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PARTIAL ALBINISM IN NOCTULE BAT - *NYCTALUS NOCTULA* (SCHREIBER, 1774) (MAMMALIA: CHIROPTERA) FROM ROMANIA

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Abstract. A new case of albinism is presented, in the noctule bat - *Nyctalus noctula* (Schreber, 1774) (Mammalia: Chiroptera). It is the third case known in Europe and the first in Romania. The specimen is a female collected at Soveja, Vrancea County, on 18th of December 2003. Unlike the other two cases, known from Croatia and Czech Republic, which had a pale general colour, the specimen described by us has a normal general colour excepting a transversal spot on the belly and the tips of the wings which are white.

Résumé. On présente un nouveau cas d'albinisme du noctule - *Nyctalus noctula* (Schreber, 1774) (Mammalia: Chiroptera). C'est le troisième cas connu en Europe et le premier en Roumanie. L'exemplaire est une femelle collectée à Soveja, Département de Vrancea, le 18 décembre 2003. Par comparaison avec les deux autres exemplaires connus de Croatie et de la République Tchèque, qui ont eu une couleur générale pâle, l'exemplaire décrit par nous a une couleur générale normale sauf une tache transversale sur l'abdomen et les bouts des ailes qui sont blanches.

Key words: *Nyctalus noctula*, partial albinism, Soveja, Romania.

For the time being, in Europe, coloration anomalies in 17 chiropteran species were recorded (Gaisler & Pokorný, 2002). The partial albinism case presented here is the third reported from Europe in *Nyctalus noctula* and the first from Romania.

Generally, the partial albinism in chiropterans is represented by some white spots on the animal body or, often, on patagium (Cervený, 1980). Sometimes the partial albinism is represented by a paler coloration in comparison with the normal one, but without white spots on fur. The last two cases of partial albinism, known up to now in *Nyctalus noctula*, are of this type.

The first one is known since 1965, from Croatia, and it is about a female of *Nyctalus noctula*, with a uniform pale coloration (Dulić & Mikuska, 1968), and the second case is that of a female collected from the Czech Republic, in 1997 (Gaisler & Pokorný, op. cit.), which also had a uniform beige-coloured fur, with a pink-coloured nude areas of the ears, muzzle, arm, forearm, metacarpals and carpals, because of the absence of the pigments.

Taking into consideration the recent papers on bat species of the Romanian fauna (Valenciuc, 2002; Decu & col., 2003) we can say that no other similar case was reported, yet, in another bat species from the Romanian fauna.

MATERIAL AND METHOD

The studied specimen hereinafter is a female collected by the second author of this paper, on 18th of December 2003, under a window frame at the last floor of "Zboina" Hotel from Soveja (Vrancea County – Eastern Carpathians).

English translation by Mihaela Barcan Achim.

Now, the specimen is preserved in the collection of “Grigore Antipa” National Museum of Natural History of Bucharest, with the catalogue no. MAM9721.

We have made the following measurements: body length, tail length, arm and forearm length, tibia length, span, ear length, tragus length, weight; we also noted the colour of the fur, eyes, ear, muzzle, and we also described the white spots remarked on wings and body (Tab. 1).

RESULTS AND DISCUSSIONS

The causes of the fur colouring anomalies (albinism and melanism) occurred in some individuals of different orders of Mammalia are not cleared up, yet. The attempts of setting these phenomena down to the environment factors from an area or another are not satisfactory, as well as the absence or the presence of the respective pigments in food cannot offer a convincing explanation.

Van Bree & col. (1963) referred mainly to the genetic anomalies, which (as in shrews) would determine the appearance of the albinism.

Regarding the bats, the absence of the pigment in the body hairs is not a rare phenomenon. Gaisler & Pokorný (2002), citing Herán (1976) said that: „They were recorded (*anomalies of coloration* – our note) in 17 European bat species, i.e. in 56.7% all bats inhabiting Europe in its geographical, not political scope...”

However, referring strictly to the noctule bat, Gaisler & Pokorný (op. cit.) asserted that only a single case of albinism was reported before, that one from Czech Republic, namely that from Croatia (Dulić & Mikuska, op.cit.).

As regards our report on an albinism case in a noctule bat from Romania, discolouring is like a transversal strip, on the belly (Fig. 1) and on both patagia tips (Figs 1, 2, 3).



Fig. 1 – Noctule bat, *Nyctalus noctula*, ♀ with partial albinism. Soveja (Vrancea Co.); general aspect in ventral view (photo by G. Chișamera).

Table 1

Comparison between the biometrical data (in mm), weight (in g) and colour description in partial albinism cases reported for *Nyctalus noctula*.

	Croatia Dulić & Mikuska (1968)	Czech Republic Gaisler & Pokorný (2002)	Romania Soveja - Vrancea County (collected December 2003)
Head+body length	-	65.5	71
Tail length	-	53	55
Forearm length (radius + cubitus)	-	55	54
Arm length	-	-	31.7
Tibia length	-	-	19
Span	-	-	320
Ear length	-	18	13.8
Tragus length	-	-	5.8
Condyllo-basal length	-	19	-
Weight	-	24	30.04
Fur colour	beige, uniform pale colour	Beige, paler colour than the normal one	Coffee-tinted, normal
Iris	-	pinkish	Black, normal colour
Muzzle	white	Pink, nude areas	normal
Ears	white	Pink, nude areas	normal
Wings	white	Beige, uniform pink, nude areas from the arm, forearm, metacarpi and carpi	Tip of both wings are white
Abdomen	Uniform beige	Uniform beige	White coloured transversal strip, the rest normal coffee-tinted

Chiropatagia depigmentation is symmetrical and includes only the dactylopatagia in front of the fingers II, III, IV and about $\frac{3}{4}$ wide of the membrane between fingers IV and V (Fig. 1).

