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Bats of the Carpathian Region (Rakhiv)
Кажани Карпатського регіону (Рахів)

Fauna of hibernating bats in caves of Central Podolia

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Petrushenko Ya. Fauna of hibernating bats in the caves of Central Podolia. — The results of the accounting of bats in 1998–2000 during the time of their hibernation in underground winter dwellings, as well as the results of the analysis of museum collections and literature sources on the registration of hibernating bats in caves of Transdnistrian Podolia are presented. Based on the accounts, the presence of 5 bat species of 3 genera was confirmed in the caves of the studied region. In general, the bat fauna of Podolia is similar in species richness and dominant species to the winter fauna of bats in the Carpathian region. However, there is a change of place between the two dominant species, *Rhinolophus hipposideros* and *Myotis myotis*.

Introduction

Bats (Chiroptera) are an interesting and rare group of animals and bat investigations are impossible outside their shelters. Therefore, Central Podolia, which is adjacent to the Carpathian region, was chosen as territory of our investigations.

A transition from plain, slightly undulate watersheds to deep steep river valleys is the most characteristic feature of this territory. Karst forms of the relief, typical for the Podolian-Bukovinian karst region, are widespread in Central Podolia. It creates favourable conditions for hibernation of many bat species.

Materials

Data was collected during February in 1998, 1999, and 2000 in the six largest karst caves of Central Podolia: Mlynky, Uhryn, Verteba, Vitrova, Kryshtaleva, and Slavka. In addition, for a more representative picture of the bat fauna two aaditional data sources were studied: literature data (Abelentsev & Popov 1956; Tatarinov 1956, 1974 et al.) and results of study of two zoological collections, the National Natural-History Museum of Ukraine and Zoological Museum of Kyiv National University.

Results

Results of the winter registrations of bats in the Podolian caves are presented in Table 1. Generally, the bat fauna of the region is represented by 12 species, however we found only 5 of them (marked by asterisks "*" in the descriptions).

Table 1. Results of bat registrations in the Podolian caves in 1995–2000*

Cave	Species	1995	1996	1998	1999	2000
Mlynky	*M. myotis*	—	5	13	18	17
	P. auritus	—	0	1	2	0
	Myotis sp.	—	1	0	0	1
Ugryn	*M. myotis*	—	—	13	21	27
	M. daubentonii	—	—	0	1	1
	P. auritus	—	—	0	1	1
	Myotis sp.	—	—	1	0	0
Verteba	*R. hipposideros*	—	—	—	—	52
	M. myotis	—	—	—	—	30
	P. auritus	—	—	—	—	2
Optymistychna, Vitrova	*R. hipposideros*	40	20	—	—	205
	P. auritus	0	0	—	—	1
Kryshtaleva	*R. hipposideros*	—	—	40	73	80
	M. myotis	—	—	8	16	6
	P. auritus	—	—	0	2	0
	P. austriacus	—	—	0	2	0
	Plecotus sp.	—	—	0	1	0
Slavka	*R. hipposideros*	—	—	5	10	13
	P. auritus	—	—	2	5	0
Total specimens		40	26	84	152	436

* Including data of R. Vargovych.

Genus *Rhinolophus* Lacepede, 1799. Two species of this genus are known in Podolian caves. For the species *Rhinolophus ferrumequinum* (Schreber, 1774), only one doubtful record is known from the Middle Dnister region (Vargovych 1998).

Rhinolophus hipposideros (Bechstein, 1800)*. This species is included into the Red Data Book of Ukraine and European Red Lists. However, in Central Podolia, *R. hipposideros* is a usual inhabitant of 4 inspected caves and dominates there. Its number ranges from 5 to 205 individuals in different caves.

Genus *Myotis* Kaup, 1829. This genus is presented in Central Podolia caves by 4 species.

Myotis blythii (Tomes, 1857). There is only one doubtful record for the considered region (Ugryn cave) (Polushina 1998).

Myotis myotis (Borkhausen, 1797)*. This species is common for Podolian underground cavities (Abelentsev & Popov 1956; Tatarinov 1956, 1962, 1973, 1974). It dominates in caves in which *R. hipposideros* is absent and it was found in a number of 5 to 30 individuals.

Myotis bechsteinii (Kuhl, 1817). An extremely rare species: only one record is known for Central Podolia (Tyshchenko 1999).

Myotis daubentonii (Kuhl, 1817)*. One hibernating individual of this species was registered in Ugryn cave in 1999 and 2000.

Genus *Plecotus* Geoffroy, 1813. This genus is represented in Central Podolian caves by 2 species.

Plecotus auritus (Linnaeus, 1758)*. It is a typical settled species, which we found in all inspected caves in small quantity — from 1 to 5 individuals.

Plecotus austriacus (Fischer, 1829)*. This species was registered in Central Podolia for the first time. Two individuals of *P. austriacus* were found in Kryshtaleva cave in 1999.

Genus *Barbastella* Gray, 1812. There is one species in the region.

Barbastella barbastellus (Schreber, 1774). Only one record is known from the Central Podolia caves, namely from Kryshtaleva cave (Tatarinov 1962).

Genus *Nyctalus* Bowdich, 1825. There are 3 species in the region; but only one was registered in caves.

Nyctalus noctula (Schreber, 1774). Two records are known from the considered region (Abelentsev & Popov 1956; Tatarinov 1973).

Genus *Eptesicus* Rafinesque, 1820. There is one species in the region.

Eptesicus serotinus (Schreber, 1774). Three records of this species are known in the studied region (Abelentsev & Popov 1956).

Genus *Vespertilio* Linnaeus, 1758. There is one species in the region.

Vespertilio murinus Linnaeus, 1758. Only one record of this species is known for the region, from Kamianets-Podilsky City (Abelentsev & Popov 1956).

Discussion

In Podolian caves, we registered 5 bat species, which represent 3 genera of 2 families. They reprerent about 30 % of total species richness of Central Podolia and at least the half of all bat species that hibernate in Podolian caves.

Three genera — *Rhinolophus, Myotis* and *Plecotus* — have the highest indices of species richness (2 and more species) and they are the most numerous. Dominant group consists of two species — *R. hipposideros* and *M. myotis*, one of them is dominant in most of the studied locations.

The bat fauna of Central Podolia is generally similar to that of the Carpathians by the species composition and dominantion structure. However, a pair of dominant species (*Myotis myotis* vs *Rhinolophus hipposideros*) has another number correlation, and dominant species exchange their place with subdominants.

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Резюме

Петрушенко Я. Фауна зимуючих кажанів із печер Центрального Поділля. — Наведено підсумки обліків кажанів протягом 1998—2000 років на зимівлі у підземних їх зимових сховищах, а також результати обробки музейних колекцій та літературних джерел щодо реєстрацій кажанів на зимівлі у печерах Придністровського Поділля. В результаті обліків підтверджена присутність у печерах розглянутого регіону 5 видів кажанів із 3 родів. Загалом фауна кажанів Поділля виявилася подібною за видовим багатством та домінуючими видами до зимової фауни кажанів Карпатського регіону. Однак спостерігається зміна місць між двома видами-домінантами — *Rhinolophus hipposideros* та *Myotis myotis*.