

AGREEMENT ON THE CONSERVATION OF BATS IN EUROPE

Report on the implementation of the Agreement in ITALY

A. General Information

Party Range: ITALY

Date of Report: June 2010

Period Covered: 2008-2010

Competent Authority for the Agreement:

Ministry for the Environment and Protection of Land and Sea (MATTM), Directorate-general for Nature and Sea Protection (DPNM)

B. Status of Bats within the Territory of Italy

1. Resident Species

To date, the bat fauna of Italy includes 34 species (Table 1). Two taxa, formerly occurring in the country, are no longer and thus not listed in Tab. 1. *Myotis dasycneme*, previously included in the check-list of Italian bat species, is regarded as accidental on the Italian territory: the only record available – a specimen captured in Trento – dates back to 1881. Another species, *Rhinolophus blasii*, has been suggested to be extinct because the latest observation dates 1960.

In recent years (Kiefer and Veith, 2001; Spitzenberger *et al.*, 2001, 2002; Mucedda *et al.*, 2002), two new *Plecotus* species have been described for Italy: *P. macrobullaris*, found in the north of the country (Chirichella *et al.*, 2003; Trizio *et al.*, 2003), and *P. sardus*, endemic to Sardinia. According to the recently revised (Castella *et al.*, 2000) taxonomic status of mouse-eared bats in Sardinia, *Myotis punicus* (but not *M. blythii*) occurs on the island. Russo and Jones (2000) showed that the cryptic species *Pipistrellus pipistrellus* and *P. pygmaeus* both occur in Italy; and finally, one record of *Myotis aurascens* (*sensu* Benda and Tsytsulina, 2000) concerns the Trentino [but recent molecular analyses by Mayer & von Helversen (2001) does not support the specific nature of this taxon].

For a full report on the different species see the book “Linee guida per il monitoraggio dei Chiroterti” (Guideline for bat monitoring) edited by Environmental Ministry, National Institute for Wildlife Management (INFS) and, GIRC. Although the occurrence is only shown at regional level and not detailed to a finer-grained scale, the document is still the only reliable source describing species presence we are aware of. Unfortunately even major monographs recently published at European level provide erroneous information on bat distribution in Italy and should not be taken into account for that.

In 2008, scientific cooperation between the research group led by Prof. Wieslaw Bogdanowicz (Polish Academy of Science) and Dr. Danilo Russo (Università degli Studi di Napoli Federico II, www.ecoap.unina.it) made it possible the discovery of a further cryptic species occurring in Italy, the Nymph's bat *Myotis alcathoe*.

Information on distribution and ecology of Italian bats is also provided on the websites

- www.pipistrelli.org (GIRC)
- www.minambiente.it/opencms/opencms/home_it/menu.html?mp=/menu/menu_attivita/&m=argomenti.html|biodiversita_fa.html|Tutela_della_fauna_e_della_flora.html|EUROBATS_english_.html|Infos_about_bats.html (Ministry for the Environment).

List of bat species occurring in Italy [compiled according to Eurobats.MoP4.13]