In table 1, body measurements are presented comparatively, as well as the weight and the description of the colour of different body parts in *Nyctalus noctula* specimens, with partial albinism, reported until now.

Body measurements and the weight of our specimen can be compared with those from Gaisler & Pokorný's paper, (op. cit.), and, at the description of the colour, Dulić & Mikuska's opinion (op. cit.) is also added.

So, it results that the noctule bat female specimen from Romania had almost similar size with the specimen from Czech Republic, slightly additional differences being at head + body length and at the weight of the specimen reported by us.

The three albinism cases reported for the noctule bat until now have the origin from different areas, relatively remote, geographically (Croatia – near Zagreb; Czech Republic – Blansko city; Romania – Soveja locality in the Eastern Carpathians). Moreover, what they have in common is that they were female specimens of a relatively common bat species, with hibernating colonies of up to 600 individuals (Dulić et al., 1968), roosted in buildings of localities also different in size, Soveja being a small resort of Romania. Besides, all three reported specimens had a partial albinism.

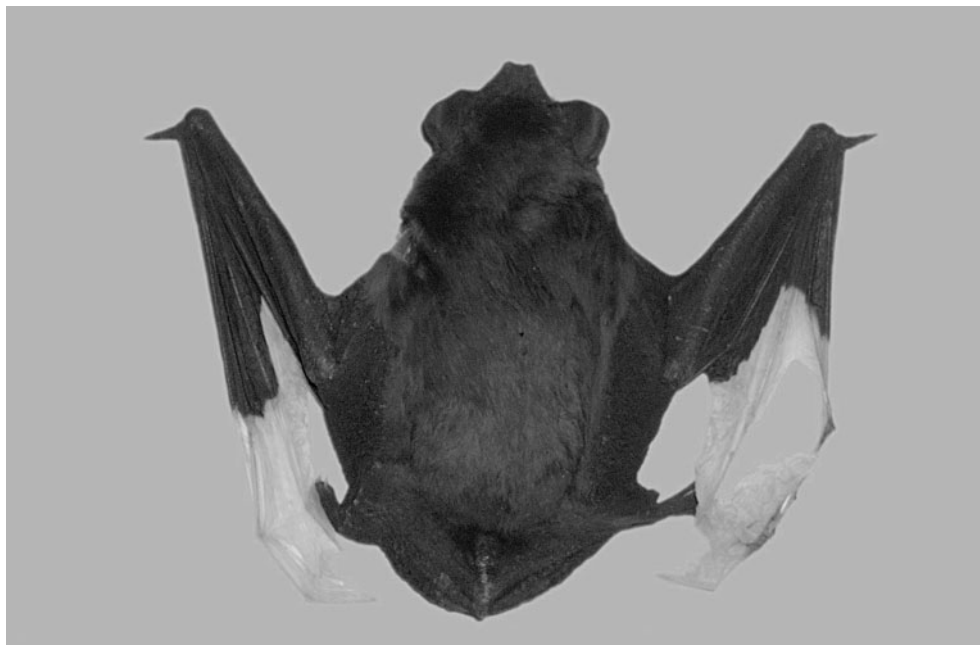


Fig. 2 – Noctule bat, *Nyctalus noctula*, ♀ with partial albinism. Soveja (Vrancea Co.); general aspect, in dorsal view (photo by G. Chișamera).



Fig. 3 – Noctule bat, *Nyctalus noctula*, ♀ with partial albinism. Soveja (Vrancea Co.); left wing in dorsal view (photo by G. Chișamera).

As a matter of fact, basing on colour description, the muzzle, ear and wings of the Croatian specimen were white, pink in that from Czech Republic, and only the wings were partially white in the Romanian specimen, the muzzle and ears having the normal colour. The belly was uniform beige in the first two specimens and coffee-like with a white transversal strip in that from Romania. Although the specimen from Czech Republic had no white spot, it seems that the albinism degree was stronger by the pinkish colour of the iris, in comparison with the normal one (black) at the Romanian specimen. It is known that in a total albinism case, in mammals, the pigments are absent, including those from the iris, so that the eyes are red. Therefore, we consider the albinism degree stronger in the specimen reported by Gaisler & Pokorný (op. cit.).

UN CAZ DE ALBINISM PARȚIAL LA LILIAUL DE AMURG - *NYCTALUS NOCTULA* (SCHREBER, 1774) (MAMMALIA: CHIROPTERA) DIN ROMÂNIA

REZUMAT

Este prezentat un caz de albinism parțial la liliacul de amurg - *Nyctalus noctula* (Schreber, 1774) (Mammalia: Chiroptera). Cazul este al treilea cunoscut în Europa și primul din România. Exemplarul este o femelă colectată în data de 18 decembrie 2003 din localitatea Soveja, județul Vrancea. Comparația măsurătorilor corporale și a greutateii lor n-a evidențiat decât o ușoară diferență în plus pentru exemplarul din România. Spre deosebire de celelalte două cazuri raportate anterior (din Croația și Republica Cehă), care erau caracterizate printr-o colorație generală pală, exemplarul descris de noi prezintă o colorație generală normală cu excepția unei pete transversale pe abdomen, de culoare albă (Fig. 1) și a vârfulor aripilor care sunt de asemenea, de culoare albă, atât în privire dorsală cât și ventrală (Fig. 1, 2 și 3).

Exemplarul prezentat provine dintr-o colonie de hibernare a unei specii relativ comună de lilieci, adăpostită într-o clădire și prezintă fenomenul de albinism parțial, așa cum au fost raportate și celelalte două cazuri cunoscute până în prezent, din literatură.

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