

## REPORT ON THE IMPLEMENTATION OF 'EUROBATS' IN HUNGARY

### A. General information

Party: Hungary  
 Date of Report: 18.08.2006.  
 Period Covered by Report: 09.2003. – 08.2006.  
 Competent Authority: Ministry of Environment and Water  
 Appointed Member of the AC: Dr. Zoltán Bihari

### B. Status of bats within the territory of the Party

#### **B 1.-4 Summary details of resident species, Status and trends; Habitats and roost sites; Threats**

##### 1. Table Bat species and their status in Hungary

1. Resident species	Status	Trend (last 5 years)	Habitats	Summer roost	Winter Roost	Threats
<i>R. ferrumequinum</i>	S	decline	M F S	95% A 5% CM	100% CM	AC, RB
<i>R. hipposideros</i>	P	stable	M F S	70% A 30% CME	100% CME	AC, RB
<i>R. euryale</i>	S, R	stable	M F ( <u>W</u> )	100% CM	100% CM	AC
<i>Myotis emarginatus</i>	S, R	decline	<b>M, F, S</b>	100% A	C	AC, RB
<i>M. bechsteinii</i>	S, R	?	M F	100% H	95% H 5% C	AC, LT
<i>M. nattereri</i>	P	decline	M F	100% H	80% H 20% C	AC, LT
<i>M. dasycneme</i>	S	stable	O S W F	60% A 40% H	95% H 5% C	AC, RB, LH, <b>LT</b>
<i>M. daubentonii</i>	P	?	O S W F	95% H 5% A	70% H 30% C	AC, RB, LH, <b>LT</b>
<i>M. mystacinus</i>	P	?	M F W	100% H	mainly H rarely C	LT, AC, LH
<i>M. brandtii</i>	P	?	M F	100% H	mainly H rarely C	LT, AC, LH
<i>M. alcaethoe</i>			M F	? 100% H	? HC	LT, AC, LH
<i>M. myotis</i>	P	stable	M F S	80% A 20% CM	100% CM	RB, AC
<i>M. blythii</i>	P	stable?	O S	90% A 10% CM	100% CM	RB, AC
<i>Nyctalus noctula</i>	P	stable	O S F	60% B 40% H	100% HB	LT, IK, RB
<i>N. lasiopterus</i>	S	stable	M F	100% H	100% H	LT
<i>N. leisleri</i>	P, R	?	M F	100% H	100% H	LT
<i>Eptesicus serotinus</i>	P	stable	O S B	80% A	5% CM 95% ? (B, A)	RB, IK, AC

<i>E. nilsonii</i>	P	?	M F	?	C	AC
<i>Vespertilio murinus</i>	P	?	O S B	?	?	RB, IK
<i>Pipistrellus pipistrellus</i>	P	decline	O F S B	80% H	90% H	IK, RB, LT
<i>P. pygmaeus</i>	P	?	?	?	?	RB
<i>P. nathusii</i>	P	?	O W	100% H	100% H	LT
<i>P. kuhlii</i>	P	increase	O S B	?H	?HB	RB, IK
<i>Hypsugo savii</i>	P	increase	M F S B		?	?
<i>Plecotus austriacus</i>	P	decline	O S	80% A	5% CM 95% ? (E, A)	RB, IK AC
<i>P. auritus</i>	P	?	M F	100% H	80% H 20% CM	LT, AC
<i>Barbastella barbastellus</i>	S, R	decline	M F	100% H	30% CM 70% H	LT, AC
<i>Miniopterus schreibersii</i>	S	increase	M F	100% CM	100% CM	AC

Abbreviations and acronyms:

#### PROTECTION

P Protected  
S Strictly protected  
R National Red List

#### ROOST

A Attic, Building  
B Block of house  
C Cave  
E Cellar  
H Tree hollow  
M Mine

#### HABITAT

F Forest  
M Mountain region  
O All over in Hungary  
S Settlement  
W Wetland

#### THREAT

AC Activities in caves  
IK Intentional killing in housing estates and week-end houses  
LH Loss of habitats  
LT Loss of old trees  
RB Reroofing / renovation of building

#### Mediterranean horseshoe bat (*Rhinolophus euryale*)

This is a rare, strictly protected species in Hungary. All of the known bigger colonies live in Northern Hungary, west from the Danube River only a couple of dozen individuals survive. Most of the animals live in warmer mines and the minority lives in caves throughout the year. Only one colony is known from attic of a church. The largest colony consists of 3000 individuals. In winter more than 1000 ind. can aggregate in a cave.

