

FOSSIL HUNTING RESULTS
JANUARY 2006
DANIEL A. WOEHR

January 21, 2006

All week I had looked forward to meeting the Dallas Paleo Society at the famous exposure of the Eocene Cook Mtn fm on the Brazos River just north of Hwy 21 in Burleson County. This 45 MYA marine deposit is most famous for its wide variety of well preserved, innumerable, and easy to collect gastropods, but for those in the know, an assortment of shark, ray and fish teeth are available with species which don't occur in more familiar Cretaceous exposures. The plan was for the group to hit this exposure at 9 a.m., but since I'm not one to get a late start, I threw my boat in the back of the truck and arrived well before daylight. I was in the water before 7 and a couple miles away hunting gravel bars within minutes.

At 7:15 I giggled out loud as I bent down to pick up a nice Archaic spear point. Zigzagging the gravel patches in the bank, I spotted a curious blob 20 yards ahead at water's edge....making a beeline for this thing, I could clearly see it was bone as I got close. Lifting it and flipping it over, it appeared to be the distal end of a mammoth humerus about 10 inches wide. I was quite pleased with this find, but the whole bone would have been even better!

The next couple bars were torn up by 4 wheeler tracks, but the bar a mile or so upstream was covered with coarse gravel and no tracks. With confidence I commenced my grid search, resulting in a pristine horse tooth.



FIGS 75-78: Sparta formation? On the Brazos River, Archaic point (Site 267)



FIGS 79-81: Proboscidean distal humerus? (Site 267)



FIGS 82-83: Pleistocene *Equus* sp. horse tooth (Site 268)

At around 9:45 I motored back to the Hwy 21 bridge site and hooked up with the DPS. There were about 10 members working the exposure, and I fell in with Brian Bowles, Mark Cohen, and Adam Armstrong in mining a glauconitic layer of densely packed gastropods, scaphopods, bivalves, and occasional shark, fish, ray, and reptile teeth and vertebrae.

Minutes into this effort I saw Mark pull a 25 mm *Carcharias?* tooth from the exposure, the root lobes broken off but present so he'll be able to repair the specimen. Teeth were being found on both sides of me, and finally I pulled out a monster *Galeocerdo* tiger shark tooth, beautifully preserved with all its serrations, my first of this genus. Soon I saw a fish vertebra and a few more teeth. Adam showed me nice *Galeocerdo* and reptile teeth as well. Knowing I was in the right zone, I commenced to bulk sampling, chopping large 5-10 pound chunks out of this lens for breakdown and screening at home. I must have loaded 100 LBS of the stuff into my truck.



FIGS 84-87: DPS members mining for shark teeth in the Cook Mountain fm, Hwy 21 bridge at the Brazos River above, tiger shark tooth *Galeocerdo* sp. below (Site 13)



FIGS 88-93: Cook Mountain fossils including various *Carcharias* and other shark teeth top left, *Lepisosteus* (curved) gar teeth and barracuda (straight) teeth top right, unidentified micro shark teeth middle left, barbed sawfish rostral tooth and *Lepisosteus* gar tooth middle right, *Myliobatis* ray teeth and barbs lower left, fish and shark vertebrae lower right (Site 13)



FIGS 94-100: Cook Mountain fossils *Ekokenia eporrecta* and *Signata stenzeliotoliths* (fish ear bones) top left, unidentified crab claw fragments top right, *Belosaepia veatchi* rhyncholite (lower half of squid beak) middle, gastropods *Athleta petrosus* bottom left and *Pseudoliva vetusta*, *Neverita limula*, *Ancilla staminea*, *Protosurcula gabbi*, *Latirus moorei*, *Architectonica scrobiculata*, and *Turritella* sp. lower right (Site 13)



FIGS 101-103: Cook Mountain bivalves *Anomia ephippioides*, *Venericardia rotunda*, *Vokesula smithvillensis*, *Barbatia uxorispalmeri*, and oyster *Cubitostrea frionis* above, scaphopods *Dentalium* sp, solitary corals *Turbinolia pharetra* and branching corals *Madracis johnsoni* and *Archohelia singleyi* bottom left, closeup of *A. singleyi* bottom right (Site 13)

By about 1 p.m. our group was about half of the initial head count as we headed into the Little Brazos River looking for a fabled crab zone which we never found. With a little daylight left I departed to peruse a couple more sites on the way home.

