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FIRST RECORD OF *PIPISTRELLUS KUHLII* KUHL, 1817 (CHIROPTERA: VESPERTILIONIDAE) FROM DOBROGEA (ROMANIA)

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Abstract – *Pipistrellus kuhlii* is recorded in the Dobrogea District for the first time. On the 16th of July 2006, a nursery colony was discovered on the second floor of a building in Constanța (2.5 m a. s. l., 44°10.4'N 28°38.3'E). External characters as well as cranial and dental measurements of two specimens are given.

Key words: Chiroptera, *Pipistrellus kuhlii,* nursery colony, Dobrogea.

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INTRODUCTION

Pipistrellus kuhlii (Kuhl, 1817) is a West-Palearctic and Afrotropical species. It apparently has a tropical origin, with a range that extends from North to South Africa along the eastern coast and from the Middle East and Caucasus to Uzbekistan, Turkestan, and Kashmir.

In Europe, Kuhl's pipistrelle is distributed in the Canary and Balearic Islands and from the Atlantic coasts of Portugal and Spain throughout Southern Europe. Recently it has undergone a range expansion northwards from Northwestern France through Switzerland, Southern Germany, Austria, and Hungary to Northeastern Ukraine and Southwestern Russia (Čelʼuch and Ševčik, 2006; Sanchanowicz et al., 2006). It has also been occasionally recorded in the United Kingdom (Bogdanowicz, 2004).

In Romania, the first record of *Pipistrellus kuhlii* has been the subject of some controversy but it is now clear that Daday (1885) created confusion when he described the species (formerly known as *Vesperugo kuhlii*) from six localities in Transylvania (Mehelyi, 1900; Barti, 2005). Thus, the first record of *P. kuhlii* has a very recent date and belongs to Limpens (2000), who reported the presence of the species on the occasion of a detection workshop carried out in the year 2000 in Cefa, a village situated near the Hungarian border. Another detection was reported by Gheorghiu and Murariu (2002) from the village of Closani in the Oltenia District. In January of 2005, a hibernating male was discovered on a balcony of an apartment in Iasi (Moldova Region) (Ifrim and Valenciuc, 2006) – this was the first „in hand" specimen from Romania.

However, it is possible that *P. kuhlii* was recorded for the first time at the beginning of the 20th century, when in a key to Polish bats it has been noted that the species was unknown from Poland, but had been obtained from Romania under the name of *V. nathusii* (Sachanowicz, 2006).

Here we present the first record of *Pipistrellus kuhlii* for the Dobrogea District. In July of 2006, a nursery colony was found in the city of Constanța, thereby confirming the breeding of this rare species on the territory of Romania.

MATERIALS AND METHODS

The new record of *Pipistrellus kuhlii* comes from the following site: Constanța (44°10.4'N28°38.3'E), 2,5 m a. s. l., Dobrogea District (Southern Romania).

On the 16th of July 2006, a colony of about 50 individuals was discovered on the second floor of a building near the coast of the Black Sea, inhabiting a space 2 me-

ters high, 70 centimeters in length, and 2 centimeters wide situated between two balconies. The colony was found while some repairs were being made in structure of the area between the two balconies and at that time the owners of the apartments asked for support to remove the colony in safe conditions. During the activity of removal, 23 bats were captured and the rest flew away.

Seven examples were collected and brought to the laboratory; two of them were regarded as adults and five as juveniles. Species identification was made on an adult male (Fig. 1) found among females and juveniles in the colony, using the characters given by D i e t z and v o n H e l v e r s e n (2004).

Fig. 1 - Shape of the penis of an adult male of *Pipistrellus kuhlii* captured in Constanța (photo: Vlad Olteanu).

Two specimens (found dead) were used for cranial and dental measurements. Dental characters were examined with a Zeiss Stemi 2000 dissecting microscope with an ocular micrometer. All 26 cranial and dental measurements were taken to the nearest of 0.01 mm. Lengths of individual teeth and tooth the toothrow were measured from mesial to distal margins of the crowns, respectively. Tooth width was measured as the overall distance from lingual to buccal margins of the crowns. During measuring, the tooth was oriented with the conids vertical in occlusal view.

