

# Bat fauna of the plain and foothill parts of the Latorytsia river basin (western Ukraine), with special focus on alluvial forests

Andriy-Taras BASHTA

*Institute of Ecology of the Carpathians, Koselnytska St. 4, Lviv 79026 Ukraine; atbashta@polynet.lviv.ua*

**Abstract.** The paper summarizes new data from field research, together with information from literature and museum collections, concerning the occurrence of bats in the plain and foothill parts of the Latorytsia river basin (in the area neighbouring Hungary and Slovakia). In total, 21 bat species have been recorded in the region. Main attention was paid to the bat fauna of forests, especially to floodplain forests at two sites: (1) Velyka Dobron' area (14 species) and (2) meanders of the Latorytsia river (11 species). 9 bat species (*Rhinolophus ferrumequinum*, *R. hipposideros*, *Barbastella barbastellus*, *Miniopterus schreibersii*, *Myotis bechsteinii*, *M. blythii*, *M. dasycneme*, *M. emarginatus*, *M. myotis*) are mentioned in Annex II of the EU Habitats Directive (1992). Importance of designating a protected area in the lower part of the Latorytsia river basin is underlined. In the future, this region could be connected with the already existing protected area (CHKO Latorica) in Slovakia, with the aim of establishing a bilateral nature reserve.

**Bats, species composition, habitat distribution, floodplain forest, Latorytsia river basin, Ukraine**

## Introduction

The Latorytsia river basin is characterized by considerable habitat diversity: from mountain meadows (so called Polonyna) to dry meadows and swamps of the Pannonian plain. Floodplain parts of the basin with forests are unique areas of great importance, often with primeval vegetation and high level of biodiversity. A considerable part of them are described in the CORINE Biotopes Manual as “Most diverse, structurally, floristically and faunistically, of all European ecosystems [...], the great fluvial forests of Europe are reduced to a highly vulnerable examples”. Thanks to abundant food and availability of both natural and artificial shelters, this region is potentially very favourable for bats.

Bats of this part of the Latorytsia river basin have been studied by scientists from the Uzhgorod and Lviv State Universities, such as I. Kulushev, V. Abelentsev, Yu. Krochko, K. Tatarynov et al. However, their research was mainly focused on underground shelters, while forest bats have been studied insufficiently. Our investigation was aimed at the overall species composition of bat fauna of the region. Main attention was paid to bat fauna of forests, especially to the alluvial forest.

## Study Area and Methods

The study area included the floodplain of the Latorytsia river, adjacent to the Hungarian and Slovakian borders. This area comprises extensive alluvial forests, together with a large number of oxbow lakes, and seasonally wet semi-natural riparian grasslands. Within the site, the river Latorytsia was partly canalised during the early 20th century.

Floodplain forests which are situated in the Latorytsia basin can be divided into two types: forests in the Dobron' area and woods in meanders (close to the border with Slovakia). The former type can be characterised as all-aged mixed riparian forests with *Quercus robur* and *Fraxinus angustifolia* ssp. *danubilis*, *Ulmus laevis*, *U. minor*, *Fraxinus excelsior* (i. e. phytosociological alliance *Ulmion minoris*). The bush layer is formed by hawthorn, elder etc. Vegetation of the latter type includes *Alnus glutinosa* and *Fraxinus excelsior* (alliances *Alno-Padion* and *Salicion albae*) with lowland hay meadows.

The field study was carried out in 2002–2004, using various methods – detecting, inspections of attics, cellars and other parts of buildings, tree hollows, bird boxes in the summer period and underground shelters in winter. Significant part of data was obtained by netting of bats in their foraging habitats. Bat detectors Pettersson D-240x and D-230 were used, tape recordings were analysed using the “Bat Sound” software. In addition to own records, all known published data and the collections of the Zoological Museum, Uzhgorod National University (ZMUU) were analysed as well.

## Results and Discussion

### General characteristics of bat fauna

High abundance of food in wetlands and the existence of a number of potential shelters for bats in this region predict wide representation of bats in its fauna. In total, 15 bat species have been recorded there (21 bat species in the whole Latorytsia region; Table 1), which is about 78% of bat species of Ukraine and about 62% of bat species of continental Europe. Moreover, the occurrence of *Myotis brandtii* is very likely, as it has been recorded in the neighbouring areas (Bashta 2004).

