# NATIONAL REPORT ON THE IMPLEMENTATION OF THE AGREEMENT ON THE CONSERVATION OF BATS IN EUROPE BULGARIA

**Contents:**



## A. General Information

*Name of the Party*: Bulgaria

*Date of Report*: 5 May 2000

*Period Covered*: January 1996 – March 2000

*Competent Authority*: Ministry of the Environment and Water (MEW)

*Organizations providing support and expertise:*
National Museum of Natural History - Sofia (NMNH)
Institute of Zoology - Sofia (IZ)
NGO Bat Research and Protection Group (BRPG)

*Appointed members of the Advisory Committee*:
Ms. Teodora Ivanova, NMNH
Dr. Rumiana Pandurska, IZ

## Status of Bats Within the Territory of Bulgaria

### 1. Summary Details of Resident Species

29 bat species have been recorded up to know on the territory of Bulgaria:

*Rhinolophus ferrumequinum*
Widely distributed and common species. Breeding colonies observed in small caves, between rocks or entrances of a larger caves, rarely in buildings; number: usually ca. 150-350 ind.
Winter - found in underground roosts: very often single ind. or groups of 10-15 ind., but also hibernating colonies of 200-500 ind. were recorded.

*Rhinolophus hipposideros*
Widely distributed and common species. Breeding colonies - mostly observed in buildings (lofts or other uninhabited premises; number: min. 5-6 ind. - max. ca. 30 ind. Winter - found only in underground roosts: very often single ind. - max. ca. 30 ind. in one roost.

*Rhinolophus euryale*
it is a common dweller of karst areas. It is the most frequently occurring species among the three "middle" horseshoe bats (more than 60 known localities). It makes mixed summer colonies with other cave-dwelling species with 100-400 ind. Hibernates in caves with biggest known colonies of about 1000-2000 ind. (mixed with *Rh. blasii* and *Rh. mehelyi*).

*Rhinolophus mehelyi*
Relatively rare cave-dwelling species. About 20 localities are known from underground roosts.

*Rhinolophus blasii*
is found in caves throughout the country during all the year. About 30 localities are known.

*Myotis myotis*
is one of the most abundant and widespread cave-dwelling bat species in Bulgaria. Summer roosts and hibernacula are known from natural caves and artificial galleries. 22 breeding colonies are known (Pandurska 1998).

*Myotis blythii*
Present distribution and status needs further studies, as it was often mistaken with *M. myotis*.

*Myotis nattereri*
The status is not known. It is considered to be rare in Bulgaria as well as on the Balkan peninsula.

*Myotis daubentonii*
Only few data available - most probably it might be found on whole Bulgarian territory in suitable biotops, but it is not very abundant anywhere. Single individuals have been found in caves during the winter.

*Myotis emarginatus*
Relatively common and widespread species. Summer roosts known in buildings and caves; nursery colonies of 200-500 ind. often sharing the same roost with *Rh. ferrumequinum* or/and *Rh. euryale*. Only single specimens found in winter in caves.

*Myotis mystacinus*
relatively frequent in suitable regions of the country (especially in wooded mountain regions).

*Myotis brandtii*
The status is not known. *M. brandti* was first recorded from the Rhodopes mountains (Horacek et al.1974). The few other records are from a similar mountain region in NW Bulgaria.

*Myotis bechsteinii*
is rare species restricted to specific habitats. Most records in Bulgaria are from old beech forests habitats in West and Central Balkan Mts.

*Myotis capaccinii*
is common cave-dwelling species in Bulgaria. It inhabitants the low karst areas all over the country. *M. capaccinii* forms colonies in the caves very often together with *M. schreibersii.* Generally hibernates in big water caves – two hibernacula with about 10-14 000 bats each are known. The biggest nursery colony is about 5000 ind. (usually the nursery colonies are about 200 – 1000).

*Plecotus austriacus*
is one of the most common and widespread species throughout the country. It hibernates regularly in underground roosts. No detailed studies available.

*Plecotus auritus*
Relatively rare, restricted to high mountain regions (most records are from sites over 1000 m altitude).

*Miniopterus schreibersii*
is one of the most common and widespread cave-dwelling bat species in Bulgaria. Up to now about 110 localities were identified according data in the literature and unpublished information. There are known 62 roosts of colonies of *M. schreibersii* in Bulgaria, including either summer, either winter, or both winter and summer underground roosts. More than 50 breeding colonies are known (size of colonies 50-2000 ind., max. 10 000). 11 important hibernacula have been identified in 1997/98; total winter population >70000. It often shares the same roost with *M. myotis, M .blythii, M. capaccinii.* Seasonal migrations between the winter and summer roosts (caves and mines) were registered (Ivanova 1999).

