AGREEMENT ON THE CONSERVATION OF BATS IN EUROPE

NATIONAL REPORT TO THE IMPLEMENTATION OF THE "EUROPEAN BATS AGREEMENT"

National report from Belarus, 2001

Name of Party: Belarus
Date of Report: 1 March 2001
Period Covered: A survey of the state of Chiroptera fauna for the second half of the XX century (1950 – 2000)
Competent Authority:
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B. Status of Bats in Belarus

Summary details of Resident Species

The list of the Belarussian theriofauna includes 15 European Bat species, 6 of which are recorded in the Red Data Book of Belarus (Table 1). A summary of each species status is found below.

Species	Distributional status	Estimated Faunal Status	Red Data Book of Belarus status	Summer Roost	Winter Roost	Trend
Myotis myotis	Restricted	Rare	III	?	-	?
Myotis nattereri	Restricted	Rare	III	B	?	?
Myotis mystacinus	Widespread	Common		B, TH	B	0/-
Myotis dasycneme	Restricted	Rare	III	B, TH	?	?
Myotis daubentonii	Widespread	Common		B, TH	C	0
Plecotus auritus	Widespread	Common		B, TH	B, TH, C	0
Barbastella barbastellus	Restricted	Rare	III	B, TH	TH, C	?
Pipistrellus pipistrellus	Widespread	Common		B, TH	-	0/+
Pipistrellus nathusii	Widespread	Numerous		B, TH	-	0/+
Nyctalus leisleri	Widespread	Rare	III	TH	-	?
Nyctalus noctula	Widespread	Numerous		TH	-	0
Nyctalus lasiopteris	?	Individual find	III	?	-	?
Eptesicus serotinus	Widespread	Rare		B	B, C	?
Eptesicus nilssoni	Widespread	Rare	III	B	-	?
Vespertilio murinus	Widespread	Rare		B	B, C	?

1. Greater Mouse-eared Bat (*Myotis myotis*)
A rare, supposedly straying species for Belarus, encountered in the Southwest part of the country (Brest and Grodno Regions). Five encounters have been recorded. The last known finding was made in July of 1970 in the Pinsk District of the Brest Region (Kurskov, 1981). No information on the quantity and places of habitat is available.

Protection measures: recorded in the Red Data Book of Belarus (3^d category). Trapping and shooting is banned.

2. Natterer's Bat (*Myotis nattereri*)
A rare settled species. The status requires further clarification, since isolated findings were only made on the territory of the National Park "Belovezhskaya Puscha" (Kamenetsky District, Brest Region), although the structure of its natural habitat encompasses the whole territory of the country. Six encounters have been recorded. The last known discovery was made at the end of the 1956. Presumably it spends winter on the territory of Belarus. It lives in both natural habitats and habitats of anthropogenic origin. No data on population dynamics is available.

Protection measures: recorded in the Red Data Book of Belarus (3^d category). Trapping and shooting is banned.

3. Whiskered Bat (*Myotis mystacinus*)
A common settled species found throughout the whole territory of the country. Summer shelters are of both natural and anthropogenic origin. It has been recorded only in buildings during wintertime. Populations living in the northern part of the country can migrate to Lithuania and Estonia to spend the winter. A decline in the population numbers has been recorded in the southwestern regions of Belarus.

4. Pond Bat (*Myotis dasycneme*)
A rare species observed in the southwestern (Grodno region) and northern (Vitebsk region) parts of the country. Information only about 8 findings in Belarus is available. The Belarussian part of the natural habitat requires further clarification. During summertime it has been recorded both in natural shelters (tree hollows) and in shelters of anthropogenic origin (residential constructions). No data on the hibernation places and quantity on the territory of Belarus is available.

Protection measures: recorded in the Red Data Book of Belarus (3^d category). Trapping and shooting is banned.

5. Daubenton's Bat (*Miotis daubentoni*)
A common widely spread settled species. During summertime it settles both in natural shelters (tree hollows) and in man-made constructions. Wintering species a rule has been noticed in shelters of anthropogenic origin (vaults, basements etc). Two subspecies are quite likely to be found throughout the territory of the country: nominal and describes for the Central Russia.

6. Brown Long-eared Bat (*Plecotus auritus*)
A common widely spread settled species. On the territory of Belarus it is characterized by a wide choice of habitats and shelters of both natural and

anthropogenic origin. Findings are known during wintering in tree hollows and man-made bird nests. The quantity is presumably stable.

7. Barbastelle (*Barbastellus barbastellus*)
A small confined to the territory of Belarus settled species. It is found only on the territory of the far western regions of Belarus within the boundaries of Brest and Grodno regions. On the territory of the National Park "Belovezhskaya Puscha" there is a permanent wintering shelter for this species where up to 300 individuals of Barbastelle gather at times. In Belarus it is found both in natural shelters and in shelters of anthropogenic origin. No data on population dynamics tendencies is available.

