

BATS DISTRIBUTION AND PHENOLOGICAL DATA IN MAZEIKIAI DISTRICT (LITHUANIA) IN 1999-2002



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Introduction

Mazeikiai district is located in the north-west part of Lithuania, bordering on with the Republic of Latvia. It is one of districts in the Zemaitija (Lowland) region, covering an area of 1220 km², i.e. 1,9 % of the country's territory. Population density is 59 persons/km².

Favourable farming conditions including prevailing lowlands, plateau and hills (50 – 150 meters above sea – level) produced farming lands covering 61 % of the district. Water bodies cover 2,8 % of its territory, woods - 27,1 %, swamps - 1%.

Natural or semi-natural territories are necessary for the fauna existence, but they account for only 31,5 % of all lands. The area of protected territories is 3,7 % of the district.

There are 23 Catholic churches in Mazeikiai district. The oldest and most beautiful ones are in Pikeliai, constructed in 1636, and in Seda, constructed in 1770.

Episodic researches are carrying out in this territory from 1995, but detailed studies of bat fauna are organized from 1999. Then was the beginning of collecting detailed information about bats distribution in this area, abundance of individuals and populations, phenological data.

Results

Totally there are 12 bat species founded in Mazeikiai district: *Myotis daubentonii*, *M. dasycneme*, *M. brandtii*, *M. nattereri*, *Plecotus auritus*, *Nyctalus noctula*, *N. leisleri*, *Pipistrellus nathusii*, *P. pipistrellus*, *Eptesicus nilsonii*, *E. serotinus*, *Vespertilio murinus*.

Renavas park is very important as a breeding territory of *N. noctula* (35-50 ind.), *P. nathusii* (40-60 ind.), *E. nilsonii* (till 30 ind.). In breeding period there were observed several *M. brandtii* (usually observe them in Lithuania only during wintering time) and *M. dasycneme*. Totally there are detected 11 bat species during breeding period. There are big breeding colonies of *M. daubentonii* (about 80 ind.) and single individuals of *N. leisleri* in Plinksiai park. 10 bat species are observed in Plinksiai surroundings during breeding period.

Numerous breeding colonies of *P. nathusii* (total 200 ind.) and *P. pipistrellus* (100 – 150 ind.) are in the Seda, Vieksniai and Krakiai settlements. *E. nilsonii* is common species and several individuals of *V. murinus* are usual in these towns. Totally there are living 7 bat species.

The most abundant species in Mazeikiai district are: *M. daubentonii*, *P. auritus*, *P. nathusii*, *E. nilsonii*. *N. leisleri*, *M. dasycneme* and *V. murinus* are rare or very rare species in Mazeikiai district.

The earliest record of *P. nathusii* is on 10th of April, the latest – on the 7th of October, the earliest of *N. noctula* – on the 10th of May, the latest record – on the 24th of September (Renavas, 2001). The biggest number of migrating *M. daubentoni* was observed in 1st ten-day period in August.

Methods, materials & conclusions

In field studies we used ultrasound detector D 200 Petterson and computer program „BatSound 1.20“. Other data collected from local peoples through actions, events, newspaper articles about bats in Mazeikiai district.

All Mazeikiai district are divide on principle of geographical cells (UTM – 10x10 km squares). There are 25 UTM cells. In 1999 – 2002 we more or less investigated all of them and borrow 11 cell for more detailed researches on bats. One point in Mazeikiai district (Renavas palace) is attached to “Bat monitoring system of Lithuania” from 1999.

From 1999 we analyse information about bats distribution, abundance, population trends, phenological (reproduction, migration etc dates) data in Mazeikiai district. There found 12 bats species, 9 of them are included in Red data book of Lithuania.

