

A Fossil's Journey to the Museum: Fieldwork



Each year, staff from the Museum's Dinosaur Institute go out into the field in search of fossils...



Being out in the field is hard work! When a fossil is found, excavators use both hand tools and power tools to carefully remove the surrounding rock.



Fossils are then wrapped in a “jacket” made of toilet paper, gauze, and plaster for safe transport to the Museum.

Fossils are heavy— safely loading large one into a vehicle can be quite the challenge!



Back at the Museum...

After being excavated, fossils are brought back to the Museum, where they arrive in protective plaster jackets. When it's time to start preparing a fossil the plaster jacket is carefully opened on one side, and the **preparator** goes to work.

Careful preparation is an important part of protecting fossils for research today and for work by future paleontologists.





The amount of time it takes to prepare a fossil (which includes cleaning, stabilizing, and preserving the fossil), depends on several factors: how large the fossil is, the condition of the fossil, and the type of matrix the fossil is in.

The Dino Lab is a busy place—our preparators are never working on just a one fossil!

Fossil Deposit: Morrison Formation



Our more recent fieldwork has explored the Late Jurassic Morrison Formation in Utah, primarily at a location known as the Gnatalie Quarry. The Late Jurassic is an important time period as it documents some of the earliest known birds! Many important fossil discoveries have come out of the Gnatalie Quarry.



Fossils in Los Angeles?

The land that is now California was largely underwater during much of the **Mesozoic Era**. Since dinosaurs lived only on land, finding dinosaur fossils in California is rare! Those that have been found are believed to be coastal species, whose bodies had washed to sea after they died.

Many large marine reptiles, as well as **invertebrates** that lived at the same time as the dinosaurs have also been found in California!

Vocabulary

- **Paleontologist:** A type of scientist who studies the history of life on Earth by examining fossil evidence.
- **Fossil:** Any preserved evidence of ancient life. Can be everything from a skeleton, to a footprint, or even a leaf! Ancient is usually defined as older than 10,000 years.
- **Fossil preparator:** A person whose job is to prepare fossils for research; this includes removing matrix (rock surrounding fossil), cleaning, and repairing or stabilizing the fossils.
- **Mesozoic Era:** The period of time when dinosaurs lived, from 250 million to 65.5 million years ago
- **Dinosaur:** A diverse group of land-dwelling reptiles that lived during the Mesozoic Era. Over 700 species have been described!
- **Vertebrate:** An animal with a vertebral column (or spine)
- **Invertebrate:** An animal lacking a vertebral column (or spine)

Suggested Reading

- How the Dinosaur Got to the Museum, by Jessie Hartland
- Fossils Tell of Long Ago, by Alik
- Cruisin' the Fossil Freeway: An Epoch Tale of a Scientist and an Artist on the Ultimate 5,000-Mile Paleo Road Trip, by Kirk Johnson
- [Excavation at Gnatalie Quarry](#)