#### ***Rhinolophus hipposideros* (Bechstein, 1800)**

The Lesser horseshoe bat is a common species in the study area. It has been recorded in various underground spaces in the foothill part of the area, although never in considerable numbers. It does not occur in the upper part of the Latorytsia river basin because of the absence of favourable underground shelters there.

Summer and autumn records come from caves as well as cellars, attics etc. (Abelentsev et al. 1956, Krochko 1964, Bashta 2000). The most important hibernacula of this species are mines near the village of Hlyboke, Uzhgorod distr. Numerous records from these sites are known since the middle of the 20th century (Abelentsev et al. 1956, Tatarynov 1956, Krochko 1992). We found 22 ind. there on 7 March 2004. Other winter records are known from the Mukacheve region and the village of Nyzhia Solotvyna, Uzhgorod distr. (ZMUU).

#### ***Rhinolophus ferrumequinum* (Schreber, 1774)**

A rare bat species in the study area. It has been found in underground shelters both in summer and in winter. In summer it was also recorded in attics, mainly in churches. The most known localities are underground spaces near the village of Hlyboke in the Uzhgorod district (own data) and the tunnel near the village of Kolchyn, Mukacheve distr. (ZMUU). Moreover, records of individuals are known also from the Mukacheve town and the village of Chynadiyeve (Abelentsev et al. 1956, Krochko 1992, ZMUU).

#### ***Miniopterus schreibersii* (Kuhl, 1817)**

Schreibers' bat used to be one of the most numerous bat species in underground shelters of the Crimea and the Carpathians till the middle of the 20th century (Abelentsev et al. 1956). It occurred mainly in caves, grottoes, tunnels etc. in winter and in attics of buildings in summer. The species was recorded regularly in underground spaces in both the plain (villages of Srtabychove and Rakochyn, Mukacheve distr.) and pre-mountain parts (villages of Chertizh, Hlyboke, Serednie, Dovhe Pole in the Uzhgorod distr., Mukacheve town etc.) of the region in the middle of the 20th century (Abelentsev et al. 1956). The last known record was made in the tunnel near the village of Kolchyn, Mukacheve distr., on 11 May 1970 (ZMUU).

#### ***Myotis myotis* (Borkhausen, 1797)**

The Greater mouse-eared bat is one of the most common and widespread bat species in the river basin. Colonies and isolated specimens are recorded in various places, especially in attics of houses, churches

Tab. 1. Bat species recorded in the basin of the Latorytsia river and in its particular parts  
 Tab. 1. Druhy netopýřů nalezené v ukrajinském povodí Latorice a v jeho jednotlivých částech

species	Latorytsia river basin*	plain and foothill parts of the basin	alluvial forests	
			No. 1	No. 2
<i>Rhinolophus hipposideros</i>	+	+	–	–
<i>Rhinolophus ferrumequinum</i>	+	+	–	–
<i>Myotis myotis</i>	+	+	+	+
<i>Myotis blythii</i>	+	+	–	–
<i>Myotis bechsteinii</i>	+	+	+	–
<i>Myotis nattereri</i>	+	+	+	+
<i>Myotis emarginatus</i>	+	+	–	–
<i>Myotis mystacinus</i> s. l.	+	+	+	–
<i>Myotis dasycneme</i>	+	+	+	–
<i>Myotis daubentonii</i>	+	+	+	+
<i>Vespertilio murinus</i>	+	+	+	+
<i>Eptesicus nilssonii</i>	+	–	–	–
<i>Eptesicus serotinus</i>	+	+	+	+
<i>Pipistrellus pipistrellus</i>	+	+	+	+
<i>Pipistrellus pygmaeus</i>	+	+	–	+
<i>Pipistrellus nathusii</i>	+	+	+	+
<i>Nyctalus noctula</i>	+	+	+	+
<i>Nyctalus leisleri</i>	+	+	+	–
<i>Plecotus auritus</i>	+	+	+	+
<i>Plecotus austriacus</i>	+	+	–	–
<i>Barbastella barbastellus</i>	+	+	+	+
<i>Miniopterus schreibersii</i> **	(+)	(+)	–	–
total	21+(1)	20+(1)	14	11

\* including the mountain part of the basin;

\*\* the species disappeared from this region in the last decades.

and bell towers in summer and in caves and mines in winter. A lot of records of Greater mouse-eared bat colonies and specimens are known mainly from the villages of Chynadiyevе (own data) and Kolchyne in the Mukacheve distr. (Abelentsev et al. 1968), Mukacheve town, village of Hlyboke in the Uzhgorod distr. (ZMUU, own data), and Peresh (own data). Bat censuses in the mines near Hlyboke show a considerable decline of this species at this site. In winter 1958, Krochko (1964) found 37 ind. here; while only 9 ind. were recorded in winter 2004 (own data).

