

April 20, 2008: West Texas Echinoid Roundup

Once again Bill and I found ourselves heading west for echinoids, this time in his truck and heading to sites he has visited in the past. 3 a.m. comes early on a Saturday night, and I kicked off the day with a sleep deprivation headache. Off into the night air we went, and hours later flat topped mesas could be seen as leaden night skies gave way to a new day. Our target area this time included outcrops of the Boracho formation, San Martine member, an equivalent of the Denton, Weno, and Pawpaw formations of North Texas. These 100 million year old rocks held several genera of echinoids, but the abundance of lime and occasional ground water result in an acidic climate which solution dissolves exposed surfaces of these specimens in many cases. Getting good specimens in this area is often a game of collecting as many specimens as possible as quality will show itself given enough quantity.

But before we got to our first site we switched drivers just after daylight. Bill's S-10 drives a little different than my F-250, and the lack of cruise control had me a little worried about possible brushes with the law. However I found that when floored it topped out around 80, perfect in the 80 MPH zones found on west Texas highways. However 10 miles into my drive as I topped a hill I saw the law do a u-turn and soon the bubble gum machine was on my tail. It turns out I was doing 85 in an 80 MPH zone, and was fortunate to get a warning. It was awkward handing the cop a piece of paper, my temporary license, explaining that I had lost my wallet while fossil hunting the previous weekend. Reflecting on a previous speeding ticket, lost tools, lost wallet, and now this, all with Bill, I leaned over and whispered to him "You are bad luck!" When the cop came back I tried to blame my speed on gravity as the truck tops out at 80 floored on flat ground, but he seemed unimpressed with my analytical skills. Bill took the keys away not only to keep our speed in check, but because he has observed my propensity to lose important things.

Soon we dropped into an abandoned quarry and began our search. We moved to opposite sides of the pit and targeted a gritty, yellow, receding 18 inch layer about mid way up the wall and met success early and often. An hour or two later when we met on the other side of the pit we had examples of *Salenia*, *Globator*, *Anorthopygus*, *Coenholectypus*, *Heteraster* and *Phymosoma* echinoids, some in good shape, some not. On our walk out we spooked a big bobcat that showed us only a fleeting glimpse of his rear end moving out fast.



FIGS 60-63: A few shots of a Boracho formation, San Martine member quarry with Bill Morgan for scale (Site 452)







FIGS 64-65: *Coenholectypus* echinoid above, *Coenholectypus* and *Phymosoma* echinoids below (Site 452)