Protection measures: recorded in the Red Data Book of Belarus (3^d category). Trapping and shooting is banned.

8. Common Pipistrelle (*Pipistrellus pipistrellus*)
A common widely spread migrating species. Although it is found throughout the whole territory of the country the highest numbers of this species have been recorded for the western regions where the quantity of Common Pipistrelle is higher than this of the Nathusius's Pipistrelle. The shelters are of both natural and anthropogenic origin and are very varied. It has not been recorded wintering. The quantity is stable.

9. Nathusius's Pipistrelle (*Pipistrellus nathusii*)
A numerous widely spread migrating species. It is found everywhere on the territory of Belarus. Unlike Common Pipistrelle the highest quantity of Nathusius's Pipistrelle has been recorded for the northwestern regions of the country where it is the most represented species of bats. A wide range of shelter options of both natural and anthropogenic origin has been noted. Nathusius's Pipistrelle has not been recorded wintering. The population is stable.

10. Leisler's Bat (*Nyctalus leisleri*)
A rare migrating species found on the whole territory of the country. It has been noted in Belarus only during summer period. It uses the holes in old trees for shelter. There is no mention of it using shelters of anthropogenic origin. The numbers on all the territory are low and depend on the presence of old hollow trees. The dynamics of change are not known.

Protection measures: recorded in the Red Data Book of Belarus (3^d category). Trapping and shooting is banned.

11. Noctule Bat (*Nyctalus noctula*)
The most numerous species of Cheiroptera widely spread on the whole territory of the country. The species is trance-boundary migrating and possibly hibernating in small numbers on the territory of Belarus. The quantity in different regions is uneven

and depends primarily on the quantity and the structure of ripening and ripened forestry. As a rule it uses natural shelters (tree hollows).

12. Greater Noctule Bat (*Nyctalus lasiopterus*)
It was included into the faunistic lists on the basis of a single finding made in August of 1930 in the Bragin District of Gomel Region. In spite of the fact that Belarus lies within the northern boundary of the hypothetical natural habitat of this species, no information of it actually dwelling on the territory of Belarus is available. The expediency of including Greater Noctule Bat into the faunistic list of theriofauna and the Red Data Book is questionable and requires confirmation through new findings of the species on the territory of the country.

13. Serotine (*Eptesicus serotinus*)
A small settled species. In Belarus it is found in sinantropical places of habitat. Both winter and summer shelters are associated with man-made constructions. It is found on the whole territory of the country although spread unevenly. The quantity and distribution to a large degree depend on the availability of wintering places. No data on population dynamics tendencies is available.

14. Northern Bat (*Eptesicus nilssoni*)
A rare migrating species found on the whole territory of the country. Most findings have been made in the southern regions (Brest and Gomel). No hibernation in Belarus has been recorded. Summer shelters for the most part are assotiated with the man-made constructions. No information on the quantity and its dynamics is available.

Protection measures: recorded in the Red Data Book of Belarus (3^d category). Trapping and shooting is banned.

15. Parti-coloured Bat (*Vespertilio murinus*)
A small hibernating species found on the whole territory of Belarus. Summer and winter shelters are assotiated with the man-made constructions. No data on population dynamics tendencies is available.

There are individual reports (Pikulic, Demianchic, 1999) about findings in the southwest of the country *Myotis brandti* and *Plecotus austriacus*. But they were not confirmed collectively. In spite of the fact that Belarus lies within the eastern boundary of the hypothetical natural habitat of these species, including them into the faunistic lists is premature and requires additional collection of facts.

C. General

Researches of Chiroptera in Belarus

The materials on Chiroptera available in the country were collected in the 30s, the second half of the 40s – 80s of the XX century and are for the most part based on the faunistic researches of this group of mammals, conducted by the Belarussian zoologists I. N. Serzhanin and A. N. Kurskov.

The first most complete specific list of Chiroptera is associated with the publication of the monograph by I. N. Serzhanin "Mammals Of Belarus" (1956). Researches by A. N. Kurskov on territorial-biotopical distribution and biology of Chiroptera in the southwestern and central parts of the country fall at the 60s and 80s. He is also doing ringing of animals to find out migration routes of the migrating species.