### ***Myotis blythii* (Tomes, 1857)**

Status of this species is poorly known. It is likely that the Lesser mouse-eared bat is not numerous in the region. Records are available from mines near Hlyboke only (Abelentsev et al. 1968; ZMUU). The species occurs in the low-mountain part of the basin. Remains of specimens were found in the Barn owl pellets from the bell tower in the village of Srednie, Uzhgorod distr. (Krochko 1992).

### ***Myotis bechsteinii* (Kuhl, 1817)**

As well as in the rest of Europe, *M. bechsteinii* is a poorly studied species in the Latorytsia basin. Isolated specimens were recorded only in underground spaces near the village of Hlyboke and in beech hollow in the same area (Krochko 1975, 1990).

### ***Myotis nattereri* (Kuhl, 1817)**

Rare species, occurring mainly in deciduous forests. Winter records come from mines near Hlyboke (ZMUU). Summer observations were made in forests near the villages of Velyka Dobron' in the Uzhgorod distr., Chomonyn and Nyzhniy Koropets' in the Mukacheve distr.

### ***Myotis dasycneme* (Boie, 1825)**

The status of *M. dasycneme* in the study area is not known. In general, the first records of this species in the Transcarpathian region come from the village of Sil', Velyky-Berezny distr. (Krochko 1994a). In the basin, individuals were recorded using bat detectors around the Latorytsia river, near the village of Velyka Dobron' (23 July 2002), village of Drahynia (26 July 2002), near the Peresh forest in the Uzhgorod district, and near the village of Chomonyn, Mukacheve distr. (9 August 2002) (Bashta, in press).

*M. dasycneme* is considered to be a typical lowland species (Schober & Grimmberger 1998). However, hibernating individuals were observed in caves of the adjacent mountain massifs in Slovakia (Matis et al. 2002) and Poland (Paszkievicz et al. 1995, Nowak et al. 2001). So, it is possible that this species occurs in winter in the Ukrainian Carpathians as well.

### ***Myotis daubentonii* (Kuhl, 1817)**

The species is connected with wetlands and it has been found near many water bodies in the region. The most important habitats in summer are flat river parts where these bats inhabit tree hollows, attics, crevices in buildings and rocks. Hibernating specimens of *M. daubentonii* were found in mines near the village of Hlyboke, Uzhgorod distr. in winter 2004.

### ***Myotis mystacinus* (Kuhl, 1817) s. l.**

*Myotis mystacinus* does not seem to be common in the study area. The available records illustrate greatly variable habitat requirements of this species. It has been found in different parts of the region, mainly during the warm season: the Ostrosh forest in the Mukacheve distr., the village of Velyka Dobron' in the Uzhgorod distr. and others. During summer they have been netted mainly at the edge of oak forests.

Winter records come from the villages of Linci (20 February 1959, Krochko 1992), Kamianytsia (26 December 1981; Krochko 1992) and Hlyboke in the Uzhgorod distr. (11 December 1955, collection of the ZMUU; 7 March 2004, own data). Hibernating individuals have been found in caves, buildings, narrow spaces between wall and window.

### ***Myotis brandtii* (Eversmann, 1845)**

The Brandt's Bat has been recorded in Hungary and Slovakia close to the Ukrainian border (Dobrosi 1995, Bobáková 2002, Pjenčák & Danko 2002); therefore its occurrence in the Ukrainian part of the Latorytsia river basin can be expected.

### ***Myotis emarginatus* (Geoffroy, 1806)**

The Geoffroy's bat is a relatively rare species, inhabiting mainly warm caves and other underground shelters, sometimes attics. Only two records are known from the Latorytsia basin: mines near the village of Hlyboke, Uzhgorod distr. (18 January 1953, collection of the ZMUU) and tunnel near the village of Kolchyne, Mukacheve distr. (12 December 1964, collection of the ZMUU). Krochko (1994b) supposed that a population of this species occurs in the Transcarpathian region.

### ***Plecotus auritus* (Linnaeus, 1758)**

A typical forest species, however it is not numerous in the study area. The seasonal distribution is relatively uniform, nearly the same numbers were recorded in winter and in summer.

