

Caudipteryx as a non-avialan theropod rather than a flightless bird

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Caudipteryx zoui is a small enigmatic theropod known from the Early Cretaceous Yixian Formation of the People's Republic of China. From the time of its initial description, this taxon has stimulated a great deal of ongoing debate regarding the phylogenetic relationship between non-avialan theropods and birds (Avialae) because it preserves structures that have been uncontroversially accepted as feathers (albeit aerodynamically unsuitable for flight). However, it has also been proposed that both the relative proportions of the hind limb bones (when compared with overall leg length), and the position of the center of mass in Caudipteryx are more similar to those seen in extant cusorial birds than they are to other non-avialan theropod dinosaurs. This conclusion has been used to imply that Caudipteryx may not have been correctly interpreted as a feathered non-avialan theropod, but instead that this taxon represents some kind of flightless bird. We review the evidence for this claim at the level of both the included fossil specimen data, and in terms of the validity of the results presented. There is no reason-phylogenetic, morphometric or otherwise-to conclude that Caudipteryx is anything other than a small non-avialan theropod dinosaur.

Key words: Dinosauria, Theropoda, Avialae, birds, feathers, Yixian Formation, Cretaceous, China.

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