



## Two new localities of the lesser white-toothed shrew *Crocidura suaveolens* from central Poland as revealed in the diet of tawny owls *Strix aluco*

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**Abstract:** This study revealed two new localities of *Crocidura suaveolens* in Pruszków and Warsaw (respectively in urban and peri-urban park) in central Poland. In total, five individuals were captured by tawny owls in years 2021–2024. These findings suggest that the range extension of this species is possible in recent decades.

**Key words:** Small mammals, owls' pellets, Soricomorpha, range extension, urban areas

Territory of Poland is crossed by the northern border of the range of *Crocidura suaveolens* (Pallas, 1811) (Libois et al. 1999). Publications analysing its occurrence on a national scale (Pucek & Michalak 1983, Cichocki et al. 2014) indicated that most of the range covers western and southern regions (Fig.). In Warsaw agglomeration (capital of Poland, population ca. 2 million) and its vicinity this species has not been reported so far. In the eastern half of Poland the northernmost localities are known ca. 100 km south from Warsaw. Moreover, localities of this species in the Masurian Lake District, ca. 50 km south from Warsaw, and in eastern Masovia and southern Podlasie were presented in online version of Atlas of Polish Mammals (Rychlik 2024). These data were not taken into consideration because it is impossible to verify credibility of the species identification (no detailed information is given).

Two new localities of *C. suaveolens* were recorded in years 2021–2024 using a method of analysing tawny owls' *Strix aluco* Linnaeus, 1758 pellets (Table). The first one was found in Pruszków, in urban park (52.17°N, 20.81°E). Locality in Warsaw is located in NE part of city agglomeration (district Tarchomin), in peri-urban park adjacent to a large river – Vistula (52.32°N, 20.94°E).

One individual in Pruszków occurred in a sample together with other small mammals: *Microtus subterraneus* (de Selys-Longchamps, 1836), *Apodemus agrarius* (Pallas, 1771), *A. sylvaticus* (Linnaeus, 1758), *A. flavicollis* (Melchior, 1834) and *Micromys minutus* (Pallas, 1771). The presence of four individuals was recorded in three small samples from Warsaw Tarchomin, together with: *Nyctalus noctula* (Schreber, 1774), *Microtus arvalis* (Pallas, 1779), *A. agrarius* and *A. flavicollis* (Table). Two not broken mandibles were measured: Pruszków (length – 8.7 mm, height of mandibular ramus – 3.7 mm), Warsaw Tarchomin (length – 8.2 mm, height of mandibular ramus – 3.8 mm). These measurements fall within the ranges for this species presented by Ruprecht (1971).

Discovered new localities increase the knowledge about the distribution of *C. suaveolens* in Poland. The study in Warsaw Tarchomin site started in 2008. During 16-year period (until 2023) when the food of tawny owls has been examined, over 2,400 prey items have been recorded, and this species has not been found (author's unpubl. data) as well as in many other areas within Warsaw agglomeration (Gryz et al. 2017, Lesiński et al. 2017). It is possible that *C. suaveolens*

increased its range in recent decades, which resulted in colonizing subsequent areas in central Poland, including Warsaw and its vicinity. New localities of this species found also in the Lower Vistula Valley (Kasprzyk & Pająkowski 2024) confirm this suggestion.

Table. Samples of tawny owls' food with records of *Crocidura suaveolens* (in bold) and other small mammals in Pruszków and Warsaw Tarchomin.