Summer shelters are mostly tree hollows, attics, cavities and crevices in buildings. We found this species mainly in floodplain forests around the Latorytsia river (villages of Velyka Dobron', Mala Dobron', Chomonyn, Drahynia and Mali Geyevtsi).

*Plecotus auritus* hibernates usually in caves, basements, cellars and other underground spaces. According to published data (Abelentsev et al. 1969) and our observations, the species occurs in mines near the village of Hlyboke in autumn and winter.

### ***Plecotus austriacus* (Fischer, 1829)**

Rare species in the region. Like *P. auritus*, it inhabits forests with tree hollows, but this species is more frequently found in settlements. Most records were made in the hibernation and migration periods (in underground shelters and attics of buildings). Individuals have been found in different parts of the basin: village of Velyka Dobron', Uzhgorod distr. (Abelentsev et al. 1956); village of Hlyboke, Uzhgorod distr., and the Mukacheve region (collection of the ZMUU).

### ***Barbastella barbastellus* (Schreber, 1774)**

Poorly studied species in the region. Hibernating *Barbastelles* were observed in mines near the village of Hlyboke (11 December 1955, Abelentsev et al. 1969; 7 March 2004, own data), village of Patskaneve (5 August 1976, Krochko 1992) and in caves near the village of Nyzhne Solotvyne, Uzhgorod distr. (26 December 1962, ZMUU). We found *Barbastelles* also near the forest of Peresh (close to the village of Mali Geyevtsi, 21 October 2003).

### ***Nyctalus noctula* (Schreber, 1774)**

Results of bat detector surveys made in the area in 2002–2004 show that *Nyctalus noctula* is the most numerous and widespread species during the “warm” period of year and it probably occurs at all suitable sites, especially in the plain part.

During the breeding period it can be found in tree hollows; during migration it also uses attics and crevices in buildings. In this period large aggregations are common in this species. In Mukacheve, about one thousand specimens were found in church attics (Abelentsev et al. 1956).

Winter records come from the plain and foothills of the Transcarpathian region and mainly from large settlements, such as Uzhgorod. In the Latorytsia river basin, hibernation roosts were found also in tree hollows near the Mukacheve town and the village of Teglash, Uzhgorod distr. (Krochko 1992). Records of bats frozen to death which tried to winter in tree hollows and in attics in mountains are known (Abelentsev et al. 1956).

### ***Nyctalus leisleri* (Kuhl, 1817)**

A tree-dwelling species. In the eastern Carpathians, *Nyctalus leisleri* was found in the lower-mountain belt (Krochko 1986). In the Transcarpathian region it occurs mainly in broadleaved forests (Otok forest, Beregove region, summers of 2002 and 2003; Bashta 2004). Only one record is known from the basin: one male was netted at the edge of an oak forest near the village of Drahynia, Uzhgorod distr., on 16 July 2004.

### ***Pipistrellus pipistrellus* (Schreber, 1774)**

The species is commonly found in the summer period, inhabiting tree hollows, attics, crevices and cavities in buildings. Records from summer and the period of migration are known from many places: villages of Nyzhnia Solotvyina (collections of the ZMUU), village of Velyka Dobron' and Peresh forest in the Uzhgorod distr., Ostrosh forest in the Mukacheve distr., in Mukacheve region etc. (own data).

In Ukraine, winter roosts have been made only in the Transcarpathian region. Mass hibernacula in flues, cavities in buildings were recorded regularly in buildings in the Uzhgorod city, which is situated close to the study area (ZMUU). Records of individuals in a cave near the village of Hlyboke in autumn and spring are very interesting (22 October 1962, 21 March 1969; Krochko 1992), as they suggest the use of underground shelters by this species in the Transcarpathian region in the migration period.

### ***Pipistrellus pygmaeus* (Leach, 1825)**

The status of *Pipistrellus pygmaeus* in the study area, like in many other parts of Europe, is not known yet. We found the species near the Peresh forest in autumn 2003. We suppose that *P. pygmaeus* inhabits the whole Transcarpathian region.

### ***Pipistrellus nathusii* (Keyserling et Blasius, 1839)**

*Pipistrellus nathusii* is an uncommon species, observed occasionally in all parts of the basin. Places of its summer occurrence are connected with deciduous and mixed forests. Summer shelters are mainly tree hol-

lows; some records come from buildings (mainly under roofs and in crevices). Number of records made in the migration period is relatively higher, especially in the alluvial forests.

