



## Small mammals in the diet of the barn owl *Tyto alba* and the tawny owl *Strix aluco* in localities in north-western Poland

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**Abstract:** Analysis of food composition of two owl species (*Tyto alba* and *Strix aluco*) in 14 study sites in the years 1998–2024 revealed the presence of 22 species of small mammals. Five species of Soricomorpha (*Talpa europaea*, *Sorex araneus*, *S. minutus*, *Neomys fodiens* and *Crocidura suaveolens*), four species of Chiroptera (*Myotis myotis*, *M. nattereri*, *Eptesicus serotinus* and *Nyctalus noctula*), 12 species of Rodentia (*Clethrionomys glareolus*, *Arvicola amphibius*, *Microtus arvalis*, *M. subterraneus*, *M. agrestis*, *M. oeconomus*, *Mus musculus*, *Rattus norvegicus*, *Apodemus agrarius*, *A. sylvaticus*, *A. flavicollis* and *Micromys minutus*) and one species (*Mustela nivalis*) of the order Carnivora were found. Three species: *S. araneus*, *M. arvalis* and *M. musculus* clearly dominated in the diet of the *T. alba*. Forest rodents: *C. glareolus*, *A. flavicollis* and in one site *M. arvalis* were most common in the diet of *S. aluco*. Noteworthy is the great share of *M. agrestis* in the diet of *S. aluco*, which is rarely noted in other regions of the country. Distinctly increased share of Chiroptera (3 species) constituting 10.1% of prey items of *T. alba* was recorded in one site in Przelewice.

**Key words:** Mammal fauna, owl pellets, Soricomorpha, Chiroptera, Rodentia, Carnivora, Pomerania region

### INTRODUCTION

Data on small mammals in north-western part of Poland are mainly from analyses of the owls' food that have been collected several decades ago (Pucek & Raczynski 1983). Some species of this group achieve the limit of their range there for example: *Neomys milleri* Mottaz, 1907 (Pucek & Pucek 1983) and *Crocidura suaveolens* (Pallas, 1811) (Cichocki et al. 2014) from among Soricomorpha, *Myotis bechsteinii* (Kuhl, 1818) (Wojtaszyn et al. 2008) and *Plecotus austriacus* (Fischer, 1829) (Ruprecht 1983, Ciechanowski et al. 2005, Wojtaszyn & Rutkowski 2007, Ciechanowski et al. 2011, Wojtaszyn et al. 2014) from among Chiroptera and isolated localities of *Muscardinus avellanarius* (Linnaeus, 1758) from Rodentia were reported in the first half of the 1900's near Piła (Frase 1930) and along the Baltic Sea shore near the present Poland – Germany border line (Pucek 1983).

The aim of this study was to gather more up-to-date data on the sites of small mammals in this region of the country and to verify existing ranges of some species there.

### MATERIAL AND METHODS

Studies were carried out in the years 1998–2024 in 14 sites in north-western Poland (Fig.). Pellets of two owl species: the barn owl *Tyto alba* (Scopoli, 1769) (7 sites in Goszczanowo, Gościno, Przelewice, Siedlisko, Tuczno, Unieradz and Wołowe Lasy) and of the tawny owl *Strix aluco* Linnaeus, 1758 (7 sites in Gajki, Kłopotowo, Maksymilianowo, Osówiec, Trzcianka cemetery, Trzcianka Tetmajera street, Wrzosowo) were collected.

