

Migration of *Pipistrellus nathusii*: a transboundary European project

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BARRE D. Migration of *Pipistrellus nathusii*: a transboundary European project. — From the Atlantic Ocean to the Ural, data on the migratory routes of *Pipistrellus nathusii* have been collected with the help of a questionnaire. The majority of recordings indicate that *P. nathusii* is a migratory species and its migration takes place over long distances (1 760 km between Lithuania and Rhone delta, France). The species flies across the Baltic Sea and the North Sea, as proved by remarkable observations on oil-platforms and islands. Migration preferentially takes place along large rivers or coastlines; here, near waterbodies mating-roosts and songflying males have been registered. Information and knowledge about the migration of this species is sufficient and relatively complete only in Estonia, some regions of Germany, Great Britain, Latvia, Netherlands, and Poland.

Introduction

Some years ago, the Advisory Committee of the European Bats Agreement decided to work out Action Plans for different bat species. One of them was *Pipistrellus nathusii*. Two years ago, bat specialists of several European countries met in Germany and decided to sum up the knowledge of *Pipistrellus nathusii* and *Myotis dasycneme*, in order to pave the way for developing international action plans. This work was done by Herman Limpens et al. (1999) for *Myotis dasycneme*. Lothar Bach and Dorothea Barre collected all available data of *Pipistrellus nathusii*. Nearly 160 questionnaires were sent to all people, who are known to be interested in *Pipistrellus nathusii*. About 40 answers came back.

What has been the primary goal of this survey?

Pipistrellus nathusii is a migrating species but there is only very little knowledge about the migratory routes.

A survey by questionnaire implies some methodological problems. The first problem is the use of different methods to get data. It is difficult to compare them to get a unified picture.

Using the various data, we could prepared one map for the spring and one for the autumn. The intention was to show: Where is the majority of *Pipistrellus nathusii* during April, during May etc.? Therefore, it would be possible to *get an idea of their migration routes* (The map is available by D. Barre, Germany).

Places of remarkable observations of *Pipistrellus nathusii* are:

1. Islands between Estonia and Sweden in May in a box
2. Aland-Island between Sweden and Norway
3. Oil Platforms in the North Sea
4. Jersey (Channel Islands)
5. Shetland Islands in autumn and winter

These reports are a sign for the migration across the sea.

We know very little about the ways that *Pipistrellus nathusii* takes between maternity time and the winter. However, many people contributed to getting an idea of migration routes in different countries.

Table 1. Summaries on the migratory status of *Pipistrellus nathusii* in different regions

Country	Dates and results	Completeness of information
Russia	Borisenko confirmed signs of migration. Transitory and mating colonies are reported from presumed flyways along large river valleys (Volga, Don). Ringed bats are found as far as the Balkans. Chistyakov: assumed, that migration takes place from Northwest-Russia along the coast of the Baltic Sea, or that a part of the population migrates to the Balkans. There are signs of migration along a frontier line. It is obviously at 42nd longitude.	—
Belarus	No contact.	
Ukraine	Bashta: autumn migration starts at the beginning of August and lasts to the beginning of November gathering in the south of Ukraine. There are perhaps migration paths through the Carpathians. Probable hibernation in the Crimea peninsula, Carpathians, Black Sea coast, and the Balkans.	rather incomplete
Moldavia	Limpens – Workshop in July 2000. Some reports at Dnjestr river	
Romania	no contact until Congress in the Carpathians	
Finland	Stjernberg: Apparently migrations between Finland and Estonia (one specimen found in late May in a nest box on an island in the Gulf of Finland east of Helsinki). This species might also migrate between Sweden and Finland, via Aland Islands, but this is not confirmed.	incomplete
Estonia	Masing: In August-September, groups and even larger flocks of P.n. migrate through Estonia. Regular, seasonal flights happen on the SW coast of Estonia. Mating roosts are unknown, but may occur.	relatively complete
Latvia	Petersons: Migration takes place from August to September along the SW coast of Latvia. Migration was studied in 1986–92 (capture and banding). In 1992–99 only by detector work. No hibernation roosts! but all other roost-types.	relatively complete
Lithuania	Mickevicius: only little data on migrations paths, because nobody did scientific investigations on it. Migration is likely to happen 08-10. Hibernation sites have never been observed.	insufficient, no scientific investigation
Sweden	Ahlén: A number of migrating bats of this species regularly appear at a number of points along the south coast of Sweden. As an example, at one single occasion the estimated number of P.nat. swarming over the shore at Ottenby was about 250 specimen. The P.nat. that pass along these sites are assessed to numbers that exceed all summer populations known in Sweden so far.	incomplete

