

MOLECULAR PHYLOGENY OF THE GENUS *ALTICOLA*
(CRICETIDAE, RODENTIA): EVIDENCE FOR PARALLEL
PROGRESSIVE EVOLUTION

S. VLADIMIR LEBEDEV¹, ANNA A. BANNIKOVA²,
ALEXEY S. TESAKOV³, NATALIA I. ABRAMSON⁴

¹ Zoological Museum, Moscow State University. B.Nikitskaya 6, 125009 Moscow, Russia; e-mail: wslebedev@hotmail.com

² Lomonosov Moscow State University. Vorobievsky Gory, 119992, Moscow, Russia

³ Geological Institute RAS. Pyzhevsky 7, 119017 Moscow, Russia

⁴ Zoological Institute RAS. Universitetskaya nab. 1, 199034, St.Petersburg, Russia

Central Asian mountain voles *Alticola* is a yet poorly known group of voles which belongs to the tribe Clethrionomyini comprising also red-backed voles *Clethrionomys* and oriental voles *Eothenomys*. Phylogenetic relationships among the three constituent subgenera (*Aschizomys*, *Platycranius*, *Alticola* s.s.) as well as their affinities within the tribe are still unclear. Phylogenetic analysis of the sequence of mitochondrial cytochrome b gene reveals that *Alticola* s.l. is not a monophyletic group since the representatives of subgenus *Aschizomys* are closely related to *Clethrionomys*, whereas *Alticola* s.str. and subgenus *Platycranius* form a separate clade. Moreover, *Aschizomys* appeared to be polyphyletic as well, since *A. (Aschizomys) macrotis* is part of a well-supported group together with *C. centralis* and *C. glareolus* while *A. (Aschizomys) lemminus* tends to represent the basal branch within the poorly resolved complex of lineages including *C. rutilus*, *C. californicus*, *C. glareolus*+*C. centralis*+*A. (Aschizomys) macrotis*, and two forms of *C. gapperi*. The position of the flat-headed vole *A. (Platycranius) strelzowi* as the closest relative of *A. (Alticola) semicanus* is inconsistent with the monophyly of the nominative subgenus. The results of the relaxed-clock analysis suggest that *Alticola* s.s. / *Clethrionomys* split dates to early Middle Pliocene. Basal cladogenetic events within *Alticola* s.str. can be attributed to the late Middle - early Late Pliocene. *A. (Aschizomys) macrotis* branched from *Clethrionomys* in late Early - early Middle Pleistocene. The proposed scenario of evolution in Clethrionomyini implies rapid parallel morphological changes in different lineages of *Clethrionomys*-like ancestral forms resulting in independent origin of several *Alticola*-like descendant taxa adapted to mountain and arid petrophilous habitats.