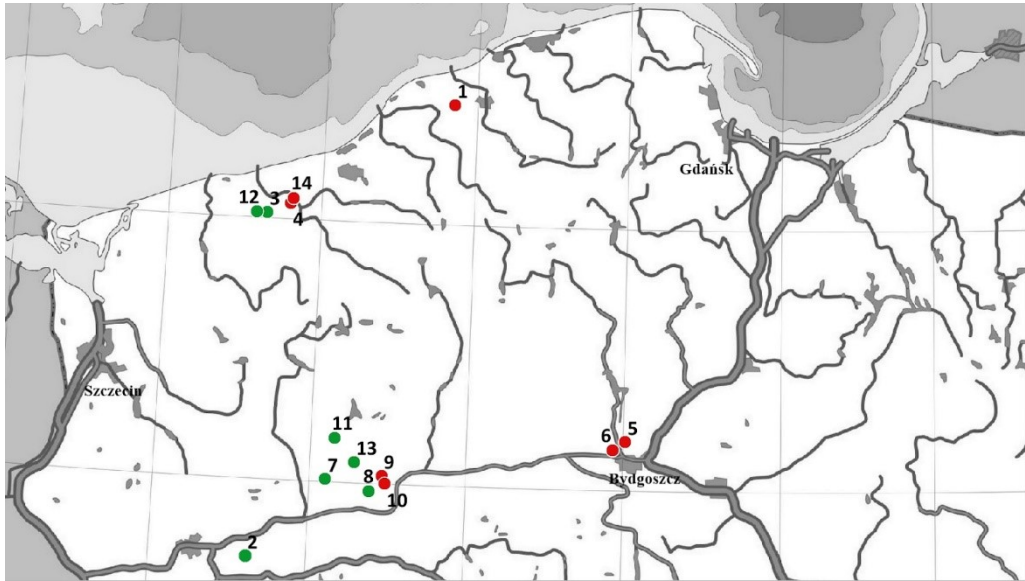


Fig. Study sites in north-western Poland. Localities: red circles – *Strix aluco*, green circles – *Tyto alba*. Sites are numbered as in the text (alphabetic order).

Location and description of the study sites (in alphabetic order). The number of small mammals in samples are given in square brackets:

1. Gajki (54.49°N, 16.86°E) situated in beech tree stand about 10 km north-west of Słupsk. Pellets of *S. aluco* were collected from under trees [195]

2. Goszczanowo (52.72°N, 15.61°E) is surrounded by different tree stands of Noteć old forest and meadows in the Noteć River valley about 25 km east of Gorzów Wiekopolski. Pellets of *T. alba* were collected near church [136]

3. Gościno (54.05°N, 15.65°E) is situated about 10 km south of Kołobrzeg. There are several trees near church, which are used by birds as lookouts and resting places. Woods are present about 300 m eastward in the Gościnka River valley. Typical forests grow about 1 km westward. Pellets of *T. alba* were collected near church [8]

4. Kłopotowo (54.09°N, 15.80°E) is about 10 km south of Kołobrzeg. An old palace park with marked share of trees with hollows is situated nearby. Pellets of *S. aluco* were collected near the palace [10]

5. Maksymilianowo (53.20°N, 18.01°E) is about 3 km north of Bydgoszcz city limits. In the close vicinity of the study site there is a small water body and the edge of forest complex dominated by coniferous trees. Nearby, there are croplands and single-family housing. Pellets of *S. aluco* were collected in and under a breeding box [37]

6. Osówiec (53.17°N, 17.93°E) is situated about 7 km north-west of Bydgoszcz city centre near a housing estate Opławiec. The site of the owl was localised in forest nursery inside the forest complex dominated by coniferous habitats. The Brda River valley and housing estates neighbour the site. Pellets of *S. aluco* were collected from under a breeding box [88]

7. Przelewice (53.03°N, 16.10°E), about 35 km south-west of Wałcz, is surrounded by pine tree stands, meadows and croplands. Pellets of *T. alba* were collected in the attic of a church [89]

8. Siedlisko (52.99°N, 16.38°E) is situated about 30 km south-west of Piła. In the neighbourhood there are croplands and small wooded areas. Pellets of *T. alba* were collected in the church tower [208]

9. Trzcianka, cemetery (53.05°N, 16.46°E) is about 20 km south-west of Piła. It neighbours a park and urban built-up areas. Pellets of *S. aluco* were collected under trees in the cemetery [3]

10. Trzcianka, Tetmajera Street (53.02°N, 16.48°E) located about 20 km south-west of Piła is surrounded by an old manor park. Pellets of *S. aluco* were collected in a breeding box [29]

11. Tuczno (53.19°N, 16.15°E) is situated about 20 km west of Wałcz. Urban built-up and forested areas neighbour the site. Pellets of *T. alba* were collected in church [26]

