

## Noteworthy bat records from Romania

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**Abstract.** New distribution records of eleven rarely found bat species from Romania (*Myotis bechsteinii*, *M. mystacinus*, *M. brandtii*, *M. alcaethoe*, *M. daubentonii*, *M. dasycneme*, *Eptesicus nilssonii*, *Pipistrellus pygmaeus*, *P. nathusii*, *P. kuhlii*, and *Nyctalus leisleri*) are provided.

**Distribution, the Carpathians, the Balkans**

### Introduction

Romania is the largest country in south-eastern Europe, covering over 238,000 km<sup>2</sup> and situated north of the Balkans and west of the Black Sea. Mountain ranges of the Carpathians dominate the central, northern and western parts of the country and are the main geographical feature of Romania. In the south, the country is bordered by the Danube, which creates a conspicuous delta in the east, at its mouth into the Black Sea, representing an important biodiversity hotspot. Large lowland areas stretch across the south-western, southern and eastern parts of Romania (Banat, Wallachia and Moldavia). As a result, Romania shows very diversified natural conditions and is considered an area of high biodiversity (e.g. Griffiths et al. 2004, Bálint et al. 2011).

So far, 32 bat species have been reported from Romania (Decu et al. 2003, Jéré & Dóczy 2007, Gheorghiu et al. 2009). First data on bats of Romania come from the second half of the 19th century (Herman 1869, Daday 1885a, b, 1887), and the effort in bat research has continued until recently (Méhely 1900, 1912, Matschie 1901, Miller 1912, Paszylavszky 1918, Călinescu 1931, Băcescu 1938, Topál 1954, etc.). However, as it was already mentioned in comprehensive reviews of the Romanian bat fauna (Gheorghiu et al. 2001, Valenciuc 2002, Decu et al. 2003, Bücs et al. 2014), majority of records of bats from Romania come from several rather intensively studied regions (e.g. Bihor, Banat, Dobrogea, Danube delta) and most of them were obtained by inspections of caves and other underground roosts. Despite a relatively long tradition in bat research (see e.g. Barti 2002a, 2005), some regions of the country remain studied only scarcely and the bat fauna of Romania is still incompletely known, particularly those ecological types which do not enter caves frequently.

Based on the survey of bats carried out in various parts of Romania in 2000–2014, we gathered numerous records of a series of bat species. Among them, some records are particularly noteworthy

considering the occurrence pattern of the respective species in the whole country. New records of eleven rarely found bat species are listed here and presented in distribution maps (Figs. 1–11).

## Material and Methods

The distribution data on bats were collected by inspections of various roosts, mist-netting at sites of predicted flight activity and by detecting and recording echolocation calls, during several field trips to Romania in 2000–2014. The echolocation calls were detected using portable bat detectors (Pettersson D240x, Pettersson Elektronik, Sweden) and the recorded sequences were analysed by the appropriate software (BatSound, Pettersson Elektronik, Sweden).

The listed records (see Species List) are defined by the county and village names, name of the particular site, date of record, abbreviation of the field method, number, sex and age of the recorded bat individuals, and author acronyms (in parentheses). For coordinates and altitude of the sites see Appendix. In the lists of records, the following abbreviations were used: det. – acoustic record using a bat detector, net. – capture by mist-net; ind. – individual, ad – adult, sad – subadult, juv – juvenile, L – lactating female; authors: db – Daniela Borda, em – Edita Miková, ih – Ivan Horáček, ld – Libor Dvořák, ma – Michal Andreas, mr – Michal Rendoš, mu – Marcel Uhrin, pb – Petr Benda, rl – Radek Lučan, ru – Romana Uhrinová.

The particular maps of records were compiled from original and published data, all records are presented in the 10×10 km UTM mapping square grid. The distribution maps (Figs. 1–11) are based on the published map sources of bat distribution (Gheorghiu et al. 2001, Valenciuc 1994, 2002, Decu et al. 2003, Bücs et al. 2014) and complemented by new published records; for the respective literature sources see References.

## Species List

### *Myotis bechsteinii* (Kuhl, 1817)

RECORDS. B i h o r: **Gălăşeni**, Gălăşeni Cave, 4 August 2012: net. 1 ♂ ad (mu, em, mr, ru); – **Şuncuiuş**, Izvorului Cave, 10 September 2001: net. 4 ♂♂ ad (rl); – Unguru Mare Cave, 6 September 2001: net. 1 ♂ ad (rl). – B i s t r i ța - N ă s ă u d: **Gersa**, Tauşoane Cave, 29 August 2013: net. 2 ♂♂ ad (pb, em, mu). – G o r j: **Polovragi**, Oltetului Gorge, Polovragi Cave, 4 September 2013: net. 1 ♂ ad (pb, em, mu).

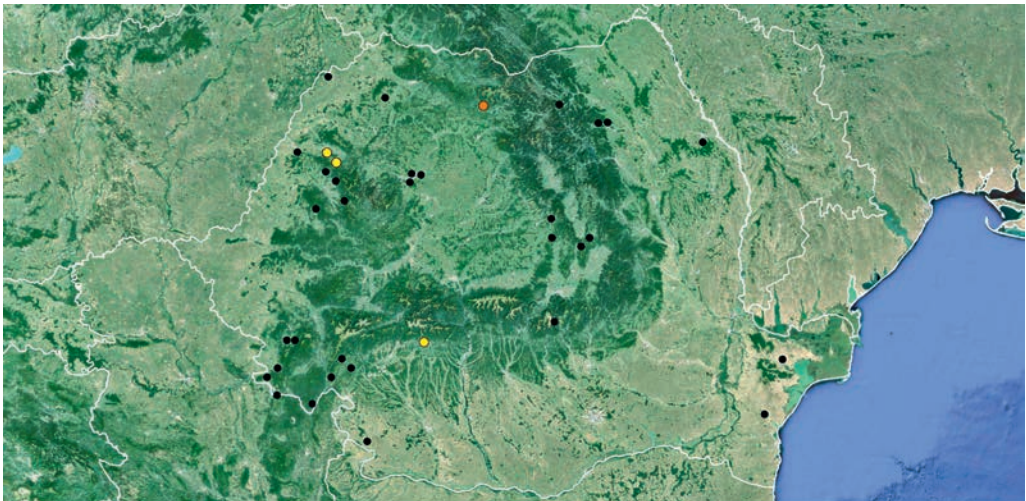


Fig. 1. Distribution of *Myotis bechsteinii* in Romania. The known occurrence is presented in the 10×10 km UTM mapping grid. Legend: small black dots – squares occupied by published data; large yellow dots – squares occupied by new and published records, large orange dots – squares occupied by new records.

