

Savi's pipistrelle (*Hypsugo savii*): bat species breeding in the Czech Republic (Chiroptera: Vespertilionidae)

Netopýr Saviův (*Hypsugo savii*): druh netopýra v Česku se množící (Chiroptera: Vespertilionidae)

Tomáš BARTONIČKA¹ a Peter KAŇUCH^{2,3}

¹ Institute of Botany and Zoology, Faculty of Science, Masaryk University, Kotlářská 2, CZ–611 37 Brno, Czech Republic; bartonic@sci.muni.cz

² Institute of Forest Ecology, Slovak Academy of Sciences, Štúrova 2, SK–960 53 Zvolen, Slovakia; kanuch@netopiere.sk

³ Institute of Vertebrate Biology, Academy of Sciences CR, CZ–675 02 Studenec 122, Czech Republic

received on 25 November 2006

Abstract. On 17 August 2006, an adult female Savi's pipistrelle (*Hypsugo savii*) was mist-netted above a park fountain in the Brno city. The female showed signs of postlactation like the presence of bare patches around its bulgy nipples. It was measured, banded and next night released in the same park. Previous records of the species concerned two males and subadult female. This is the fourth record of *H. savii* but the first reliable one indicating reproduction of this species in the territory of the Czech Republic.

Savi's pipistrelle, *Hypsugo savii* (Bonaparte, 1837) has a West Palaearctic distribution range and in Europe it is widespread mostly in Mediterranean region (HORÁČEK & BENDA 2004). Previous records of the species in the Czech Republic up to 2003 were made outside the bat's breeding period, thus irrelevant to the problem of reproduction of the species. First male was found 20 km southwards of Brno in the village of Žabčice and a subadult female just within the territory of Brno (GAISLER 2001, GAISLER & VLAŠIN 2003).

At the evening of 17 August 2006, two mist-nets (7 and 12 m long) were set over a historical stone fountain (five meters in diameter) in the Lužánky park in the city of Brno. The park, ca. 400×400 meters, has a perimeter of ca. 1.8 km. Full-grown and hollow trees in the park as well as old historical buildings surrounding the park provide high number of potential roosts for bats. An artificial pond was built recently in the western part of the park and is also important to the bats. However, the shallow water body in the fountain was the only water habitat of the park and its surroundings until the vegetation season of 2005. Mist-netting lasted between 8:00pm and 11:30pm. We caught 13 individuals of five bat species – mostly *Pipistrellus pipistrellus* (Schreber, 1774) s. str. and per one individual of *Eptesicus serotinus* (Schreber, 1774), *Plecotus auritus* (Linnaeus, 1758) and *Myotis daubentonii* (Kuhl, 1817). The female of *H. savii* was caught at 9:10 pm. She had signs of postlactation such as the presence of bare patches around its bulgy nipples and swollen external genitals. Wings, ears and face were dark in contrast to the brown dorsal fur and grey belly. There were two serrations on I², between I³ and C¹ was a gap, C¹ and P⁴ were in contact. The peak frequency of the search sequence of echolocation

calls was between 33.0–35.5 kHz. External measurements: body 47.8 mm, tail 32.8 mm (free tip of the tail was 3 mm long), forearm 35.1 mm, hind foot 6.7 mm, ear 10.2, tragus 4.3 mm, the fifth finger 42.6 mm, the third finger 57 mm, body mass 6.8 g. A sample of wing membrane was preserved in 96% ethanol for later DNA analysis. Photographs were made using a digital camera. The bat was marked with the band N. Museum Praha No X16019, kept in captivity and next night released within the same park. It flew away without any obvious difficulties.

In addition to the two published records (GAISLER 2001, GAISLER & VLAŠÍN 2003), an adult male was found in March 2006 within the city of Brno (leg. P. KOUTNÝ). It was kept in captivity for five days and then released under favourable climatic conditions in another district of Brno. Fast train of records of *H. savii* during the last five years shows spreading of the species towards the north. During the last two years several individuals of *H. savii*, in winter as well as in summer, were found also in Slovakia (LEHOTSKÁ & LEHOTSKÝ 2006, LEHOTSKÁ 2006, M. CEUČH & M. ŠEVČÍK in litt.). It can be assumed that the species is an active immigrant to the Czech Republic and Slovakia. The records from Slovakia are located more to the south than these from Brno. At present, Brno and its environs seems to be the northernmost point of the species' regular occurrence (GAISLER & VLAŠÍN 2003) and the potential reproduction. Two individuals found in northern Germany and another from England were probably transported passively (OHLENDORF et al. 2000, GAISLER 2001). Low spectral parameters and, in particular, low peak frequency of pipistrelle like echolocation calls recorded in Nitra and Brno (lower than in signals of *Pipistrellus nathusii*) suggest more often occurrence of *H. savii* in urban areas than expected (T. BARTONIČKA and M. CEUČH, unpublished). Bats can occupy the prefab houses similarly as *Nyctalus noctula* (Schreber, 1774) or *Vespertilio murinus* (Linnaeus, 1758). Possible existence of a maternity colony will be investigated in near future.

SOUHRN

bzmřf

ACKNOWLEDGEMENTS

We are very grateful to J. GAISLER for valuable comments to the manuscript. Female was captured during the activities involving the study of pipistrelle's populations in central Europe. The study was supported by the grants of Grant Agency of the Czech Republic No 206/06/0954 and the grant of Ministry of Education, Young and Sports of the Czech Republic No MSM0021622416.

REFERENCES

- GAISLER J., 2001: A mammal species new to the Czech Republic – Savi's pipistrelle *Hypsugo savii*. *Folia Zool.*, **50**: 231–233.
- GAISLER J. & VLAŠÍN M., 2003: Second record of the Savi's pipistrelle (*Hypsugo savii*) in the Czech Republic. *Vespertilio*, **7**: 181–182.
- HORÁČEK & BENDA P., 2004. *Hypsugo savii* (Bonaparte, 1837) – Alpenfledermaus. Pp.: 911–941. In: KRAPP F. (ed.): *Handbuch der Säugetiere Europas. Band 4: Fledertiere. Teil II: Chiroptera II. Vespertilionidae 2, Molossidae, Nycteridae*. AULA-Verlag, Wiebelsheim, x+605–1186 pp.
- LEHOTSKÁ B., 2006: Second record of the Savi's pipistrelle (*Hypsugo savii*) in Slovakia. *Vespertilio*, **9–10**: 225–226.
- LEHOTSKÁ B. & LEHOTSKÝ R., 2006: First record of *Hypsugo savii* (Chiroptera) in Slovakia. *Biologia, Bratislava*, **61**: 192.

OHLENDORF B., VIERHAUS H., HEDDERGOTT M. & BODINO F., 2000: Korrektur: Fund einer Nordfledermaus (*Eptesicus nilssoni*) in Hamburg (ds. Z. Bd. 5, p. 220) betraf eine Alpenfledermaus (*Hypsugo savii*). *Nyctalus (N. F.)*, 7: 454.