

## A new apheliscine "condylarth" mammal from the late Paleocene of Montana and Alberta and the phylogeny of hyopsodontids

Shawn P. Zack, Tonya A. Penkrot, David W. Krause, and Mary C. Maas

*Acta Palaeontologica Polonica* 50 (4), 2005: 809-830

We describe a new genus, including at least two species, of apheliscine 'condylarth,' *Gingerichia geoteretes* from Douglass and Glennie quarries in the eastern Crazy Mountains Basin, south-central Montana, and *Gingerichia hystrix* from Cochrane 2, in Alberta, Canada, both late Paleocene (early Tiffanian; Ti1) sites. *Gingerichia geoteretes* is based on a nearly complete lower cheek dentition and is distinctive among apheliscines in lacking paraconid, metaconid, and anterior cingulid on p4 and possessing lower molars with less reduced paraconids (particularly m2 and m3) and relatively elevated trigonids. *Gingerichia hystrix* appears to represent a slightly older species and its morphology is slightly less specialized than that of *G. geoteretes*. These taxa are rare elements in the Cochrane 2 and Douglass Quarry assemblages and are the earliest known apheliscines; they therefore provide a new opportunity to elucidate both the composition and the phylogenetic relationships of the Apheliscinae and other small-bodied 'condylarths.' Phylogenetic analysis indicates that *Hyopsodus* and mioclaenids form a monophyletic group that excludes other taxa traditionally placed in Hyopsodontidae, including apheliscines. Accordingly, Hyopsodontidae is redefined to include the traditional contents of Mioclaenidae. Other 'hyopsodontids,' including apheliscines, form a monophyletic clade, and Apheliscidae is revived to accommodate this group. Finally, we recognize *Haplaletes serior* as the lower dentition of *Utemylus latomius* or a close relative.

**Key words:** Mammalia, "Condylarthra," Apheliscidae, Hyopsodontidae, Paleocene, Tiffanian, N. America.

Shawn P. Zack [[szack1@jhmi.edu](mailto:szack1@jhmi.edu)] and Tonya A. Penkrot [[tpenkrot@jhmi.edu](mailto:tpenkrot@jhmi.edu)], Center for Functional Anatomy & Evolution, The Johns Hopkins University School of Medicine, Baltimore, Maryland 21205; David W. Krause [[dkrause@notes.cc.sunysb.edu](mailto:dkrause@notes.cc.sunysb.edu)], Department of Anatomical Sciences, Stony Brook University, Stony Brook, New York 11794–8081; Mary C. Maas [[mcmaas@prodigy.net.mx](mailto:mcmaas@prodigy.net.mx)], Department of Anthropology and Laboratory of Vertebrate Paleontology, University of Texas at Austin, Austin, Texas 78712–1086.

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

 [Full text \(731.0 kB\)](#)