*Myotis bechsteinii* is a bat associated with forested areas, its distribution observed in Romania follows clearly this pattern (Fig. 1). Most of the known records originate from the western part of the country, i.e. from the Carpathians (see e.g. M ehely 1912, Barti 1999, Barti & Varga 2004, J ere et al. 2005a, 2007, Nagy & Postawa 2011, B ucs et al. 2012). In these mountains, occurrence of this bat was confirmed also by our records, in all cases at cave entrances. For the first time, *M. bechsteinii* was recorded in the Bistri a-N as ud county, at the Tau soane Cave in the southern slope of the Rodna Massif. In eastern Romania, this species was documented only rarely. The first record in Romanian Moldavia was made in 2001, when this bat was found to hibernate in the Grota Mare Cave in the Repedeaa Hills (Valenciuc & Chachula 2001b) and the occurrence was confirmed there later (Ifrim & Valenciuc 2006c). The records in Dobrogea are regarded as an isolated part of the ditribution range (Pocora & Pocora 2011a), this species probably does not occur in most of the Wallachian Lowland.

### *Myotis mystacinus* (Kuhl, 1817)

RECORDS. B i h o r: **Smida**, Alunului Cave, 23 August 2008: net. 1 ♂ ad (ma, pb, mu). – D o l j: **Sfircea**, Jiu River, 3 August 2011: net. 1 ♀ ad L, 1 ♂ (mu). – C a r a   s - S e v e r i n: **Eftimie Murgu**, Rud riei Gorge, 30 July 2012: net. 1 ♀ sad, 1 ♀ ad (mu, em, mr, ru); – **Ilidia**, Vicinic stream, 23 July 2010: net. 1 ♂ ad (mu). – H a r g h i t a: **D ne ti**, Groapa Apei valley, ca. 5 km W of the village, 9 September 2014: net. 1 ♂ sad (pb). – S u c e a v a: **Chiril**, Liliecilor Cave, 30 August 2013: net. 1 ♀ ad (pb, em, mu). – ** ib u**,  ib u valley, above stream ca. 5 km N of the village, 1 September 2014: net. 1 ♂ ad (pb). – V r a n c e a: **Fitione ti**, Zabr u  river valley, above river ca. 10 km NW of the village, 4 September 2014: net. 1 ♂ ad (pb).

*Myotis mystacinus* is a widespread but rarely found bat species in Romania. Most of its records are concentrated to the Carpathian range (Fig. 2), while in other regions (Wallachian and Moldavian lowlands, Transylvanian plateau) this species has not yet been recorded (e.g. Decu et al. 2003, Barti & Varga 2004, Chi  & Manole 2004, J ere & D oczy 2005b, J ere et al. 2005a, 2007, Gheorghiu & Murariu 2006, Barti et al. 2007a, b). Several new records from Dobrogea were ascribed to *M.*

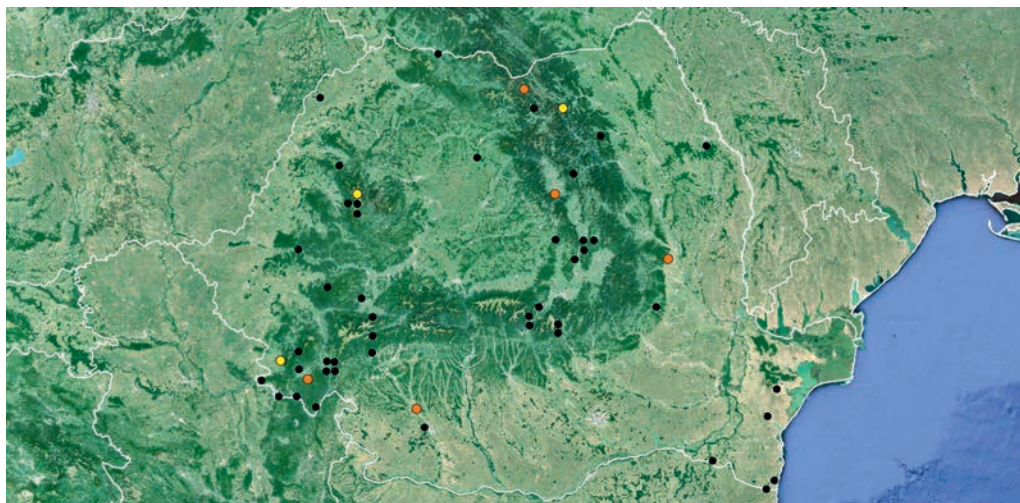


Fig. 2. Distribution of *Myotis mystacinus* in Romania. For explanations see Fig. 1.



