

## The Barbastelle (*Barbastella barbastellus*) in Lithuania

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### Die Mopsfledermaus (*Barbastella barbastellus*) in Litauen

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#### Abstract

Despite all efforts to find the Barbastelle bats in summer periods with the aid of ultrasound detectors, up to this time in Lithuania this species has been recorded only from hibernation sites in the Kaunas bat reserves ( $n=4400$ ; FF3b4, FF3b5, LA1a1, FF3a4), vaults of Seskinė Ozas in Vilnius ( $n=2$ ; LA3d4) and the castles of Panemunės near Jurbarkas ( $n=75$ ; FG2d3), Ragainės in Neman ( $n=15$ , EG4e2) and Radvilė in Biržai ( $n=2$ , LC4b2). In hibernacula of Kaunas bat reserves (central Lithuania) the Barbastelle is common and consists of up to 15-19% of all hibernating bats. During the 1978-1996 period the number of hibernating Barbastelle bats fluctuated from year to year, but in general an abundance of this species has even shown an increasing tendency in Kaunas bat reserves. Therefore, the Barbastelle in Lithuania, contrary to western Europe, is not vulnerable and, according to the criteria for endangered and vulnerable species prepared by IUCN Species Survival Commission, should be reckoned among the species of lower risk.

#### Résumé

Malgré les efforts pour trouver les Barbastelles en été à l'aide d'un détecteur à ultrasons, l'espèce n'a été trouvée jusqu'ici que dans les sites d'hivernage protégés de Kaunas ( $n=4400$ ), dans les galeries de Seskinė Ozas à Vilnius ( $n=2$ ) et dans les châteaux de Panemunės près de Jurbarkas ( $n=75$ ), de Ragainės à Neman ( $n=15$ ) et de Radvilė à Biržai ( $n=2$ ). Dans les quartiers d'hiver de Kaunas (Lituanie moyenne), la Barbastelle est commune et forme jusqu'à 15-19% de toutes les chauves-souris hivernantes. Entre 1978 et 1996, le nombre de Barbastelles hivernant a fluctué d'année en année, mais en général l'effectif de cette espèce a montré une tendance à l'augmentation dans le site protégé de Kaunas. C'est pourquoi en Lituanie, la Barbastelle n'est pas menacée contrairement à l'Europe de l'Ouest, et selon les critères des espèces vulnérables et menacées fixés par la Commission pour la Survie des Espèces de l'IUCN, elle doit être mise au rang des espèces peu menacées.

#### Zusammenfassung

Ungeachtet aller Mühen wurde nach der Mopsfledermaus im Sommer mit Hilfe von Ultraschall-Dektoren gesucht; bis zu diesem Zeitpunkt lagen nur Nachweise der Art aus den Winterquartieren im Kaunas-Fledermausreservat ( $n=4400$ ), den Gewölbten von Seskinė Ozas in Vilnius ( $n=2$ ), dem Schloß Panemunės bei Jurbarkas ( $n=75$ ), dem Schloß Ragainės in Neman ( $n=15$ ) und dem Schloß Radvilė in Biržai ( $n=2$ ) vor. Im Winterquartier Kaunas (Zentrallitauen) ist die Mopsfledermaus mit einem Anteil von 15-19% am gesamten Fledermausbestand eine recht häufige Art. In den Wintern 1978-1996 veränderte sich die Anzahl der dort überwinternden Mopsfledermäuse von Jahr zu Jahr; im allgemeinen war eine steigende Tendenz zu verzeichnen. Im Gegensatz zu Westeuropa ist die Mopsfledermaus in Litauen nicht bedroht. Gemäß den von der IUCN-Artenschutzkommission herausgegebenen Kriterien der gefährdeten und bedrohten Arten sollte man die Spezies als weniger gefährdet einstufen.

#### Introduction

The knowledge of distribution and status of the bat species in Lithuania is far from complete, because more intensive bat studies in this country have been started only in 1978 (PAUZA & PAUZIENE 1996). Nevertheless, from the recently collected bat records from Poland (BOGDANOWICZ 1983, WOŁOSZYN 1994), Latvia (PETERSONS 1993), Byelorussia (KURSKOV 1981) and Estonia (MASING 1990), it has been concluded that the northern limit of distribution of Barbastelle bats reaches the middle of Lithuania between 55°N and 55°30'N (PAUZA & PAUZIENE 1996). In the Baltic Sea Region beyond this limit the Barbastelle bats are known only from a few winter records in northern Lithuania and southern Latvia. Therefore, the Barbastelle in Lithuania as a species on a borderline of distri-

bution deserves a particular status and its monitoring is especially important for a species assistance programme. The aim of this paper is to overview what is known about the Barbastelle from Lithuania.