#### Greater horseshoe bat (*Rhinolophus ferrumequinum*)

It is a sporadic, strictly protected species in Hungary. Several colonies live in churches during summer. An average nursery colony consists of 100-250 individuals, but the biggest one involves 400 individuals. 200 individuals form the biggest winter colony. From the NW quarter of the country the species is extincting just now.

Lesser horseshoe bat (*Rhinolophus hipposideros*)

It is a sporadic species. They hibernate in caves, mines and cellars. The biggest estimated winter colony consisted of 700 individuals. The biggest summer colony counts 112 individuals. Summer colonies roost in churches and mines.

Bechstein's bat (*Myotis bechsteinii*)

The Bechstein's bat is a strictly protected, rare species. They live all year in forests in the mountain regions. We can find them occasionally in caves, but only in winter.

Lesser mouse-eared bat (*Myotis blythii*)

It is not a very rare species in Hungary. Summer colonies roost in churches, while they spend winter in caves and mines. The biggest summer colony numbers about 500 bats, while the biggest winter colony involved 400 individuals.

Brandt's bat (*Myotis brandtii*)

Brandt's bat is not a rare species in the mountain forests of Hungary. They roost in tree-holes in winter and summer. Only a few specimens hibernate in caves.

Pond bat (*Myotis dasycneme*)

A rare, strictly protected species in Hungary. It is a sporadic species, but tends to form larger colonies, especially in buildings along the river Tisza and Danube. We could find only separated individuals in caves during winter. In summer they roost in buildings and in forests.

Daubenton's bat (*Myotis daubentonii*)

This species is attached to water surfaces. It is a frequent species on the wetland areas. They roost in tree holes in summer. It is not known surely where they stay in winter, because only a little part of the population hibernate in caves. Maybe they hibernate in tree holes.

Geoffroy's bat (*Myotis emarginatus*)

It is a strictly protected species. Rare but it tends to form large colonies. The most significant colonies of Hungary live in the North and the East part of the country (Hungary helyett). Nursery colonies stay in the attics of churches and other buildings in summer. The highest number of individuals was estimated at about 2000. We don't know notable hibernating colonies only few individuals (less than 10) in caves.

Greater mouse-eared bat (*Myotis myotis*)

It is a frequent species in Hungary. Several big nursery colonies live in churches and also in mines. The biggest one is over 4700 individuals. They hibernate in caves. The largest colony consists of 9000 animals. Some of the bats migrate to Slovakia for winter.

Whiskered bat (*Myotis mystacinus*)

Not rare, but not a very well-known species. Usually they live in wide forests, where they hunt in spring-valleys. We found hibernating individuals in caves only a few times. They roost in tree holes all year round.

*Myotis alcathoe*

Regularly found in valleys with small brooks in the Bükk Mountains. One occurrence is known from Zemplén Mountains and one from Mátra Mountains. It is probably not a rare species in the mountain woodlands of the area, but not studied.

Natterer's bat (*Myotis nattereri*)

Not rare, but not a very well known species. Usually, lives in wide forests. We found hibernating individuals in caves only occasionally. They roost in tree holes throughout the year.

Kuhl's pipistrelle (*Pipistrellus kuhlii*)

It is a rather new species in the Hungarian fauna, but specimens have been captured in nearly every regions of Hungary in the last 10 years. Probably lives in buildings.

