

## Characteristics of the summer occurrence of *Myotis dasycneme* and *M. daubentoni* in the Southwestern Bükk Mts. (Hungary)

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**Abstract.** The article presents the results of summer nettings of *Myotis daubentoni* and *M. dasycneme* in the SW Bükk Mts. performed in 1991–1995. The article also reviews the characteristic habitats and seasonal changes in particular habitat.

**Hungary, seasonal distribution, *Myotis dasycneme*, *Myotis daubentoni***

### Introduction

This article reports the seasonal occurrence of *Myotis dasycneme* (Boie, 1825) and *M. daubentoni* (Kuhl, 1817) in some less characteristic habitats like smaller ponds and temporary creeks in the area of the SW-Bükk mountains. When discussing the results obtained in the two species, data collected in the last decade were taken into account.

*Myotis dasycneme* and *Myotis daubentoni* are two species occurring in the surroundings of wetlands in Hungary. Owing to recent intensive faunistic bat research, as opposed to the results from the previous years, we have a lot of new data concerning the summer and autumn occurrence of the two species. Both species can be found in mountains and flood areas in plains (Dobrosi 1994, Paulovics 1996). In these habitats *M. daubentoni* can be regarded as a frequent species, while *M. dasycneme* as a rare one. *Myotis daubentoni*, like all the other bat species in Hungary, is protected, while *M. dasycneme* is strictly protected.

The characteristic summer habitats of both species are hollows in trees. *Myotis dasycneme* also occurs in buildings (Bihari & Gombkötő 1994, Gombkötő & Boldogh 1996). *Myotis daubentoni* also occurs in artificial roosts, sometimes in crevices in bridges (Bihari & Gombkötő 1994).

*M. daubentoni* can be caught in relatively great numbers during nettings. Between 1992 and 1995 Molnár (1996) caught many individuals at the entrance of caves in the Pilis and Visegrád mountains. Fehér (1996) found this species in 12 habitats around waters and caves in Transdanubia during his summer fieldwork. Závoczky (1995) regarded it as the most frequent species in Mecsek. Out of the 228 caught specimens,



Tab. 1. Characteristics of *Myotis daubentoni* and *M. dasycneme* habitats

Ha.	Date	UTM-code	Association	Catch of <i>M. daubentoni</i>	Catch of <i>M. dasycneme</i>	Total catch
F17	8/25/95	DU52 C	<i>Quercus-petraeae-Carpinetum</i> , <i>Melitti-Fagetum</i> , <i>Aegopodio-Alnetum</i>	5		10
F17	8/14/95	DU52 C	<i>Quercus-petraeae-Carpinetum</i> , <i>Melitti-Fagetum</i> , <i>Aegopodio-Alnetum</i>	8	1	25
F18	8/15/95	DU52 C	<i>Quercus-petraeae-Carpinetum</i> , <i>Phyllitidi-Aceretum</i>	7		26
F21	8/21/95	DU62 C	<i>Melitti-Fagetum</i>	2		3
F22	8/22/95	DU62 A	<i>Melitti-Fagetum</i> , <i>Phyllitidi-Aceretum</i>	7		26
F24	8/24/94	DU62 C	<i>Melitti-Fagetum</i> , <i>Phyllitidi-Aceretum</i>	12		30
F26	4/01/94	DU51 C	<i>Melico-Quercetum petraeae-cer</i>	203	23	826

26 July to 26 August 1995 (Tab. 1). All the underlying data were obtained by mist-netting. In case of smaller ponds I put the nets in parallel with banks, while in case of creeks or dry valleys at right angles to the direction of the flow. The size of nets was 2.6×12 m. The nets were put close to the ground or the understory vegetation.

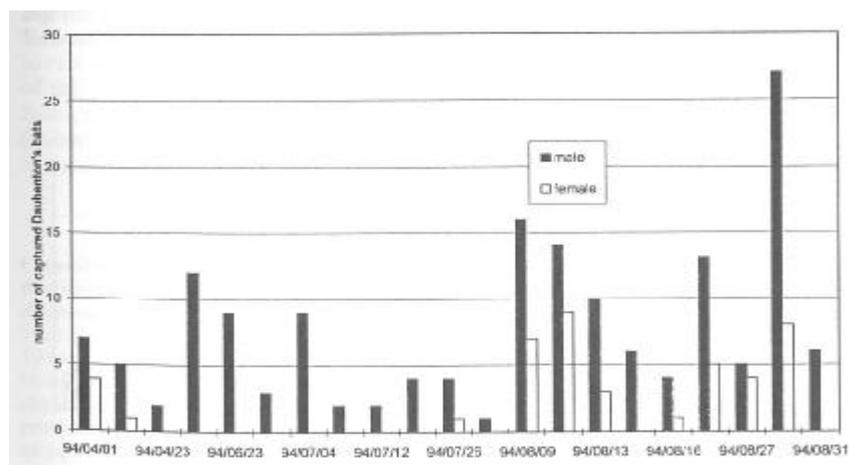


Fig. 2. Number and sex ratio of captured *Myotis daubentoni* on F26 habitat in 1994.