I looked around a creek and railroad right of way in the Wilcox group for fossil leaves which I never found. Didn't even find a good exposure. My last stop was an exposure of the Carrizo/Reklaw contact, also Eocene in age, where a variety of marine material is present. I spent maybe a half hour there and picked up about 20 *Carcharias* sp. shark teeth and *Myliobatus* sp. ray teeth.



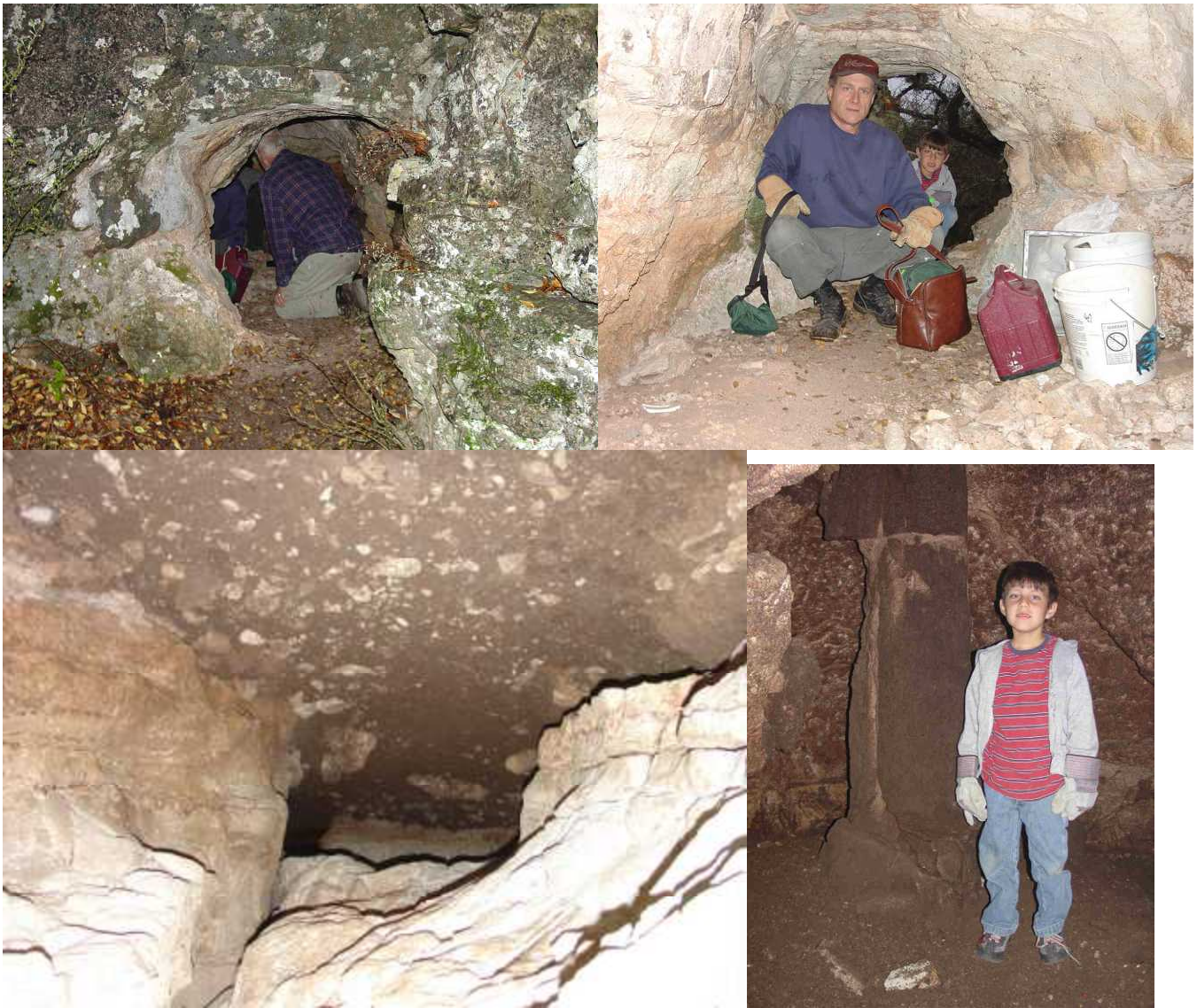
FIGS 104-105: Reklaw fm fossils including crustacean burrow left, shark teeth *Carcharias* and ray teeth *Myliobatus* right (Site 122)