The following abbreviations are used: **GL** = greatest length of skull; **CBL** = condylobasal length; **ONL** = occipitonasal lenght; **WC-C** = anterior width of rostrum; **WM^3-M^3** = posterior width of rostrum; **ZB** = zygomatic breadth; **IW** = interorbital width; **HBS** = height of skull over bullae; **LC-M^3** = length of C-M^3; **LM^1-M^3** = length of M^1-M^3; **LC-P^4** = length of C^1-P4; **LMD** = length of mandible; **HPC** = height of *processus coronoideus*; **HMD_M_1** = height of horizontal branch of mandible under M1 measured in lingual view; **HMD_M_2** = height of horizontal branch of mandible under M2; **LI_1-M_3** = length of I_1-M_3; **LC-M_3** = length of C-M3; **LC-P_4** = length of C-P_4; **LP2-M_3** = length of P2-M3; **LP_4-M_3** = length of P4-M3; **LP_3-P_4** = length of P_3-P_4; **LM1-M3** =

Table 1. Cranial and dental measurements (mm) of two *P. kuhlii* specimens from Constanța.

	I	II
GL	13,93	14
CBL	13,12	13,2
ONL	12	12,08
MB	8,24	8,32
WC-C	4,32	4,16
WM^3-M^3	6,08	5,92
ZB	9,04	9,12
IW	3,6	3,6
HBS	6,4	6,4
LC-M^3	5,12	5,2
LM^1-M^3	3,44	3,44
LMD	10,16	10,32
HPC	3,2	3,2
HMD_ M_1	1,6	1,68
HMD_ M_2	1,44	1,6
LI_1- M_3	6,24	6,32
LC-M_3	5,36	5,6
LP_3-M_3	4,8	4,88
LP_4-M_3	4,32	4,4
LM1-M3	3,76	3,84
L C-P_4	1,76	1,92
LP_3- P_4	1,2	1,28
tr M_2	0,82	0,9
tl M_2	0,95	1
tr M_3	0,8	0,87
tl M_3	0,65	0,67

Table 2. Body measurements (mm) of an adult female of *P. kuhlii.*

FA	35,9
HumL	21,5
RadL	33,7
ClavL	9,97
ScapL	10,92
ScapW	5,8
D1	5,3
M5	32,6
D5	13,8
CoxL	9,5
CoxW	3,8
FemL	14,3
Tib	12,6
HF	6,8
TL	30

length of M1-M3; **trM_1** = width of M1 trigonid; **trM_2** = width of M2 trigonid; **tlM_1** = width of M1 talonid; **tlM_2** = width of M2 talonid. On the basis of the degree of tooth wear, both specimens were deemed to be adults.

One of the investigated specimens was found as a complete body and the following additional measurements were taken: **FA** = length of forearm; **D1**= length of first digit (without claw); **D5** = length of phalanges of fifth digit; **HF** = length of hind foot; **TL** = tail length; **M5** = length of metacarpal of fifth digit; **HumL** = length of humerus; **RadL** = radius length; **FemL** = femur length; **Tib** = length of lower leg; **ClavL** = length of clavicula; **ScapW** = greatest width of the scapula; **ScapL** = greatest length of scapula; **CoxL** = length of coxal bone; **CoxW** = greatest width of coxal bone. All measurements were taken to the nearest 0.01 mm with a digital caliper (Table 2).

RESULTS AND DISSCUSSION

Measurements

Diagnostic characters: dorsal pelage with bicolored hairs – dark-brown at the base with yellowish-brown tips. Ventral side lighter, but not strongly contrasting with the back. Ears and nose light-brown. Posterior margin of the ear with a sharp indentation. A well defined white stripe (Fig. 2) present along the margin of the dactylopatagium, plagiopatagium, and uropatagium. The white stripe wider between the fifth finger and the hind foot, measuring up to 5 mm. Penis spear-shaped. First upper incisor monocuspid. Outer upper incisor very small and not visible when viewed from sideways. The small second premolar (P^3) not visible from the outside, being displaced on the median line of the toothrow (Fig. 3).

Fig. 2 - White edge of the wing – a typical character of *Pipistrellus kuhlii* (Photo Vlad Olteanu).