12. Unieradz (54.05°N, 15.58°E) is about 12 km south of Kołobrzeg. Church is surrounded by tree stands with a marked share of old trees i.a. oaks. Pellets of *T. alba* were collected near church [15]

13. Wołowe Lasy (53.10°N, 16.28°E) is situated about 30 km west of Piła. Pine tree stands dominate in the surrounding. Pellets of *T. alba* were collected in church [159]

14. Wrzosowo (54.11°N, 15.82°E) is located about 18 km south-east of Kołobrzeg. The closest forest complex is more than 1.5 km apart. The landscape is of mostly agricultural character. Pellets of *S. aluco* were collected near church [91]

Pellets were analysed after soaking in water. Bony elements of prey (mainly skulls, less often other bones) enabled determination of mammal species with the use of key edited by Pucek (1984). In case of species difficult to determine, we also used comparative collection of skulls. Features proposed by Ruprecht (1979b) were considered when determining rodents of the genus *Apodemus*. The whole collected material included 1,102 individuals of small mammals (649 in food of *T. alba* and 453 in food of *S. aluco*).

## RESULTS

Twenty two species of small mammals were identified in the study material: 5 species of Soricomorpha, 4 species of Chiroptera, 12 species of Rodentia and one of Carnivora (Tables 1–2). Three species clearly dominated in the diet of *T. alba*: *Sorex araneus*, *Microtus arvalis* and *Mus musculus*, which in total constituted 65% of caught mammals (Table 1). *C. suaveolens* was present in one site (Goszczanowo) but its share among all prey items was low. *Arvicola amphibius* was noted in two sites and *Microtus agrestis* – in only one. In Przelewice, 10.1% of prey constituted bats belonging to three species: *Myotis myotis*, *Eptesicus serotinus* and *Nyctalus noctula* (Table 1). Two species: *Clethrionomys glareolus* and *Apodemus flavicollis* were most frequent in the diet of *S. aluco*. Noteworthy is the relatively frequent presence of *Microtus agrestis* (13.7%) in the food of this owl species (Table 2). *Talpa europaea*, *Microtus subterraneus*, *Rattus norvegicus* and *Mustela nivalis* were noted only in the diet of *S. aluco* exclusively in site Gajki. *N. noctula* was the only bat species found in the diet of this owl while the share of *M. arvalis* in the diet was significant in one site (Wrzosowo) (Table 2).

## DISCUSSION

Species composition of mammals in the diet of *T. alba* and species dominating in north-western Poland (Table 1) are typical of this owl associated with agricultural landscape (Mikkola 1983). *S. araneus*, *M. arvalis* and *M. musculus* were also mentioned as dominants in other regions of the country, e.g. in Masovia (Kowalski & Lesiński 1986, Lesiński 2022), on Wieluń Upland (Lesiński 1991), in Silesian Voivodship (Lesiński et al. 2022), in north-eastern Poland (Ruprecht & Szwagrzak 1987, Lesiński & Błachowski 2023) and in Beskid Niski (Kulczycki 1964). The same is true in areas situated close to our study – in Kujawy (Ruprecht 1979a), Wielkopolska (Bekasiński et al. 1996), in Notecka Forest (Ruprecht et al. 1998), and in the lower Noteć River valley (Lesiński & Wojtaszyn 2016). All this indicates that mentioned species are the base of small mammal communities in agricultural landscapes of Poland.

Table 1. Small mammals as prey items of barn owls in seven localities in north-western Poland.

