Fennoscandian Bats # 2

Distribution patterns and habitat use by bats in relation to landscape heterogeneity, and consequences for conservation

Johnny de Jong

Factors affecting the distribution patterns and habitat use by bats were studied in the province of Uppland, Sweden. Insect abundance was found to be one of the most important factors affecting distribution. Both the uneven distribution of bats, and the spatial dynamics during the season (April-September) were explained by differences in insect abundance. Patches with high abundance of insects were exploited by many species and individuals of bats. However, the species were separated in flight-height and habitats. During spring and early summer all species of bats were concentrated to some "key habitats". These localities were important foraging sites because of high abundance of swarming chironomids.

Several species of bats were found to avoid open habitats (e.g. clearcuts and arable fields). Thus, also landscape heterogeneity and configuration of habitats were important factors affecting distribution. Patchy landscapes contain fewer species. The number of species in the patches depends on patch area, habitat composition and in some cases on degree of isolation. Some hypotheses that might explain why some species avoid open habitats are discussed.

Forestry and agriculture have an obvious impact on the bat fauna, mainly through drainage operations, changes of vegetation structure and the amount of deciduous trees. The relation between the bat fauna and the methods used in forestry and agriculture are discussed and some general suggestions are given.

Doctoral dissertation on bats at Uppsala

On Friday the 2nd of december Johnny de Jong defended his doctoral dissertation in Uppsala. His study has been carried out within 100 km of Uppsala, including lake Mälaren. He started in 1988 with his work.

Six papers were submitted, in which Ingemar Ahlén, Magnus Johansson and Mikael Ekman each co-authored their own, separate papers.

Ingemar Ahlén was the councelor. Hans Baagøe was the opponent. We have reprinted the abstract here. The dissertation has been published by the Department of Wildlife Ecology at the Swedish University of Agricultural Science in Uppsala.

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Pettersson Elektronik AB launches new detectors

Leif Gjerde

In 1986 Lars Pettersson earned his degree at the Institute of Technology (Uppsala University) with a paper entitled *Instruments for Detection and Analysis of Ultrasound Signals*. Pettersson started his own firm in 1983 by developing and producing an advanced and easily portable detector that included heterodyning, frequency division and time expansion in one device. The first D960 prototype was developed by 1986. A computer program for analysis of bat sounds has also been developed (LP900). His products have been developed and tested in near cooperation with dr. Ingemar Ahlén.

A prototype of the comming detector D200 has now been developed. In essence it is the same detector as the D100. The main differences are that it is more compact, and may be handled with one hand. The frequence tuner is situated on the detector's left hand side and may easily be operated by the thumb. Another important feature is the frequency display. It is digital, rather than analog as the old detectors. This device measures the actual frequency in use, and gives an accuracy of +/- 0.2 kHz. A light is also constantly engaged.

A second detector in the 200-series is also upcomming - the D230. It has the same features as the D200, but also contains a frequency division device.

These 200-series detectors will not substitute the 100-series detectors. The 200-series detectors will be somewhat more expensive. Pettersson therefore wishes to keep the D100 detectors in production as an alternative low-cost detector. However, we believe the D230 will be the most suitable and used detector in future census and surveying work.

Both the D200 and D230 will be in production before the comming season. The prices are SEK 2300 and SEK 4000 respectively. The weight is 160 grams including batteries.
Measurements: 118x60x25 millimeters.

Fennoscandian Bats no. 2

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Hibernocula destroyed

3000 bats killed in Rogaland County

Leif Gjerde

During the evening of 1 December 1985 the house of Kløv at Forsand was occupied by *Pipistrellus pipistrellus* (Schreber, 1774).

In a letter from the County Environmental Department in Rogaland County (MVA), signed Odd Kjos-Hanssen, there was a suggestion of a written permit allowing Stavanger Museum and the firmAnticimex to destroy all bats in the occupied building. MVA presumes *P. pipistrellus* to be common in these parts. Oral permission from Barikmo at the Directorate for Nature Management (DN) was given to gas over 3000 bats.