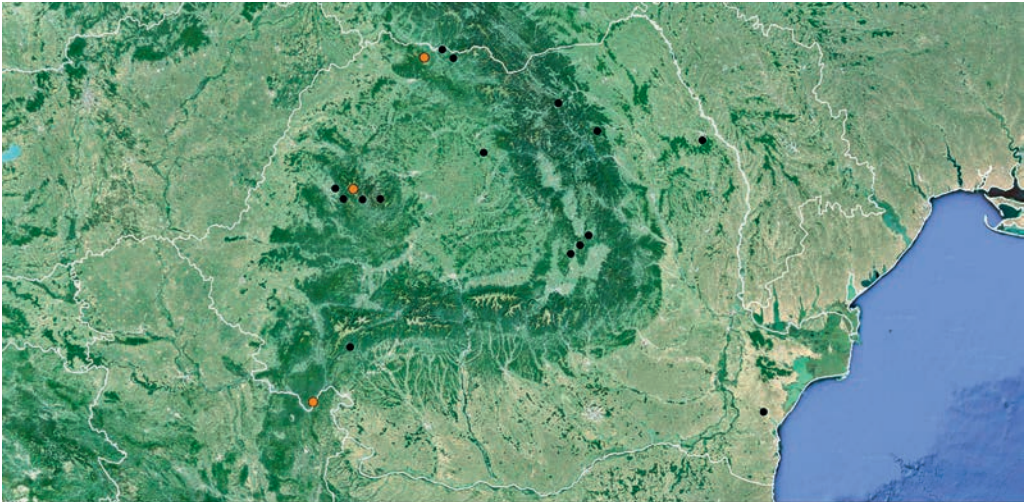


Fig. 3. Distribution of *Myotis brandtii* in Romania. For explanations see Fig. 1.

*aurascens* (Ifrim & Pocora 2007a, Pocora & Pocora 2011a). *M. mystacinus* was found at eight new sites during our survey and this number indicates this bat to be the most abundant species of the *M. mystacinus* morpho-group (see *M. brandtii* and *M. alcaethoe*). The new records represent mostly individuals netted above small streams in forested areas.

### ***Myotis brandtii* (Eversmann, 1845)**

RECORDS. Bihor: **Smida**, Alunului Cave, 23 August 2008: net. 1 ♂ ad (ma, pb, mu). – Maramureş: **Bli-dari**, Valea Sturului valley ca. 5 km NE of the village, 12 September 2014: net. 1 ♂ ad (pb). – Mehedinţi: **Dubova**, Gura Ponicovei Cave, 27 September 2009: remains of 1 ind. in *Strix aluco* pellets (pb, mu; cf. Obuch 2011).

*Myotis brandtii* ranks among the rarest bats of Romania (Fig. 3), its occurrence pattern is very similar to that of *M. bechsteinii* (Fig. 1). We recorded it at three new sites in the western part of the country and the finding from owl pellets in the Gura Ponicovei Cave represents the first evidence of this bat in south-eastern Banat (Almăjului Mts). Other two new records come from the Bihor and Maramureş Mts., where the species was documented previously (see Valenciuc 2002, Decu et al. 2003). Within the Carpathians, there are several records from the Eastern Carpathians in the Bistriţa-Nasăud, Covasna, Harghita, Neamţ, and Suceava counties (e.g. Barti & Kovács 2001, Barti & Varga 2004, Ifrim & Valenciuc 2006a). Only two records of *M. brandtii* are known outside the Carpathian ranges; in 1989 it was recorded in Dobrogea (Grimmberger 1993) and in 2004 in Grota Mare in the Iaşi county (Ifrim & Valenciuc 2006a).

### ***Myotis alcaethoe* von Helversen et Heller, 2001**

RECORD. Bistriţa - Năsăud: **Gersa**, Tauşoane Cave, 29 August 2013: net. 1 ♀ sad (pb, em, mu).

The first Romanian record of *Myotis alcaethoe* was made in the Vârghiş Gorge in the Perţani Mts. in 2007 (Jére & Dóczy 2007); however, it was not included into the review of distribution of

this recently described species by Niermann et al. (2010). Other two records were reported from the north-eastern edges of the Apuseni Mts. (Ohlendorf & Hoffmann 2009) and another record is available from the south-western part of the Vulcanului Mts. (Benda et al. 2012) (Fig. 4). We netted one *M. alcaethoe* at the Taușoane Cave on the southern slope of the Rodna Mts. in northern Transylvania; the individual was clearly identified according to its external characters (cf. Lučan et al. 2011). This locality represents a part of the north-eastern margin of the species range in Central Europe. Distribution status of this bat in Romania still remains unknown; nevertheless, considering the results of our survey, *M. alcaethoe* represents the rarest species of the *M. mystacinus* morpho-group (see above).

### *Myotis daubentonii* (Kuhl, 1817)

RECORDS. A l b a: **Suseni**, Feneș valley, Piatra Caprei Corabia, 5 September 2013: det. & rec. calls of min. 1 ind. (pb, em, mu); – **Vălișoara**, Vălișoarei Gorge, 1 August 2012: net. 1 ♂ ad (mu, em, mr, ru). – A r g e ș: **Sățicul de Jos**, Mici ale Damboviței Gorge, 2 September 2013: det. & rec. calls of several inds., net. 1 ♂ ad, 1 ♂ juv (pb, em, mu). – B a c ă u: **Ciobăniș**, Ciobănuș Valley, 31 August 2013: net. 2 ♂♂ ad (pb, em, mu). – B i h o r: **Cefa**, irrigation channel, 6 July 2002: net. 1 ♂ sad, det. calls of min. 1 ind. (rl, ih); – **Șuncuiuș**, Izvorului Cave, 10 September 2001: net. 1 ♀ juv (rl); – Napiștileu Cave, 7 September 2001: net. 2 ♀♀ ad, 1 ♂ sad (rl, db), 9 September 2001: net. 2 ♂♂ ad, 1 ♂ sad (rl, db); – Crișul Repede River, 6 & 8 September 2001: det. & obs. ca. 5 inds. (rl); – Crișul Repede River, near Unguru Mare Cave, 30 June 2002: obs. & det. tens of foraging inds. (rl, ih); – **Tinca**, Crișul Negru, 7 June 2003: net. 1 ♂ ad, 3 ♀♀ ad G, 1 sex indet. (rl, ih). – B i s t r i ța - N ă s ă u d: **Gersa**, Taușoane Cave, 29 August 2013: net. 1 ♂ ad (pb, em, mu). – C a r a ș - S e v e r i n: **Eftimie Murgu**, Rudăriei Gorge, 30 July 2012: net. 1 ♂ sad (mu, em, mr, ru); – **Ilidia**, Vicinic stream, 16 July 2010: net. 5 ♂♂ (mu); 23 July 2010: net. 2 ♂♂ ad (mu); – **Padina Matei**, Padina Matei Cave, 17 July 2010: net. 1 ♂ ad (mu). – C l u j: **Petrestii de Jos**, Turzii Gorge, Cetățuia Mică Cave, 3 July 2002: net. 1 ♂ ad, 1 ♂ sad (rl, ih); – Hasdate stream, 1 July 2002: net. 1 ♂ ad (rl, ih). – C o n s t a n ța: **Gura Dobrogei**, Liliecilor Cave, 27 April 2002: net. 2 ♂♂ ad, 1 ♂ sad, 1 ♀ sad (rl); 25 September 2009: net. 1 ♂ ad, 10 ♂♂ sad, 1 ♀ sad (pb, mu).