Taxon, Authority and Vernacular name

1. *Rhinolophus euryale* Blasius, 1853 Rinolofo euriale
2. *Rhinolophus ferrumequinum* (Schreber, 1774) Rinolofo maggiore
3. *Rhinolophus hipposideros* (Bechstein, 1800) Rinolofo minore
4. *Rhinolophus mehelyi* Matschie, 1901 Rinolofo di Méhely
5. *Myotis alcathoe* von Helversen & Heller, 2001. Vespertilio di Alcatoe
6. *Myotis bechsteinii* (Kuhl, 1817) Vespertilio di Bechstein
7. *Myotis blythii* (Tomes, 1857) Vespertilio di Blyth
8. *Myotis brandtii* (Eversmann, 1845) Vespertilio di Brandt
9. *Myotis capaccinii* (Bonaparte, 1837) Vespertilio di Capaccini
10. *Myotis daubentonii* (Kuhl, 1817) Vespertilio di Daubenton
11. *Myotis emarginatus* (Geoffroy, 1806) Vespertilio smarginato
12. *Myotis myotis* (Borkhausen, 1797) Vespertilio maggiore
13. *Myotis mystacinus* (Kuhl, 1817) Vespertilio mustacchino
14. *Myotis nattereri* (Kuhl, 1817) Vespertilio di Natterer
15. *Myotis aurascens* Kuzjakin, 1935 Vespertilio dorato
16. *Myotis punicus* Felten, 1977 Vespertilio maghrebino
17. *Pipistrellus kuhlii* (Kuhl, 1817) Pipistrello albolimbato
18. *Pipistrellus nathusii* (Keyserling et Blasius, 1839) Pipistrello di Nathusius
19. *Pipistrellus pipistrellus* (Schreber, 1774) Pipistrello nano
20. *Pipistrellus pygmaeus* (Leach, 1825) Pipistrello pigmeo
21. *Nyctalus lasiopterus* (Schreber, 1780) Nottola gigante
22. *Nyctalus leisleri* (Kuhl, 1817) Nottola di Leisler
23. *Nyctalus noctula* (Schreber, 1774) Nottola comune
24. *Hypsugo savii* (Bonaparte, 1837) Pipistrello di Savi
25. *Eptesicus nilssonii* (Keyserling et Blasius, 1839) Seròtino di Nilsson
26. *Eptesicus serotinus* (Schreber, 1774) Seròtino comune
27. *Vespertilio murinus* Linnaeus, 1758 Seròtino bicolore
28. *Barbastella barbastellus* (Schreber, 1774) Barbastello comune
29. *Plecotus auritus* (Linnaeus, 1758) Orecchione bruno
30. *Plecotus austriacus* (Fischer, 1829) Orecchione meridionale
31. *Plecotus macrobullaris* (Kuzjakin, 1965) Orecchione alpino
32. *Plecotus sardus* Mucedda et al., 2002 Orecchione sardo
33. *Miniopterus schreibersii* (Kuhl, 1817) Miniottero
34. *Tadarida teniotis* (Rafinesque, 1814) Molosso di Cestoni

2. Status, threats and trends

By the end of 2007 some experts from the Italian Chiroptera Research Group were asked by Rome University “La Sapienza” to take part in the assessment of the status of bat species in Italy for the preparation of the Italian Red List of Mammals. The project, promoted by the Italian Environment Ministry and the Italian Zoological Union, has not yet lead to an official document, but offered the chance to collect the best available information to assess bat conservation status. Of 33 species evaluated, 17 proved at risk according to the IUCN criteria (including one – *Nyctalus lasiopterus* – critically endangered, the remainder either vulnerable or threatened).

The assessment made for the EU according to the EC/92/43 Habitats Directive likewise did not give an optimistic picture of the situation.

Although conservation efforts and public awareness are undoubtedly increasing, infrastructural development (leading to habitat loss, fragmentation or alteration) seems an ever growing problem. The need for “green” energy is also leading to a considerable increase in windfarms. Unfortunately, no reference document such as the Eurobats guidelines for the consideration of bats in windfarm development is obligatory at national level, so although in some cases local governments (“Regioni”) have issued their own documents, the reliability of pre-construction assessments is largely variable, and monitoring of existing windfarms is still rare.

Agricultural and forestry intensification had a strong impact on species relying on agroecosystems or forest for roosting or foraging. Uncontrolled access to roost sites, caving, alteration of roost caves for tourism and renovation of buildings used by house-dwelling species also have a great negative impact on bats.

Bat research and monitoring has nicely increased all over the country. Despite research sources are limited, there is a clear increase in proposals funded by parks, within the Natura 2000 network, etc. The Italian Ministry is sponsoring state-of-art research on bat rehabilitation and aims to create an experimental centre for bat rehabilitation in Rome. Although the objective is challenging, small but significant steps have been moved towards it. Recent concern over the risk of White Nose Syndrome spread to Europe has led the Italian Chiroptera Research Group to issue guidelines aimed for speleologists and researchers about how to prevent the spreading of the disease, disinfect gear etc.

In all, the availability of basic information such as distributional data has certainly improved, although a central system to collect the available information and provide a large-scale geographical picture is still awaited. The Italian Ministry for the Environment recently issued a volume named “Guidelines for conservation of bats in building”, stemmed from cooperation with the Italian Chiroptera Research Group, the Italian Ministry for Cultural Heritage and Activity and the Institute for Environmental Protection and Research (ISPRA). The document has a special focus on the issue of bats in monument buildings. It is being translated into English and will be soon accessible to an international audience.