| No.   | Species   | Goszcza-       | Gościno       | Przelevice     |            | Siedlisko | Tuczno        | Unieradz      | Wołowe         | Total         | %   |       |
|-------|---|----------------|---------------|----------------|------------|-----------|---------------|---------------|----------------|---------------|-----|-------|
|       |   | nowo           |               |                |            |           |               |               | Lasy           |               |     |       |
|       |   | 30 Jul<br>2024 | 9 Aug<br>2021 | 14 Jun<br>2021 | 7 Jun 2024 | Total     | 1 Sep<br>1998 | 4 Sep<br>1998 | 25 Jul<br>2019 | 1 Aug<br>2001 |     |       |
| 1.    | <i>Sorex araneus</i> Linnaeus, 1758             | 60             | 1             | 29             | 9          | 38        | 28            | 2             | 3              | 29            | 161 | 24.8  |
| 2.    | <i>Sorex minutus</i> Linnaeus, 1766             | 11             | 0             | 12             | 2          | 14        | 2             | 1             | 1              | 7             | 36  | 5.5   |
| 3.    | <i>Neomys fodiens</i> (Pennant, 1771)           | 8              | 0             | 1              | 1          | 2         | 1             | 0             | 1              | 2             | 14  | 2.2   |
| 4.    | <i>Crocidura suaveolens</i> (Pallas, 1811)      | 2              | 0             | 0              | 0          | 0         | 0             | 0             | 0              | 0             | 2   | 0.3   |
| 5.    | <i>Myotis myotis</i> (Borkhausen, 1797)         | 0              | 0             | 5              | 0          | 5         | 0             | 0             | 0              | 0             | 5   | 0.8   |
| 6.    | <i>Myotis nattereri</i> (Kuhl, 1818)            | 0              | 0             | 0              | 0          | 0         | 0             | 0             | 0              | 1             | 1   | 0.2   |
| 7.    | <i>Eptesicus serotinus</i> (Schreber, 1774)     | 0              | 0             | 1              | 1          | 2         | 0             | 0             | 0              | 0             | 2   | 0.3   |
| 8.    | <i>Nyctalus noctula</i> (Schreber, 1774)        | 1              | 0             | 0              | 2          | 2         | 0             | 0             | 0              | 0             | 3   | 0.5   |
| 9.    | <i>Clethrionomys glareolus</i> (Schreber, 1780) | 2              | 0             | 2              | 0          | 2         | 0             | 1             | 0              | 2             | 7   | 1.1   |
| 10.   | <i>Arvicola amphibius</i> (Linnaeus, 1758)      | 3              | 0             | 0              | 0          | 0         | 4             | 0             | 0              | 0             | 7   | 1.1   |
| 11.   | <i>Microtus arvalis</i> (Pallas, 1779)          | 29             | 4             | 2              | 4          | 6         | 53            | 10            | 3              | 51            | 156 | 24.0  |
| 12.   | <i>Microtus agrestis</i> (Linnaeus, 1761)       | 0              | 0             | 1              | 1          | 2         | 0             | 0             | 0              | 0             | 2   | 0.3   |
| 13.   | <i>Microtus oeconomus</i> (Pallas, 1766)        | 6              | 0             | 2              | 0          | 2         | 20            | 2             | 5              | 3             | 38  | 5.9   |
| -.    | <i>Microtus</i> spp.                            | 2              | 0             | 0              | 0          | 0         | 14            | 0             | 0              | 9             | 25  | 3.9   |
| 14.   | <i>Mus musculus</i> Linnaeus, 1758              | 5              | 0             | 3              | 5          | 8         | 61            | 5             | 2              | 24            | 105 | 16.2  |
| 15.   | <i>Apodemus agrarius</i> (Pallas, 1771)         | 2              | 0             | 0              | 1          | 1         | 8             | 0             | 0              | 5             | 16  | 2.5   |
| 16.   | <i>Apodemus sylvaticus</i> (Linnaeus, 1758)     | 1              | 1             | 0              | 0          | 0         | 0             | 1             | 0              | 5             | 8   | 1.2   |
| 17.   | <i>Apodemus flavicollis</i> (Melchior, 1834)    | 5              | 0             | 0              | 0          | 0         | 2             | 1             | 0              | 6             | 14  | 2.2   |
| -.    | <i>Apodemus</i> spp.                            | 2              | 2             | 0              | 5          | 5         | 5             | 3             | 0              | 15            | 32  | 4.9   |
| 18.   | <i>Micromys minutus</i> (Pallas, 1771)          | 5              | 0             | 0              | 0          | 0         | 10            | 0             | 0              | 0             | 15  | 2.3   |
| Total |   | 144            | 8             | 58             | 31         | 89        | 208           | 26            | 15             | 159           | 649 | 100.0 |

Table 2. Small mammals as prey items of tawny owls in localities under study in NW Poland.