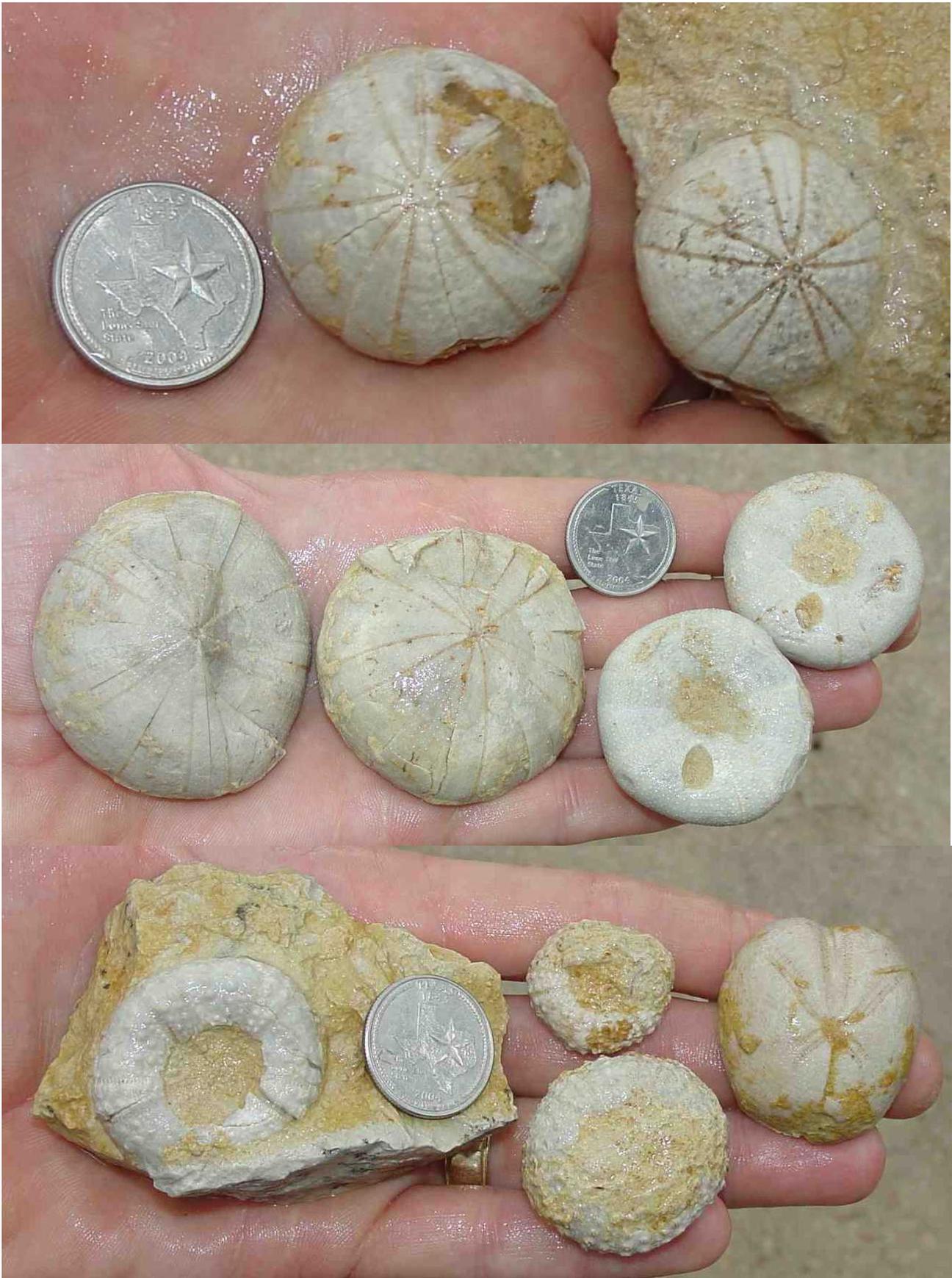
FIGS 66-67: *Globator parryi* echinoid above, *Anorthopygus texanus* echinoid below (Site 452)



FIG 68: *Phymosoma* echinoid left, *Globator* echinoid right (Site 452)



FIG 69: *Anorthopygus texanus* echinoid in situ (Site 452)



FIGS 70-72: *Anorthopygus texanus* echinoids above, *Coenholectypus* echinoids center, 3 *Phymosoma* and one *Heteraster* echinoid below (Site 452)



FIGS 73-74: Details of articulated spines on oral side of *Heteraster* shown above (Site 452)

En route to the next site Bill got pulled over. The fuzz sure was thick on this particular day. Bill got a warning for his license plate holder obscuring the word TEXAS on his rear plate. I can identify with Texas pride, but this was going a bit too far in my opinion. People were getting pulled over left and right. I soon surmised that these guys were looking for wetbacks and drugs, and we must have looked like an odd if not suspicious pair...I laughed when the cop asked if Bill was my Daddy. It was awkward to once again produce and explain my temporary license and lack of picture ID. Our fossil nerd-speak was enough to dissuade Johnny Law from further probing into our affairs and soon "the two scofflaws" were again underway.

Our next pit was in the same formation and having spoken the week before with the quarry operator we were able to drive right in and get to work. The first of 3 pits was old, overgrown, and not terribly productive. There I picked up one rough *Tetragramma* echinoid. I walked up on a juvenile owl who posed for a picture in the shade of the quarry wall. My biggest thrill was looking down as we were getting ready to leave and noticing that I was standing 6 inches from a dead, snarling, hairless, desiccated bobcat that looked like it came out of a B class horror movie. I declined the photo op.