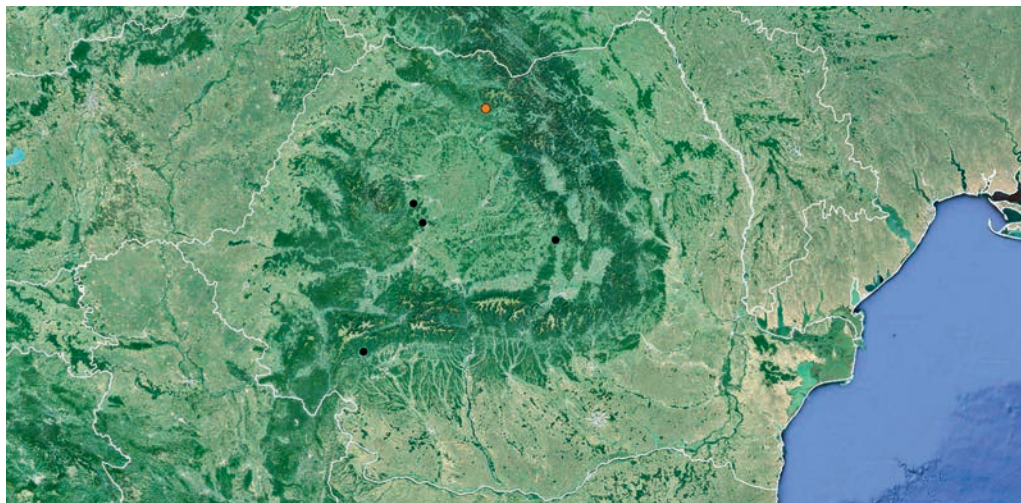


Fig. 4. Distribution of *Myotis alcaethoe* in Romania. For explanations see Fig. 1.

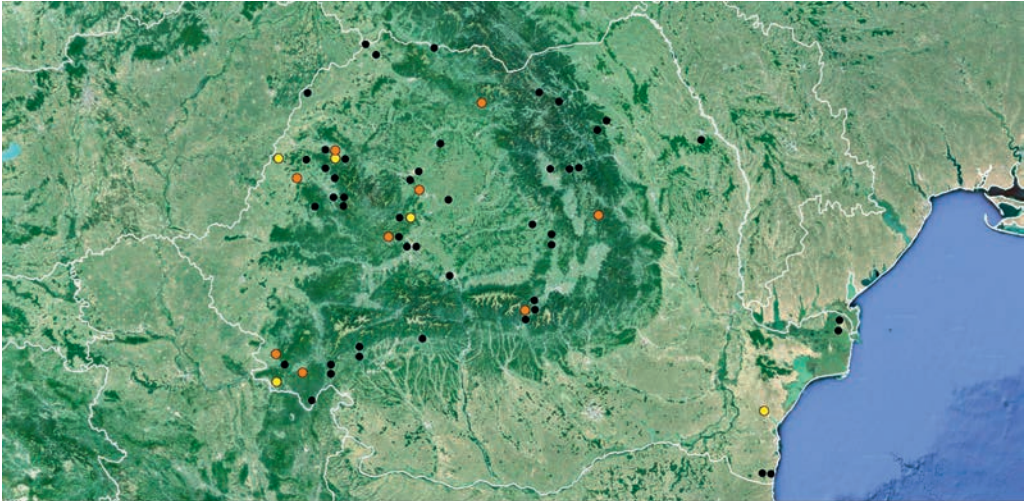


Fig. 5. Distribution of *Myotis daubentonii* in Romania. For explanations see Fig. 1.

*Myotis daubentonii* seems to be a widespread species in Romania, its records are scattered almost all over the country (Decu et al. 2013, Bücs et al. 2014). Most of the occupied mapping squares are located in the forested Carpathian ranges and Transylvanian plateau (e.g. Jére & Dóczy 2005a, b, Jére et al. 2005a, 2007, Gheorghiu & Murariu 2006, Barti et al. 2007a, b, Szodoray-Paradi & Szodoray-Paradi 2008, Nagy & Postawa 2011, Bücs et al. 2012). We registered this species at 16 sites representing nine new occupied squares (Fig. 5); in four squares our records confirmed the data reported previously. Outside the Carpathian mountain chain the species occurrence was documented in six squares only. This bat is most probably common in the Danube delta and in Dobrogea, where also its reproduction was documented (Červený 1982, Hermanns et al. 2002, Ifrim & Pocora 2007a, b, Pocora & Pocora 2008, 2011a). Only one occupied square is available from Moldavia (Fig. 5), hibernation of *M. daubentonii* was recorded several times in the Grota Mare and Anei caves (Ifrim & Valenciu 2006c).

