



**FIGS 52-53:** Upper Britton crabs *Cenomanocarcinus vanstaeleni* (Site 397)



**FIGS 54-55:** Upper Britton crabs *Cenomanocarcinus vanstaeleni* (Site 397)



**FIGS 56-58:** From the Upper Britton fm an unidentified partial lobster carapace above, ammonite *Pseudocalycoceras angolaense* below (Site 397)



FIGS 59-61: Upper Britton ammonites *Metoicoceras whitei* (Site 397)



**FIGS 62-65:** Upper Britton ammonites *Desmoceras scotti* (Site 397)



**FIGS 65-68:** Upper Britton ammonites *Desmoceras scotti* above, *D. scotti* and *Worthoceras vermiculus* center, and calcified *W. vermiculus* below (Site 397)

From there we headed to the eroding 92 MYA yellow marls of the Lower Britton fm. The fauna of the Lower Britton is as different from the Upper Britton as their lithologies. No more ironstone, no more ammonites, now we were looking for marine vertebrate remains. We spent an hour or so walking and crawling the exposure and were well

rewarded for our efforts. Shark teeth such as *Cretoxyrhina mantelli*, *Squalicorax kaupi*, and *Ptychodus anonymus* were common finds. We picked up a few fish teeth *Xiphactinus audax* and *Pachyrhizodus caninus* in addition to various fish and shark vertebrae up to about 12 or 15 mm diameter. While the fauna is more abundant in the DFW area, the lithology and fauna appear quite similar to what is found in the Eagle Ford of the San Antonio area, which is mapped undivided.

Our final exposure in the same zone produced similar finds of shark and fish teeth and vertebrae, but my most memorable find was a fish hypural bone, the final vertebra which flattens and forks into the tail. At 8 p.m. after 12 hours of collecting it was time to call it a day and drive 300 miles back home. But the quality additions to my collection provided more pep than any caffeine drink to keep me attentive and on the road.



**FIGS 69-70:** From the Lower Britton fm shark coprolites and fish fragment, and *Squalicorax falcatus* tooth (Site 400) and *Cretoxyrhina mantelli* tooth (Site 405) above, *Coniasaurus* sp. vertebra below (Site 398)



**FIGS 71-75:** From the Lower Britton fm *Xiphactinus audax* and *Pachyrhizodus caninus* fish teeth above, *C. mantelli* shark teeth center, *Enchodus ferox*, *P. caninus*, *X. audax*, *Ptychodus anonymus*, *C. mantelli*, and *S. falcatus* teeth below (Site 398)



**FIGS 76-78:** From the Lower Britton fm unidentified fish and shark vertebra above and center (Site 398), shark vertebra in matrix, fish vertebra, fish hypural (tail) bone, *X. audax* tooth, *C. mantelli*, and *S. falcatus* teeth below (Site 399)

June 25, 2007: Birthday Bonus

It was my birthday and I spent the evening shooting and butchering wild hogs out in Kendall Co. with my sister-in-law's husband. On the way home I took the opportunity to drop by a little Upper Glen Rose exposure that has given up echinoids in the past. In 15 minutes of fading light I was fortunate to land a few nice *Loriolia texana* echinoids before arriving home late to a spouse unimpressed with my efficient use of time. The birthday festivities headed south from there.



**FIGS 79-80:** From the Upper Glen Rose fm of Kendall Co. echinoids *Loriolia rosana* (Site 170)

June 30, 2007: Avuncular Field Duties

When I threw a fossil collecting invite to my 15 year old nephew Dallas Glowka he immediately seized the opportunity to break the summer doldrums. I took him with me 4 years ago on my first Dallas Paleo Society field trip at Oliver Creek and he seems to have had some interest in fossils ever since. On this latest trip I took him to some areas that left him thumbing his nose at common Upper Glen Rose fossils found on and around his parents' property in the Hill Country.

After driving through an early morning cloud burst that threatened our day's itinerary we ended up at our first site, a flat stretch of eroded Glen Rose marl featuring in interesting fauna of micro echinoids and other goodies. Several inches of rain in the previous week and a lack of foot and knee pad prints gave me confidence as we stepped onto the site. After a little while I called Dallas over to see a 5 mm *Salenia phillipsae* echinoid before I dropped it in my medicine bottle. Echinoids were slow in coming for a while but we found enough *Isocrinus annulatus* star shaped crinoid columnals to keep us busy for the duration. Soon I was rewarded with maybe 6 or 8 *Salenia* plus two *Globator hancockensis* echinoids. I called Dallas over to my area and he got in on the action as well by grabbing a couple nice little *Salenia*. Near the end of our crawl we got into some crab claws and I was pleased to pick up a big 30 mm *Paleopagurus banderensis* claw with both fingers intact.