FIG 75: Baby great horned owl craning keeping its eye on me from the wall of the Pit 1 (Site 453)



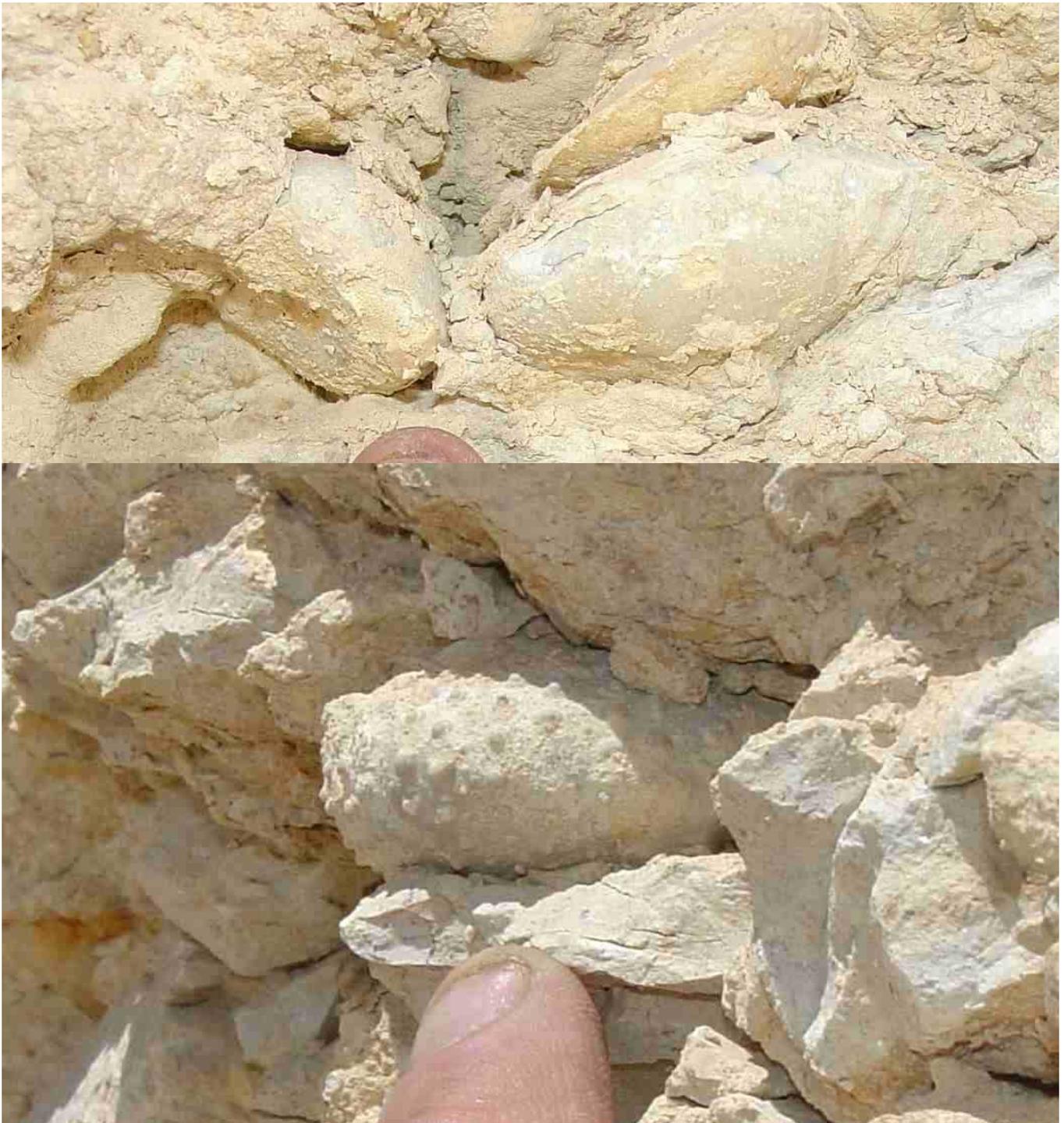
FIG 76: Rough *Tetragramma* echinoid from Pit 1 at Site 453

The next little pit was pretty good. Bill and I worked opposite ends of it and I was quick to grab 3 *Goniopygus stocktonensis* echinoids, the main species I was after this trip. I joined Bill who was tracing a soft layer until it got too high in the wall to reach. I retrieved his extension ladder then we took turns searching that layer while the other guy held the base of the ladder. We grabbed several *Coenholectypus* and *Phymosoma* echinoids that way as well as a couple small ammonites, one *Engonoceras* and one *Mortoniceras*. True to form, I lost my little Mort before day's end, but luckily found it weeks later in an obscure corner of my backpack.



