

Vertebral fusion in two Early Jurassic sauropodomorph dinosaurs from the Lufeng Formation of Yunnan, China

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Here we describe two instances of pathological vertebral fusion in two genera of sauropodomorph dinosaurs from the Early Jurassic Lufeng Formation in Yunnan, China.

The first is a specimen, of *Lufengosaurus huenei* with two fused cervical vertebrae, and the other is a specimen of the Lufeng basal sauropod, with two fused caudal vertebrae. Both pathologies are consistent with spondyloarthropathy and represent the earliest known occurrence of that disease in dinosaurs. The two specimens affirm that early dinosaurs suffered from the same bone diseases as living vertebrates. Spondyloarthropathy in these dinosaurs may have been induced by long-term mechanical stress, such as weight bearing, and/or limited motion at the joint that would otherwise have inhibited such remodeling. In both cases, surface remodeling suggests that the animals survived well beyond the initiation of spondyloarthropathy.

Key words: Dinosauria, sauropodomorph, spondyloarthropathy, Jurassic, Lufeng Formation, China.

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