**FIGS 81-82:** Glen Rose fm crab claw *Paleopagurus banderensis* (Site 161)



**FIGS 83-85:** Glen Rose fm echinoids *Salenia phillipsae* top left, *Globator hancockensis* top left, and below, L-R, *S. phillipsae* (3) plus several possibly undescribed species of *Salenia*, *G. hancockensis* (2), partial crab claws *Paleopagurus banderensis* (2), crinoid stem elements and crown plates *Isocrinus annulatus* (7) and 3 echinoid spines (Site 161)

After a couple hours of this we moved on to easier collecting. A road cut in the Upper Glen Rose nearby exposed a fast eroding gray layer which gave up 15 or 20 *Loriolia texana* echinoids as water from recent rains cascaded through the porous limestone above and down onto us. We each grabbed a crab claw or two at this site as well.



**FIG 86:** Dallas Glowka studying the *Loriolia* layer in the Upper Glen Rose fm (Site 249)



FIGS 87-90: Echinoids *Loriolia rosana* from the Upper Glen Rose fm (Site 249)

Our next stop put us on some eroding blue/gray marl from contact of the Upper and Lower Glen Rose formations. Here we grabbed perhaps 10 decent *Salenia texana* echinoids in 30 minutes. Another nearby site in the same zone produced another half dozen of the same before we broke for lunch.



**FIG 91:** Echinoids *Salenia texana* and *Palhemiaster comanchei* from the Upper/Lower Glen Rose contact (Sites 133 and 357)

We got on the phone with my friend Farley Katz and coordinated a team effort in the Corsicana fm as our sites received 4 inches of rain in the week since I last visited the area. By the time we got there the temps were in the mid 90's and we were out of Gatorade within minutes. Good finds kept us going however.

Within the first 5 minutes I had a nice *Pachydiscus* sp. ammonite and a rough *Dakoticancer australis* crab carapace. Once again the crabs continued to reveal themselves. Their presentation is often subtle however as they blend well with the surrounding exposure. I picked up 6 or 8 decent ones and several partials while Farley grabbed a couple partials as well. Dallas got a bunch of bivalves, gastropods, and oysters before opting for more ice water back at the truck. We got a bunch of *Hemiaster bexari* echinoids as usual but the find of the day went to Farley. He got a well preserved *Rachiosoma hondoensis* echinoid, only the 5<sup>th</sup> I've seen turn up among about 1000 echinoids in the last 18 months. Farley and I each got rare *Proraster dalli* echinoids as well. As we left the site I made my favorite personal find of the day – a rare ammonite *Anapachydiscus complexus* sitting right next to an echinoid *H. bexari*.



**FIG 92:** Corsicana fm crab *D. australis* with partial legs and claw intact (Site 349)



**FIG 93:** Corsicana crabs *D. australis* (Site 349)



**FIGS 94-95:** Corsicana ammonite *Pachydiscus* sp. above, ammonite *Anapachydiscus complexus* and echinoid *Hemiaster bexari* below (Site 349)



**FIGS 96-98:** Corsicana ammonites *Pachydiscus* sp. and *Anapachydiscus complexus* above, details of *A. complexus* below (Site 349)



**FIGS 99-100:** Fragment of a large ammonite *Pachydiscus* sp. above, Farley Katz' perfect echinoid *Rachiosoma hondoensis* below (Site 349)



**FIGS 101-102:** Echinoids *Proraster dalli* above, *Hemiaster bexari* below (Site 349)

At a nearby site in the same formation Farley and I continued our quest while Dallas sought shade. In short we clobbered maybe 20-30 more *H. bexari* while I got a couple more crabs.



**FIGS 103-104:** As found and after prep shots of the same crab *D. australis* (Site 348)



FIGS 105-106: Corsicana crab *D. australis* (Site 348)



**FIG 107:** Large, compressed echinoid *P. dalli* and 8 echinoids *H. bexari* (Site 348)

We all had a blast although it felt like a blast furnace toward day's end. I'm sure Dallas will cherish his hard earned finds. I think he earned a new respect for those who choose to slave away in the unforgiving Texas outback. He's a fine young man and I was glad to spend a day doing some long overdue "uncle-ing" with him. Back at his place later that evening I got to sit in their air conditioned barn overlooking a feeder out the window and shooting wild hogs...in my book this was a day of high living!