A new species of mesonychian mammal from the lower Eocene of Mongolia and its phylogenetic relationships

Jonathan H. Geisler and Malcolm C. McKenna

We describe *Dissacus zanabazari* new species from a partial skeleton collected from the early Eocene Bumban Member of the Naran Bulak Formation at Tsagaan Khushuu (Omnogov Province, Mongolia). The holotype includes most of the skull with basicranium, mandibles, well preserved upper and lower dentitions, partially articulated left manus and right tarsus, and most of the long bones in the limbs. The presence of a rudimentary 1st metatarsal is confirmed in mesonychids, and the relatively unworn lower incisors display an unexpected trilobed morphology. Autapomorphies of this new species are short face, absence of diastemata between the lower premolars (except between p1 and p2), m3 metaconid subequal to protoconid, and foramen for superior ramus of stapedial artery entirely within the petrosal. A phylogenetic analysis of 89 characters scored for 14 mesonychians and 5 outgroups resulted in 8 most parsimonious trees. *Dissacus zanabazari* is in a clade with *D. navajovius*, but this genus is otherwise paraphyletic. The strict consensus of the eight trees has a monophyletic Mesonychia, Hapalodectidae, and Mesonychidae; *Dissacus* and *Ankalagon* as the most basal mesonychid genera; and paraphyly of Pachyaena.

Key words: Mammalia, Mesonychia, Mesonychidae, Dissacus, Eocene, Bumbanian, Tsagan Khushuu, Mongolia.

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