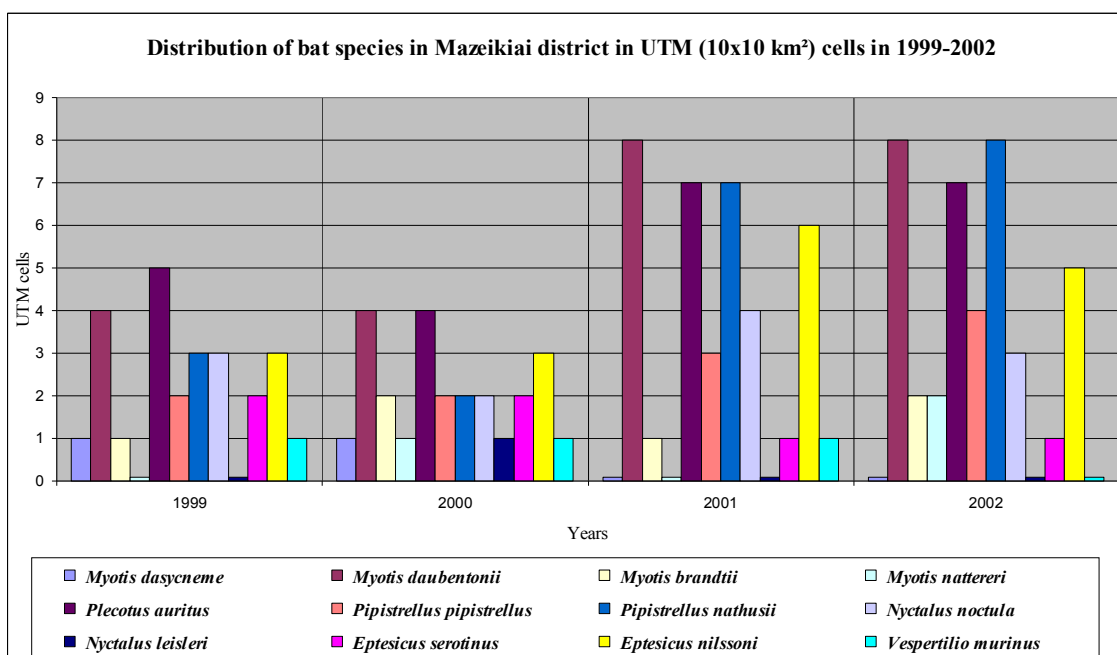
The main threats for bats that occur in Mazeikiai district are: roost damages and loss of feeding territories. The strong wind in last years destroy many roosts in old trees(loss about 30% previous roosts). After reconstruction some churches, manor houses, old buildings became unfit for use for bats. After privatisation in some land areas (forests, meadows, parks) we notice negative changes for bat feedings.

For bat conservation here to necessary lift wooden houses (n-200) for bats in old parks, outskirts, to publish book or leaflets about bats, organise events, actions (BatNight, etc), education programs to popularize bat conservation, to raise “friendly point of view” on bats for local people.

Acknowledgements

We would like to express many thanks to:

- Head administration of Mazeikiai municipality for financial support and possibility for us to take part in this Symposium;
- Our “teachers” Dr. D. Pauza & Mrs. N. Pauziene for their practical advances;
- Our friends and colleagues A. Vilkas & G. Alekna for photos;
- Organization Committee for kindly invitation



There are 25 UTM cells in Mazeikiai district, 21 of them are full and 4 cells partially covered by the district's territory. Distribution data of bats is collected from majority of UTM cells. Only few cells need more researches.

Status and apparent population trends of the bat species

| Species | In Lithuania | In Mazeikiai district |
|----------------------------------|--------------|-----------------------|
| <i>Myotis dasycneme</i> | K, R (D) | R (D) |
| <i>Myotis daubentonii</i> | NR (S) | NR (S) |
| <i>Myotis brandtii</i> | K, R, ? (S) | K, R (S) |
| <i>Myotis nattereri</i> | R, ? (!) | K, R (!) |
| <i>Plecotus auritus</i> | NR (S) | NR (S) |
| <i>Pipistrellus pipistrellus</i> | K, R (!) | NR (I) |
| <i>Pipistrellus nathusii</i> | NR (S) | NR (S) |
| <i>Nyctalus noctula</i> | K, R (!) | R (V) |
| <i>Nyctalus leisleri</i> | R, K, ? (!) | R (V, D) |
| <i>Eptesicus serotinus</i> | NR (S) | R (!) |
| <i>Eptesicus nilssoni</i> | K, R (!) | NR (V) |
| <i>Vespertilio murinus</i> | K, R (!) | K, R (!) |

Status: NR - not rare, R - rare, K - insufficiently known, ? - doubtful status.

Trends: S – stable, I – increase, D - decrease, V – vulnerable, ! – doubtful trend.