This was a fun day. I collected material from 3 formations plus a spear point, the weather was perfect, the group was small, and everyone seemed to find something worth keeping.

January 28, 2006

I had an invitation to dig the floor of a cave in Medina Co. on Saturday, something I'd never had the chance to experience to date. Accordingly, I had trouble sleeping the night before, getting just 4 hours of rest before getting on the road and meeting my collecting buddy Tom Fisher west of town at 7 a.m. Soon we were on the ranch of the veteran collector who granted us permission to look deep in the cave on his property. He told us that years ago he had found ground sloth remains and artifacts in a deep chamber in the cave, but that the flood of '98 had silted in some of the deeper passages.

This cave was situated about 20 feet above a creek bed in a nearly vertical cliff face. The entry way opened immediately into a chamber about 6 feet wide, 4 feet tall, and 25 feet deep, then narrowed to a 30 foot passage that I could only navigate on my stomach. This opened into a second chamber about 10 x 12 x 7 feet high with a large calcite column spanning from ceiling to floor. A very narrow passage led to a fabled third chamber which we hoped to reach.



FIGS 106-109: Don O'Neill, Sean O'Neill, and Tom Fisher in a Medina County cave. Note column behind Sean (Site 269)

We began digging out the second passage and over the course of a few hours could only open it deep enough to allow us to get in about 6 or 8 more feet, just far enough to see the passage curve to the left, not quite revealing the third room. Still, we began surface hunting and randomly digging the floor of the second room and collecting various bones and teeth of unknown age. I got a number of vertebrae, deer teeth, a set of rodent jaws and incisors, and miscellaneous limb bones of multiple species. None were mineralized, but this was to be expected. The deer remains appeared to be from a yearling, and it must have been dragged into the cave by man or beast some time ago. No deer I know of climbs cliffs to crawl back in caves. I have a home made shaker table set up just outside the mouth of the cave for sifting dirt from the back of the second chamber. We collected a number of additional bones and teeth in this fashion.



FIGS 110-113: Pleistocene/Holocene cave finds including deer teeth top right, small mammal teeth top right, porcupine mandible and incisors below (Site 269)



FIGS 114-119: Deer, rodent, and small mammal teeth and bones from Site 269

We cut the day short around lunch time realizing that we couldn't get much deeper in the second passage, even though we had broken up a good amount of Edwards limestone with sledges and chisels. Tom plans to enlist some smaller framed Cub Scouts in the upcoming weeks to pick up where we left off, as they are better able to work in confined spaces. We might even consider tying a rope to their ankles to keep the mothers at bay! This was a fun outing and it was good to have the landowner's nephew and son helping us.

After a moderate rain overnight, I was itching to take another look at the Corsicana construction site. I had had a relatively unproductive trip there last time, but rain had noticeably refreshed the place. The wet marl was a shade of red darker than before, providing welcome contrast with the freshly washed fossils. In an hour or two I collected 37 echinoids in varying condition, 4 *Dakoticancer australis* carapaces (yeah baby!), and a handful of nice gastropods.



