

Origin of birds confirmed by exceptional new dinosaur fossils

September 25 2009



(PhysOrg.com) -- Chinese scientists today reveal the discovery of five remarkable new feathered dinosaur fossils which are significantly older than any previously reported. The new finds are indisputably older than Archaeopteryx, the oldest known bird, at last providing hard evidence that birds evolved from dinosaurs.

Talking from the conference in Bristol, Dr Xu Xing, lead scientist on the report published online in Nature today, said: “These exceptional fossils provide us with evidence that has been missing until now. Now it all fits neatly into place and we have tied up some of the loose ends”.

Professor Michael Benton, from the University of Bristol and one of the world’s leading experts on dinosaurs, commented: “This is one of the most exciting fossil discoveries in recent years. It’s like finding a missing

piece of the jigsaw - suddenly the picture looks much more complete”.

Previous discoveries of dinosaur fossils with exquisitely preserved remains of feathers were undoubtedly some of the most important fossil finds ever made. At the time, many paleontologists considered this to be the Holy Grail that demonstrated once and for all that birds are highly derived dinosaurs.



However, the oldest undisputed bird, Archaeopteryx, is older than the feathered dinosaurs previously found. Therefore, critics claimed, feathered dinosaurs could not have been ancestral to birds.

The new fossils are from two separate areas, named the Tiaojishan and Daohugou formations. Comparison of the Tiaojishan and Daohugou fossils suggests that they probably all belong to the same fauna. The isotopic dates range from 168 to 151 million years old for the Tiaojishan and 164 to 158 million years for the Daohugou Formation.

Archaeopteryx lived 150-145 million years ago, so was significantly younger than these new dinosaurs.

One of the dinosaurs, named *Anchiornis huxleyi* has extensive plumage and profusely feathered feet. It provides important new information on the origins of birds and the evolution of feathers.

“This fossil provides confirmation that the bird-dinosaur hypothesis is correct and supports the idea that birds descended from theropod dinosaurs, the group of predatory dinosaurs that include *Allosaurus* and *Velociraptor*”, said Xu.

Provided by University of Bristol

Citation: Origin of birds confirmed by exceptional new dinosaur fossils (2009, September 25)
retrieved 20 September 2024 from

<https://phys.org/news/2009-09-birds-exceptional-dinosaur-fossils.html>

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