

A reassessment of the purported ankylosaurian dinosaur *Bienosaurus lufengensis* from the Lower Lufeng Formation of Yunnan, China

Thomas J. Raven, Paul M. Barrett, Xing Xu, and Susannah C.R. Maidment

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The earliest definitive ornithischian dinosaurs are from the Early Jurassic and are rare components of early dinosaur faunas. The Lower Lufeng Formation (Hettangian–Sinemurian) of Yunnan Province, China, has yielded a diverse Early Jurassic terrestrial vertebrate fauna. This includes several incomplete specimens have been referred to Ornithischia, including the type specimen of the thyreophoran “*Tatisaurus*” and other generically indeterminate material. The highly fragmentary Lufeng ornithischian *Bienosaurus lufengensis* was described briefly in 2001 and identified as an ankylosaurian dinosaur. Recent studies have cast doubt on this hypothesis, however, and given that the referral of *Bienosaurus* to Ankylosauria would result in an extensive ghost-lineage extending between it and the first definitive eurypodans (ankylosaurs + stegosaurs) in the Middle Jurassic, the holotype specimen is re-examined and re-described. We identify *Bienosaurus* as a probable thyreophoran dinosaur, although the fragmentary nature of the material and the absence of autapomorphies means that the specimen should be regarded as a nomen dubium.


Key words: Dinosauria, Ornithischia, Thyreophora, anatomy, Jurassic, Lufeng Formation, Yunnan, China.

Thomas J. Raven [t.raven@nhm.ac.uk], Department of Earth Sciences, Natural History Museum, Cromwell Road, London SW7 5BD, UK; School of Environment and Technology, University of Brighton, Lewes Road, Brighton BN1 4JG, UK.

Paul M. Barrett [p.barrett@nhm.ac.uk] and Susannah C.R. Maidment [susannah.maidment@nhm.ac.uk], Department of Earth Sciences, Natural History Museum, Cromwell Road, London

SW7 5BD, UK. Xing Xu [xu.xing@ivpp.ac.cn], Key Laboratory of Evolutionary Systematics of Vertebrates, Institute of Vertebrate Paleontology & Paleoanthropology, Chinese Academy of Sciences, 100044 Beijing, People’s Republic of China; Center of Excellence in Life and Palaeoenvironment, Chinese Academy of Sciences, 100044 Beijing, People’s Republic of China.

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