### Material and methods

Material for the present paper has been mainly collected in hibernacula from 1978 to 1997. Ultrasound detectors SKY 1200 have been used to detect this species in summer periods since 1993. The winter records are documented by bat specimens, skulls or photographs. The Universal Transverse Mercator (UTM) geographic grid, with squares 10 x 10 km, was used for mapping of confirmed records for determining the distribution of Barbastelle in Lithuania.

### Results and discussion

Despite our efforts to find the Barbastelle bats in summer periods with the aid of ultrasound detectors, so far in Lithuania this species has been recorded only from hibernation sites in the Kaunas bat reserves ( $n=4400$ ; FF3b4, FF3b5, LA1a1, FF3a4), vaults of Seskine Ozas in Vilnius ( $n=2$ ; LA3d4) and the castles of Panemunės near Jurbarkas ( $n=75$ ; FG2d3), Ragainės in Neman ( $n=15$ , EG4e2) and Radvilė in Biržai ( $n=2$ , LC4b2) (Fig. 1). Additionally, there is one spring record of the ringed Barbastelle found dead in Kazlu Ruda (FF3c2) about 30 km to the south from the ringing place in Kaunas bat reserve.

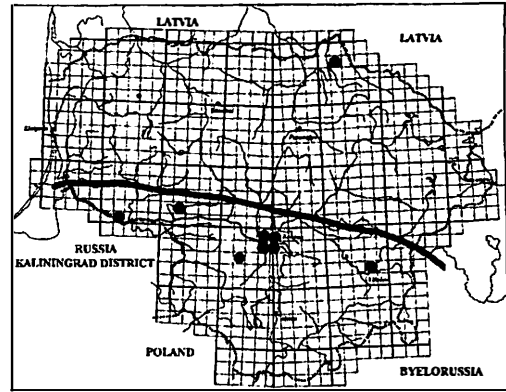


Fig. 1. Distribution of *Barbastella barbastellus* in Lithuania. Black line indicates the northern limit of distribution of the Barbastelle bats.

Graph. 1. Répartition de la Barbastelle en Lituanie. La ligne noire indique la limite nord de l'aire de répartition.

Abb. 1. Verbreitung von *Barbastella barbastellus* in Litauen. Die schwarze Linie kennzeichnet die nördliche Verbreitungsgrenze der Mopsfledermaus.

In hibernacula of Kaunas bat reserves (central Lithuania), where bat species have been observed since 1978 (Fig. 12-14 F), the Barbastelle is common and comprises up to 15-19% of all hibernating bats. During the 1978-1996 period the number of hibernating Barbastelle bats have fluctuated from year to year and in general an abundance of this species has even shown an increasing tendency in Kaunas bat reserves (Table 1). In this connection there are reasons to suppose that the Barbastelle in Lithuania, contrary to western Europe, is not vulnerable and should be reckoned among the species of

| Hibernacula | 78  | 79  | 80  | 81  | 82  | 83  | 84  | 85  | 86  | 87  | 88  | 89  | 90  | 91  | 92  | 93  | 94  | 95  | 96  | 97  |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Zagariskiai | 10  | n/a | 31  | 18  | n/a | n/a | n/a | n/a | 0   | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 24  | 22  | 50  | 46  |
| Rokai       | n/a | n/a | 7   | 0   | 4   | n/a | n/a | 34  | n/a | n/a | n/a | n/a | n/a | 0   | n/a | n/a | n/a | 8   | 46  | 26  |
| Julijanava  | n/a | 12  | 9   | n/a | n/a | n/a | 0   | 7   | 6   | n/a | n/a | n/a | 57  | n/a | n/a | 57  | n/a | 31  | 26  | 25  |
| N.Freda     | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 7   | 9   | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 31  | 33  | 41  |
| Milikoniai  | n/a | 57  | n/a | 57  | n/a | n/a | n/a | 54  | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 32  | 81  | 90  |
| IXfort      | 33  | 21  | n/a | n/a | n/a | n/a | n/a | 20  | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 14  | 11  | 14  |
| Romainiai   | 13  | 60  | n/a | n/a | n/a | n/a | n/a | 80  | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 31  | n/a | 16  | 21  | 15  |
| General     | 56  | 90  | 47  | 75  | n/a | n/a | n/a | 202 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 154 | 268 | 257 |

Table 1. Abundance of Barbastelle bats in some hibernacula of the Kaunas bat reserves in 1978-1997. n/a – not assessed

Tableau 1. Abondance de la Barbastelle dans différents quartiers d'hiver du site protégé de Kaunas en 1978 à 1997. n/a: pas estimé

Tab. 1. Anzahl der Mopsfledermäuse in den einzelnen Winterquartieren des Kaunas Fledermausreservates 1978-1997. n/a: keine Schätzungen

lower risk. However, due to the unknown summer status of Barbastelle bats in Lithuania we are inclined to confer them the data deficient status. Further field study is necessary to determine the summer status of Barbastelle in Lithuania, because this status may be different from the winter one.

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