| No. | Species  | Gajki       |             |             |             |             | Kłopotowo   | Maksymilianowo |             |             | Osowiec.    |               |             | Trzcianka   |             | Wrzosowo    |       |       | Total | %   |       |
|-----|--|-------------|-------------|-------------|-------------|-------------|-------------|----------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------|-------|-------|-----|-------|
|     |  | 25          | 8           | 12          | 9           | 8           |             | 16             | 13          | 3           | 20          | 3             | Total       | 29          | 27          | 16          | 15    | Total |       |     |       |
|     |  | May<br>2014 | Jun<br>2014 | Aug<br>2014 | Jun<br>2015 | Aug<br>2015 | Aug<br>2021 | Mar<br>2024    | Sep<br>2024 | Nov<br>2023 | Sep<br>2024 | Total<br>2024 | May<br>2024 | Aug<br>2024 | Aug<br>2021 | Aug<br>2022 | Total |       |       |     |       |
| 1.  | <i>Talpa europaea</i> Linnaeus, 1758                     | 0           | 2           | 0           | 0           | 1           | 3           | 0              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 0           | 0     | 0     | 0     | 3   | 0.7   |
| 2.  | <i>Sorex araneus</i> Linnaeus, 1758                      | 6           | 7           | 2           | 3           | 2           | 20          | 1              | 5           | 4           | 9           | 1             | 5           | 6           | 0           | 0           | 0     | 1     | 1     | 37  | 8.2   |
| 3.  | <i>Sorex minutus</i> Linnaeus, 1766                      | 0           | 1           | 0           | 0           | 0           | 1           | 0              | 2           | 2           | 4           | 0             | 1           | 1           | 0           | 0           | 0     | 0     | 0     | 6   | 1.3   |
| 4.  | <i>Neomys fodiens</i> (Pennant, 1771)                    | 1           | 0           | 1           | 1           | 0           | 3           | 0              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 1           | 2     | 3     | 6     | 1.3 |       |
| 5.  | <i>Nyctalus noctula</i> (Schreber, 1774)                 | 0           | 0           | 0           | 0           | 0           | 0           | 1              | 0           | 1           | 0           | 1             | 1           | 0           | 0           | 0           | 0     | 0     | 0     | 2   | 0.4   |
| -.  | Chiroptera sp.   | 0           | 0           | 0           | 0           | 1           | 1           | 0              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 0           | 0     | 0     | 0     | 1   | 0.2   |
| 6.  | <i>Clethrionomys glareolus</i> (Schreber, 1780)          | 4           | 13          | 5           | 6           | 3           | 31          | 0              | 7           | 1           | 8           | 4             | 26          | 30          | 0           | 2           | 0     | 1     | 1     | 72  | 15.9  |
| 7.  | <i>Arvicola amphibius</i> (Linnaeus, 1758)               | 1           | 1           | 0           | 1           | 0           | 3           | 2              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 1           | 1     | 0     | 1     | 7   | 1.5   |
| 8.  | <i>Microtus subterraneus</i> (de Selys-Longchamps, 1836) | 1           | 4           | 4           | 0           | 2           | 11          | 0              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 0           | 0     | 0     | 0     | 11  | 2.4   |
| 9.  | <i>Microtus arvalis</i> (Pallas, 1779)                   | 2           | 2           | 0           | 2           | 1           | 7           | 3              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 0           | 21    | 26    | 47    | 57  | 12.6  |
| 10. | <i>Microtus agrestis</i> (Linnaeus, 1761)                | 6           | 20          | 4           | 1           | 1           | 32          | 0              | 5           | 1           | 6           | 2             | 11          | 13          | 0           | 4           | 4     | 3     | 7     | 62  | 13.7  |
| 11. | <i>Microtus oeconomus</i> (Pallas, 1766)                 | 0           | 2           | 1           | 0           | 0           | 3           | 0              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 4           | 3     | 7     | 10    | 2.2 |       |
| -.  | <i>Microtus</i> spp.                                     | 0           | 0           | 2           | 0           | 1           | 3           | 1              | 1           | 0           | 1           | 1             | 0           | 1           | 0           | 5           | 3     | 8     | 14    | 3.4 |       |
| 12. | <i>Mus musculus</i> Linnaeus, 1758                       | 0           | 0           | 0           | 0           | 0           | 0           | 1              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 0           | 0     | 0     | 0     | 1   | 0.2   |
| 13. | <i>Rattus norvegicus</i> (Berkenhout, 1769)              | 0           | 1           | 0           | 0           | 0           | 1           | 0              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 0           | 0     | 0     | 0     | 1   | 0.2   |
| 14. | <i>Apodemus agrarius</i> (Pallas, 1771)                  | 0           | 0           | 0           | 0           | 3           | 3           | 0              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 0           | 0     | 1     | 1     | 4   | 0.9   |
| 15. | <i>Apodemus sylvaticus</i> (Linnaeus, 1758)              | 0           | 0           | 0           | 0           | 0           | 0           | 0              | 0           | 0           | 0           | 1             | 1           | 0           | 0           | 0           | 0     | 0     | 0     | 1   | 0.2   |
| 16. | <i>Apodemus flavicollis</i> (Melchior, 1834)             | 6           | 7           | 7           | 20          | 3           | 43          | 0              | 4           | 0           | 4           | 0             | 10          | 10          | 3           | 5           | 3     | 3     | 6     | 71  | 15.7  |
| -.  | <i>Apodemus</i> spp.                                     | 0           | 8           | 9           | 5           | 5           | 27          | 2              | 2           | 2           | 4           | 1             | 23          | 24          | 0           | 17          | 6     | 3     | 9     | 83  | 18.3  |
| 17. | <i>Micromys minutus</i> (Pallas, 1771)                   | 0           | 0           | 1           | 1           | 0           | 2           | 0              | 0           | 0           | 0           | 0             | 1           | 1           | 0           | 0           | 0     | 0     | 0     | 3   | 0.7   |
| 18. | <i>Mustela nivalis</i> Linnaeus, 1766                    | 0           | 0           | 1           | 0           | 0           | 1           | 0              | 0           | 0           | 0           | 0             | 0           | 0           | 0           | 0           | 0     | 0     | 0     | 1   | 0.2   |
|     | Total  | 27          | 68          | 37          | 40          | 23          | 195         | 10             | 27          | 10          | 37          | 9             | 79          | 88          | 3           | 29          | 45    | 46    | 91    | 453 | 100.0 |