Locality	Date of pellets collection	Species	Number of individuals
Pruszków	3 Mar, 2021	<b><i>Crocidura suaveolens</i></b>	1
		<i>Microtus subterraneus</i>	4
		<i>Microtus</i> spp.	2
		<i>Apodemus agrarius</i>	8
		<i>Apodemus sylvaticus</i>	1
		<i>Apodemus flavicollis</i>	3
		<i>Apodemus</i> spp.	6
		<i>Micromys minutus</i>	6
Warsaw Tarchomin	22 Aug, 2024	<b><i>Crocidura suaveolens</i></b>	1
		<i>Apodemus agrarius</i>	1
		<i>Apodemus flavicollis</i>	1
		<i>Apodemus</i> spp.	1
	11 Sep, 2024	<b><i>Crocidura suaveolens</i></b>	2
		<i>Nyctalus noctula</i>	2
	27 Nov, 2024	<i>Apodemus flavicollis</i>	2
		<b><i>Crocidura suaveolens</i></b>	1
		<i>Microtus arvalis</i>	1
		<i>Apodemus flavicollis</i>	6

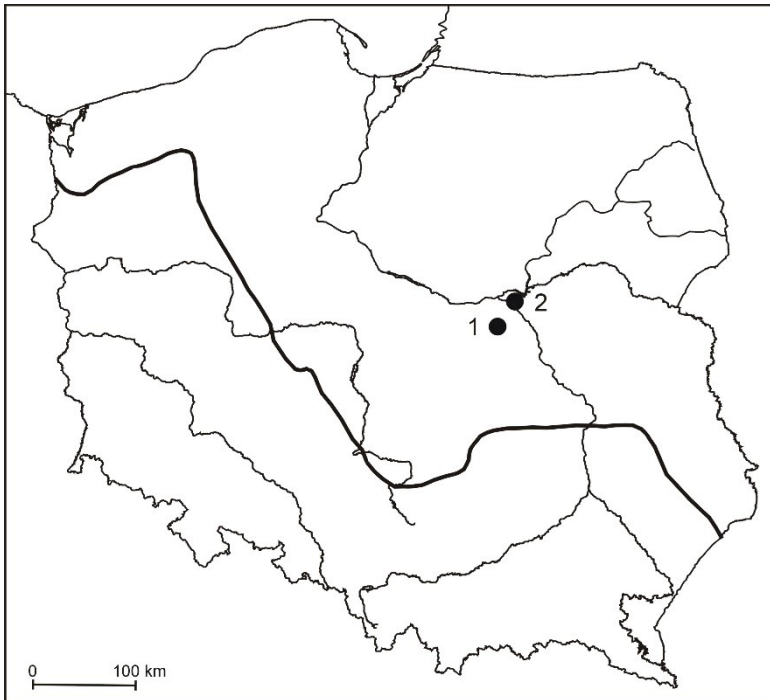


Fig. Newly discovered localities of *Crocidura suaveolens* (black dots) and the northern border of the contiguous range of this species in Poland presented by Cichocki et al. (2014); 1 – Pruszków, 2 – Warsaw Tarchomin.

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## STRESZCZENIE

**[Dwa nowe stanowiska zębiełka karliczka *Crocidura suaveolens* w środkowej Polsce wykazane w diecie puszczyków *Strix aluco*]**

W latach 2021–2024 wykryto dwa nowe stanowiska *Crocidura suaveolens* w środkowej Polsce: w Pruszkowie (miejski park) i w Warszawie w dzielnicy Tarchomin (peryferyjny park) (Fig.). W czterech niewielkich próbach pokarmu *Strix aluco* znaleziono w sumie pięć osobników tego gatunku, którym towarzyszyły inne gatunki drobnych ssaków: *Nyctalus noctula*, *Microtus subterraneus*, *M. arvalis*, *Apodemus agrarius*, *A. sylvaticus*, *A. flavicollis* i *Micromys minutus* (Tab.). Stanowisko Warszawa Tarchomin objęte było intensywnymi i corocznymi badaniami polegającymi na analizie wypluwek *S. aluco* począwszy od roku 2008, które wykazały ponad 2400 kręgowców jako ofiar sów (niepubl. dane autora). *C. suaveolens* został tam stwierdzony dopiero w roku 2024, co może wskazywać, że w ostatnich dekadach jego zasięg rozszerza się na północ i wschód