The aim of my research was to detect the bat fauna of the area but on the basis of the large number of caught bat species I succeeded to examine the basic characteristics of their activity.

### The occurrence of the two species in the studied area

Samplings were done at the lake side (F26 habitat) in 1994 and in the valleys (F1–F17 habitats) of the area in 1994/95. Out of the 826 specimens of 19 species caught in 1994 at the lake 203 specimens (24.47%) were *M. daubentoni* and 23 (2.78%) *M. dasycneme*. During the nettings done in the forests of the area in 1994/95 out of the 337 specimens of 15 species 41 (12.16%) were *M. daubentoni* and there was only one *M. dasycneme* recorded. There were 25 sampling places in the study area.

#### *Myotis daubentoni*

Its occurrence in the Bükk is characteristic in the second half of August. Large numbers can be found (Fig. 2) around the studied lake from spring to autumn. The maximal numbers can be detected after the second half of August. The appearance of females and young ones is characteristic of this species as a mating place. Small numbers of females can be found here in spring then they occur in other habitats (nursery roosts) until the second half of the summer. Before the middle of August only males can be caught at the lake-side.

Certain individuals move in a part of the summer to the Northern Bükk (Estók in verb.). In the southern valleys of Bükk they can be caught only from the second half of August the valleys are supposed to be used by *M. daubentoni* as seasonal migration routes.

The night activity can be described by a two-peak activity curve. Soon after the dusk bats appear above the water and hunt insects. The activity declines around

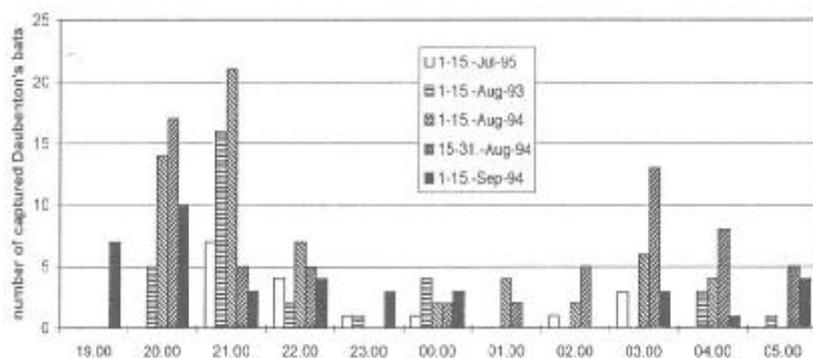


Fig. 3. Number of *Myotis daubentoni* captured by hours on F26 habitat.

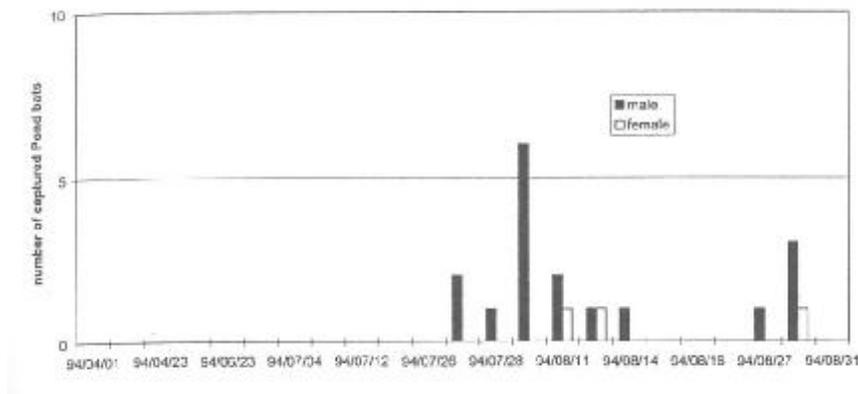


Fig. 4. Number and sex ratio of captured *Myotis dasycneme* on F26 habitat in 1994.

midnight (or the bats hunts in other areas) and increases above the water again before dawn. The activity time of *M. daubentoni* follows a circadian rhythm, and depends on the night length (Fig. 3)

#### *Myotis dasycneme*

Because of poor data it is hard to draw any conclusions about the species. It belongs to rare species. It was caught several times at the lake. Its occurrence is characteristic of the second half of the summer (Fig. 4). There was only one male caught in the Bükk valleys. It can be found in buildings in wider surroundings of the studied area (Bihari & Gombkötő 1994, Gombkötő & Boldogh 1996). It is generally a rare species in the area.