Presented site of *C. suaveolens* in Goszczanowo was already known before – in the year 1984 (Ruprecht et al. 1998). We did not succeed in finding new sites of this species closer to the northern range limit which in this part of the country runs deep inside Pomorze Zachodnie (Cichocki et al. 2014).

In our studies we did not find *N. milleri*, whose fragment of the range covers large part of Pomorze Zachodnie (Pucek & Pucek 1983). This resulted partly from the fact that we collected larger samples of owls' food mainly from the southern part of the study area, where this species does not already exist. In the northern part, a large sample was taken only in site Gajki while samples from the vicinity of Kołobrzeg were rather small. Those northern areas are within the known range of *N. milleri*.

The presence of two species of bats (*M. bechsteinii*, *P. austriacus*), whose ranges reach limits in our study area, is highly probable. We did not succeed to find them in owls' diet but this is probable in the future providing that we would collect larger samples of pellets. *M. myotis* found in site Przelewice is not often noted in Pomorze Zachodnie and its relatively numerous presence in the diet of *T. alba* was an effect of co-occurrence of the latter in the attic of church with a breeding colony of this bat (unpubl. data) Owls living in the neighbourhood of bats hunt on them more often than usually. Examples of such behaviour were given for *T. alba* (Bauer 1956) and *S. aluco* (Obuch 1998, Lesiński et al. 2009b). Other bats noted in our study area (*Myotis nattereri*, *E. serotinus* and *N. noctula*) belong to common and numerous species throughout almost whole Poland (Sachanowicz et al. 2006).