*Pipistrellus pipistrellus*
Common and widespread species, but no studies regarding its biology and ecology has been done. Summer roosts: buildings.

*Pipistrellus nathusii*
The status is not known. There are only few records of single specimens.

*Pipistrellus kuhlii*
3 records of single specimens from the South part of the country (Struma river valley and Black Sea cost).

*Hypsugo savii*
is very common and widespread species in Bulgaria. Summer roosts: in rocky crevices and buildings.

*Eptesicus serotinus*
Being one of the most common bat species in the country *E. serotinus* has been found throughout Bulgaria (especially in the karst regions). Nevertheless there is lack of information about its biology and only one breeding colony in building is observed till now.

*Eptesicus nelson*
The species was recorded for Bulgaria only once. A dead bat was found in Rila mountain, 2000m. a.s.l. (Hanak & Horacek 1986). This is the most southern point of distribution for *E. nilssonii* in Europe.

*Nyctalus noctula*
is widely distributed and common species in Bulgaria. Hibernating bats were found in buildings, hollow trees and caves. There are no data concerning the breeding roosts.

*Nyctalus leisleri*
Little is known about the status of *N. leisleri* (only 6 records were published). It is rare, although it may be present all over the country, where suitable habitats exist.

*Nyctalus lasiopterus*
The species was recorded only few times from Strandja Mts. and the town of Sofia. No other data concerning the status and distribution of *N. lasiopterus* in Bulgaria exist.

*Vespertilio murinus*
There are few records from low karst areas, as well as from mountain regions (900 – 2000 m a.s.l.). One breeding colony is known inhabiting under the wooden cover of mountain hut in Central Balkan Mts. (Ivanova 1998).

*Barbastella barbastellus*
The Barbastelle was considered as very rare species in Bulgaria. Due to the intense bat investigations in the last years, many new localities and roosts of rare species (including the Barbastelle) were found, but there are still very poorly studied regions. 14 localities of *B. barbastellus* are recorded up to now on the territory of the country: usually single males found hibernating in caves or mistnetted at cave entrances in the transitory periods. The known roosts are within altitudinal ranges from 150 to 1540 m a.s.l., but obviously the species prefers cool habitats of riparian or mountain beech and mixed beech-pine forests (Pandurska & Ivanova, in print).

*Tadarida teniotis*
has been recorded only twice (Pandurska 1992).

**2. Status and Trends**
Table 1. Status of Bats in Bulgaria: **V** - vulnerable, **NT** - not threatened, **DD** – data deficiency.

| **Bat species** | **Status - Bulgaria** |
|---|---|
| 1. *Rhinolophus ferrumequinum* | V |
| 2. *Rh. hipposideros* | NT (?) |
| 3. *Rh. euryale* | V |
| 4. *Rh. mehelyi* | V |
| 5. *Rh. blasii* | V |
| 6. *Myotis nattereri* | DD |
| 7. *M. daubentonii* | DD |
| 8. *M. emarginatus* | V |
| 9. M. mystacinus | DD |
| 10. *M. brandtii* | DD |
| 11. *M. bechsteinii* | DD |
| 12. *M. capaccinii* | V |
| 13. *M. myotis* | V |
| 14. *M. blythii* | V |
| 15. *Plecotus auritus* | DD |
| 16. *P. austriacus* | NT |
| 17. *Miniopterus schreibersii* | V |
| 18. *Pipistrellus pipistrellus* | NT |
| 19. *P. nathusii* | DD |
| 20. *P. kuhlii* | DD |
| 21. *Hypsugo savii* | NT |
| 22. *Eptesicus serotinus* | NT |
| 23. *E. nilssonii* | DD |
| 24. *Nyctalus noctula* | NT |
| 25. *N. leisleri* | DD |
| 26. *N. lasiopterus* | DD |
| 27. *Vespertilio murinus* | DD |
| 28. *Barbastella barbastellus* | DD |
| 29. *Tadarida teniotis* | DD |

***Trends***

The assessment of **trends** is very difficult as there are no quantitative data from the past. According Beshkov (1998) the decrease of the population of the cave-dwelling species for the period 1955-70 to 1988-1992 is 20-40%. The recent data from regular monitoring of some bat caves (1995-1999) show stable size of the bat population inhabiting them. For the moment data for the total population size of the different species inhabiting the territory of Bulgaria are not available (except the survey on *Miniopterus schreibersii*, that shows winter population of about 120 000, BRPG 2000.

