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Giant Bird-Like Dinosaur Fossil Found in China

By [JOHN NOBLE WILFORD](#)

Scientists have uncovered a huge surprise in the Inner Mongolia region of northern China: the fossil skeleton of an unusually robust bird-like dinosaur that lived 70 million years ago. The animal appeared to be a young adult 25 feet long and weighing 3,000 pounds and, if it had lived longer, would probably have grown even larger.

Paleontologists said the discovery contradicted widely-held theories that carnivorous dinosaurs got smaller as they evolved more bird-like characteristics. But they emphasized that the new specimen did not challenge the theorized dinosaur-bird link.

The Chinese scientists who made the discovery, being reported today in the journal *Nature*, said the skeleton belonged to a dinosaur family that included the beaked, bird-like Oviraptor. This family was not closely related to the dromaeosaurid dinosaurs generally thought to be ancestors of modern birds.

But the scientists concluded that the new skeleton "is an exception to some general patterns" during the evolution of related dinosaurs, including the "trend of size decrease" that is associated with the origin of birds. They said it was significant that the large specimen "shows many bird-like features absent" in smaller relatives.

Impressed by the size and puzzling character of their find, the team led by Xing Xu, a paleontologist at the Chinese Academy of Sciences in Beijing, classified the animal as a new genus and species. It was given the name *Gigantoraptor erlianensis*, the specific name recognizing the Erlian basin of Inner Mongolia, where the skeleton was excavated.

Gigantoraptor appears in an artist's reconstruction, based on the scientific analysis, to have cut a menacing figure on the Cretaceous landscape. Rearing on its hind limbs, it spread out forelimbs tipped with sharp claws and prepared to bounce on prey with open mouth and strong beak.

Independent dinosaur experts said that the description of the fossils of the roughly half-complete skeleton appeared to support the discoverers' interpretations. They said it was likely that *Gigantoraptor* had some feathers, though none were preserved.

"The specimen is quite convincingly diagnostic," said Peter Dodson, a paleontologist at the [University of Pennsylvania](#) and co-author of the authoritative reference book "Dinosauria." "This was on the line leading toward birds, though not itself the closest relative to birds by any means."

Mark A. Norell, a dinosaur paleontologist at the [American Museum of Natural History](#), said the find was "pretty unexpected" and showed "how little we know about the diversity in the dinosaur world."

Dr. Xu's group said Gigantoraptor was about 300 times as heavy as other similar dinosaurs and stood, at hips and shoulders, twice the height of a man. An examination of marks in the bones indicated that the young animal's growth rate was considerably faster than that of North American tyrannosaurs, which the scientists said contributed to its giant size.

The scientists reported that "the animal reached its young adult size within seven years and was still at a relatively early young adult stage at the time of death," which was probably in the 11th year of its life.

Their analysis also revealed "several salient features previously unknown in any other dinosaur," such as in the vertebrae and the limb bones. The hind limbs were more slender than usual in such robust dinosaurs.

Although no traces of feathers were found, the discovery team noted that smaller oviraptorosaurs are known to have had arm feathers and possibly other types of feathers. It is possible, the scientists said, that Gigantoraptor also retained some arm feathers, "given that the primary function of arm feathers is not to insulate the individual and their development is probably not related to size."

As Dr. Dobson of Penn explained, large-body animals tend to be naked. Their big concern is not heat loss, but the fact that they generate more heat that must be dissipated. If Gigantoraptor had feathers, they were sparse, as on an ostrich, and also like the ostrich, it might have used them in another heat-related function: courtship displays.

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