Another firm, Cytox, submited an estimate for the job. Their alternative was much better, since it implied the bats would survive. Unfortunatly for the bats, Odd Kjos-Hanssen at MVA, did not choose this option from a firm with experience since 1947.

Anticimex sealed the entire building with plastic before injecting a concentration of 4g/m3 hydrocyanic acid.

A total of 2832 *P. pipistrellus* were killed. Twenty bats were still alive in the building after the operation. The few bats that escaped were observed flying over Lysefjorden.

The media, both Radio and TV, gave the event lots of attention.

The Forsand incident deserves criticism. An alternative solution, which would spare all the bats, did exist. Nevertheless it was not considered. The animals were destroyed in accordance with oral permission. The consequences of the act were not reviewed.

It is certain the colony was a hibernocula. Such colonies have never previously been found in Norway. Until now, it presumed that *P. pipistrellus* was a migratory species which migrated to continental Europe every fall. Jæren, however, contains an excellent potential in its climate when considering wintering bats. The coldest month (February) has an average temperature of +0.6° C. The hibernocula probably contained animals from larger areas of Norway.

2832 Pipistrellus pipistrellus *were gassed in Forsand December 1985. Norwegian management autoreties state that the Wildlife Act from 1981 is sufficient to protect our bats. No measures have been planned to fulfill the obligations in the European Bat Agreement, an agreement in which Norway has signed.*
Credit: Jonas Friestad, Stavanger Aftenblad.

DESTROYED COLONIES

Deliberate destruction of maternity colonies continues. Permission is granted without any evaluation of the specific problem. Permissions is also not followed up. During the summer of 1993, the County Environmental Department in Oslo & Akershus Counties (MVA) gave Jurg M. Jacobsen permission to clog all access holes for a *Pipistrellus pipistrellus* colony at Øverbergveien 33A on Nesøya. This was done despite the fact that MVA knew the young might be trapped inside (letter dated 2 August, J 1700/93).

On 26 June 1992, MVA gave mr. Penniall permission to remove a colony of *Pipistrellus pipistrellus* at Øverbergveien 35B on Nesøya. No report or back statement has been given from Penniall, and MVA does not wish to follow up the case.

CONSERVING 5 BATS DENIED

During the 2nd European Bat Detector Workshop i Spain, NØBI received a request from Dr. Scaravelli of Italy. At the workshop, Scaravelli told the author that he needed five individuals of *Eptesicus nilssonii* (Keyserling & Blasius, 1839) as reference material for morphological studies on bats at their institute.

NØBI sent an English letter (dated 13 November 1993) to the Directorate for Nature Management (DN) asking for permission to capture and conserve five individuals of Norways most abundant bat. Nine months later, after much nagging, we received a reply. Unfortunately, it was at the end of the season. The reply was signed by Jon Barikmo, the same man who had given the permission to gas 3000 bats. Barikmo, however, would not give the permission for collecting five bats for scientific work.

The irony of it all is that Norways representative to the Bonn Convention, Gunn M. Paulsen from DN, states in a phone interview that Norways Wildlife Act of 1981 is sufficient enough, so no new measures are needed to meet the requirements of the European Bat Agreement.

Today, there exists no knowledge on bats amongst the authorities who manage them. The will to follow the agreement does not exist. An upcomming report will address Norways management of bats. Topics included are destruction of colonies, lack of qualified personel, priorities amongst the authorities and patronizing treatment of scientists.

Vespertilio murinus- surveyed along an 860 km coast

A larger project will map all potential localities for advertisment calling *Vespertilio murinus* L., 1758 along 860 km of coast. All cities from Halden to Bergen are being checked along with some reference localities inland.

The project's aim is to cover 32 cities with some 230 potential localities. During the falls of 1993 and 1994, 167 potential localities in 14 cities were visited. So far, *Vespertilio murinus* has been found in 52 localities from 14 cities.