**3. Habitats and Roost Sites**

see **B 1.**

**4. Threats**

Major threats to bats in Bulgaria:

- Disturbance in the roosts due to human activities
- Direct killing because of ignorance and prejudices
- Destruction of the roosts:

  - destruction of the caves due to explosions related to quarry work and road construction;
  - use of caves - for tourism, storage, dairies, mushroom-growing, etc.;
  - use of caves for drinking water supply (water catching), which is often accompanied by closing of the entrances;
  - bad forest management: clear cutting of old forests and unique hollow trees;
- Disturbance of feeding habitats
  - drying of wetlands
  - water pollution

**5. Data Collection**

- Data are collected by different specialists in national scientific institutions like the Institute of Zoology – BAS and the National Museum of Natural History – BAS.
- The NGO Bat Research and Protection Group works towards collection of data related to bat conservation, including data base for the underground roosts, relevant legislation, etc.
- There is no specially designed responsible institution for collecting and evaluating of data concerning bat conservation and management on national level, and efforts have to be given to assure effective collection and management of data in the future.

## C. Measures Taken To Implement Article III Of The Agreement

**1. Legal measures taken to protect bats, including enforcement action**

- Bulgaria had accede the following ***International conventions and agreements*** related to bat conservation:
  - Bern Convention on the Conservation of European Wildlife and Natural Habitats (1991)
  - Convention on the Biological Diversity (1993)
  - Bonn Convention on the Conservation of Migratory Species of Wild Animals (CMS) (1999)
  - Agreement on the Conservation of Bats in Europe (EUROBATS) (1999)

- ***National legislation*** related to bat protection:
  - All species of bats are declared as protected under the Conservation of Nature Act (1967).
  - The Directive No1021/ 4.11.1986 of the Ministry of Environment concerns 27 species of bats /two species are not included, *Eptesicus nilssonii* and *Pipistrellus kuhlii*, because they have not been recorded for the territory of the country yet/ which are totally protected from human activities endangering them. The Directive bans catching and

killing of bats, making fire in the caves and in front the cave entrances, entering the bat caves during the reproductive period (10 June - 20 July), etc.
- New Regulation for penalty taxes for damages caused on the nature has been approved in 1997. All bat species are include in the list with penalty taxes defined – 10/25 DEM per individual; also taxes have to be paid in cases of destroying of protected caves or other protected geological phenomena.
- 34 caves (of the total number of more then 70 important bat-caves), known as summer and/or winter roosts, are declared as protected sites (7 more are in procedure to be also protected).
- Important bat roosts and habitats occur on the territory of the 3 National Parks, 8 Nature Parks, 89 strict reserves (Protected Areas Act 1998)

- ***Other official documents***

The Red Data Book of Bulgaria (1985): Two bat species are included – *Myotis capaccinii* and *Myotis emarginatus*, in the category: rare

The National Strategy for Biodiversity Conservation (1994): The conservation of bats and their habitats is declared as priority.

The National Biodiversity Action Plan (Republic of Bulgaria /Ministry of the Environment and Water/ UNDP, Sofia, 2000) has been developed as implementation tool for the National Biological Diversity Conservation Strategy (1994).
- The actions for bat conservation planned in the first phase (1999-2003) include identification of the main threats to bats and their roosts and efforts to minimize the negative factors.
- Bats are listed among the Priority for Conservation Plant and Animal Species.
- A total of 96 separate activities have been identified in the NBCP among which 18 are directly related to bat protection and conservation in the aspects of drafting laws, secondary legislation and regulations; institutional strengthening of the biodiversity units and the scientific base for biodiversity conservation; establishment and maintenance of National Ecological Network and information, education and training.
- The List of Endangered Animal Species Subject of Action Plans includes 3 bat species.
- Bat as important key species for Biodiversity conservation are included in the National Action Plans for management of some Nature Parks ("Vratchanski Balkan", "Vitosha", "Strandza") and of the Protected territories "Estuary of the Veleka river valley" and "Silistar".