Nathusius' pipistrelle (*Pipistrellus nathusii*)

It is not a common and not a well known species. They roost in tree holes all year round. Occur only in lowland and mostly along rivers.

Common pipistrelle (*Pipistrellus pipistrellus*)

It is a common species. They live in forests and in human settlements also. We found hibernating individuals in caves only a few times. They roost in tree holes all year round or sometimes in the bell-tower of churches where the most significant colony was over 100 individuals. In the southern part of Hungary over 2000 ind.

Savi's pipistrelle (*Hypsugo savii*)

It is one of the rarest species in Hungary. We have found it only a few times. We do not know its roost. In the SW part of H. lactating females were captured.

Pygmy bat (*Pipistrellus pygmaeus*)

It is a newly described species in the Hungarian fauna. We observed them with the help of bat detector at many places. Their roosts are unknown. It is probably common, everywhere?

Greater noctule (*Nyctalus lasiopterus*)

A very rare, strictly protected species in Hungary. It lives only in the Northern part of Hungary, in the heart of mountains. All of the captured bats were mist-netted at small ponds and streams. The only known colony was found in a tree hole of a beech forest.

Leisler's bat (*Nyctalus leisleri*)

It is not a rare forest-dwelling species lives mostly in mountain regions. Leisler's bats roost in wide forests all year round. They never go to caves and mines.

Noctule (*Nyctalus noctula*)

The most frequent species in Hungary. It is a forest-dwelling species, but it is very common in bigger towns, in prefabricated panel buildings.

Northern bat (*Eptesicus nilssonii*)

It is the rarest bat species in Hungary. Only four occurrences were reported in the western part of the country in the last 20 years. Nothing is known about its roosting ecology.

Serotine (*Eptesicus serotinus*)

It is the most widespread species in Hungary. It is very common in churches in summer, but we do not know wintering colonies. The biggest nursery colony is over 200 individuals. It's rare in caves, and only a few individuals hibernate under ground.

Parti-coloured bat (*Vespertilio murinus*)

The species is known from every part of Hungary, but mostly only one or two individuals from one place. There are only two known colony in Hungary, a male colony with 30 individuals and a nursery colony with 182 females. The colonies roost in crevices of cliffs. The known specimens were found in houses, blocks of flats, mist-netted near water, or found in owl pellets.

Barbastelle bat (*Barbastella barbastellus*)

It is a strictly protected species in Hungary. It lives typically in the woodlands of hills and mountains. Specimens roost in tree holes both in winter and summer. Only a few specimens hibernate in caves.

Brown long-eared bat (*Plecotus auritus*)

It is a frequent forest-dweller species. They roost whole year in tree holes. In winter some of them hibernate in caves.

### Grey long-eared bat (*Plecotus austriacus*)

It is a widespread species everywhere in Hungary. Summer colonies stay in attics; the largest one consisted of approximately 100 individuals. In winter they probably hibernate in cellars and mines. Slight decline

### Schreibers' bat (*Miniopterus schreibersii*)

It is a strictly protected species. Only a few big colonies are known. They stay whole year in caves and mines. The size of its biggest colony reaches 2500 individuals in summer and 3000 individuals in winter. After strong decline just no changes nowadays.

## **B.5. Data collection, analysis, interpretation and dissemination**

Data collection:

- Hungarian Mammal Database (Nature Foundation)
- House-dwelling bat database (Hungarian Bat Research Society)
- Register of specimens of museums (Hungarian Natural History Museum)

## **C. Measures Taken to Implement Article III of the Agreement**

### **C.6. Legal measures taken to protect bats**

In Hungary all bat species gained protection by law in 1901. The capture, killing, keeping and disturbance of bats in any way have been prohibited since that time. In 1974 the theoretical value of the animals was also determined as a fine for killing, capturing or illegal trade of them. Now the 28 species living in Hungary are all either protected or strictly protected (7 species). The two newly discovered species (*M. alcathoe*, *P. pygmaeus*) gained protection in 2005. So far one official species protection plan has been adopted by the minister for environment and water - for the Greater Noctule species (*Nyctalus lasiopterus*).

