

## New data on the geographical distribution of the wood mouse, *Apodemus sylvaticus*, and the pygmy field mouse, *Apodemus uralensis*, in Lithuania

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**A b s t r a c t.** Since the publication of “The Atlas of European Mammals” in 1999 plenty of new data have been collected on the distribution of *Apodemus* spp. in Lithuania. These data have changed our knowledge of the comparative distribution of *A. sylvaticus* and *A. uralensis* in the country. Essentially, *A. uralensis* is widespread in the north-western part of the country, whereas *A. sylvaticus* is found only in southern and eastern Lithuania. Both species reach the limits of their geographical ranges in Lithuania.

**Key words:** *Apodemus sylvaticus*, *A. uralensis*, distribution, geographical limits, Lithuania

“The Atlas of European Mammals” (Mitchell-Jones et al. 1999) is the newest and most comprehensive publication on the distribution of mammal species in Europe. According to this atlas, the distribution of the wood mouse (*Apodemus sylvaticus* Linnaeus) includes Lithuania (Fig. 1) and localities for this species are scattered almost throughout the country, including the western and north-western parts of Lithuania. However, according to Mitchell-Jones et al. (1999) the pygmy field mouse (*Apodemus uralensis* Pallas) is not found in Lithuania, although it occurs in almost all of Latvia and in the south-eastern part of Estonia.

In the few years since the Atlas was published, plenty of new localities and distribution data have been collected for Lithuanian *Apodemus* spp, and *A. uralensis* was identified as a new mammal species for Lithuania as recently as 1999 (Juskaitis 1999). New records on the distribution and habitats of *A. uralensis* and *A. sylvaticus* in Lithuania were recently summarised by Balčiauskas et al. (1999) and Juskaitis et al. (2001), thus the aim of this paper is to review the distribution of these two species in the country.

Identification keys based on measurements and cranial and morphological features (Pucek 1981, Mezherin & Zagorodnyouk 1989, Zagorodnyouk & Mezherin 1992) were used for the discrimination of both species. Localities of *A. uralensis* and *A. sylvaticus* were mapped on 10 × 10 km squares on the national grid “Lithuania-94”. When two or more localities occurred in the same square, they were treated as one.

In Lithuania, *A. uralensis* was caught in the Žemaitija National Park, the Kurtuvėnai and Varniai regional parks, the Kamanos strict nature reserve (Mazheikyte 2000, Juskaitis et al. 2001) and almost everywhere in Mažeikiai administrative district (Juskaitis & Baranauskas 2001). A total of 62 specimens of *A. uralensis* were caught at 33 Lithuanian localities between 1996–2000 (Juskaitis et al. 2001). A dense distribution of *A. uralensis* localities was also established in north-western Lithuania as well as at several scattered localities elsewhere, leading to the assumption that this species may be quite widespread in north-western, western and northern Lithuania (Fig. 2).



Fig. 1. Geographical situation of Lithuania in Europe.

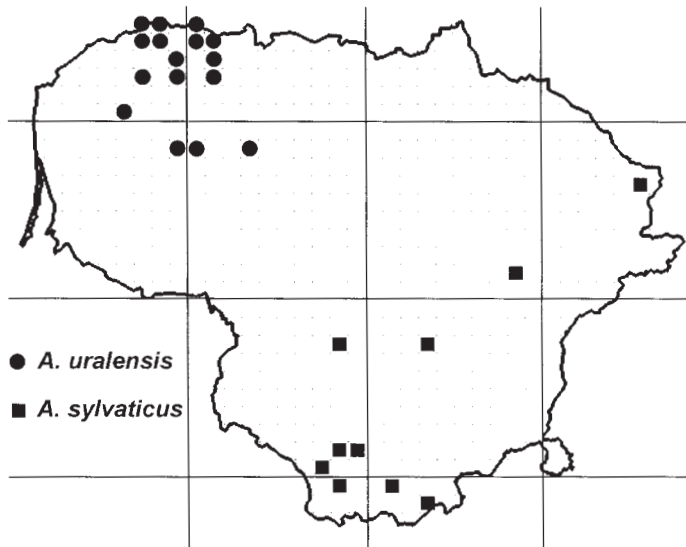


Fig. 2. Distribution of *Apodemus uralensis* and *A. sylvaticus* in Lithuania. Localities are mapped on  $10 \times 10$  km squares of the national grid "Lithuania-94".

