

Dentition and relationships of the Jurassic mammal *Shuotherium*

Zofia Kielan-Jaworowska, Richard L. Cifelli, and Zhe-Xi Luo

Acta Palaeontologica Polonica 47 (3), 2002: 479-486

The Middle Jurassic mammal *Shuotherium* has lower molars that possess a trigonid and talonid, but are unique in having the talonid situated in front of the trigonid, rather than behind it, as in molars of usual tribosphenic pattern. *Shuotherium dongi* Chow and Rich, 1982 was based on a dentary bearing seven teeth, originally interpreted as three premolars and four molars. Based on comparison with other groups of early mammals, we reinterpret the premolar-molar boundary in the holotype of *S. dongi*, and propose a dental formula of four (or more) premolars and three molars. The ultimate lower premolar (previously identified as the first molar) has a completely developed trigonid and no talonid or pseudo-talonid. We hypothesize that the mesial cingulid on molars of Australosphenida is a highly plausible structural antecedent to the pseudo-talonid of *Shuotherium*. This and other shared, derived features support a relationship of *Shuotherium* and Australosphenida as sister-taxa. We hypothesize that the common ancestor of *Shuotherium* + Australosphenida had a global distribution no younger than early Middle Jurassic, and that the respective clades diverged prior to full separation of Gondwanan and Laurasian landmasses.

Key words: Australosphenida, *Shuotherium*, tribosphenic molars, Jurassic, China

Zofia Kielan-Jaworowska [zkielan@twarda.pan.pl] Instytut Paleobiologii PAN, ul. Twarda 51/55, PL-00-818 Warszawa, Poland; Richard L. Cifelli [rlc@ou.edu]

Oklahoma Museum of Natural History, 2401 Chautauqua, Norman, OK

73072, USA; Zhe-Xi Luo [luoz@carnegiemuseums.org] Section of Vertebrate Paleontology, Carnegie Museum of Natural History, Pittsburgh, PA 15213, USA.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Full text \(294.0 kB\)](#)