Country	Dates and results	Completeness of information
Poland	Jarzembowski / Ciechanowski: Migration happens from the beginning of May until September with maximum numbers in the middle of August. Paszkievicz / Szkudlarek: Breslau They detected from late August until the middle of September about 100 singing males in a park, in another park 50 males.	sufficient
Slovakia	Kürthy: Research is rare. Only some knowledge in west-region of the country at the March-River. Hibernation roosts assumed.	insufficient
Hungary	Renata/Rafael in Geszt at the border with Romania Det.nachw. Sept. '98	
Yugoslavia	Paunovic' P. nat. it is widely distributed but rare records.	research just started
Bulgaria	Ivanova: Mating roosts: trees in a park near the Danube, crevices in rocky cliffs in kartic gorges. Migration paths not known. Renata/Rafael mating places in Varna, Kavarna (East-coast).	insufficient
Czech Republic	Rehak: Flight paths: there are many records from floodplain forests, water bodies. Migration takes place along big rivers (mostly N-S direction). Only females in E and N-E of Czech Rep.	insufficient
Austria	Reiter: Province of Salzburg — migration paths unknown, but hibernation roosts are well-known.	rather incomplete
Slovenia	Bach: Turnisce, few proofs by detector in the floodplain forest of Mur river, Ost-S. 20.5.00.	rather incomplete
Croatia	No contact.	
Norway	Syvertsen: P.n. is rather rare in Norway. Stormark: One recover in Western Norway.	
Denmark	No contact.	
Germany	Barre: Spring migration takes place within two weeks, while the way back to hibernacula takes the time of eight weeks, including mating. In summer, there are small resident populations of males, only few maternity roosts known.	sufficient
France	No data.	
Great Britain / Ireland	Russ, et al.: Secondary evidence showing migration across the North Sea. Signs of migration are not known, however, bimodal activity peaks on North Sea oil platforms suggest that migration occurs (and Channal Islands). Mating roosts occur.	not very complete, but the majority of the data is valid
Italy	Agnelli et al: There are signs of migration in March/April and October. Maternity roosts are known. Two female and one male ringed in Latvia were recovered in Merano, Venice, and Grado lagoons (11.1.88 fem. Merano (ringed in Latvia, Pape, 25.8.87).	extremely rare
Netherlands	No data so far.	but sufficient
Portugal	No data.	
Scotland	No contact.	
Switzerland	No reaction.	
Spain	(Rodriguez-Munoz et al. 1993) summer populations exist in northern Spain	
Turkey	No contact.	

* All of the data are gathered by questionnaire, but some are mentioned in articles by Arnold (1999), Niederfingher *et al.* (1990), Ohlendorf (1999), Petersons & Vintulis (1998), Russ *et al.* (1999).

Main summary

The majority of records indicate that *Pipistrellus nathusii* is highly migratory.

This species migrates along large rivers or coastlines.

It is remarkable, that in some regions only a few bats of *Pipistrellus nathusii* seem to appear in spring but a lot in autumn! This could not be only a matter of reproduction! (Regenerative-fall-out). It may be assumed that there are two different routes — one for the spring — shorter and faster?, and another for the autumn-migration.

What will be the next step?

We are going to complete these data in 2000. Then we will offer them to the Advisory Committees of the Bats Agreements, so there can be decisions about the next steps. We recommend, as AHLEN from Sweden, to propose the development of unified/integrated methods — for all countries — to gather data.

References

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Резюме

БАРРЕ Д. Міграції *Pipistrellus nathusii*: трансграничний європейський преєкт. — Дані щодо міграційних маршрутів *Pipistrellus nathusii* від Уралу до Атлантичного Океану було зібрано за допомогою анкетування. Більшість звітувань свідчить про те, що *P. nathusii* є мігруючим видом, переміщення якого відбувається на великі відстані (1760 км, між Литвою та дельтою р. Рона у Франції). Вид летить через Балтійське море та Північне море, що доведено чудовими спостереженнями, здійсненими на нафтових платформах та островах. Переміщення здійснюється переважно вздовж великих річок або узбережжя, саме тут, біля водних просторів зареєстровано шлюбні сховища та співаючих самців. Інформація й знання щодо міграцій цього виду є достатніми та порівняно повними тільки в Естонії, деяких регіонах Німеччини, у Великобританії, Латвії, Нідерландах і Польщі.