
Does *Sorex alpinus* still live in the Pyrenees? (Eulipotyphla: Soricidae)

Miloš ANDĚRA

Na Březince 3/1367, CZ 150 00 Praha 5, Czech Republic; milos.andera1@gmail.com

received on 17 December 2023

Abstract. The Alpine shrew (*Sorex alpinus*) is considered probably extinct in the Pyrenees. However, newly published photographs of an ‘unknown shrew’ from the Ordesa y Monte Perdido National Park in the Spanish part of the range indicate its recent occurrence in the mountains.

Key words. *Sorex alpinus*, Pyrenees, recent occurrence.

The Alpine shrew (*Sorex alpinus* Schinz, 1837) is a species endemic to Europe. Its recently fragmented distribution range includes isolated mountain areas from the north-western Balkans and the Carpathians to the Alps and several mountains and highlands of Central Europe (SPITZENBERGER 1990, KRAFT 2008). This shrew probably disappeared from the Harz Mts., Germany, during the first half of the 20th century (GAHSCHKE 1994).

Also in the Pyrenees, the Alpine shrew has been considered as probably extinct in present time (SPITZENBERGER 1999, PALOMO et al. 2007). Only three available records of its occurrence date back to 1878–1930 and originate from a relatively small area of Plan d’Estan and the Maladeta massif, in the central part of the mountains at the altitudes of 1900–2445 m a. s. l. (TRUTART 1878, CABRERA 1914, GOURDON 1930). However, in the recently published book about mammals of the Ordesa y Monte Perdido National Park, photographs of a shrew described as an unknown species (“misterioso animal”) can be found on pages 58 and 244 (FERRER 2019). This individual was caught in the upper part of the Arazas River (at ca. 1800 m a. s. l.) in the autumn 2012 and another similar individual was found there a year later. The photos show all the features typical of the Alpine shrew – the uniform grey-black pelage colouration, overlong tail, very small eyes, typical shape of the head and rostrum as well as pale pinkish-red “meat-coloured” feet (Fig. 1). Its polished tail indicates a very aged individual whose worn dentition may lack some or all the reddish-brown pigmentation of tooth tips typical of the representatives of the genera *Sorex* and *Neomys*. Without any doubt, the shrew in the photos is the Alpine shrew and the photos provide a proof of the recent occurrence of this species in the Pyrenees.

If we accept the older findings of the Alpine shrew in the Pyrenees from the turn of the 19th and 20th centuries as the real evidence of its occurrence there, it is then difficult to find any specific reasons for its later disappearance from the mountains. The long-term lack of data on its distribution may be due to the inappropriate selection of investigated sites in the field. High mountain rocky plains with the occurrence of the snow vole (*Chionomys nivalis*) represent – in fact – a marginal habitat for this shrew species. The current knowledge from the Alps and other mountains of Central Europe shows that the findings of the Alpine shrew above the upper forest limits are rather rare. The real environment optimum of this shrew occurrence is found in the cooler and densely vegetated habitats of lower forested areas, such as rugged stream banks, ravines, rubble etc. (see e.g. SPITZENBERGER & BAUER 2001, KRAFT 2008, ANDĚRA & HANZAL 2022). In addition, in many places this relic species exhibits a low to very low population density, and it could take several years to capture it despite an intensive survey effort.

doi: 10.37520/lynx.2023.022



Fig. 1. A photograph (a cut-out) of an ‘unknown species’ of shrew published in *Mamíferos del Parque Nacional de Ordesa y Monte Perdido* (FERRER 2019: 244).

Considering this finding, the relic occurrence of the Alpine shrew in the Pyrenees deserves more attention. Moreover, the long-term separation of the Pyrenean population of this mountain shrew could have resulted in a phylogenetic isolation from the populations from other areas of the species’ occurrence in Europe. Such an isolation could have also caused morphometric and genetic differences from the populations of the main part of the distribution range, even though so far, the available analyses showed rather low differentiation in the mitochondrial DNA in the Central European populations of the Alpine shrew (STARCOVÁ et al. 2016).

REFERENCES

- ANDĚRA M. & HANZAL V., 2022: *Atlas rozšíření hmyzožravců České republiky [Atlas of Distribution of Insectivores in the Czech Republic]*. Agentura ochrany přírody a krajiny České republiky, Praha, 123 pp (in Czech).
- CABRERA A., 1914: *Fauna Ibérica. Mamíferos*. Museo Nacional de Ciencias Naturales, Madrid, 441 pp.
- FERRER E. V., 2019: *Mamíferos del Parque Nacional de Ordesa y Monte Perdido*. Ediciones Prames S. L., Zaragoza, 267 pp.
- GAHSCHÉ J., 1994: Die Alpenspitzmaus (*Sorex alpinus*) im Harz. *Säugetierkundliche Informationen*, **3**: 601–609.
- GOURDON M., 1930: Sur les petits mammifères des Pyrénées. *Bulletin de la Société des Sciences Naturelles de l’Ouest, Série 4*, **10**: 15–29.
- KRAFT R., 2008: *Mäuse und Spitzmäuse in Bayern*. Eugen Ulmer KG, Stuttgart (Hohenheim), 111 pp.
- PALOMO L. J., GISBERT J. & BLANCO J. C. (eds.), 2007: *Atlas y Libro Rojo de mamíferos terrestres de España*. Organismo Autónomo de Parques Nacionales, Madrid, 586 pp.
- SPITZENBERGER F., 1990: *Sorex alpinus* Schinz, 1837 – Alpenspitzmaus. Pp. 295–312. In: NIETHAMMER J. & KRAPP F. (eds.): *Handbuch des Säugetiere Europas. Band 3/1. Insektenfresser – Insectivora, Herrentiere – Primates*. Aula-Verlag, Wiesbaden, 524 pp.
- SPITZENBERGER F., 1999: *Sorex alpinus* Schinz, 1837. Pp. 40–41. In: 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. (eds): *The Atlas of European Mammals*. Academic Press, London, 496 pp.
- SPITZENBERGER F. & BAUER K., 2001: Alpenspitzmaus *Sorex alpinus* Schinz, 1837. Pp. 104–109. In: SPITZENBERGER F. (ed.): *Die Säugetierfauna Österreichs. Grüne Reihe des Bundesministeriums für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft. Band 13*. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Graz, 895 pp.
- STARCOVÁ M., VOHRALÍK V., KRYŠTUFEK B., ČERNÁ BOLFIKOVÁ B. & HULVA P., 2016: Phylogeography of the Alpine shrew, *Sorex alpinus* (Soricidae, Mammalia). *Folia Zoologica*, **65**: 107–116.
- TRUTAT E., 1878: Catalogue des mammifères des Pyrénées. *Bulletin de la Société d’Histoire Naturelle de Toulouse*, **12**: 95–122.