GADOUFAOUA, NIGER — Petrified tree trunks jut from the desert floor, and fossil jaws and bones of nameless beasts peek out from a barren landscape. Nomad legend describes it as “The place where camels fear to go.” Called
Gadoufaoua (Ga-doo-fawa) by French geologists who visited in the 1950s, this 100-mile stretch of the Sahara comprises the richest dinosaur beds on the continent.

Just 10,000 years ago, Gadoufaoua was a lush paradise, home to elephants, hippos, crocs, six-foot perch, and an early civilization of people. On lakeside dunes at a place in Gadoufaoua known as Gobero, their small villages thrived on this abundance without ever tilling soil or tending livestock. All that vanished with the water some 5,000 years ago, leaving behind ancient graveyards not far from huge dinosaur fossils from Africa’s much deeper past.

For 20 days that seemed an eternity, my team and I were waylaid in Agadez 100 miles from Gadoufaoua, waiting for our security escort. Departure was finally set immediately following an annual nomad festival called Cure Salée (“salt cure” in French) at the remote oasis of InGall — so I took my team of 14 there to join the revelry. Dances and chanting into the night, face-painting and wild celebrations were stunning to watch as the only foreigners present. The finale was a 9-mile “big camel” race won by an 11-year-old boy atop his 5-year-old dromedary.
Spotlights allow excavation of a sail of the dinosaur Ouranosaurus in the cool of the night in Gadoufaoua. This photo was taken by drone. (Matt Irving)

Now we were busy. Four years before, we had discovered a 25-foot-long bony sail over the back of an Ouranosaurus skeleton, the same species of plant-eater we packed away in the national museum. Laying on its side and diving into the rock, it was the earliest and by far the most complete dinosaur sail ever discovered. But now we had all of about three days left to unearth it from the desert. Working past midnight under generator-powered spotlights, we dug and wrapped in plaster jackets the sail, one of the most impressive display structures to have evolved among dinosaurs. Many know of the giant sail-backed predator Spinosaurus, a beast we will be hunting later in the expedition. But it was the “brave lizard” Ouranosaurus that had the first dinosaur sail some 15 million years earlier. The sail, soon to be pieced together for study in Chicago, is destined for display in Niger’s new national museum in planning.

For Italian team member Filippo Bertozzo, the chance to dig on an Ouranosaurus in Gadoufaoua was a dream come true. He grew up in Venice, bonding as a child with a mounted Ouranosaurus skeleton in Venice’s small natural history museum based on bones brought from Gadoufaoua in the 1950s. He eventually wrote his dissertation on the plant-eater and was completing a study of its close relative Iguanodon in Brussels when I tapped him to join the expedition. Famous people from bygone eras attract biographers who pour over every detail of their lives. Filippo is Ouranosaurus’ biographer.

“I’ve lived with and studied Ouranosaurus, and now I’ve dug one up,” I overheard him say to another team member. “My life is complete.”

During that earlier trip to Gadoufaoua, we stumbled upon a place no bigger than a patio covered with thousands of tiny bones. Called a “microsite” in paleo-lingo — Africa’s first from the dinosaur era — it was once a quiet pond that accumulated the remains of the smallest and most fragile creatures of the day. Preparation back in my Chicago lab will open a Pandora’s box of new species that after study will join Ouranosaurus back in Niger.
But how to collect a fossil patio? The whirling blade of the rock saw sliced into the rock leaving clean cuts, and I slid out the first “brick” of the patio, packed with tiny bones. But with no time remaining, we cached plaster bags in a nearby sand dune to cut up and carry away this fossil gem when we pass nearby at the end of the expedition.

Glued to one side of the microsite was Robert Laroche, a graduate student studying fish biology at Rice University and, at 25, the youngest team member. The front of his T-shirt was covered with drawings of fish heads. He was poring over fish skeletons embedded in the purple rock, some with hundreds of scales intact as if they had died yesterday.

“Did you see this skull?” he asked in excitement. “I’ve never seen a fossil fish in place, nothing at all like this.”

Hooked by the adventure, camaraderie and fossil fish, this was his first fossil expedition, one led by an outlandish uncle (Laroche is my nephew).

Following a trail, three expedition Land Rovers head a vehicle train that numbers 15 in all, counting the escort and truck filled with supplies. (Matt Irving. / HANDOUT)
With only one day to look, we sped off in our fastest vehicles to Gobero, the magnificent archaeological site I discovered in 2000. On such a short visit, would Gobero reveal any awe-inspiring stone age secrets, something missed on previous visits? In sweltering heat topping 120 degrees Fahrenheit, we spotted the telltale signs of a human grave, hip bones protruding from the paleodune sand. We brushed off the bones of a five-foot woman at least 6,000 years old, revealing the thin edge of a fragile circular object in front of her rib cage. She was buried with a turtle shell and potentially other artifacts, offering insights into what these ancient people thought about the afterlife. With no time left, we hardened the grave in order to take it back intact for cleaning and study. This ancient woman and her story eventually will join other burials in a Green Sahara hall in the National Museum in Niger.

Arriving back in Agadez in the dark of night, the planned three-week tour of Gadoufaoua was compressed into one. The following day was spent unloading and reloading supplies for part two of our quest, departing without any delay the next day.

*The Tribune is following the progress of University of Chicago professor Paul Sereno and his team over several months on an expedition in Niger in Africa. They are uncovering the traces of a human civilization that lived some 10,000 years ago in what is now the Sahara Desert. For more information, also see* [Africa’s Lost World](http://example.com/africaslostworld) and [NigerHeritage](http://example.com/nigerheritage).

- *Meet Paul Sereno, the Indiana Jones of paleontology* ([published Sept. 18](http://example.com/paulsereno)).
- *Launching a sojourn to uncover Africa’s past — but first a wait in Agadez* ([published Sept. 25](http://example.com/agadez))