### *Myotis dasycneme* (Boie, 1825)

RECORDS. B i h o r: **Cefa**, irrigation channel, 6 July 2002: net. 1 ♂ sad (rl, ih); – **Homorog**, irrigation channel, 7 July 2002: obs. & det. calls of 1 ind. (rl, ih); – **Smida**, Alunului Cave, 23 August 2008: net. 1 ♂ sad (ma, pb, mu). – C a r a ș - S e v e r i n: **Carașova**, Caraș River, 5 August 2011: obs. & det. calls of min. 5 inds. (mu). – S u c e a v a: **Chiril**, Liliecilor Cave, 30 August 2013: net. 1 ♂ ad (pb, em, mu). – V r a n c e a: **Motnău-Băi**, Motnău valley, above a stream, 7 September 2014: net. 1 ♂ sad (pb).

The territory of Romania is situated on the south-eastern margin of the distribution range of *Myotis dasycneme* (Horáček & Hanák 1989). Majority of published data from Romania refer to the records made in the Apuseni Mts. and in Banat, both sprawled over the western part of the country (e.g. Gheorghiu et al. 2001, Murariu et al. 2004, Jére et al. 2005b, Nagy & Postawa 2011, Bücs et al. 2012). Most of the new records also come from these regions (Fig. 6). *M. dasycneme* was reported from the eastern part of Romania only three times, from the Rarău Mts. and from



two sites in eastern Moldavia (Iași, Prut river; Pocora & Pocora 2007, Chachula et al. 2008). Also two new records of this bat are available from the eastern Carpathians (Liliecilor Cave, Rarau Mts.; Motnău valley, Vrancea Mts.), showing the eastern part of Romania to represent a regular part of the species distribution range.

### *Eptesicus nilssonii* (Keyserling et Blasius, 1839)

RECORDS. A l b a: **Suseni**, Feneș valley, Pietra Caprei Corabia, 5 September 2013: det. & rec. calls of min. 1 ind. (pb, em, mu). – B a c ă u: **Ciobăniș**, Ciobănuș valley, 31 August 2013: net. 1 ♀ ad (pb, em, mu). – S u c e a v a: **Țibău**, Țibău valley, above a stream ca. 5 km N of the village, 1 September 2014: det. calls of 2 inds. (pb).

*Eptesicus nilssonii* ranks among the rarest bat species of Romania, its records come almost exclusively from various massifs of the Carpathians (Aninei, Bihor, Gilău, Maramureș, Rarău Mts.; see e.g. Rauschert 1963, Valenciuc & Chachula 2001a, Done 2007, Lučan 2007, Valenciuc et al. 2007, Pocora et al. 2008). The only exception is the report of acoustic records from the Carei Lowland near the Hungarian border (Satu Mare county; Hoffmann & Hoffmann-Berei 2014). All three new records of *E. nilssonii* are available from areas where this species had not been reported previously – the Cucului, Rodna, and Trascău Mts. (Fig. 7).

### *Pipistrellus pygmaeus* (Leach, 1825)

RECORDS. B i h o r: **Băile Felix**, Băile 1 Mai, 10 June 2003: net. 2 ♀♀ ad L (ih, rl; cf. Hulva et al. 2004). – C a r a ș - S e v e r i n: **Carașova**, Caraș River, 5 August 2011: det. calls of several inds. (mu). – C l u j: **Petreștii de Jos**, Turzii Gorge: Calastur cave, 13 June 2003: net. 1 ♂ ad (rl, ih, db). – M e h e d i n ț i: **Dubova**, Gura Ponicovei, 22 July 2010: det. calls of 1 ind. foraging over stream (mu); – **Jupânesti**, Epuran Cave, at a stream, 21 July 2010: det. calls of 1 ind. (mu); – **Plavișevița**, at a stream, 26 September 2009: det. calls

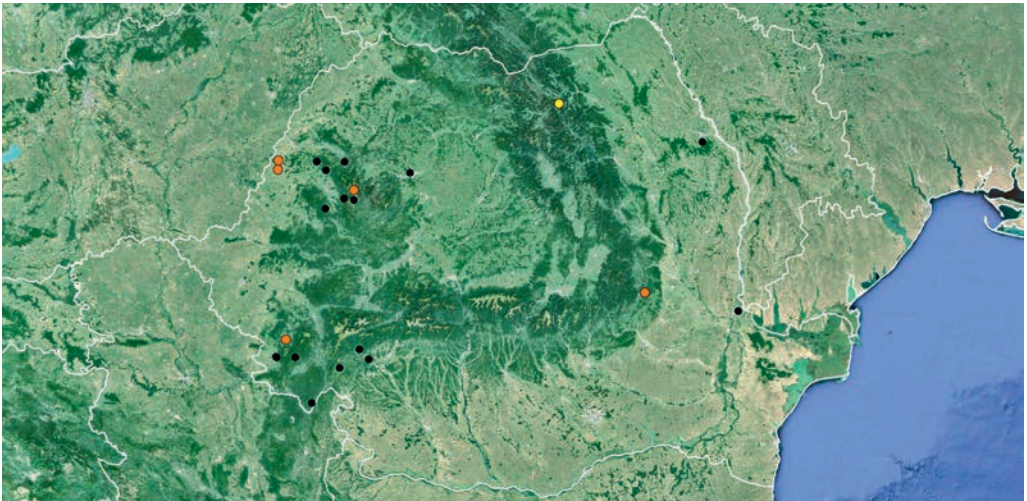


Fig. 6. Distribution of *Myotis dasycneme* in Romania. For explanations see Fig. 1.

