I had scored so many associated Duck Creek *Macraster* echinoids weeks before including my clutch of 26 specimens. To make a long story short, with lots of digging Farley found only one more *Macraster* while I got none. I did however grab 3 more ammonites including 2 small *Mortonicerias* and one large 14 inch *Eopachydiscus*. Brent marched up the creek and through the knee deep algae bed covered with fire ants to secure a number of ammonites including many he couldn't free from matrix. At one point he said the creek bed was lined with big Eos, making for treacherous footing.



FIGS 60-62: Ammonites from Duck Creek site 73 including the author's *Eopachydiscus marcianus* top left and *Mortoniceras* sp. with *Idiohamites fremonti* in center top right, Dunn's take of *Mortoniceras* ammonites below

I think we all came away from the day's adventures enriched if not weighted down. Although I've utilized the boat approach to better fossils for scores of trips, it added a new dimension to collecting for the other guys. Considering the size of the boat and of the exposures I think 3 guys was the perfect group size for this trip.