

Counting premolars in early eutherian mammals

Richard L. Cifelli

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The primitive number of premolars for most eutherian groups is four. A growing number of Cretaceous taxa, however, had five. Regardless of the hypothesis used to explain the discrepancy, or what the primitive condition was, it is generally agreed that the middle (third) tooth of five-premolar taxa is the one not represented in mammals that have only four premolars. Hence the current practice of labeling the teeth as the first through fifth and the first through fourth, depending on how many teeth are observed in the jaw, results in incorrect implied homologies for the last two premolars of the series. Given the long-standing tradition of referring to the premolars as the first through fourth, for most eutherian groups, together with the uncertainties involved in interpreting the difference, the most practical solution is to refer to the disputed tooth by a neutral term, 'Px', as advocated several decades ago.

Richard L. Cifelli [rlc@ou.edu] , Oklahoma Museum of Natural History, School of Geology & Geophysics, and Department of Zoology, University of Oklahoma, Norman, Oklahoma 73072, USA.

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