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BRYJA Josef, MEHERETU Yonas

Phylogenomics resolves relationships among genera in murid tribes Arvicanthini and Praomyini, representing two major rodent radiations in sub-Saharan Africa

BRYJA J. (1,2), MIKULA O. (1), ŠUMBERA R. (3), KONEČNÝ A. (2), VERHEYEN E. (4,5), NICOLAS V. (6)

(1) Institute of Vertebrate Biology of the Czech Academy of Sciences, Studenec, Czech Republic; (2) Department of Botany and Zoology, Faculty of Science, Masaryk University, Brno, Czech Republic; (3) Department of Zoology, Faculty of Science, University of South Bohemia, 370 05, České Budějovice, Czech Republic; (4) Royal Belgian Institute for Natural Sciences, Operational Direction Taxonomy and Phylogeny, Brussels, Belgium; (5) Evolutionary Ecology Group, Biology Department, University of Antwerp, Antwerp, Belgium; (6) Institute of Systematics and Evolution, UMR7205 CNRS-MNHN-EPHE-Sorbonne Universités, Paris, France

The tribe Arvicanthini has 18 currently recognized African genera and one Asiatic genus and together with the tribe Praomyini (8 African genera) they represent the most successful groups of African murid rodents. They colonized whole sub-Saharan Africa (with isolated populations even in northern Africa), where they live in very wide spectrum of habitats from lowland humid forests through savannas to semi-deserts and they often represent the most abundant members of small mammal assemblages. African diversification was supposed to start in Late Miocene (TMRCAs of these tribes has been estimated between 12-7 Ma, depending on used markers and calibration points for molecular clock) and the earliest records of modern genera are from the very end of Miocene. Despite intensive efforts and employment of mitochondrial and nuclear markers, the phylogenetic relationships among many lineages (= genera) within these two tribes have remained obscured. In previous studies, many basal nodes on the phylogenetic tree were unresolved or changed their topology according to used markers, which was likely caused by intensive Late Miocene/Early Pliocene radiations of the groups. Furthermore, no previous multilocus analysis contained the representatives of all extant genera. In this study we used the phylogenomic scale data (377 loci, 581 030 bp) to produce the dated species tree for all currently delimited genera of these two tribes. The analysis revealed fully resolved phylogeny, based on which we propose scenarios of historical biogeography and evolution of ancestral traits. The results suggest that both African radiations started early after the colonization of Africa by arvicanthine and praomyine ancestors from Asia during Messinian period, ca. 7 Ma, and was likely linked with fragmentation of pan-African Miocene forest. Some lineages stayed in the forest, but others successfully colonized wide spectrum of more or less open habitats (e.g. savannas or wetlands). We also discuss delimitation of genera in the two tribes (e.g. *Grammomys*, *Praomys*, *Myomyscus* and *Mastomys* are polyphyletic) and propose few taxonomic changes reflecting the results of phylogenomic analysis.

(ORAL PRESENTATION)