Hibernation sites of *Pipistrellus nathusii* are situated in the southern parts of its range, outside Ukraine. Wintering of this species was observed only in the Transcarpathian region, where flues and cavities in buildings were used in the Uzhgorod city (3 February 1948, Abelentsev 1950; 10 January 1972, collection of ZMUU, leg. Krochko).

### ***Eptesicus nilssonii* (Keyserling et Blasius, 1839)**

It has been found only in the mountain part of the region as a rare bat species. Places where the species was observed in summer are restricted to mountains.

### ***Eptesicus serotinus* (Schreber, 1774)**

This is a common species in the lowland zone of the study area. Records come mainly from human settlements and their surroundings. Summer roosts are in buildings, mainly dry attics; cavities and crevices in rocks. *Eptesicus serotinus* hibernates in buildings, sometimes in underground shelters (caves, basements, cellars, mines). Some records are known from the winter period from underground spaces near the village of Hlyboke (Abelentsev et al. 1970; collections of the ZMUU).

### ***Vespertilio murinus* (Linnaeus, 1758)**

Published data on the distribution of this species in the Transcarpathian region are very insufficient. In the last years we obtained a lot of new data, especially in the migration period. Mass appearance of migrating individuals was observed in the region by the end of October and November, especially in many settlements.

During the breeding period, individuals of *Vespertilio murinus* have been found using bat detectors in many settlements of the basin, from the lowland (village of Velyka Dobron') up to the mountains (Volovets town). Bats were found in attics, tree hollows, crevices of rocks, where females use to aggregate in large numbers (Abelentsev et al. 1956).

Information on the final destination of migrations is very poor. Hibernation sites of the species within the territory of Ukraine are known only from the Rakhiv town (the Transcarpathian region), where winter colonies are found in buildings in cavities and between window frames (Pokynchereda 1999). Individuals observed in the Transcarpathian region in autumn probably fly further to the southwest. This hypothesis is supported by recoveries in Romania and Austria of specimens ringed in Byelorussia (Kurskov 1965).

## **General analysis of bat fauna in the study area**

A relatively high species richness is characteristic to the bat fauna of the study area, which can be attributed to the combination of different faunistic elements. Spatial differentiation of the region and differences between environmental conditions (as well as climatic) are also an important factor. They have an accordingly essential influence on bat species composition and abundance. Besides boreal Palaearctic elements (*Myotis daubentonii*, *Plecotus auritus* etc.), species of the Mediterranean fauna (*Rhinolophus ferrumequinum*, *Myotis blythii*, *Plecotus austriacus*, *Miniopterus schreibersii* etc.), and taxa of the western Palaearctics (*Myotis myotis*, *Pipistrellus nathusii*, *Barbastella barbastellus* etc.) are present here.

In total, 21 bat species (plus *Miniopterus schreibersii*) have been recorded in the studied part of the Latorytsia river basin; that is almost the whole bat fauna of the Carpathians.

According to the results of bat detector surveys, *Nyctalus noctula* is the most numerous bat species in the region in the summer and migration period. *Eptesicus serotinus*, *Pipistrellus nathusii*, *P. pipistrellus*, *Myotis daubentonii* are relatively numerous as well.

Owing to the combination of different optimal habitats for bats, among them various types of wetlands and rarefied forests or forest edges, the floodplain forests are relatively rich in both

the number of species and individuals. Quite high bat diversity has been recorded in floodplain forests with prevailing oak trees, such as the study plot N 1 (Peresh, Chomonyn, Kozuptov, Velyka Dobron' localities), as well as in meander parts of the Latorytsia river with a lot of old willows (study plot N 2). In total, 14 bat species were recorded on the plot N 1. Occurrence of some other bat species, which have been found in the neighbouring parts of the Transcarpathian plain (e.g. *Pipistrellus pygmaeus*), is possible there too. 11 bat species were observed on the study plot N 2, which may be a result of the presence of larger areas of wetlands, as some species of closed forests, which prefer relatively dry habitats, are missing there. Presence of a number of natural shelters like hollows in old trees, which are situated along the river, oxbows and channels make these areas key bat habitats in the region, especially for many tree-dwelling bat species (first of all *Nyctalus noctula*, *Myotis daubentonii*, *Pipistrellus nathusii*, *Plecotus auritus* etc.).

