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MOLECULAR GENETIC DIVERSITY OF THE MUYA VALLEY VOLE
ALEXANDROMYS MJANENSI

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The Muya Valley vole *Alexandromys (=Microtus) mjaniensis* Orlov et Kovalskaya,
1978 was first described based on chromosomal analysis and hybridization in Muya River
valley (in the environs of Muya vill.) in Buryatia. This is the sibling species to
Maximowicz’s vole *A. maximowiczii* Schrenck, 1858, who is polymorphic in diploid
number of chromosomes (2n = 36-44) while chromosome number for Muya Valley vole
is constant (2n = 38). Until recently, *A. mjaniensis* was known from Muya Valley only
on the basis of chromosomal studies (Orlov and Kovalskaya, 1978; Meyer et al., 1996;
Lemskaya et al., 2015). According to data published in 2015 (Golenishev et al., 2015),
Muya Valley vole was found also in Dzherginsky Nature Reserve and in the environs of
Baunt Lake (Buryatia) by the study of karyotype and cytochrome b gene sequence
(mitochondrial DNA). We analyzed control region sequence of mtDNA, which is studied
for a number of species within genus *Alexandromys* (Haring et al., 2010) and is
characterized by higher level of variability compared to cyt b gene. Small genetic
distances between groups of individuals within one species could be detectable by using
control region. We analyzed 55 specimens belonging to three mentioned localities. When
DNA analysis was performed it was confirmed that all specimens belong to Muya Valley
vole. Phylogenetic tree was inferred and it showed that all investigated specimens split
into three clusters corresponding to three geographic populations. At the same time,
genetic distances were lower between geographically close populations of Baunt Lake
region and Dzherginsky Nature Reserve, while population near Takisimo vill. (vicinity
of the type locality) is characterized by higher distances in relation to the other two clusters.
Moreover, this clade (Takisimo) differs at a higher intrapopulation diversity level.
Therefore, our study showed that the three geographical populations of Muya Valley vole
differ in mtDNA control region. Possible colonization paths are discussed.

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