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

- Until now *only underground roosts* (natural caves, disused mines, etc.) have been declared as protected sites important for the conservation of bats.
- 34 caves known as summer and/or winter roosts, are declared as Protected Sites (Appendix 2.).
- Proposals for protection of 7 caves and 1 artificial gallery have been submitted to the Ministry of Environment and Waters recently (Appendix 2).

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

Roosting habitats
- see **C7.** Despite the status of legally protected sites, most of the listed roosts have conservation problems, as at the moment there are a lot of difficulties to implement the legislation, most of them related to lack of funds for designation of responsible bodies to control and monitor them according the requirements of the management plans.

Foraging habitats

No special consideration have been given yet to protect foraging habitats of bats.

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

Most of the activities to promote the awareness of the importance of the conservation of bats in Bulgaria have been carried out by the Bat Research & Protection Group (BRPG) with the assistance of several other nature conservation NGOs.

Publicity materials published:
- leaflets: The Bats. BRPG, 1999; Bats in the Eastern Rhodopes. BSPB/BSBCP, 1997.
- sticker: Keep the bats! BRPG, 1999.
- posters: Cave-dwelling Bats. BRPG, 1997.
- set of 3 post cards & calendars. BRPG 1999, 2000.
- articles in newspapers and journals

Education:
- In the frame of an UK/BG Project a Teaching Resource Book was published "Adventures in the Environmental Education: From the Classroom to the Karst" (Barker & Elliott 2000) with special Chapter designated to Bats and Karstic Landscape Conservation. The book was approved as official teaching recourse by the Ministry of Education and Science and distributed in more then 300 schools in Bulgaria.
- Guidelines for Bat Conservation and Protection in Bulgaria (1999) has been prepared by BRPG and distributed among the responsible governmental institutions.

European Bat Night
BRPG has been organizing European Bat Nights in 1998 and 1999.

## 10. Responsible bodies nominated for the provision of advice on bat conservation and management

- The body responsible for nature conservation in Bulgaria is the Ministry of Environment and Waters.
- Many protected areas, including some protected bat caves or karstic landscapes are managed by the Ministry of Agriculture, Forestry and Agrarian Reform (Protected Areas Act 1998).
- Institutions providing scientific information and consultancy are Institute of Zoology – BAS and National Museum of Natural History – BAS.

## 11. Additional action undertaken to safeguard populations of bats

None.

## 12. Recent and ongoing programmes relating to the conservation and management of bats

- 1997-1998: *Inventory of the bat fauna of two National Parks "Central Balkan" and "Rila".* The Bulgarian GEF Biodiversity Project, sponsored by USAID (Beron et al. 2000).
- 1997-1999: *Conservation of four bat caves in the Predbalkan region*. Project of IZ, sponsored by Arbeitskreis Fledermause Sachsen-Anhalt e.V., Germany (Pandurska 1999).
- 1998-2000: *Bats - Conservation Plan***.** Project of BRPG sponsored by the Bulgarian-Swiss Biodiversity Conservation Program. Main objectives:
  - To development Information System and DataBase for important bat roosts in 4 regions in Bulgaria (Eastern Rhodopes, Strandja, Ropotamo, Dobrudja)
  - Assessment of the conservation status of the bats on the territory of the Eastern Rhodopes: to identify the most important for bat roosts and to protect them.
  - Studies on the bat fauna of Dobrudja and Strandja regions.

- Training Workshops “Bat Conservation” for the staff of the involved in the Program: Nature Information Centers, National Parks, Regional Environmental Inspectorate, Forestry Offices, etc.

- 1996-2000: *Ecological studies on rare and endangered bat species in Bulgaria* (Project of the Institute of zoology in the frame of the National program of Bulgarian Academy of Sciences). Faunistic research are focused on the distribution and landscape preferences in mountain areas, and new localities of *M. bechsteinii*, *M. mystacinus/brandtii*, *P. auritus* are recorded on the territory of Stara planina and Rila Mts.
- 1998-1999: *Monitoring of numerous bat colonies in Western Stara Planina Mnt.* – Project of the Institute of zoology. Eight most important numerous colonies of *M. myotis/blythii*, *M. capaccinii* and *M. schreibersii* are known and a numerous colony of about 1000 R. *euryale* was located for the first time (Pandurska & Beshkov 1998a).
- 1997-1999: Data collection on distribution and reproductive behavior of the Geoffroy’s bat *Myotis emarginatus* in Bulgaria – field works were carried out in the frame of the project of Ministry of Education.
- 1998-1999: Biodiversity assessment of bat fauna in protected territories “Estuary of rivers Veleka and Silistar”(1998), South Black Sea Coast – Action Plan of Ministry of Environment and waters, financed by Kingdom of Monaco. As a result of the performed intensive mistnettings during the spring and summer months it was established that the riparian forest of these territories are important foraging habitats of 12 bat species.
- 1999-2000: Species composition and conservation needs of bat fauna in Vitosha Mountain Natural Park. Studies on cave bat fauna in the karstic terrain of the southern slopes of Vitosha Mnt. has been carried out during the winter and summer periods. Important foraging habitats in forest nonkarstic territories were included in the priorities for the preparation of the Action Plan (Pandurska & Beshkov 1998).