### Súhrn

**Charakteristiky letného výskytu *Myotis dasycneme* a *M. daubentoni* juhozápadnej časti pohoria Bükk (Maďarsko).** Príspevok prezentuje výsledky letných odchyto *Myotis daubentoni* a *Myotis dasycneme* v JZ časti pohoria Bükk v období 1991–1995. Odchyty s využitím nárazových sietí sa v roku 1994 uskutočnili v blízkosti vodnej plochy, v rokoch 1994 a 1995 v lesnom biotope. Z 826 netopierov 19 druhov odchytených v roku 1994 pri vodnej ploche 203 (24,47 %) bolo jedincov *M. daubentoni* a 23 (2,78 %) bolo jedincov *M. dasycneme*. V lesnom prostredí sa odchytilo 337 netopierov 15 druhov, z toho *M. daubentoni* predstavoval 41 (12,16 %) exemplárov a *M. dasycneme* bol odchytený len raz. V príspevku sa opisujú aj charakteristiky biotopu a v prípade *M. daubentoni* aj sezónne zmeny jeho výskytu.

## References

- BIHARI Z. & GOMBKÖTŐ P., 1994. Az Északi-középhegység denevér-faunisztikai felmérése. *Folia Histor.-Natur. Mus. Matr.*, **18**: 163–189.
- CZÁJLIK P., 1986. A mátrai Ágasvár-barlang (Csörgő-lyuk) és a Csörgő-völgy denevér faunája. *Fol. Histor.-Natur. Mus. Matr.*, **11**: 137–138.
- DOBROSI D., 1994. Adatok a Bükk denevérfaunájához. *Fol. Histor.-Natur. Mus. Matr.*, **18**: 191–197.
- DOBROSI, D. 1994. *A denevérek elterjedése és védelme Magyarországon*. Magyar denevértutatók Baráti Körének kiadványa, 48 pp.
- FEHÉR C. E., 1996. *Nyugat-dunántúli kisémlősfauisztikai vizsgálatok*. Tudományos Diákköri Dolgozat. Pannon Agrártudományi Egyetem, Keszthely, 28 pp.
- GOMBKÖTŐ P., 1996. *Erdei denevérélőhelyek vizsgálata hálózatos mintavétellel a Bükk-hegység területén*. TDK-dolgozat. Kossuth Lajos Tudományegyetem, 23 pp.
- GOMBKÖTŐ P. & BOLDOGH S., 1996: House-Dwelling Bat Species in the Area of ANP. *Denevértutatók – Hungarian Bat Research News*, **2**: 28–33.
- KOVÁTS N., 1989. Environmental factors influencing hibernation of bats in the Létrási-cave, Bükk-Mts. Pp.: 655–658. In: HANÁK V., HORÁČEK I. & GAISLER J. (eds.): *European Bat Research 1987*. Charles Univ. Press, Praha.
- MOLNÁR Z., 1996. *A Pilis és a Visegrádi-hegység denevérfaunisztikai vizsgálata*. Diplomadolgozat. Pannon Agrártudományi Egyetem, Kaposvár, 43 pp.
- PAULOVICS P., 1996. *A magyarországi denevérek elterjedése és gyakorisága, különös tekintettel a Bakony-hegységre*. Diplomadolgozat. József Attila Tudományegyetem, Szeged, 69 pp.
- PAULOVICS P., DOMBI I. & FEHÉR C. E., 1996. Téli denevéellenőrzések a Bakonyban. *Denevértutatók – Hungarian Bat Research News*, **2**: 10–14.
- SZATYOR M., 1996. *A Mecsek-hegység denevérfaunájának kiegészítő és összehasonlító vizsgálata az irodalmi adatok és a jelen kutatások alapján*. Tudományos Diákköri Dolgozat. Janus Pannonius Tudományegyetem, Pécs, 19 pp.

received 22. 9. 1998