3. *Habitats and Roost Sites*

The Italian Bat Roost Data Base, started in 1998 by GIRC, includes records of bat roosts on a national scale. The geo-database is referred to UTM MGRS 10x10 km cells. Two principal goals can be identified:

- 1) A short term goal is to identify the most important roosts on a nation-wide scale, in order to plan more effective conservation measures; roosts are classified according to species presence and colony size. The national scale coverage will make it possible to assess the importance of each roost in relation to all sites known for the Italian territory;
- 2) A medium term goal is to identify demographic trends, at least for some species; once population data are collected over several years, it will be possible to best define the status of Italian bat species and plan more effectively their conservation.

Over 750 sites are covered in the database. Of these, 37 hibernacula and 67 nursery are regarded as priority sites in terms of species richness and colony size. Because seven such roosts are used

for both hibernation and reproduction, such sites correspond to 97 roosts. The vast majority (94%) of roosts identified are potentially threatened by uncontrolled access by people and renovation of buildings. Surveyors judged that in almost two thirds of such cases conservation was not ensured. Only about half of such sites (51.5%) are located within protected areas, including areas proposed as SCI (92/43/EEC Directive). The situation is particularly worrying in Sardinia, where only 29.2% of sites of national importance are within protected areas. Moreover, for north-west Italy, even roosts occurring within protected areas are not ensured sufficient conservation. This probably holds true for many other roosts included in protected areas but too often overlooked. The incompleteness of data coverage urges that further roost surveying is promoted.

Although the project is currently suspended for technical reasons, GIRC hopes to start it again soon.

Italy recently joined the activity of the Intersessional Working Group on underground roosts. Thanks to cooperation with bat experts from the Italian Chiroptera Research Group and the information already filed in the Italian Bat Roost database, we could provide a list of *ca* 120 sites.

C. Measures Taken to Implement Article III of the Agreement

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

Bats are protected by Italian Law since 1939. The Royal Decree “Regio Decreto” of 5 June 1939, n. 1016, “Testo Unico delle norme per la protezione della selvaggina e per l’esercizio della caccia” states that “it is always forbidden to kill or capture bats from any species” (art. 38). Nowadays, Italian bats are protected under the “Legge quadro in materia di fauna e attività venatoria” (L. 11 February 1992, n. 157), as well as under important international conventions signed by Italy (Bern Convention, 1979; Bonn Convention, 1979; Rio de Janeiro Convention, 1992); and, finally, under the “Habitats” Directive EEC/92/43. As part of the environment, bats are also protected by the Italian Law on the ‘environmental damage’ (L. 8 July 1986, n. 349).

According to Italian law, it is forbidden to kill, capture, keep in captivity and trade bats; it is also forbidden to damage or disturb roosts and to bats, especially when hibernating or reproducing. Exceptions to these limitations should be authorised by the MATTM and by the local institutions responsible for the study area (regional, provincial or park administration). Authorizations rely upon the scientific judgement expressed by the Institute for Environmental Protection and Research (ISPRA) which will base the judgment on the validity of the scientific project, its conservation relevance, the appropriateness of methods and the species involved. According to law, MATTM and local institutions are responsible for promoting monitoring of bat conservation status, and regularly report on this to the European Community. The MATTM has already funded research work carried out within the EUROBATS Agreement framework to protect bats in historical monuments. The activity matches the requirements of the Bat Agreement and particularly, article III (Fundamental Obligations), resolutions n° 4.9 (Implementation of the Conservation and Management Plan (2003 - 2006), n° 4.3 (Guidelines for the Protection and Management of Important Underground Habitats) and n° 4.5 (Guidelines for the Use of Remedial Timber Treatment). Besides, as mentioned, it is being funding research on bat rehabilitation aimed to develop best practice guidelines and create an experimental centre

7. Sites identified and protected which are important to bat conservation

Projects carried out in protected areas or as part of the European LIFE programme are significantly contributing to the protection of key bat sites. Projects focusing on forest bats are also providing the background information needed to encourage sustainable forest management.

