

First record of the Mediterranean horseshoe bat *Rhinolophus euryale* (BLASIUS, 1853) in Austria (Chiroptera, Rhinolophidae)

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Erstnachweis der Mittelmeer-Hufeisennase *Rhinolophus euryale* (BLASIUS, 1853) in Österreich (Chiroptera, Rhinolophidae)

Abstract

On 6 January 2022, a solitary Mediterranean horseshoe bat (*Rhinolophus euryale*) was observed in the Lurgrotte Cave in Semriach, Styria, Austria (47° 13' N, 15° 22' E). This cave is located at the southern slope of the Eastern Alps at 670 m a. s. l. The species was identified by the noticeable lilac tinge of its fur and size intermediate between greater and lesser horseshoe bat. This sighting constitutes the first record of *Rhinolophus euryale* in Austria.

Key words

Rhinolophus euryale, Austria

Zusammenfassung

Am 6. Januar 2022 beobachteten wir eine einzelne Mittelmeer-Hufeisennase in der Lurgrotte in Semriach, Steiermark, Österreich (47° 13' N, 15° 22' E). Diese Höhle liegt am Südabfall der Ostalpen in 670 m Seehöhe. Die Artbestimmung erfolgte aufgrund der auffällig lila getönten Fellfarbe und der zwischen Kleiner und Großen Hufeisennase liegenden Körpergröße. Diese Beobachtung ist der erste Nachweis dieser Art in Österreich.

Schlüsselwörter

Rhinolophus euryale, Österreich

On 6 January 2022, the authors performed together with Wolfgang and Mathias Moche (both Vienna) the annual census of bats hibernating in karst caves along the middle reaches of the Mur river in Styria, south east Austria (SACKL et al. 2011). In the Lurgrotte Cave, a solitary medium-sized rhinolophid bat stood out from 1277 lesser (*Rhinolophus hipposideros*) and 32 greater horseshoe bats (*Rh. ferrumequinum*). According to size and colouration we identified it as Mediterranean horseshoe bat (*Rhinolophus euryale*).

Lurgrotte Cave (47° 13' N, 15° 22' E; 670 m a.s.l.) is situated 16 km north of Graz. With approximately 6 km length it is the largest cave in the Eastern Alps of Styria. It is located in the Tanneben massif, a 400-500 m thick layer of palaeozoic limestone in the Grazer Bergland. It has two accessible entrances, the upper one in the village of Semriach (Fig. 1) and the lower one in the village of Peggau situated in the Mur valley. A brook crosses the cave with a level difference of 221 m. Lurgrotte Cave is a hibernaculum of many bat species of which the lesser and



Fig. 1. Entrance of Lurgrotte cave in Semriach.

Foto: EDMUND WEISS

Abb. 1: Eingang zur Höhle Lurgrotte in Semriach.



Fig. 2: *Rhinolophus euryale* in the Lurgrotte cave on 6 January 2022. Foto: EDMUND WEISS

Abb. 2: *Rhinolophus euryale* am 06.01.2022 in der Höhle Lurgrotte.

the greater horseshoe bats are the most abundant. The cave is protected under the European Union's Habitats Directive. The current observation concerns the upper section of the cave that is accessible from the village of Semriach.

Of all bats observed, one pale grey specimen was not torpid. It was firstly seen while flying along the cave's passage and was a few minutes later found clinging to the rock face 3–4 m above the passageway. Here our group was able to observe the individual for around 5 minutes with the help of LED headlights and a binocular. In addition, a few photographs (Fig. 2) and a short movie could be taken before the animal again flapped away.

We identified the individual as Mediterranean horseshoe bat (*Rhinolophus euryale*) on the basis of the following characteristics: (1) intermediate size between *Rh. hipposideros* and *fer-rumequinum*; (2) clear lilac tinge, in particular on the back and on the sides which is a unique characteristic for the Mediterranean horseshoe bat (GAISLER 2001 a); (3) grey-brown dorsal colouration and paler whitish-grey underside which distinguished it from Blasius' horseshoe bat (DIETZ 2007 a); (4) lack of a distinct boundary between dorsum and venter which is typical for *Rh. mehelyi* (GAISLER 2001 b, DIETZ 2007 b); (5) despite the low contrast of the photograph, it can be discerned that the features of the noseleaf consent with those of *Rh. euryale*.



Fig. 3: Distance between the northernmost locality in Slovenia and locality of first sighting of a Mediterranean horseshoe bat in Austria.

Abb. 3: Entfernung zwischen der nördlichsten Lokalität in Slowenien und der Lokalität der ersten Sichtung einer Mittelmeer-Hufeisennase in Österreich.

The geographic location of the Lurgrotte Cave supports the attribution of the observed specimen to *Rhinolophus euryale*. The distribution range of Mehely's horseshoe bat extends from southern Iberia, south-western France, Sardinia and Sicily to the south-eastern Balkan Peninsula (Bulgaria, Kosovo, and Greece). Few older records are known from coastal Croatia and the borders between Croatia and Bosnia and Herzegovina (RODRIGUES & PALMEIRIM 1999). The western borders of the ranges of Blasius' and Mediterranean horseshoe bat are situated nearer to our observation site (KRYŠTUFÉK 1999, IBAÑEZ 1999). The distribution area of Blasius' horseshoe bat extends along the Adriatic coast and covers Albania, Greece, Kosovo and Bulgaria. The Slovenian range of Blasius' horseshoe bat shrank in the 20th century and this species vanished from the northeastern Adriatic coast (KRYŠTUFÉK & REŽEK DONEV 2005). *Rh. blasii* is now extinct in the Dinaric Karst of Slovenia (KRYŠTUFÉK 2007).

The distribution area of the Mediterranean horseshoe bat comprises the total Mediterranean region and reaches in France and Slovakia locally to more than 45° latitude. In Slovenia, *Rh. euryale* is fairly widespread in the pre-Dinaric region and recent records are reported from the pre-Alpine mountains of the country (KRYŠTUFÉK & REŽEK DONEV 2005). KOSELJ (2009) estimated the Slovene population at approximately 1000 individuals. The northernmost Slovenian record is known from Belojača cave in Jelovec pri Makolah, Makole (46 17 N/ 15 39 E) (KOSELJ & AUPČIČ 2001) in the Landscape Haloze. The distance between Semriach and the northernmost record in Slovenia is approximately 105 km (Fig. 3). With movements between summer and winter roosts mainly restricted to < 50 km, exceptionally 63–83 km, *Rh. euryale* is thought to be largely sedentary. However, a male was found 134 km from the original site eight years after it has been banded in southern France (GAISLER 2001 a, HUTTERER et al. 2005).

The classification of the sighting of a solitary *Rh. euryale* in Styria/Austria as vagrant, migrant or indication of a northward range expansion is currently not possible. Climate change might have a positive effect on this species with mainly Mediterranean distribution.

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