### **C.7. Sites identified and protected which are important to the conservation of bats**

The lists of the most important underground habitats and the most important buildings are completed. These roosts are visited at least once a year.

All caves are protected by law.

Due to becoming a member to the European Union, Natura 2000 sites have been designated. Ten bat species are listed on Annex II. of the Habitat Directive which occur in Hungary. All together 82 sites (habitats) have been designated under Natura 2000 (see the table below) for the ten species – from which there are overlaps obviously.

<i>Barbastella barbastellus</i>	29
<i>Miniopterus schreibersii</i>	6
<i>Myotis bechsteinii</i>	31
<i>Myotis blythii</i>	22
<i>Myotis dasycneme</i>	19
<i>Myotis emarginatus</i>	14
<i>Myotis myotis</i>	44
<i>Rhinolophus euryale</i>	4
<i>Rhinolophus ferrumequinum</i>	11
<i>Rhinolopus hipposideros</i>	22

### **C.8 Consideration given to habitats which are important to bats**

Regarding protected areas nature conservation provisions are identified in management plans. These are compiled by the competent national park directorates, approved by the Office for Nature Protection and finally the so called „C” documentation - indentifying obligations, restrictions and prohibitions for the given protected area – gain legal effect in a form of a ministerial decree.

The management plans for caves contain regulations concerning cave visits, research, and other activities (like filming) potentially causing disturbance or threat. These activities are either prohibited or must be permitted. The management plans also contain provisions regarding the

management of the certain habitat. For caves prohibitions concerning bats (e.g. disturbance, closing and protection of entrance) and buffer areas are identified as well.

So far 47 management plans have been completed for caves.

### **C.9. Activities to promote the awareness of the importance of the conservation of bats**

To encourage bat protection we publish and distribute information booklets, and attempt to convince people of the usefulness of bats and the importance of their protection through TV and radio programmes and newspaper articles. We organise lectures to educate pupils in primary and secondary schools and universities.

In the past triennium a Hungarian website has been launched on bat conservation ([www.hunbat.hu](http://www.hunbat.hu)) and operated by a nature conservation foundation.

The first Bats Museum in Hungary has been opened in the South-West, cavy part of Hungary – in Abaliget – greatly contributing to the awareness raising of the public, thus indirectly to bats protection as well.

We organized the „Bat Night” in several towns also, where mainly the youngs were active.

### **C.10. Responsible bodies, in Accordance with Article III.5 of the Agreement**

The Office for Nature Conservation (within the Ministry of Environment and Water) co-ordinates nature protection activities on national level: it sets priorities, adopts the management plans submitted by the national park directorates and approves species conservation plans. The 10 regional national park directorates carry out the nature conservation activities and represent the professional knowledge needed.

### **C.11. Additional action undertaken to safeguard population of bats**

#### Caves

Several information boards were placed in front of the most important caves.

#### Mines

It occurs to be a very serious problem that several mine openings are threatened by falling in. In the last year we fixed the most dangerous entrances.

The Office for Nature Conservation financed a project to make a database of the most important mines. The database is ready, and a new law on the protection of mines will be based on this.

#### Buildings

The members of Hungarian Bat Association continuously check the most important roosts in churches and castles. In Hungary colonies with more than 20 individuals are 'significant' and strictly protected. Several bat-friendly reconstructions have been carried out.

#### Panel buildings

In Hungary the noctule bat is the most urbanized bat species. Its main roost type occurs in blocks of houses in panel gaps. In the last fifteen years they have changed their habitat and nowadays this is the most common species in Hungary. These colonies are very threatened and the local people usually expel them, because of the noise, dirt they make and because they are afraid of them. They fly very often into the rooms. Therefore, it is a very important task to save these colonies.