FIGS 120-122: Corsicana crab *Dakoticancer australis* before, during, and after prep (Site 248)



FIGS 123-124: Two more views of my best *D. australis* crab to date (Site 248)



FIGS 125-129: Corsicana crabs *D. australis* (specimen 2) top, specimens 3 and 4 middle, echinoids *Hemiaster bexari* below (Site 248)



FIGS 130-133: Corsicana gastropods *Epitoneum bexarense* top left, various gastropods top right, *Baculites columna* bottom left along with bivalves *Neithea bexarensis* and *Trigonía castrovillensis* and branching coral/bryozoan, bivalve *Lima* sp. bottom right (Site 248)



FIGS 134-139: Corsicana bivalves *Trigonía castrovillensis* and *Neitheá bexarensis* top left followed by 4 details of *T. castrovillensis* and one damaged shark or fish tooth (Site 248)

As a fossil collector, I've learned to welcome rain, and now I'm ready for the next deluge.

January 31, 2006: One More Time

With a new project looming at work, I decided I better take a vacation day while I could. With a Pleistocene site tip and a little aerial reconnaissance, I left home with my boat and bike at 3 a.m. and was riding my bike on the beach surveying the tide line by 7. It was low tide and I logged several miles, but only came up with one broken scrap of bone. Hmm. Stepping my efforts up a notch I piled my beach cruiser onto my jon boat, put in at a boat ramp on the intracoastal waterway, beached on the back of a barrier island a couple miles away, and rode through the high grass to access an uninhabited and unmaintained beach. In short I logged a few more miles with zero results.



FIG 140: Extra effort with weak results

Pulling out ahead of schedule I opted to check some river crossings on the way home. A couple didn't look too inviting so I returned to an old favorite, only to find it actively being consumed by construction. Heavy equipment was scraping the surface of an old reliable site as I skirted the edge on foot. I was able to snatch a few nice vertebrae, my first hoof core, some mammoth tooth enamel, and some turtle shell fragments before that area was run over by a belly scraper.



FIGS 141-142: Pleistocene finds including horse hoof top left, miscellaneous vertebrae top right, large mineralized and encrusted cervical vertebra below (bison?) (Sites 132 and 140)



FIGS 143-144: Mammoth enamel plates left, turtle shell fragments right (Sites 132 and 140)

Moving beyond the disturbed area I arrived at a large cut bank in a terrace deposit which has been generous in the past. This day would be no disappointment. Soon I laid hands on a nice section of box turtle carapace *Terrapene carolina*. Near the end of the exposure I was walking up a narrow gully with only minutes to spare before being late to get home. Spanning across the gully was a large bone in situ with both ends buried in sand and clay. I had no tools with me and had to dig out this bone with my fingers. It was caked with cemented iron-rich red sandy matrix, attesting to its age. Based on the fracture pattern of the red clay sitting atop orange sand and the unweathered detail of the specimen, this bone appeared to be in its original bed. The distal end was uncovered first and clearly identified it as a femur. The proximal end was shattered, so I collected all the pieces.

Heading back, the gleam of enamel caught my eye in the red clay near the beginning of the exposure. It looks to me to be a large bison molar. Walking a couple miles back to the truck was no easy task with full pockets tugging my pants south and hands full of bags of bones. In addition I had to balance the fragile pieces of this femur, trying not to let them rub and crumble. Stopping for a rest, I flipped over the femur and realized that for a half hour I there had been a black widow hitching a ride just 3 inches from my thumb! Squash!



FIGS 145-147: Pleistocene bison or llama femur missing the trochanter but otherwise complete (Site 157)



FIGS 148-151: Distal and proximal ends of femur above, bison molar below (Site 157)

Once home I used my air scribe to remove all the cemented sand from the femur. The trochanter is missing, but it is otherwise all there in 22 inches of orange glory, one of my favorite Pleistocene bones to date. After doing a little comparative anatomy using some of my references and also tapping a museum curator friend for his opinion, this left femur is definitely not horse. It appears a bit more gracile to me than a bison femur, but it could be from the extinct long legged llama, *Hemiauchenia megacephalus*. Now if I could only find the skull!