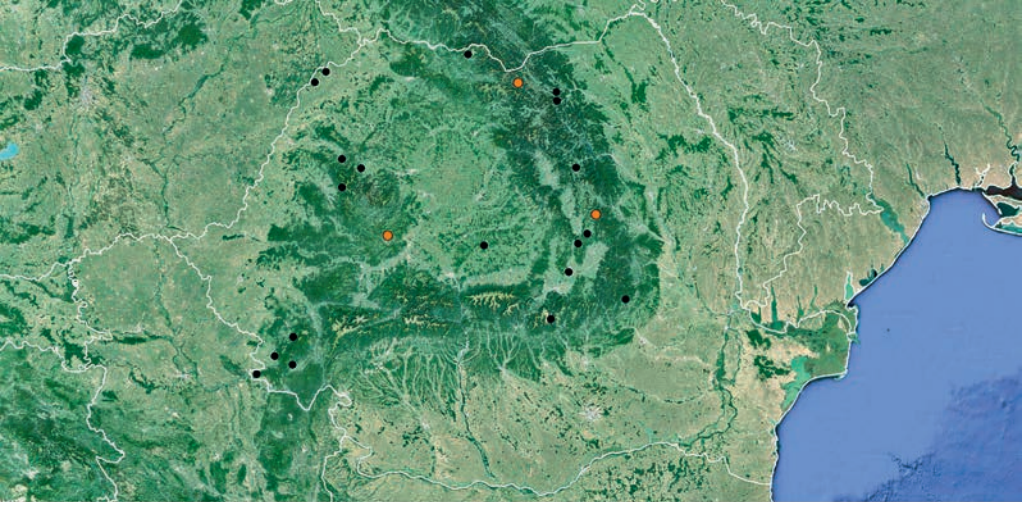


Fig. 7. Distribution of *Eptesicus nilssonii* in Romania. For explanations see Fig. 1.

of min. 10 foraging inds. (pb, mu). – M u r e ș: **Ilieși**, Iuhod river valley, 10 September 2014: det. calls of 3 inds. (pb). – V â l c e a: **Bistrița**, Bistriței Gorge, Ursilor Cave, 3 September 2013: det. & rec. calls of min. 1 ind. (pb, em, mu); – **Valea Măceșului**, Latorița River, 31 July 2011: det. several ind. (mu).

*Pipistrellus pygmaeus* belongs to the least known bats of Romania; published data report on the occurrence in 13 mapping squares only. Besides the majority of records documented in the

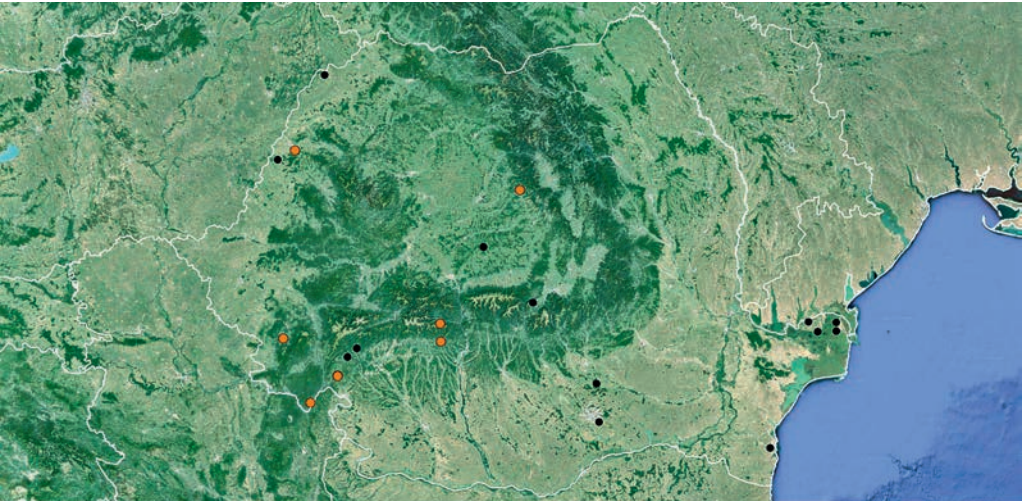


Fig. 8. Distribution of *Pipistrellus pygmaeus* in Romania. For explanations see Fig. 1.



mountain parts of the country (Gheorghiu & Murariu 2002, 2006, Jacobs & Blondé 2003, Decu et al. 2003), there are also findings available from the Wallachian Lowland and Danube delta (Ifrim & Pocora 2007b, Pocora 2007, Pocora & Pocora 2008). We recorded this species at nine sites in the western part of the country, all these findings represent new occupied squares (Fig. 8).

### *Pipistrellus nathusii* (Keyserling et Blasius, 1839)

RECORDS. B i h o r: **Cefa**, irrigation channel, 6 July 2002: net. 1 ♂ ad, det. calls of min. 2 inds. (rl, ih). – C o n s t a n ț a: **Gura Dobrogei**, La Adam Cave, at the entrance, 28 April 2002: obs. & det. calls of min. 5 inds. (rl).

Regarding the available distribution data, *Pipistrellus nathusii* ranks among the rarest bat species of Romania (Fig. 9). The known records refer to occurrence in various habitats and roosts spread across the Transylvanian plateau and in the east-Romanian lowlands including the Danube delta (Barbu 1968, Hermanns et al. 2002, Valenciuc & Chachula 2003, Ifrim & Pocora 2007a, b). The new records confirm occurrence at sites where this species was reported previously.

### *Pipistrellus kuhlii* (Kuhl, 1817)

RECORDS. C o n s t a n ț a: **Vama Veche**, at the sea shore, 1 August 2011: det. calls of 2 inds. (mu). – M e h e d i n ț i: **Jupânești**, Epuran Cave, at a stream, 21 July 2010: det. calls of 1 ind. (mu).