In the 90s researches of Chiroptera are of uncoordinated sporadic nature and most of the time restricted to gathering of new data on the ecology and faunistics of the given group. Long-term work in this line of research was performed in Brest region and on the territory of the National Park "Belovezhskaya Puscha" by the specialists from the faculty of biology at the Brest University, M. G. Demianchik and V. T. Demianchik. Occasional researches on the territory of the National Park "Pripiatsky" were carried out by I. M. Zenina, and on the territory of the Berezinsky Reserve by the employers of the Zoological Museum of the Moscow State University, A. V. Borisenko and S. V. Kruskop and a scientist from the Reserve A. P. Kashtalilan. In august of 1998 Chiroptera species composition was explored by Gunars Peterson and Vieturs Vintulis of the Latvian Agricultural University (Elgava city).

A long-term prospect of studying this group is only present for Brest and adjacent regions where (at Brest University) there is a bats specialist. Training of another specialist on Chiroptera is intended at the post-graduate school of the Academy of Sciences of the Republic of Belarus in 2001-2004 for the Institute of Zoology (Minsk).

Regional varieties

On the basis of species structure and numerical strength and the extent of exploration of the Chiroptera for the territory of Belarus several geographical regions can be identified:

1. The western part of Brest region and the southwestern part of Grodno region including the territory of the National Park "Belovezhskaya Puscha". Alongside with coniferous forests there is a good deal of deciduous forests there. The region is characterized by the highest density of the Cheiroptera in Belarus and a presence of a series of wintering places both individual and collective of: Brown Long-eared Bat, Northern Bat, Serotine, Barbastelle, Daubenton's Bat, Whiskered Bat, Pond Bat. There is a wintering colony of Barbastelle within the bounds of "Belovezhskaya Puscha". The biggest wintering colony of mixed type in the republic is situated within the bounds of

the Brest city. The region is the most studied in Belarus from the chiropterological point of view.

2. The southwestern part of the republic within the bounds of the southern part of Pripiat and Dnepr river basins (Belarussian Polesye, the western part of Brest and Gomel regions). It is a part of the European natural region of the deciduous forests. It is to a great extent similar to the previous region in terms of the species composition, climatic conditions and the structure of Chiroptera ecotope, although the fauna of bats has been explored to a much lesser extent in the region. It has good prospects from the point of view of discovering rare species of Cheiroptera for the Republic of Belarus (Leisler's Bat, Greather Noctule Bat, Pond Bat and Greater Mouse-eared Bat), places of wintering gatherings and studying the seasonal migration roots.
3. The northern Belarus within the bounds of Vitebsk Region and the northern part of Minsk and Grodno regions. Characteristic for these regions are: spruce forests with a slight admixture of deciduous forests, a big amount of post-glacial lakes (first of all in the most northern part of the republic – Belarussian Poozerie), colder weather-climatic conditions. The region is notable for the highest occupancy of the territory and the topmost integrity of the natural ancient forests in Belarus. The state of exploration from the chiropterological point of view is unequal – the most complete reports are available for the Berezinsky Reserve and suburbs of the Vitebsk city. Such rare species for the republic as Leisler's Bat, Northern Bat and Pond Bat have been recorded in the region. Massive wintering gatherings have not been discovered here, only small wintering places of not numerous mono-species and mixed Chiroptera groupings are known. The region is interesting in terms of studying seasonal migrations of certain species.
4. Central and Eastern Belarus (Minsk and Mogilev regions). These are ones of the most populated and antropogenical parts of the country. And yet they are the most understudied from the chiropterological point of view. The data for the Chiroptera species composition for these regions is very scarce, the final species make-up has not been determined yet, occasional researches were only performed for the surroundings of Minsk and Bobruysk. The region is promising in terms of looking for new rare species and wintering colonies, situated and living in the conditions of highly antropogenical landscape.

Data collection

The biggest collections made on the territory of Belarus are kept at the Zoological Museum of the Belarussian State University (Minsk; more than 200 items) and at the Zoological Museum of the Moscow State University (Moscow; more than 70 items). Single specimens are also found at the zoological collections of the Brest University and Grodno Museum of Local Lore (Grodno).

Habitats and roost sites

Due to the absence of rocks and cave formations in the country Chiroptera mainly use old hollow trees as a main natural shelter. Different refuges of anthropogenic origin such as basements and attics of buildings, cavities and cracks in buildings paneling, underground vaults and bunkers, artificial nesting-places are widely utilized. The hiding-places patterns of migrating species are similar to those of wintering species. Only individual mass wintering places situated in Brest region and on the territory of the National Park "Belovezhskaya Puscha" are known (about 150 species of *Barbastella barbastellus* it was formed in the 60s and 70s) (M. G. Demianchik, V. T. Demianchik 1999) and in the basements oft the historical memorial "Brest Fortress" (Brest) (*B. Barbastellus* predominate (up to 90% of wintering species) with an admixture of *M. daubentonii, M. nattereri, Ep. serotinus, Ep. nilssonii, P. auritus* about 350 species totally it was formed in mid 40s) (M. G. Demianchik, V. T. Demianchik 1999). The wintering place in "Belovezhskaya Puscha" is under protection; being a part of the National Park, the wintering place in "Brest Fortress" was given the status of a local reserve.