Much bigger sample of owl pellets (mixed – *T. alba* and *S. aluco* – 1,554 small mammals in total) was collected in the year 1984 in site Goszczanowo (Ruprecht et al. 1998). Regarding dominant species no big differences were noted when comparing it with much smaller sample from the year 2024 (144 small mammals – Table 1). *S. araneus* and *M. arvalis* definitely dominated in both samples. The older sample contained more bat species (4) but this was a result of much bigger sample of the owls' prey. The share of bats in all caught mammals was nearly the same in both samples (0.7%).

Four species of small mammals (*T. europaea*, *M. subterraneus*, *R. norvegicus* and *M. nivalis*) were noted in the diet of *S. aluco* in north-western Poland. They were absent in the diet of *T. alba* from the same area. However, this is not typical of the former owl species since these mammals appear quite often in the diet of the latter owl species. This is especially true for *T. europaea*, *M. subterraneus* and *R. norvegicus*.

Noteworthy is the frequent and relatively numerous presence (up to fifteen or so percent of caught mammals) of *M. agrestis* in the diet of *S. aluco* in north-western Poland. This rodent is associated with forest habitats. Observed presence may be typical for the study area and indicate the existence of numerous populations of the rodent. Its share among mammalian prey of *S. aluco* from other regions usually does not exceed several percent as e.g. in north-eastern Poland (Ruprecht & Szwagrzak 1987, Kowalski & Lesiński 1988, Żmihorski & Osojca 2006, Zawadzka & Zawadzki 2007, Lesiński et al. 2009a, Gryz et al. 2011, Lesiński & Błachowski 2023).

Worth noticing is quite frequent presence of small mammals associated with waters or wetlands (*Neomys fodiens*, *A. amphibius* or *Microtus oeconomus*) in the diet of both owls. North-western Poland abounds in water bodies and wetlands, which make suitable habitats for these mammals.

Results of our study in north-western Poland did not increase the number of known species of small mammals from this area, which might be expected in the future during continuation of studies on the diet of owls in already known or new sites. We did not succeed in correcting the range limits of some species. However, we found many new sites, which were not included in mammalian studies before. Our results may be also considered in undertaking further studies on the shape of range limits of several species of small mammals by indicating their absence in specific sites.

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#### STRESZCZENIE

#### [Małe ssaki w diecie płomykówki *Tyto alba* i puszczyka *Strix aluco* na wybranych stanowiskach w północno-zachodniej Polsce]

W latach 1998–2024 zbadano dietę płomykówki *Tyto alba* i puszczyka *Strix aluco* na 14 stanowiskach w północno-zachodniej Polsce: Gajki, Goszczanowo, Gościno, Kłopotowo, Maksymilianowo, Osówiec, Przelewice, Siedlisko, Trzcianka cmentarz, Trzcianka ul. Tetmajera, Tuczo, Unieradz, Wołowe Lasy, Wrzosowo (Ryc.). Analiza wypluwek wykazała 1102 osobniki drobnych ssaków, należących do 22 gatunków, w tym pięć ryjówkowształtnych Soricomorpha (*Talpa europaea*, *Sorex araneus*, *S. minutus*, *Neomys fodiens* i *Crocidura suaveolens*), cztery nietoperzy Chiroptera (*Myotis myotis*, *M. nattereri*, *Eptesicus serotinus* i *Nyctalus noctula*), 12 gryzoni Rodentia (*Clethrionomys glareolus*, *Arvicola amphibius*, *Microtus arvalis*, *M. subterraneus*, *M. agrestis*, *M. oeconomus*, *Mus musculus*, *Rattus norvegicus*, *Apodemus agrarius*, *A. sylvaticus*, *A. flavicollis* i *Micromys minutus*) i jeden drapieżnych Carnivora (*Mustela nivalis*) (Tabele 1–2). Większość stwierdzonych drobnych ssaków to przedstawiciele gatunków dość pospolitych i licznych w Polsce. Stanowisko Przelewice wyróżniało się dużym udziałem nietoperzy (ok. 10%), należących do trzech gatunków. Zwraca też uwagę znaczny udział *M. agrestis* na stanowiskach leśnych (13,7%), co może wskazywać na obecność licznych populacji tego gatunku w północno-zachodniej Polsce w porównaniu z wieloma innymi częściami kraju.

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