

# ABSTRACT

An extensive Holocene dental material of *Apodemus* spp. (n=1830, representing 65 populations from 10 continuous sedimentary series covering the Late Pleistocene and Holocene faunal development in Czech Republic and Slovakia) was analyzed with aid of detailed morphometric techniques (58 metric, 24 non-metric and 4 relational variables). I developed a multiple determination techniques enabling a reliable identification of vast majority of the items, and found that:

*A. flavicollis* was the eudominant element in all early Holocene assemblages, both in Slovakia (where it appeared even at the late Weichselian), Bohemia and Moravia. The early Holocene populations of that species exhibited larger dimension in comparison with both the Later Holocene and Recent samples. Also *A. microps* appeared in the early Holocene samples quite regularly both in Slovakia and in Czech Republic, even far beyond the Recent ditributional range of the species (Central Bohemia). *A. sylvaticus* appeared distinctly later, in the Boreal, first in the western part of the region, the Czech Republic. Its regular appearance strated as late as in the late Boreal. A temporal postneolithic expansion of *A. agrarius* was found in Moravia. A retreat of *A. microps* from the western part of the region took place in the middle Holocene, the local population in NW Bohemia (*A. m. cimmani* Vohralik, 2002) is thus looked upon as a relic remnant of the early Holocene colonization. The extensive phenotypic rearrangements were observed in *A. flavicollis* at the late Boreal. Still, we are unable to decide whether all these changes are just due to the climatic and environmental changes appearing in that time (expansion of a closed woodland, postneolithic deforestation) or whether they were contributed also by competition with the newlyexpanding *A. sylvaticus*. The picture resulting from my investigations are in a perfect agreement with outputs of the molecular phylogeographic studies while, at the same time, they distinctly contradict the proposals of the paleontologic studies. This fact strongly support a call for a profound reinvestigation of all the fossil record of the genus available from Europe.

Key words: *Apodemus*, morphometry, Central Europe, Holocene