Localities checked include churches, siloes, industrial buildings, appartment buildings, sandtak and natural cliff habitats.

The project is being organized by Leif Gjerde (NØBI). An article on the project will follow in the next issue of *Fennoscandian Bats*.

New observation of *Myotis brandtii*

A museum collection has revealed a new observation of *Myotis brandii* Eversmann, 1845. One individual was caught in an insect trap by Oddvar Hansen at Gjøra in Sunndal (Møre og Romsdal). The individual was found during the late summer or fall of 1990. The specimen was delivered to the Museum of Natural History and Archiology at the University of Trondhjem (UNIT) during april 1992. The specimen was identified as a male *Myotis brandtii*. Few specimens are found this far west in Fennoscandia (third observation in Norway).

BATLINE - AN INTERNATIONAL NETWORK

BATLINE is an international information exchange network which was initiated to facilitate the timely exchange of research ideas, questions, and information among bat researchers. Messages sent out to the BATLINE are automatically distributed to all BATLINE subscribers. BATLINE messages are received in your e-mail mailbox. There are no fees for this service unless you are currently beeing charged for e-mail network access.

The only requirement for joining the BATLINE is that you have access to either the BITNET or Internet communications networks. Subscription is achieved by sending the e-mail message: **sub batline *yourfirstname yourlastname*** to one of the following addresses:

BITNET users:
LISTSERV@UNMVMA
Internet users:
LISTSERV@UNMVMA.UNM.EDU

After the above subscription message is sent, you will receive acknowledgement of your subscription along with explanations of several helpful commands and other pertinent information. Once you have subscribed to the BATLINE you can distribute messages to all other subscribers by addressing this mail to:

BITNET users:
BATLINE@UNMVMA
Internet users:
BATLINE@UNMVMA.UNM.EDU

Note that the **LISTSERV** address is used only for subscription and network maintenance. Messages to be distributed to the *BATLINE* are sent to the **BATLINE** address.

If you would like to receive a comprehensive list with explanations of users commands, send the message: **info refcard** to the appropriate **LISTSERV** address. Any questions regarding the *BATLINE* may be addressed to Mike Balistreri, Department of Biology, University of New Mexico, Albuquerque, NM 87131, USA.
(phone + 1 505 277 3525 or e-mail mikebal@triton.unm.edu).

Vespertilio murinus recorded from Trondhjem

During NØBIs work for the EMMA project, we revealed an old observation filed at UNIT. It shows out that one specimen of *Vespertilio murinus* L., 1758 was delivered to the Museum of Natural History and Archiology at the University of Trondhjem on 26 August 1970.

The individual was found at Finnes barnehjem at Møllebakke (Trondhjem) by Gunnar Sylte. The bat was hanging from the bottom branch of a spruce while being attacked by seven *Pica pica* (L., 1758). This is the first recording from Trondhjem, and the northern most locality along the North Atlantic coast. The nearest known locality is in Oslo, 385 km to the south. As of yet, however, we do not know if this observation represents a stray, or if it is from a local population.

VIIth European Bat Research Symposium - Preliminary announcement

The 7th European Bat Research Symposium will take place at the conference centre Koningshof near Veldhoven, 12-16 August 1996. Veldhoven is situated a few kilometres south-west of Eindhoven, in the southern part of the Netherlands. The centre has numerous facilities. The symposium will consist of oral presentations, poster papers, workshops and evening discussions. Suggestions of other events that could be associated with the symposium are welcome. The conference language is English.

After the symposium, the 3rd European Bat Detector Workshop will be held in the Grand Duchy of Luxembourg.

Preliminary registration forms should be returned before April 1995. The final registration form and circular with more details will be mailed in Summer 1995 to those responding to the preliminary announcement. Information may be obtained from Peter Lina, 7th EBRS, c/o National Reference Centre of Nature Management, P.O. Box 30, NL-6700 AA Wageningen.

