

Jurassic Park's latest offspring: *Juravenator starki* from the Upper Jurassic limestones of Schamhaupten (Bavaria, Germany)Ursula B. GÖHLICH¹ & Luis M. CHIAPPE²

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The exquisitely preserved and almost complete skeleton of the new theropod dinosaur *Juravenator starki* is presented. It was discovered during late 1990s excavations of the Jura Museum Eichstätt in the Upper Jurassic limestones of Schamhaupten (Franconian Alb, Bavaria, Southern Germany).

The Lithographic Plattenkalk (Solnhofen Limestones, Lower Tithonian, Malm zeta) of this region is well-known for its famous vertebrate fossils: a number of skeletons of the most ancient bird *Archaeopteryx* and a single specimen of the non-avian theropod *Compsognathus*. However, *Juravenator* comes from the less-known Silicified Plattenkalk of Schamhaupten, which is much more silicified and slightly older (Kimmeridgian to Tithonian) than the Solnhofen Limestones – the stratigraphic age of *Juravenator* is supposed to be about 151 Ma (upper most Kimmeridgian, Malm epsilon).

Juravenator is undoubtedly the most completely preserved carnivorous dinosaur in all Europe, preserving nearly the whole skeleton – from the snout to the last third of the tail – and portions of integument. Ontogenetic-correlated features of its skeleton point

at a very young individual, which was approximately 75cm in length when it died.

A number of morphological differences distinguish *Juravenator* from *Compsognathus*, even if these two dinosaurs are clearly close relatives. Several osteologic characters support the assignation of *Juravenator* to Coelurosauria and other features place it phylogenetically together with *Compsognathus* within compsognathids.

Paramount importance of the new fossil is the partial preservation of soft tissues, which are best observed along the tail. Beside integumentary impressions showing a scaly, tuberculated skin, additional soft tissue of the tail is visible under UV-light. Unexpectedly, the soft tissue does not show any evidence of feathers or feather-like integuments, structures well-known among compsognathids (*Sinosauropteryx*) and other non-avian coelurosaurs (e.g. *Caudipteryx*, *Microraptor*). The lack of feather-like integumentary coverings in *Juravenator* suggests that the evolution of feathers may have been more complex than previously envisioned.