



NEWS

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New Dinosaur Described ***Fossil Found in Southern Germany Suggests*** ***Evolutionary Origin of Feathers Needs Revision***

LOS ANGELES, March 9, 2006 – An article published in this week’s scientific journal *Nature* details a new Late Jurassic meat-eating dinosaur found in Southern Germany. Dr. Luis Chiappe, Director of the Dinosaur Institute at the Natural History Museum of Los Angeles County, and colleague Dr. Ursula Göhlich, of the University of Munich, studied the 150-million-year-old fossil and are co-authors.

The new fossil is a theropod (meaning “beast footed”), the group of carnivorous dinosaurs that walked on two feet. Though fossils of large-bodied Late Jurassic theropods, such as the famous *Allosaurus*, are well researched and avidly hunted for museums, the period’s smaller theropods have been neglected. They’re also very rare, because small bones are difficult to find and more easily weathered. But this specimen is in remarkable and near complete condition, from its snout to most of its tail. According to Chiappe, it’s the best-preserved predatory dinosaur in Europe.

The specimen is a juvenile coelurosaur—a group of modest-sized theropods that also includes birds—with an estimated total length of 2.5 feet. Chiappe and Göhlich have named the fossil *Juravenator starki* in reference to the Jura Mountains, where it was found, and the Latin word for hunter (*venator*). The species name *starki* honors the Stark family, which owns the limestone quarry where the specimen was discovered.



Ursula Göhlich and Luis Chiappe with the *Juravenator starki* fossil.

Juravenator is the second dinosaur discovered in the renowned 150-million-year-old limestones of Southern Germany, which in the past have produced the small theropod *Compsognathus* and the celebrated bird *Archaeopteryx*.

Juravenator's pristine condition, including remnants of its skin, reveals much about the evolution of coelurosaur dinosaurs. Paramount is the fact that Chiappe and Göhlich's studies indicate the new fossil was evolutionarily grouped within dinosaurs whose bodies were covered with feathers. However, Chiappe says, "soft tissue preserved along the tail shows that *Juravenator* did not have feathers."

Current interpretation of the origin of feathers, based on a menagerie of feathered coelurosaurs from China, holds that these structures evolved once in the ancestor of the *entire* group of coelurosaurs. But the discovery of *Juravenator* suggests that this interpretation may need revision. "It's an interesting red flag that has been raised," says Chiappe. "It seems our interpretation of feathered animals' evolution has been too simplistic." Chiappe adds that "the



The *Juravenator*, illustrated by Stephanie Abramowicz.

discovery of *Juravenator* implies that feathers could have evolved more than once or that perhaps, they were lost during the evolution of some dinosaur lineages."

The placement of *Juravenator* in the family tree of dinosaurs, at the base of the coelurosaur group, also implies that the anatomical details of this animal are important for understanding the physical transformations that ultimately led to the origin of birds. It's presently believed that birds are descendants of small, non-flying coelurosaurs, but there is still much research to be done. "The more we learn about small Jurassic meat-eating dinosaurs," Chiappe says, "the more we can learn about the origin of birds."

The specimen, which is housed at the Jura Museum in Eichstätt (Germany), was originally unearthed in the mid-1990s, but because of its hard limestone setting, has taken many years to prepare. Chiappe studied it with support from the Alexander von Humboldt Foundation's Friedrich Wilhelm Bessel Research Award, a prestigious award given to a handful of international scientists every year.

FOR MEDIA:

1. Interviews with Luis Chiappe can be scheduled by calling (213) 763-3540.
2. Photos and renderings of the *Juravenator*, as well as color images of Chiappe and Göhlich, are available.

The Natural History Museum of Los Angeles County

The Natural History Museum of Los Angeles County is located at 900 Exposition Boulevard. The Museum is open seven days a week, 9:30 am to 5 pm on weekdays, and 10 am to 5 pm on weekends and holidays. Admission is \$9 for adults, \$6.50 for students and seniors; and \$2 for children 5-12. For 24-hour Museum information please call (213) 763-DINO or visit www.nhm.org.