### Possible threats and conservation of bats in the region

Of the bat species recorded in the study area, eight are listed in the Red Data Book of Ukraine (1994): *Rhinolophus ferrumequinum*, *Rhinolophus hipposideros*, *Barbastella barbastellus*, *Miniopterus schreibersii*, *Myotis bechsteinii*, *Myotis nattereri*, *Myotis dasycneme*, *Myotis emarginatus*. Nine bat species (*Rhinolophus ferrumequinum*, *Rhinolophus hipposideros*, *Barbastella barbastellus*, *Miniopterus schreibersii*, *Myotis bechsteinii*, *Myotis blythii*, *Myotis dasycneme*, *Myotis emarginatus*, *Myotis myotis*) are included in Annex II of the EU Habitats Directive (1992).

Taking into consideration the specific requirements of different groups of bat species (cave-dwellers, tree-dwellers and eurytops; Woloszyn & Bashta 2001) which occur in the Ukrainian part of the Latorytsia river basin, as well as elsewhere in Europe, it is obvious that they need specific conservation measures (in addition to those general for all bat species).

Human disturbance of colonies roosting in caves and especially in attics of houses and churches is a serious threat to some bat species. Restoration of old houses and churches is another factor, which could affect bat populations as well. Cave-dwelling and home-dwelling bat species are the most concerned, like *Rhinolophus ferrumequinum*, whose numbers declined in the second half of the 20th century. The increasing number of visitors to caves is one of the most important negative factors for bat communities in caves. The main measure for the conservation of cave bat species could be the protection of entrances into underground spaces, for instance, the installation of grills. Particularly the mine complex near the village of Hlyboke, Uzhgorod district, needs a strict protection.

Habitat changes also have to be mentioned, as they have a great impact on bat populations. The decline of bat numbers could be also attributed to the changes of landscape structure, which influence the number of potential shelters; reduction of foraging habitats and some qualitative changes, like the general economic transformation of the region (development of agriculture, industry, urbanization). Large-scale use of pesticides in agriculture also influences species abundance. The decline of forest species could be a result of reduction of summer roosts and degradation of habitats – reduction of the number of tree hollows, old forests, rejuvenation of the forest structure etc.

Floodplain forests of the Transcarpathian lowland are of great value and represent unique places of native vegetation with high habitat diversity. However, only a small part of this region has a status of a protected area. The rest is under strong industrial pressure, above all forest logging and animal grazing, which seriously threatens the existence of many rare and valuable natural communities.

The most important measures for the protection and maintenance of the proper state of bat populations include preservation of hollow trees and installation of artificial shelters (bat boxes) in forests with insufficient quantity of natural shelters. There are many alluvial forests in the Latoritsa river basin with the prevalence of old oaks (*Quercus robur*), which are very suitable for bats. Such woodlands should be strictly protected, especially because a part of them has been destroyed recently.

Designation of a protected area in the lower part of the Latoritsa river, a region with high biodiversity, is highly desirable. In the future, this region could be connected with the already existing protected area (PLA Latorica) in Slovakia, with the aim of establishing a bilateral nature reserve. It would enable to protect a chain of habitats which are of great importance for many animal species as an ecological corridor for migrations and exchange of genetic information.

## Souhrn

**Fauna netopýrů nížinné a podhorské části povodí řeky Latorice (západní Ukrajina) se zvláštním zřetelem k lužním lesům.** Příspěvek shrnuje nové údaje z terenního výzkumu spolu s literárními údaji a údaji z museálních sbírek, týkající se výskytu netopýrů v nížinné a podhorské části povodí řeky Latorice (tedy území hraničící s Maďarskem a Slovenskem). Celkově bylo ve zkoumané oblasti zaznamenáno 21 druhů netopýrů. Hlavní důraz byl kladen na faunu lesů, zvláště lužních lesů ve dvou územích: (1) Velká Dobroň (14 druhů) a (2) meandry řeky Latorice (11 druhů). Devět druhů netopýrů (*Rhinolophus ferrumequinum*, *R. hipposideros*, *Barbastella barbastellus*, *Miniopterus schreibersii*, *Myotis bechsteini*, *M. blythii*, *M. dasycneme*, *M. emarginatus*, *M. myotis*) je uvedeno v Příloze II Direktivy o biotopech EU (1992). Zdůrazněna je nezbytnost proklamace chráněného území v dolní části povodí Latorice; v budoucnu by tato oblast mohla být spojena s již existujícím chráněným územím (CHKO Latorica) na Slovensku, s ideou ustavení bilaterální přírodní rezervace.

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