FIGS 77-80: A view of the quarry wall at Pit 2 of Site 453 showing the gray layer at the bottom that gave up the tiny *Goniopygus* echinoid shown below as well as the larger gray *Goniopygus stocktonensis* below it





FIGS 81-82: Two *Coenholectypus* echinoids together in the wall of Pit 2 as well as a *Phymosoma* in situ (Site 453)



FIGS 83-84: Group shot above showing *Anorthopygus texanus* on top and (L-R below it) *Coenholectypus*, *Phymosoma*, and *Tetragramma*, two nice *Coenholectypus* in section frame (Pit 2, Site 453)



FIG 85: Boracho fm *Mortoniceras* ammonite from Pit 2 (Site 453)

We then moved to the main pit which was huge but not very productive. I could see heat waves rising off the middle of the pit as I contemplated the lack of water in my pack. Soon my head was throbbing, but I forgot about that as I laid hand on a nice *Salenia* sp. and a nice *Anorthopygus texanus* echinoid. As I was crossing a rock pile and a skunk took a shot at me (clean miss thank God, but still quite odoriferous) I put some jump in my step and found Bill on the other side of the quarry. By the time I got to the truck I was nauseous, not from the skunk funk but from the heat. I collapsed in the passenger seat and must have looked like death because Bill drove right past our next planned site while I had my eyes closed. I think he saw plus signs over my eyes and tweety birds flying around my head.



FIGS 86-88: Pit 3 from Site 453 and the nice *Salenia* echinoid found there followed by a splendid *Anorthopygus texanus* in situ



Rejuvenated by a footlong sub and a couple hours of A/C in my face, we stopped at a thin exposure of Walnut clay (106 MYA) where Bill has done well in the past. With ladders and flashlights we searched this zone as the sun went down. We each clobbered a handful of nice *Coenholectypus* echinoids in addition to a few *Loriolia* and *Heteraster*, rounding out an eventful and memorable day, and quite a cost effective one at that considering we used Bill's little truck in lieu of my F250, cutting the fuel bill in half. As much as I've enjoyed my cavernous truck over the years, my now equally cavernous wallet has me looking toward smaller vehicles with a new respect.



FIGS 89-92: *Coenholectypus planatus* echinoids from the Bee Cave Marl member of the Walnut fm this and next page (Site 454)





FIG 93: Two *Loriolia texana* echinoids left, *Heteraster* sp. and oyster "index fossil" *Ceratostreon texanum* right (Site 454)

April 25, 2008: San Antonio Fossil Fiesta

Friday once again brought an obscure city holiday to San Antonio known as Battle of Flowers Day. I really don't know the origin other than being part of Fiesta Week, and I don't really care actually, as it serves as another day off to retreat from town into the Texas outback in search of dead things. My son Weston was off school as well while his Mama was away on a business trip, so I roused the boy around 6 a.m. threw some breakfast in front of him, loaded him in the truck, and picked up fellow fossil collector Bill Morgan at 6:30. Long ago Bill had expressed his desire to get out in the field a little more often. I've found him to be trustworthy with my site information so lately I've been teaming up with him and venturing into the field. His wife may soon learn to despise me as I've pried him away from home each of the last 3 weekends in a row.

Anyway, Weston is always up for a trip to the Corsicana formation and Bill has patiently waited for an invitation. $\frac{3}{4}$ inch of rain the other week was enough to make me organize the day's fossil posse. In short I was underwhelmed by the lack of fossil replenishment brought by the rain, but we still found some things. I think Bill and I together got about 40 echinoids or so, mostly *Hemiaster bexari*, but we did pick up a few *Plesiaster americanus*, *Linthia variabilis*, and *Proraster dalli* in rough shape in addition to 5 or 6 decent *Dakotacancer australis* crab carapaces between us along with some partials. I gave a few echies and practice crabs to Bill and he also ended up with a couple good ones, as did I. It was well worth the visit, but a bit beneath expectations. I suppose last year's weekly flooding spoiled me on the potential of this site. Things may soon be covered up forever but I'll still try to milk what I can out of the area.



FIGS 94-95: From the Corsicana fm a rough *Linthia variabilis* echinoid above, same specimen shown below along with its equally disheveled counterpart and three *Hemiaster bexari* (Site 348)



FIG 96: Corsicana bivalves *Lima guadalupensis* far left, *Neithea bexarensis* far right, unknowns center (Site 348)



FIGS 97-104: 5 pages of images showing Bill Morgan hard at work in the Corsicana fm followed by our community take of *Dakoticancer australis* crabs in situ and ultimately prepped shots of the 2 crabs kept by the author (Site 349)











FIGS 105-106: A handful of *Hemiaster bexari* echinoids followed by *Proraster dalli* on the left and *Plesiaster americanus* on the right (Site 349)



FIG 107: Corsicana bivalves *Neithea bexarensis* left and large, partial *Lima sayrei* right (Site 349)



FIG 108: Weston Woehr enjoying his favorite element of the Corsicana formation – MUD!