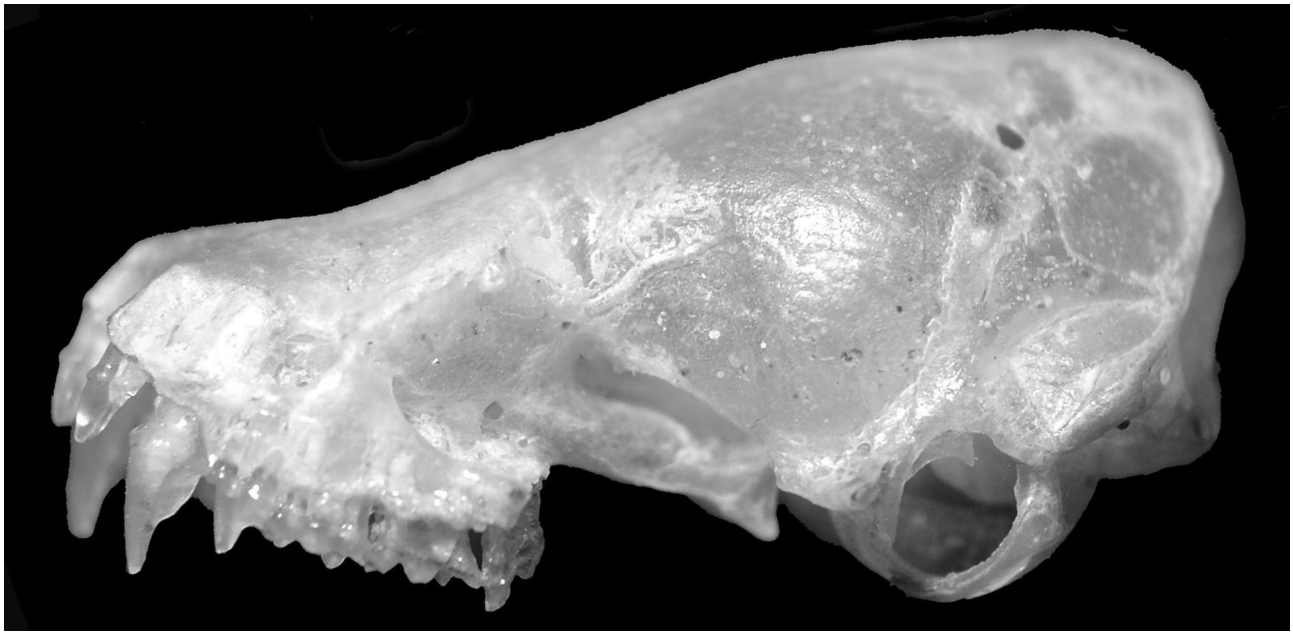

Fig. 3 – Lateral view of the skull of *Pipistrellus kuhlii* (photo Anca Dragu).

Pipistrellus kuhlii is a synanthropic species and can be found in tree hollows, slits and clefts in rocks and buildings, under roofs, and in other manmade structures.

It is known that females of Kuhl's pipistrelle usually give birth to twins in June or July. We could not verify this because none of the females caught by us on the 16th of July 2006 were with young and we presume that all births had occurred by the end of June.

As a result of removal of the colony from Constanța, a quantity of 2 kilograms of guano was collected. We therefore consider that the colony did not appear recently, but some years ago, its occurrence remaining unnoticed due to the lack of investigations on house-dwelling bats in the region.

Taking into account the rapidity of Kuhl's pipistrelle expansion northwards in neighboring countries like Hungary and Ukraine (Godlevsky et al., 2000; Volokh, 2002; Szatyor et al., 2003; Sachanowicz et al., 2006), where the intensity of bat surveys was presumably higher, and in view of the recent discovery of a hibernating individual in Iasi (Ifrim and Valenciuc, 2006), it was just a matter of time until the breeding of this species was confirmed on the territory of Romania.

Our discovery was made by chance but it confirms that *P. kuhlii* is much more common in the southern part of Romania than we have previously thought and increases to 24 the number of bat species of the Dobrogea District.

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ÏÐÂÈ НАЛАЗ *PIPISTRELLUS KUHLII* KUHL, 1817 (CHIROPTERA: VESPERTILIONIDAE) ИЗ ДОБРУЏЕ (РУМУНИЈА)

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Pipistrellus kuhlii је утврђен по први пут у области Добруџе у Румунији. Колонија ових слепих мишева пронађена је на другом спрату једне зграде у Констанци. У овом прилогу износе се спољашњи морфолошки карактери, као и кранијалне и денталне мере оба уловљена примерка.