ACTA PALAEONTOLOGICA POLONICA

Dentition and relationships of the Jurassic mammal *Shuotherium*

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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

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