Weston did take the time to pick up a few fossils of his own, but he was content to run his trucks in the only mud puddle to be found in the area. In the end I had to blindly mine the soft mud for his lost shoes but all turned out well. He loves man time as there are only 2 rules: stay within sight and don't get hurt. Everything else is fair game including running, screaming, throwing rocks, creating avalanches (so long as he is uphill), etc. Mud covered kid? No problem. I chose to let him be a boy and simply threw down a sheet in the back seat of the truck to contain the mess.

We regrouped and headed north into the hills to scout out another site I had on my hit list. I combined cryptic site information from a non collector with satellite imagery to pinpoint a road cut off the beaten track which marks the transition from Upper Glen Rose to Edwards limestone, sandwiching the locally thin Walnut Clay in between. When we drove up to this site and saw the recessive gray clay below the massive Edwards limestone then saw the numerous *Ceratostreon* oysters up close, we quickly confirmed this stratigraphic horizon as being Walnut.



FIGS 109-111: 2 views of the soft, undercut Bee Cave Marl member of the Walnut fm overlain by Edwards limestone followed by a shot of Bill Morgan and Weston Woehr working the exposure (Site 455)





FIG 112: Weston Woehr working the Bee Cave Marl (Site 455)

Weston and I took one side of the road while Bill took the other. With hammer in hand you Weston was content to dig the walls of a 3 foot ditch safely away from the road while I did a vertical sweep of the exposure to hopefully identify productive fossil zones. This, I must add, is perhaps one of the most invigorating feelings in fossil collecting: finding a new site far from the public eye, then applying all your knowledge, experience, and senses to assess the exposure with high anticipation of success.

Success for me was first found slightly up section from Weston in the same ditch he was working. Soon I had 3 or 4 *Coenholectypus* echinoids, some slightly squashed but at least one in seemingly perfect condition peeking out of a chunk of hard matrix. I also took a few small *Heteraster* echinoids and a fragment of an *Engonoceras* ammonite. Pressing back downsection I took a big gastropod and a nice little *Loriolia rosana* echinoid in the float.

I was not alone in success though. Bill too found a number of good *Coenholectypus* on his side of the road, and once I had thoroughly worked my side of the road I followed behind him and worked the areas slightly out of his reach. My longer reach and willingness to climb where I shouldn't put a few extra *Heteraster* and *Coenholectypus* specimens in my pocket, but Bill certainly laid hands on the higher quality specimens from his side of the road.



FIGS 113-116: *Coenholectypus planatus* echinoids in situ this and next page (Site 455)





FIGS 117-118: Two *Heteraster* sp. echinoids in situ above, *Loriolia texana* next page (Site 455)





FIG 119: Unidentified gastropod in situ (Site 455)



FIGS 120-122: *Coenholectypus planatus* echinoids this and next page (Site 455)





FIGS 123-124: *Heteraster* echinoids above, *Loriolia texana* echinoid, bivalve, and *Engonoceras* ammonite fragment below (Site 455)

Haze, drizzle, dwindling time, and the small size of the site made us realize it was time to move on. We stopped at a sandwich shop and since Weston's shoes were so muddy, I could only offer him my knee high rubber boots which were thigh high for him. With his "hip waders" and camouflaged shirt he was quite a hit with the women in the establishment.

It proved to be a well spent and productive morning, but time for me to switch gears as I had another adventure in store for the rest of the weekend. I traded in my rock hammer and kneepads for my .25-06 and snake chaps, then headed into the South Texas Brush Country to match wits with the wily wild hog, *Sus scrofa*...

Addendum:

My friend Mercer Brugler volunteered to slice a few *Sphenodiscus* ammonites that I had found over the last few months in the Escondido formation (66 MYA) once I mentioned calcite filled chambers in some of the broken specimens. The best example is shown below. Perhaps he and I can find and cut a few more at a later date.



FIG 125: Cut *Sphenodiscus* sp. ammonite from Escondido Site 417