Seasonal Migrations

Chiroptera ringing that was performed in the 40s – 80s in Belarus, in the southwestern and central parts of the country (more than 1500 animals of 10 species were ringed from 1948 to 1975) provided data on migration of Noctule Bat and Parti-coloured Bat. (Kurskov, 1981).

Migration routes of migrating species from the central and southwestern parts of the country to the countries of Western Europe which are situated to the south of Carpathian Mts such as Austria, Hungary, Romania go through the western parts of Ukraine, Poland, Czechia and Slovakia.

Migration of Noctule Bat seems to go from the southern and central regions of Belarus through the territory of Ukraine, Poland, Czechoslovakia through Carpathian Mts to Hungary. Ringed during summer months (July – August) in the southwest of Belarus (the National Park "Belovezhskaya Puscha") Noctule Bats were caught in late spring – the first half of summer in Carpathian Mts (Krakov province in Poland) and its foothills (on the Poland – Czechoslovakia frontier). An animal ringed in the eastern part of the country (Mogilev region) was registered during the spring migration in Ternopol region of Ukraine, one ringed in the wintering place in Hungary was noted in the central part of Belarus (suburbs of Ivenets, Minsk region) (data by A. Kurskov, 1981). Noctule Bat appears on the territory of Belarus in the northern part of the country in the second half of May and flies away already by the beginning of August, in the southern regions (Brest region) – in the middle of September (by A. Kurskov, 1981).

Parti-coloured Bats ringed in summer months on the territory of the National Park "Belovezhskaya Puscha", were caught in a wintering in Romania (Galets region, Fokshany district, Restoak village) and in Austria (Styria province, Bruck). On the territory of Belarus this species appears already in May and they start to fly away to the places of wintering in August.

No data is available about migration routes of other migrating species of Chiroptera found in Belarus.

Count

For the most species of Chiroptera the quantity and its temporal dynamics are not known. The biggest species for the territory of the whole country are Nathusius's Pipistrelle, Noctule Bat, Whiskered Bat, Daubenton's Bat, Brown Long-eared Bat and Common Pipistrelle are common. The rest 9 species are rarely found or known for the territory of Belarus through single findings. Due to the absence of data it is currently impossible to even roughly estimate the total numbers of any of the 15 species living in the country.

In recent years a decline in the numbers of Whiskered Bat, Parti-coloured Bat and a rise in the numbers of Daubenton's Bat have been recorded for the southwestern regions of the country (Demianchik, 1988).

The threat to the quantity

Among the reasons contributing to the decline of the numbers of Chiroptera in Belarus the following should be mentioned:

1. Reduction in the quantity of natural shelters in the natural habitats, associated with logging of the ancient forests. The main natural shelters for Chiroptera in the environment of Belarus are hollow trees. Substitution of ancient forests by younger forest plantations, sanitary felling decrease the number of these shelters. The housing capacity of natural habitats deteriorates as a result. On the whole the biggest quantitative and species composition of Chiroptera is recorded namely for the antropogenical (and not for the well preserved natural) habitats. This brings about problems described in paragraphs 3 – 5.

2. Decrease in the forage reserve as a result of utilization of chemical weed-killers in agriculture and forestry. By the end of the 90s the tendencies of lessening of this factor's influence appeared.

3. Urbanization of inhabited localities and replacement of wooden buildings by brick and concrete ones which brings down the number of shelters suitable for Chiroptera in the anthropogenic landscape.

4. The absence of natural places of wintering in the country (most wintering places are recorded in the man-caused ecotopes).

5. A high disturbance factor on the part of people and sinantropical predators in the anthropogenic ecotopes, competition with other species of mammals and birds.

Protection of Chiroptera

Chiroptera alongside with other species of Belarussian fauna is quoted as the object of protection of NBSAP of Belarus. The concept of Government policy in the sphere of environment protection (1995), A Decree on Environment Protection (1992), A Decree on Especially Protected Territories and Objects (1994), A Decree on protection and utilization of wild fauna also presuppose protection of these animals. Still there is no conceptual document with specific elaborations and suggestions on preservation of different species of bats and their ecotopes in the country.

Seven species of Chiroptera are recorded into the Red Data Book of Belarus (of 1993). All of them are given the third category of protection.

D. Ratification

The agreement on the conservation of bats in Europe (EUROBATS) has not been signed yet. It may be signed in the coming years.

E. International Co-operation

None.