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A new oviraptorid (Dinosauria: Theropoda) from the Upper Cretaceous of southern China

SHUO WANG^{1,2}, CHENGKAI SUN³, CORWIN SULLIVAN¹ & XING XU¹

¹Key Laboratory of Vertebrate Evolution and Human Origin of Chinese Academy of Sciences, Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences, 142 Xiwai Street, Beijing 100044, China. E-mail: dinoshuo@gmail.com

Abstract

This paper describes a new oviraptorid dinosaur taxon, Ganzhousaurus nankangensis gen. et sp. nov., based on a specimen collected from the Upper Cretaceous Nanxiong Formation of Nankang County, Ganzhou City, Jiangxi Province, southern China. This new taxon is distinguishable from other oviraptorids based on the following unique combination of primitive and derived features: relatively shallow dentary; absence of fossa or pneumatopore on lateral surface of dentary; weakly downturned anterior mandibular end; shallow depression immediately surrounding anterior margin of external mandibular fenestra; external mandibular fenestra subdivided by anterior process of surangular; dentary posteroventral process slightly twisted and positioned on mandibular ventrolateral surface; shallow longitudinal groove along medial surface of dentary posteroventral process; angular anterior process wider transversely than deep dorsoventrally; sharp groove along ventrolateral surface of angular anterior process; ventral border of external mandibular fenestra formed mainly by angular; ventral flange along distal half of metatarsal II; and arctometatarsal condition absent. Phylogenetic analysis places Ganzhousaurus nankangensis gen. et sp. nov. in the clade Oviraptoridae, together with Oviraptor, Citipati, Rinchenia and the unnamed Zamyn Khondt oviraptorid.

Key words: Oviraptoridae, Southern China, Theropoda, Upper Cretaceous

Introduction

The oviraptorids are a group of oviraptorosaurian theropod dinosaurs characterized by a highly pneumatized skull, an elongated and dorsally positioned naris, a deep mandible, and a large external mandibular fenestra subdivided by a surangular process (Osmólska et al. 2004). The oviraptorid fossil record is mainly restricted to the Upper Cretaceous (Campanian-Maastrichtian) deposits of the Gobi Desert of Mongolia and of Inner Mongolia in China (Osborn 1924; Barsbold 1976; Longrich et al. 2010). This relatively small geographic area has yielded at least nine species: Oviraptor philoceratops, Ingenia yanshini, Conchoraptor gracilis, Rinchenia mongoliensis, Citipati osmolskae, Khaan mckennai, Nemegtomaia barsboldi, Machairasaurus leptonychus and the new Banyan Mandahu oviraptorid (Osborn 1924; Barsbold 1981, 1986, 1997; Clark et al. 2001, 2002; Lü et al. 2004, 2005; Longrich et al. 2010; Fanti et al. 2012; Xu et al. in press). Two additional valid oviraptorosaur species, Nomingia gobienisis and Gigantoraptor erlianensis, may also be referable to Oviraptoridae (Barsbold et al. 2000; Xu et al. 2007).

Over the last decade, several definite and possible oviraptorids have also been discovered in central and southern China, including Heyuannia huangi (Lü 2002, 2005), Shixinggia oblita (Lü and Zhang 2005), Luoyanggia liudianensis (Lü et al. 2009), and Banji long (Xu and Han, 2010). These discoveries have extended the geographic distribution of oviraptorids southward and even made southern China a prime location, alongside the Gobi Desert of Mongolia, for new oviraptorid discoveries. Despite the limited distribution of Oviraptoridae, this clade is relatively diverse over the short stratigraphic range in which it occurs (Longrich et al. 2010). In the present paper, we report a new oviraptorid specimen from the Upper Cretaceous Nanxiong Formation of Nankang County near Ganzhou City, Jiangxi Province, China.

²University of Chinese Academy of Sciences, Beijing 100049, China

³Division of Natural History, Shandong Museum, Jinan 250014, China