

First record of *Myotis blythii* in Poland (Chiroptera: Vespertilionidae)

Pierwsze stanowisko *Myotis blythii* w Polsce (Chiroptera: Vespertilionidae)

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Abstract. The first record of *M. blythii* in Poland is described. It slightly extends the known distribution range of the species in Central Europe northwards.

Three large species of the genus *Myotis* live in Europe. Two of them, the greater mouse-eared bat, *M. myotis* (Borkhausen, 1797), and the lesser mouse-eared bat, *M. blythii* (Tomes, 1857), are widely distributed throughout southern and central Europe. The distribution range of the third one, the Maghrebian mouse-eared bat, *M. punicus* Felten, 1977, is restricted to several Mediterranean islands, besides its main range in north-western Africa (CASTELLA et al. 2000, GÜTTINGER et al. 2001, TOPAL & RUEDI 2001). In Poland, *M. myotis* is widespread and its continual distribution range covers the southern and partly the western and central parts of the country. In addition, scattered records have been reported from most of the rest of Poland (SACHANOWICZ et al. 2006). However, *M. blythii* has not yet been reported from Poland. In Europe, the northern margin of its range reaches roughly 50 °N in the Czech Republic and Slovakia (TOPAL & RUEDI 2001), so the species has been known from near the southern border of Poland. Therefore, under favourable circumstances, the species was likely to occur also in Poland.

During the field studies on swarming activity of bats in the Tatra and Beskidy Mts. carried out in 1999–2005, one individual of *M. blythii* was recorded. An adult male of *M. blythii* was captured on 12 October 2005 into a net installed inside the Czarna Cave, several dozens of metres below the northern cave entrance at the altitude of 1294 m, during an in-flight. This site is situated in the Organy Massif, in the Kościeliska Valley. The total length of known corridors of this cave is about 6,500 m, with denivelation of 303.5 m. It has three openings situated at 1326 m, 1294 m and 1404 m a. s. l. (GRODZICKI et al. 1995). It is the largest bat hibernaculum in the Tatra Mts (PIKSA & NOWAK 2000).

In order to identify the bat species, the basic morphometric features enabling to differentiate between *M. myotis* and *M. blythii* were considered: forearm length (FaL), ear length (EaL), and ear width (EaW) (see ARLETTAZ et al. 1991, ARLETTAZ 1995, DIETZ & VON HELVERSEN 2004). According to ARLETTAZ et al. (1991), the Z function was calculated: $Z = 0.1084 \times \text{FaL} + 1.4166 \times \text{EaL} - 40.5907$ (if $Z < 0$, then *M. blythii*).

At first sight, the captured bat seemed smaller and more subtle than *M. myotis*. As far as the coloration is concerned, it was similar to the earlier and later captured greater mouse-eared bats, with a little bit lighter fur on the belly. The white spot on the hair on the head, which is typical

of some *M. blythii* males, was not visible. The ears were narrower and thinner. The teeth of the captured bat were significantly rubbed off (e.g. the top left canine was broken in the distal part), indicating that it was an adult specimen.

The right FaL was 58.1 mm, the left FaL 58.9 mm. The EaW and EaL of the right ear were 8.9 and 22.6 mm, respectively; the left EaW was 8.9 mm. The left EaL was not measured as its tip was slightly cut. The lengths of the forearms and ears of the individual caught were compared with the dimensions of other greater mouse-eared bats captured in the years 2004–2005 during the research on swarming activity in the Polish parts of the Carpathians (Fig. 1). The value of the formula compiled by ARLETTAZ et al. (1991) was -2.28 in this bat, i.e. the value typical for *M. blythii*, and differed from the values found in the captured individuals of *M. myotis* (0.21–3.34). In this respect the examined bat differed remarkably from the other mouse-eared bats captured at that time in the Polish Carpathians.

The Czarna Cave is the first locality of *M. blythii* in Poland. However, the species does not seem to be a permanent element of the Polish fauna. Most probably, this was just an accidentally present individual whose occurrence, especially in the Polish Tatra Mts, is surprising. On the southern side of the Tatra Mts. in Slovakia, the species has been recorded only at two sites during hibernation and at lower altitudes: in winter 1964 in the Belianska Cave (890 m a. s. l.) (MOŠANSKÝ & GAISLER 1965, GAISLER & HANÁK 1972) and in the winter season 1994/1995 in the Lučivianska Cave (800 m a. s. l.). However, the accuracy of identification of the latter record has been doubted (PJEŇČÁK et al. 2003). Therefore, the last certain record of this species in the Slovak Tatra Mts. was made more than 40 years ago. Since then, despite intensive

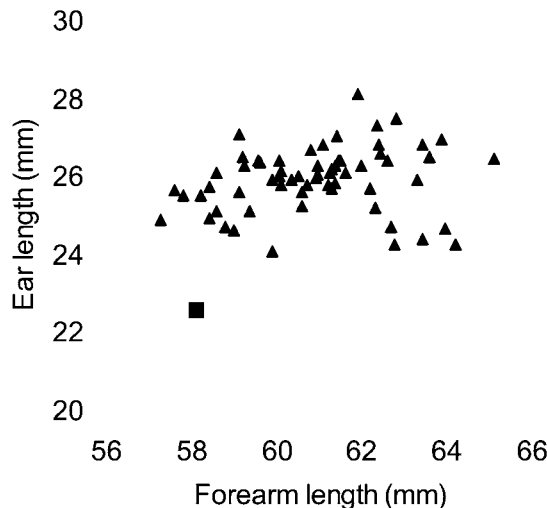


Fig. 1. Scatter plot of the forearm length against the ear length (n=63) recorded in *Myotis myotis* (triangles) and *M. blythii* (square) captured in 2004 and 2005 in the Polish Carpathians.

Rys. 1. Relacja między długością przedramienia (Forearm length) a długością ucha (Ear length) (n=63) u *Myotis myotis* (trójkąty) i *M. blythii* (kwadrat) schwytanych w 2004 i 2005 roku w okresie swarminngu, w Tatrach, Beskidzie Wyspowym, Beskidzie Sądeckim, Beskidzie Niskim, Pogórze Ciężkowickim i Podhalu.

research, especially in the recent years, both in the periods of activity and of hibernation, the species has not been found (PJENČÁK et al. 2003). In other parts of Poland, in the regions close to the northern range of *M. blythii*, where its occurrence should be possible, it has not yet been recorded (author's unpubl. data, PASZKIEWICZ et al. 1998, POSTAWA & WOŁOZYN 2000, WĘGIEL et al. 2001, 2004). However, it cannot be excluded that single specimens of this species might occasionally occur in Poland.

STRESZCZENIE

Dorosły samiec nocka ostrousznego *Myotis blythii* został odłowiony 12 października 2005 roku w Tatrach Polskich w Jaskini Czarnej (1294 m n. p. m.). To pierwsze stanowisko tego gatunku nietoperza w Polsce.

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