*Pipistrellus kuhlii* represents the most common bat species in the southern Balkans (see Bogdanowicz 2004); however, very few distribution data on this bat were published from Romania – they were reported from 21 mapping squares only (Fig. 10). The records of this bat are scattered across the whole country, suggesting its universal distribution with the exception of high mountain ranges (Gheorghiu & Murariu 2002, Ifrim & Valenciuc 2006b, Dragu et al. 2007,

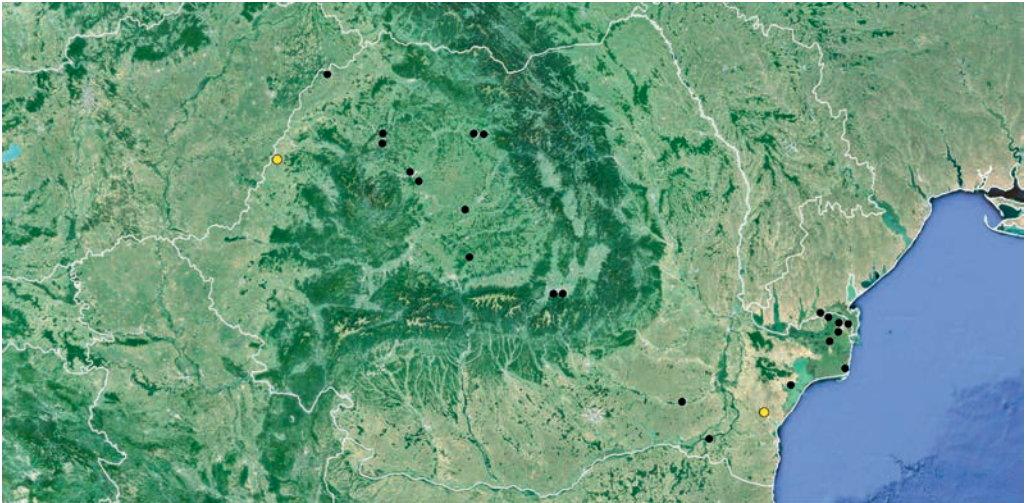


Fig. 9. Distribution of *Pipistrellus nathusii* in Romania. For explanations see Fig. 1.

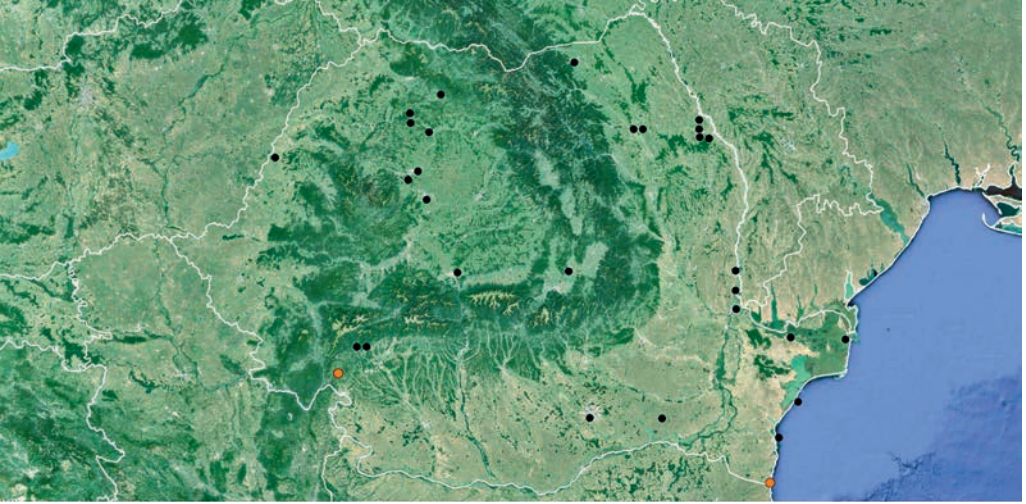


Fig. 10. Distribution of *Pipistrellus kuhlii* in Romania. For explanations see Fig. 1.

Chişamera & Murariu 2009, Barti 2010, Latková & Sándor 2010). Two new acoustic records of *P. kuhlii* complement the knowledge of its distribution range in southern Romania (Banat, Dobrogea).

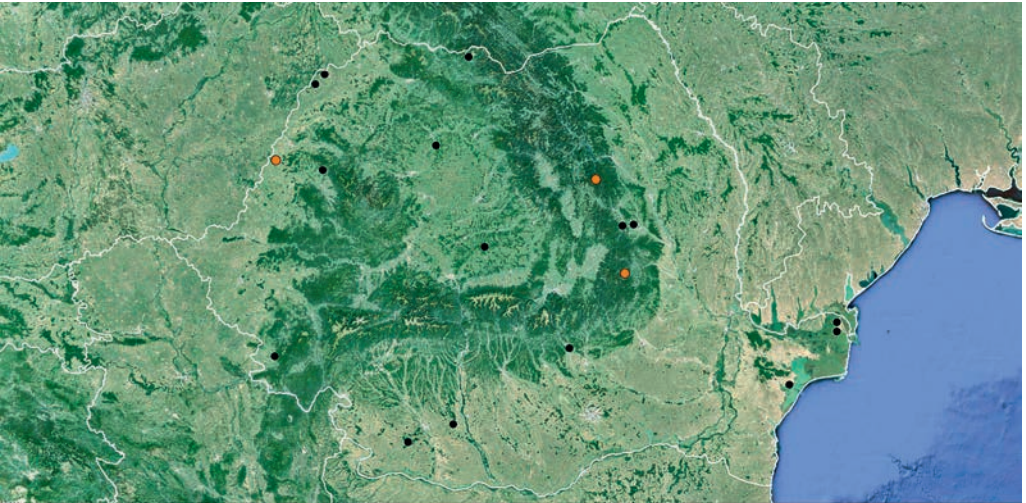


Fig. 11. Distribution of *Nyctalus leisleri* in Romania. For explanations see Fig. 1.

## *Nyctalus leisleri* (Kuhl, 1817)

RECORDS. B i h o r: **Cefa**, irrigation channel, 6 July 2002: net. 1 ♀ sad (rl, ih). – N e a m ț: **Ardeluța**, Tarcău river valley, above the river, 3 September 2014: net. 1 ♀ sad (pb). – V r a n c e a: **Brădetu**, Năruja valley, 1 September 2013: det. & rec. calls of several foraging inds. (pb, em, mu).