*Apodemus sylvaticus* is found more frequently only in southern Lithuania (Čepkeliai strict nature reserve, Dzūkija National Park, Meteliai and Veisiejai regional parks) and only solitary localities are known in the eastern part of Lithuania (Fig. 2). Besides the previously published localities of *A. sylvaticus* in Balčiūskas et al. (1999) and Mazheikyte (2000) one further locality for this species was recently found near Kaunas (S. Rumbutis pers. comm.).

The collected data on *A. uralensis*' occurrence places in Lithuania show it to be an "ecotonic" species (Juškaitis et al. 2001). The greatest numbers of these mice were captured in forest and open habitat (meadows, cornfields and fallow fields), ecotones and in open habitats bordering on forests or situated close to them (natural meadows overgrown with shrubs, grass-covered reclamation canals, cornfields). Rather few *A. uralensis* were captured in forests, and they were most often collected close to forest edges and in coppices. *Apodemus sylvaticus* was more abundant in fragmented landscapes with small cornfields, meadows and shrubs, as well as at forest edges in pine and mixed forests (Balčiūskas et al. 1999, Mazheikyte 2000).

These new data on the distribution of *A. uralensis* in Lithuania show that this species is widespread in the north-western part of the country, whereas another species of the same genus – *A. sylvaticus* – is found only in southern and eastern Lithuania (Fig. 2). Although Lithuania is a small country (area = 65 300 km<sup>2</sup>), the two closely related species of *Apodemus* reach the limits of their distributions here. Further investigations should show if the distributional range limits of these two species meet in Lithuania, and which factors determine these rodents' distributions.

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## LITERATURE

- BALČIAUSKAS L., TRAKIMAS G., JUŠKAITIS R., ULEVIČIUS A. & BALČIAUSKIENĖ L. 1999: Atlas of Lithuanian Mammals, Amphibian and Reptiles. 2nd ed. (revised). *Akstis, Vilnius (in Lithuanian with English summary)*.
- JUŠKAITIS R. 1999: Pygmy field mouse (*Apodemus uralensis* Pallas) as a new mammal species in Lithuania. *Acta Zoologica Lithuanica. Biodiversity* 9: 119–120.
- JUŠKAITIS R. & BARANAUSKAS K. 2001: Diversity of small mammals in northwestern Lithuania (Mažeikiai district). *Acta Zoologica Lithuanica* 11: 343–348.
- JUŠKAITIS R., BARANAUSKAS K., MAŽEIKYTĖ R. & ULEVIČIUS A. 2001: New data on the pygmy field mouse (*Apodemus uralensis*) distribution and habitats in Lithuania. *Acta Zoologica Lithuanica* 11: 349–353.
- MAZHEIKYTE R. 2000: [Status of the common vole (*Microtus arvalis*) sibling species and the group of the wood mice (*Apodemus*) species in Lithuania and the problem of their diagnostics. In: Systematic and Phylogeny of the Rodents and Lagomorphs]. *Theriological Society, Moscow: 100–103 (in Russian)*.
- MEZHZERIN S. V. & ZAGORODNYOUK I. V. 1989: [A new species of mice of genus *Apodemus* (Rodentia, Muridae)]. *Vestnik zoologii*, 4: 55–59 (in Russian).
- MITCHELL-JONES A. J., AMORI G., BOGDANOWICZ W., KRYŠTUFEK B., REIJNDERS P. J. H., SPITZENBERGER F., STUBBE M., THISSEN J. B. M., VOHRALÍK V. & ZIMA J. 1999: The Atlas of European Mammals. *Academic Press, London*.
- PUCEK Z. (ed.) 1981: Keys to Vertebrates of Poland. Mammals. *PWN – Polish Scientific Publishers, Warszawa*.
- ZAGORODNYOUK I. & MEZHZERIN S. 1992: Diagnostics and distributions of *Terricola* and *Sylvaemus* in Baltic region. *Proceedings of the first Baltic Theriological Conference, Tartu ülikooli toimetised* 955: 70–80 (in Russian with English summary).