### **C.12. Recent and ongoing programmes (including research) relating to the conservation and management of bats.**

#### **A. National Bat-monitoring Programme**

The protocol for national bat monitoring was adopted during the past triennium and monitoring has started tentatively in two national parks in 2004. After testing, the monitoring has begun on national level – in 8 of the 10 national parks- in 2005. Sampling covers house dwelling and roosting colonies, underground hibernating colonies and underground roosting populations. Monitored species are:

- 1) house dwelling:

*Rhinolophus hipposideros*, *R. Ferrumequinum*, *Myotis dasycneme*, *M. emarginatus*, *M. myotis*, *M. blythii*, *Eptesicus serotinus*, *Plecotus austriacus*.

2) underground hibernacula:

*Rhinolophus hipposideros*, *R. ferrumequinum*, *R. euryale*, *Myotis myotis*, *M. blythii*, *M. dasycneme*, *M. daubentonii*, *M. emarginatus*, *Miniopterus schreibersii*, *Pipistrellus pipistrellus*,

3) underground roosts:

any species occurring

First results have been submitted in 2006.

## **B. Other programmes and research**

- Bat boxes (Csaba Fehér, Miklós Szatyor, Imre Dombi, Péter Paulovics, Dénes Dobrosi, Tamás Galgóczy, István Géczi, Péter Gombkötő)
- Winter monitoring of caves (Miklós Szatyor, Peter Gombkötő, Péter Paulovics, Márton Juhász, Sándor Boldogh)
- Autumn netting near caves (Miklós Szatyor, Péter Paulovics )
- Ringing of *M. daubentonii* and *M. dasycneme* (Imre Dombi, Tamás Görföl, Péter Paulovics)
- Monitoring of mines (Zoltán Bihari, Péter Gombkötő, István Géczi, Sándor Boldogh, Tamás Görföl, Miklós Szatyor, Péter Paulovics)
- Forrest-dwelling bat research (Péter Estók)
- Monitoring of house-dwelling bats (Zoltán Bihari, Csaba Fehér, Szabolcs Závoczky, Dénes Dobrosi, Isván Géczi, Zoltán Molnár, Péter Gombkötő, Péter Paulovics)
- Taxonomy, systematics and zoogeography of Old World bats (Gábor Csorba)
- Activity registration by automatically operating equipment (Sándor Boldogh, Tamás Görföl, Imre Dombi)
- Research using bat detectors, voice recording and sound analysis (Sándor Zsebők)
- Bats of wetlands (Imre Dombi, Tamás Görföl, Dénes Dobrosi)
- Rehabilitation of injured and captured bats (Zoltán Molnár, Viktor Molnár)
- Ecology of *Pipistrellus nathusii* (Csaba Fehér, Sándor Zsebők)
- Settlement of bats by bat houses (Dénes Dobrosi)
- Pathoanatomy and pathophysiology of bats (Viktor Molnár)
- Veterinary treatment of sick and injured bats (Viktor Molnár)
- Endoparasitological (coprological) and ectoparasitological studies of bats (Viktor Molnár)
- Migration of *Myotis daubentonii* and *M. dasycneme* (Imre Dombi, Tamás Görföl)
- national conference on bats in every second year
- Bat Night

## **C.13. Consideration being given to the potential effects of pesticides on bats**

We have no information about effects of pesticides on bats. It doesn't seem to be a serious problem.

## **D. Functioning of the Agreement**

### **D.14. Cooperation with other States**

There has been a continuous contact for years with Slovakian bat researches in relation to the migratory routes of bats, in particular the Greater Horseshoe bat. The reason for this co-operation is that a significant proportion of the population of this species lives in Hungary, and then they migrate to winter to Slovakian caves and mines.

There is a close co-operation with Romanian colleagues to survey the caves and the bat colonies in Transilvania. The situation is the same in the case of eastern Hungarian house-dwelling bat colonies as in the case of HU-SLO connection.

### **D.15 Measures taken to implement Resolutions adopted by MoP**

The Department of International Treaties on Nature Conservation responsible for the implementation of the agreement co-ordinates between the Secretariat and the Office for Nature Conservation, the 10 national park directorates and the bat experts who actually carry out the implementation in Hungary.