In Italy, 373 Sites of Community Importance (SCI) identified under the provisions of the Habitats Directive (92/43/EC) are reported to be home to bats. The species listed in Annex B occurring at such sites are: *Barbastella barbastellus*, *Miniopterus schreibersii*, *Myotis*

bechsteinii, *Myotis blythii*, *Myotis capaccinii*, *Myotis emarginatus*, *Myotis myotis*, *Rhinolophus euryale*, *Rhinolophus ferrumequinum*, *Rhinolophus hipposideros* and *Rhinolophus mehelyi*.

Threats identified at several of such sites include roost disturbance or alteration, forest management or alteration of foraging habitats.

8. Consideration given to habitats which are important to bats

Much of the research carried out in protected areas and Natura 2000 sites is going well beyond the mere inventory activity. The information obtained on bat foraging or roosting is necessary to further develop conservation and optimize management efforts.

9. Activities carried out to promote the awareness of the importance of the bat conservation

The above sections have described the initiatives taken by the Ministry for the Environment to raise public awareness. Further info is available at www.minambiente.it.

Besides, the Ministry for the Environment highlighted the Italian involvement with Eurobats by devoting special pages to this issue.

Both an Italian and an English versions are available:

- www.minambiente.it/opencms/opencms/home_it/menu.html?mp=/menu/menu_attivita/&m=argomenti.html|biodiversita_fa.html|Tutela_della_fauna_e_della_flora.html|EUROBATS_Laccordo_per_la_conservazione.html
- www.minambiente.it/opencms/opencms/home_it/menu.html?mp=/menu/menu_attivita/&m=argomenti.html|biodiversita_fa.html|Tutela_della_fauna_e_della_flora.html|EUROBATS_english.html

the pages provide information on Eurobats activities, bats in Italy and bat conservation, and also link the Eurobats website.

Important popularization actions are also carried out by the Italian Chiroptera Research Group (GIRC), parks, universities. It is worth mentioning a recent national project named “a bat as a friend” focusing on bat boxes. These were even sold in a major supermarket network and received further publicity thanks to Walt Disney comics.

Popularisation activities carried out by GIRC as well as by protected areas or single bat researchers/enthusiasts have the main scope of disseminating information on the importance of conserving bats through several initiatives. “Bat nights” and talks organized in different parts of the country attract an ever growing number of participants as well as attention from the media.

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

At national level, the Ministry of Environment is the governmental authority in charge with nature conservation and environmental problems. Different departments are devoted to Biodiversity, Protection and Conservation, Protected Areas and Flora and Fauna. Some aspects such as surveillance are tasks of the Corpo Forestale dello Stato, specialized police corps acting for the Ministry of Agriculture and Forestry.

Institutions providing further scientific expertise to the Ministry of the Environment:

- the formerly named National Institute for Wildlife Management (Istituto Nazionale per la Fauna Selvatica, INFS) is now named Istituto Superiore per la Protezione e Ricerca Ambientale (ISPRA), a larger institution grouping a wider expertise on environment research and protection;
- Italian Zoological Union (Unione Zoologica Italiana, UZI)
- Museums of Natural History;
- National Speleological Institute;

- Universities;
- GIRC Gruppo italiano ricerca Chiroteri (Italian Chiroptera Research Group)

The scientific focal point for the Ministry is Dr Danilo Russo, teaching Nature Conservation and Reserve Management at Naples University Federico II and Zoology at Salerno University, IUCN member of Bat Specialist Group (Laboratorio di Ecologia Applicata, Dipartimento Ar.Bo.Pa.Ve., Facoltà di Agraria, Università degli Studi di Napoli Federico II, via Università 100, I-0055 Portici, Napoli, Italy, tel. +39/0817760104; email: danrusso@unina.it).

11. Considerations being given to the potential effects of pesticides on bats, and their food sources and efforts to replace timber treatment chemical, which are highly toxic to bats

Little information is available on the effects of pesticides on Italian populations of bats. However, it is hoped that the increasing attention paid to bat conservation by both researchers and institutional authorities will soon focus more on the issue of toxic chemicals and bats.

D. Functioning of the Agreement

12. Cooperation with other Range States

Italy is co-operating with other Range States and with other Member States of the EU in research and conservation matters, and several international collaborations between Italian researchers and those from other EU countries are in progress.

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