Although *Nyctalus leisleri* seems to be a rather rare bat in Romania, records of this forest-dwelling species are distributed all over the country (Fig. 11). Its occurrence was confirmed in the Pannonian and Wallachian Lowlands, in several parts of the Carpathians, as well as in the Danube delta (e.g. Barbu & Șin 1969, Valenciuc 1971, Jacobs & Blondé 2003, Ifrim & Pocora 2007b, Pocora & Pocora 2008, Hoffmann & Hoffmann-Berei 2014). New records document the occurrence of *N. leisleri* at the western margin of the Pădurea Craiului Mts. (Cefa) and at two sites of the Eastern Carpathians – in the Tarcău and Vancei Mts.; from neither of these areas this bat had been reported previously.

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## References

NOTE. References marked with an asterisk (\*) are not quoted in the text above, but were used for construction of the particular species distribution maps (Figs. 1–11).

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## Appendix Gazetteer

| county          | village          | site  | habitat            | altitude [m] | coordinates         |
|-----------------|------------------|---|--------------------|--------------|---------------------|
| Alba            | Suseni           | Cheile Feneşului, Piatra Caprei Corabia     | meadows            | 800          | 46° 09' N 23° 17' E |
| Alba            | Vălişoara        | Cheile Vălişoarei                           | river              | 461          | 46° 22' N 23° 34' E |
| Argeş           | Sâtcu de Jos     | Cheile Mici ale Dambovitei                  | river              | 757          | 45° 25' N 25° 11' E |
| Bacău           | Ciobăniş         | Vale Ciobănuş                               | river              | 856          | 46° 22' N 26° 12' E |
| Bihor           | Băile Felix      | Băile 1 Mai                                 | cave               | 159          | 46° 59' N 21° 59' E |
| Bihor           | Cefa             | Cefa  | irrigation channel | 100          | 46° 55' N 21° 42' E |
| Bihor           | Tinca            | Râul Crişul Negru                           | river              | 114          | 46° 46' N 21° 56' E |
| Bihor           | Homorog          | Homorog                                     | irrigation channel | 100          | 46° 49' N 21° 44' E |
| Bihor           | Suncuiuş         | Peştera de la Izvor                         | cave               | 542          | 46° 55' N 22° 33' E |
| Bihor           | Gălăşeni         | Peştera Gălăşeni                            | cave               | 410          | 46° 59' N 22° 26' E |
| Bihor           | Smida            | Poarta Alunului                             | cave               | 1103         | 46° 37' N 22° 47' E |
| Bistriţa-Năsăud | Gersa            | Peştera Tauşoane                            | cave               | 978          | 47° 26' N 24° 31' E |
| Caraş-Severin   | Eftimie Murgu    | Cheile Rudăriei                             | river              | 397          | 44° 51' N 22° 06' E |
| Caraş-Severin   | Padina Matei     | Peştera de al Padina Matei                  | cave               | 576          | 44° 45' N 21° 44' E |
| Caraş-Severin   | Caraşova         | Râul Caraş                                  | river              | 207          | 45° 12' N 21° 52' E |
| Caraş-Severin   | Iliida           | Râul Vicinic                                | river              | 252          | 44° 58' N 21° 43' E |
| Cluj            | Petreşţii de Jos | Cheile Turzii, Peştera Calastur             | cave               | 505          | 46° 34' N 23° 40' E |
| Cluj            | Petreşţii de Jos | Cheile Turzii, Peştera Cetăţuia Mică        | cave               | 505          | 46° 34' N 23° 40' E |
| Constanţa       | Gura Dobrogei    | Peştera La Adam                             | cave               | 55           | 44° 28' N 28° 28' E |
| Constanţa       | Gura Dobrogei    | Peştera Lilieciilor de la Gura Dobrogei     | cave               | 53           | 44° 28' N 28° 28' E |
| Constanţa       | Vama Veche       | Vama Veche                                  | sea shore          | 1            | 43° 45' N 28° 34' E |
| Dolj            | Sfrcea           | Râul Jiu                                    | river              | 101          | 44° 30' N 23° 32' E |
| Gorj            | Polovragi        | Cheile Olteţului, Peştera Polovragi         | cave               | 619          | 45° 12' N 23° 47' E |
| Harghita        | Dăneşti          | Râul Groapa Apei, ca. 5 km W of the village | river              | 883          | 46° 35' N 25° 33' E |
| Maramureş       | Bildari          | Râul Sturului ca. 5 km NE of the village    | river              | 958          | 47° 49' N 23° 40' E |
| Mehedinţi       | Dubova           | Peştera Ponicova                            | cave               | 115          | 44° 35' N 22° 15' E |
| Mehedinţi       | Plavişevişa      | Plavişevişa                                 | river, forest      | 176          | 44° 34' N 22° 13' E |
| Mehedinţi       | Jupăneşti        | stream at Peştera Epuran                    | river              | 413          | 44° 50' N 22° 34' E |
| Mehedinţi       | Dubova           | Râul Gura Ponicovei                         | river              | 115          | 44° 35' N 22° 15' E |
| Mureş           | Ilieşi           | Râul Iuhod                                  | river              | 627          | 46° 35' N 25° 09' E |
| Suceava         | Chiril           | Peştera Lilieciilor din Rarău               | cave               | 1495         | 47° 27' N 25° 33' E |
| Suceava         | Tîbău            | Râul Tîbău, ca. 5 km N of the village       | river              | 1002         | 47° 36' N 25° 04' E |
| Vâlcea          | Valea Măceşului  | Râul Latoriţa                               | river              | 517          | 45° 23' N 24° 00' E |
| Vâlcea          | Bistriţa         | Cheile Bistriţei                            | river              | 610          | 45° 12' N 24° 01' E |
| Vrancea         | Motnău-Băi       | Râul Motnău                                 | river              | 436          | 45° 37' N 26° 50' E |
| Vrancea         | Brădetu          | Râul Năruja                                 | river              | 745          | 45° 49' N 26° 33' E |
| Vrancea         | Fitioneşti       | Râul Zabărăuţ, ca. 10 km NW of the village  | river              | 350          | 46° 02' N 27° 00' E |