Request for bat observations

Anyone who has observations of bats, including maternety colonies, hibernocula or bats found dead, please foreword this information to one of the following addresses:

Denmark:	Hans Baagøe Zoologisk museum Universitetsparken 15 DK-2100 København Ø
Finland:	Torsten Stjernberg Univ. Zool. Museum N. Järnvägsgatan 13 SF-00100 Helsinki
Norway:	Leif Gjerde NØBI Postboks 28 N-1920 Sørumsand
Russia:	same as Finland
Sweden:	Ingemar Ahlén Institut för viltekologi Box 7002 S-750 07 Uppsala

Any observations are of interest, and may be invaluble as the knowledge in bat geography is quite scarse in Fennoscandia.

New Broshure

Flaggermus

The Bat Conservation Trust's four page pamphlet *Bats* has now been translated into Norwegian. The A5 formated publication is translated by Leif Gjerde and published by Nordre Øyeren Biological Station. A circulation of 1000 copies has been printed. It is being distributed, free of charge, to schools and various managing authorities. Illustrations are by Guy Troughton.

10th International Bat Research Conference and 25th North American Symposium on Bat Research

Boston, Massachusetts, USA **7-12 August 1995**

The conference will include plenary addresses, symposia, contributed papers, poster papers, films/videos, workshops and excursions.

Proposed pre- and post-conference workshops and excursions include Field Methods for the Study of Bats (pre-conference Canada and post-conference New Hampshire), Ecological Methods for the Study of Neotropical Bats (Puerto Rico), Echolocation (Brown University), Functional Morphology (Brown University), Forest Associations, Caves and Ecology (Puerto Rico) and an assortment of pre- and post-conference tours in the Boston area including whale-watching and visits to such places as an aquarium, zoo and museums of science and fine art.

Further detains from:
10th International Bat Research Conference, Department of Biology, Boston University, Boston, Massachusetts 02215, USA. Fax: + 1 617 353 6340.

Last booking and payment: deadline 30 April 1995.

Publications

Jong, Johnny de. 1993. **Hur påverkas fladdermössen av skogbruk?** Skogfakta nr. 5, 1993. 4 pp. SEK 15,-
ISSN 1101-8305.
How are bats effected by forestry? This is discussed in the pamphlet. Geography, seasonal habitat distribution, key habitats and fragmentation are some key words.

Ljungberg, Bo. 1994. **Översiktig fladdermusinventering i Södertälje kommun 1993**. Miljöförvaltningen, Södertälje kommun. 6 pp.
ISBN: None.
This is not strictly a publication, but is nevertheless available to interested bat workers. During the summer months of 1993, bat surveying was carried out in Södertälje kommun. In all, 17 localities were visited 1-3 times. Nine species were recorded, including *Myotis dasycneme*, *Pipistrellus nathusii* and *Barbastella barbastellus*. The report includes a detailed list of the observations.

Ahlén, Ingemar. 1994. **Gotlands fladdermusfauna 1993**. Länsstyrelsen i Gotlands län. 12 pp. Price?.
ISBN: None.
Ahlén surveyed the island during two periods (1980-81, 1993). In all, 64 localities and 1044 km of transects have been surveyed. More than 1000 observations from ten species are recorded. Each species is thoroughly commented on. It is an invaluble report for those interested in Fennoscandian bat geography.

Rydell, J. and L. Gjerde. 1994. **Flaggermus som gjester i våre hus.** Nordre Øyeren Biological Station. 16 pp. Free.
ISBN 82-90827-07-5.
This booklet was originally published by Naturvårdsstyrelsen in Sweden. It focuses on bats in houses, and includes some information on bats in general. The publication has now been translated into Norwegian and the contents have been slightly altered for Norwegian conditions.

Gjerde, Leif. 1994. **Litt om norske flaggermus.** Nordre Øyeren Biological Station. 4 pp. Free.
ISBN 82-90827-15-6.
The pamphlet is a compilation of todays knowledge on Norwegian bats. It includes details on several bat localities. Other topics are phenology and Norwegian law. A list of species found in Norway, is also included.