Dinosaur Discovery Site at Johnson Farm

2180 E. Riverside Dr
St George, UT 84790
435-574-DINO

Hours: 10 am to 6 pm
Monday through Saturday

Admission Fees: Adults: $3.00; Children (3-11): $2.00 Group rates available

Webpage: www.dinotrax.com

At the St. George Dinosaur Discovery Site at Johnson Farm you will see some extraordinary and very rare dinosaur tracks and other evidence of an age between 195-198 million years ago. This age is at the beginning of what scientists call the Jurassic Period. During this time the land in this location was near sea level and much closer to the equator. Streams and lakes once covered portions of southern Utah and northwestern Arizona and deposited the rocks we see today. The specific rock formations represented here are within the Moenave Formation. The Moenave Formation contains sequences of sandstone, siltstone, mudstone, and shale. The Moenave overlies the Upper Triassic Chinle Formation and underlies the Lower Jurassic Kayenta Formation that forms the red cliffs above St. George.

While the Moenave Formation was being laid down in Southern Utah, a vast desert similar to the modem Sahara covered Utah to the north and east of St. George, forming what today are the massive cliffs of the Wingate Sandstone. The Wingate Formation is recognized in the San Rafael Swell, Moab, Capitol Reef and the Lake Powell regions.

Spectacular Track Casts - How were they formed?

The St. George Dinosaur Discovery Site at Johnson From includes not only the common impression tracks found in other locations in this area, but also a large number of spectacular track natural casts. As the water around the shores of ancient Lake Dixie were receding, thick mud began to dry up. The animals came into the area to eat and drink, leaving their footprints in the mud to be preserved. Mudcracks & salt crystals formed as the soft mud dried out. Eventually rain flooded the area scouring away some of the dinosaur tracks and exposing and dissolving many of the salt crystals.

Other dinosaurs walked on this new surface. Finally as the lake level rose, a thick bed of sand buried the preexisting surface. Over time, this sand hardened into stone and became the sandstone layer that we see today preserving the dinosaur track casts. They are literally natural casts of dinosaur feet. The ripple-marked surfaces within and at the top of this sandstone bed reflect the waves on the shore and within the lake. Tracks across multiple layers through time indicate that this lakeshore continued to prove a good habitat for meat-eating dinosaurs.

What animals made the tracks at this site?

At this site we have at least five different types of footprints that are still waiting proper identification by researchers. It is very difficult to determine the exact type of dinosaur that made any track and it is an on-going and exciting study when one finds tracks such as these. Four track types found at this site have been identified tentatively as follows:

» Eubrontes - the largest type of dinosaur track found at this site. The Eubrontes, a large three-toed track, was probably made by a Dilophosaurus-like dinosaur. The size of this animal would have been similar to Dilophosaurus, which was discovered in Arizona within the younger rocks of the Kayenta Formation. This animal was approximately 15 to 20 feet (4.5-5 m) long and stood 6 to 7 feet (1.8-2 m) high at the hips. An estimated weight of this dinosaur would be about 700 to 1,000 pounds (320-450 kg). The first appearance of Eubrontes has been used to define the base of the Jurassic Period across the Northern Hemisphere.

» Grallator - a much smaller dinosaur track. A 50 lb. (23 kg) Megapnosaurus-like dinosaur may have made Grallator prints. A possible producer of Late Triassic Grallator tracks is called Coelophysis.

The Grallator tracks in the Early Jurassic obviously represent a dinosaur that was closely related or similar to Coelopllysis. The most likely dinosaur to produce Early Jurassic Grallator tracks is Megapnosaurus, known from partial skeletons in the Moenave Formation and several nearly complete skeletons in the overlying Kayenta Formation. Megapnosaurus from the Kayenta has two small crests on its head somewhat like Dilophosaurus, but has a foot nearly identical to Coelophysis.

» Exocampe - A non-dinosaurian, long-toed track produced by a small sphenodont lizard-like reptile. A sphenodont lizard called Tuatura still inhabits New Zealand today.

» Batrachopus - A non-dinosaurian track made by a small upright-walking crocodilian. Protosuchus, a primitive terrestrial crocodilian that is known from skeletons in the Moenave Formation of northeastern Arizona is the most likely producer of Batrachopus tracks. Batrachopus footprints are also used to mark the base of the Jurassic Period.

What are other unique and rare findings at this site?

There are several other very rare and unique finds at this site and in nearby locations. These finds include the following:

» Multiple layers containing dinosaur tracks. Within the boundaries of the track site, twenty-five layers (or horizons) of rocks containing several thousand dinosaur tracks have been found.

» Dinosaur hones and teeth. Eighteen dinosaur teeth, a complete dinosaur vertebra (backbone) and other reptile bone fragments have been found. It is very rare to find dinosaur bones and teeth associated with footprints.

» Evidence of fresh water animal and plant life. Several beds (or layers) containing fresh-water clammshrimp (called conchostracan), algal matts, plant fossils, rhizoconcretions (root concretions), and thousands of freshwater fish. Most of the fish represented at this locality are from a group called the semionotids (Family Semionotidae). They are related to modern garfish (also called gar-pike) of North America. Although sharing the heavy enamel-coated bony scales of a gar-pike, these fish superficially look like carp. Individual fish range in size from 1 to 4 feet (0.3-1.2 m) in length. The abundance of fish at this locality has caused scientists to wonder if fish were a food source for the dinosaurs coming to the lake. Other fishes represented at the site include the world's largest recorded freshwater coelacanth, a new species of hybodont shark, a new species of lungfish, and a palaeoniscid fish.

» Informative sedimentary structures. Sedimentary structures including ripple marks, raindrop impressions, microbial matts, stream channels, mud cracks, and salt casts are leaving us with extremely valuable information about the paleoenvironments that once existed here.

» Very rare dinosaur swim tracks. The site has a collection of dinosaur swim tracks representing the largest and best preserved collection of their kind in the world. This particular collection of swim tracks put an end to controversy over whether or not dinosaurs actually swam.

» A dinosaur squatting track and tail drag. Four other traces of meat-eating dinosaurs have been found in the world. The trace at this site is associated with a long trackway, tail drag, and clear impressions of the animal's hands as it rested.

» Rare detailed dinosaur skin impressions. On several rocks we can see detailed skin impressions that were left behind in the mud about 198 million years ago.