**13. Consideration being given to the potential effects of pesticides on bats and efforts to replace timber treatment chemicals which are highly toxic to bats**

- The Law for reduction of the hazardous effects of chemical substances, preparations and products (State Gazette No10/2000) is in compliance with the EC Directives and gives the basement for further regulations on the use of different chemical products.
- The Regulations related to safe use of Pesticides and Biocides, protection of human health and wildlife are harmonized, respectively with Directive 91/414/EEC for pesticides and Directive 98/8/EEC for biocides. The drafts are ready for discussion and consensus among the responsible governmental institutions (Ministry of Environment and Waters, Ministry of Health, Ministry of Agriculture, Forestry and Agrarian Reform, etc.) and will be published in the State Gazette by the end of 2000.
- Up to this moment the Regulation No10 for safe use of pesticides (State Gazette No 88 /1985) does not take in consideration the protection of bats and their habitats from insecticides, or other pesticides.
- The chloroganic insecticides, resistant in the environment have been strongly restricted in Bulgaria since 1968.
- At the moment the use of phosphoorganic insecticides is reduced and mostly synthetic pyrethroides are applied for plant protection. Due to the economic collapse in Bulgaria in the last 10 years the quantities of the imported pesticides and biocides is constantly decreasing.
- There are no legislative documents for control of the remedial timber treatment. Several groups of biocides (aldechydes, aromatic hydrocarbons, fungicides) are on market in preparations but the Bulgarian population has no tradition for their use.

## D. Functioning of the Agreement

### 14. Cooperation with other Range States

- 1998*: Myotis capaccinii Pilot Conservation Research*. Joint project of BRPG, NMNH-BAS /Bulgaria/ and University of Marseille, SPEPESC (France).
- 1997-1999: *Bat Research in the Greek part of the Eastern Rhodopes (Province of Evros).* BRPG in co-operation with Dadia Forest Reserve Program, WWF-Greece (Ivanova, in print).
- 1998-1999: *Adventures in Ecological Education*. Joint Project with the University of Warwick, UK. With the financial support of Darwin Initiative. For more information: http://fcis1.wie.warwick.ac.uk/~bgbioed
- 1998: *Study of the echolocation of Pipistrellus nathusii and Nyctalus noctula*. The Bat Research and Conservation Group from Wroclaw – Poland.
- 1998-1999: *Study of the echolocation and flying patterns of Myotis spp. in Bulgaria (Predbalkan region).* Project of Freie Universitat Berlin and Lehrstuhl fur Tierphysiologie – Germany
- 1999 - 2000: *Central European Miniopterus Protection Program*. Cooperative Project for protection of *Miniopterus schreibersii* in 4 countries of Central and Eastern Europe (Hungary, Romania, Slovenia, Bulgaria), co-ordinate by the Hungarian Bat Conservation Foundation. With the financial support of REC-Budapest.
- 1999: *Workshop On Identification of Bats & Localisation of Roosts Using Bat Detectors, Bulgaria, 2-5 October 1999*. Part of the Project “Bat conservation expert training and data collection in Southeast Europe” a German contribution towards the implementation of EUROBATS transboundary programmes.
- Spring 1999: Field work in Bulgaria: “Bat detecting in diverse landscapes, urban and managed territories”. Co-operation with Department of Conservation Biology (Uppsala, Sweden) and National Board of Forestry (Sweden)
- 1999-2000: “Transregional relations between the bat fauna of the countries along the Black Sea Coast and conservation of bat diversity”: Project proposed on the AC4 Meeting of EUROBATS. Additionally Turkey has joined to the project proposal.