



DINOSAURS IN THEIR TIMESM

Carnegie Museum of Natural History

What separates the really great dinosaur exhibits from all the rest? Real dinosaur skeletons.

Of the 19 free-standing dinosaur skeletons roaming the halls of Dinosaurs in Their Time, 15 are the real deal (except for occasional filler bones, made from casts or sculpted pieces, here and there)—putting Carnegie Museum of Natural History in a very exclusive category.

Coelophysis

Coelophysis, one of the earliest dinosaurs and the most common dinosaur of the late Triassic, was a stealthy hunter, probably traveling and hunting in packs for protection against larger predators. Due to the abundance of *Coelophysis* skeletons found, paleontologists have learned much about it and its lifestyle. It probably behaved very much like modern large ground birds, such as cassowaries and emus.

The anatomy of this agile, quick-moving dinosaur equipped it to be a major Triassic predator. Slight and slim, it had a mouthful of 80 sharp, dagger-like teeth and birdlike feet that ended in sharp claws. *Coelophysis*' small forelimbs were used, along with its jaws, for grasping and eating prey.

Coelophysis was first discovered in 1881 and was named in 1889. The unearthing of *Coelophysis* bones during the summers of 1947 and 1948, however, created scientific speculation that proved more interesting than the original discovery!

Among this entire graveyard of *Coelophysis* were two almost-complete skeletons that appeared to hold the remains of smaller *Coelophysis* inside their ribcages. Initially, paleontologists believed this meant this dinosaur may have given birth to live young instead of laying eggs. But when it was realized that the bones came from juveniles and not from embryos, *Coelophysis* was accused of cannibalism.

However, exciting new research has shown that neither of these specimens makes a convincing cannibal. In the first specimen, the bones inside are not those of a young *Coelophysis* after all, but instead belong to a reptile related to crocodiles. In the second specimen, it is unclear whether or not the smaller *Coelophysis* bones are actually inside the ribcage or whether they are simply lying underneath it—a coincidence, as one *Coelophysis* died on top of another.

All in all, there is now no firm evidence that *Coelophysis* was a cannibal—its name has been cleared ... for now!



About CMNH's *Coelophysis*

Up until the mid-1940s, *Coelophysis* had only been known from a few fossil fragments. When a mass of fossil skeletons at Ghost Ranch Quarry in New Mexico was discovered in 1947, the mysteries of this little dinosaur seemed well on their way to being solved—many excellent specimens were excavated, and the quarry was abandoned in 1948.

Jump to 1980, 32 years after the historic dig. Dr. David S Berman of CMNH realized that Ghost Ranch was only about half an hour away from the area where he had frequently gone fossil-hunting for his own research on Paleozoic invertebrates. Even though *Coelophysis* was not his research topic, Berman thought that since he was often in the area, perhaps he could take a team over to find an exhibit-quality *Coelophysis* specimen for CMNH.

The skeletons Dr. Berman's team found were densely packed together, making it necessary to collect them in large blocks—the largest weighing as much as 28,000 pounds. In the end, they collected enough blocks to fully load two tractor-trailer flatbed trucks to be taken back to the museum. In all, Dr. Berman and his team not only collected hundreds of partial to complete skeletons of *Coelophysis*, but also other vertebrate animals, the most rewarding of which was the greater part of a skeleton of a very early and primitive crocodylian called *Hesperosuchus*. A large block with many exposed skeletons of *Coelophysis* is part of *Dinosaurs in Their Time*, as well as the *Hesperosuchus* skeleton.

The ongoing preparation of the Ghost Ranch blocks has produced much more than just the spectacular *Coelophysis* fossils. Fossils of other life forms such as fish and many other reptiles have also been discovered. Taken together, the varied fossils from the *Coelophysis* blocks provide an incredible amount of information not only about early dinosaurs, but about the Chinle ecosystem in which they lived.

