



First mention of Leucism on *Plecotus Gaisleri* Benda, Kiefer, Hanak & Veith, 2004 (Mammalia; Chiroptera) from Algeria

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Abstract: Algeria is the greatest country of Africa with its vast surface area is rich in flora and fauna with many diversified ecosystems from the north to the south. Bats have a real position in the vertebrate animal kingdom due of their ecological importance and public health and they are represented by 26 species belonging to seven families and they are still remaining unknown mammals with very small studies. The Gaisler's long-eared bat *Plecotus gaisleri* is one of the species of the Vespertilionidae. In June 2023 a leucistic specimen of this interesting species was observed and photographed in the arid high plains region in the locality of Ain el Maleh in the province of Sétif north-central of Algeria. This uncommon and unique rare observation would be extremely valuable to bat researchers for having an idea of the leucism on bats and especially in the long-eared bats.

Keywords: Algeria, Bats, *Plecotus gaisleri*, Vespertilionidae, High plateaus, leucism.

INTRODUCTION

Chiroptera are probably one of the most misunderstood groups of terrestrial mammals by the general public. This seems to be due both to the lack of recent discoveries, and to the nocturnal lifestyle of bats and the superstitious fear they continue to inspire. Due to genetic analyses, the genus *Plecotus* has been widely discussed in recent years. (Dalhoumi et al. 2011). However, all researchers in north-west Africa agree on recognizing a single taxon, which may be a subspecies of *P. teneriffae* or a species of *P. kolombatovici* (Spitzenberger et al. 2006) or a species of *P. austriacus* (Mayer et al. 2007, Dietz et al. 2009). The long-eared north African bat have long been associated with *Plecotus austriacus*. (Benda et al. 2004). Recently new genetic data have indicated that the Maghrebian long-eared bat is classified with the Balkan species. (Benda et al. 2013) and geographical isolation indicates the independence of the Mediterranean long-eared bat (Dietz et al. 2009, Ancillotto et al. 2019). This species is found throughout north-east Africa, from Morocco to north-east Libya. From the northern edge of the Sahara (Anti-Atlas and Saharan Atlas) to the Atlantic and its preferred climate is Mediterranean but it reaches semi-deserts and deserts by following the valleys. It can be found in the High Atlas up to 2600 m. (Kowalski et al. 1991). These individuals have an isolated behavior that can be observed in rock crevices, cellars, ruins and old mines where they consider their habitats. (Gaisler et al. 1986)

It is widespread along the northern coast of the Sahara and the High Plateaux, but has never been mentioned near the coast. From 1858 to 1867, Loche mentioned it at Blida, while in 1913, Thomas sent an individual captured at Oumach (near Tolga) to the British Museum of Natural History. 1983, Gaisler observed that this species was present at Sétif and Timgad, then in 1984, at Sétif and Tikjda. In 1986, Kowalski and Gaisler observed it in Brezina, Sétif and Tikjda, where they found 12 individuals, 1 and 1 individual. In 1990, Seddiki captured specimens at Teffedest: Mertoutek and placed specimens in formalin at l'INA (National Agricultural College of Algiers) (Ahmim 2019)

These troglophile species of bats occur many current points. According (Ahmim et al. 2017) an individual captured in Gueldmane mine in Akbou region of Bejaïa. A colony of around ten individuals photographed at Ammal in Lakhdaria region, wilaya de Bouira in 2017 by Mohamed Abdi.

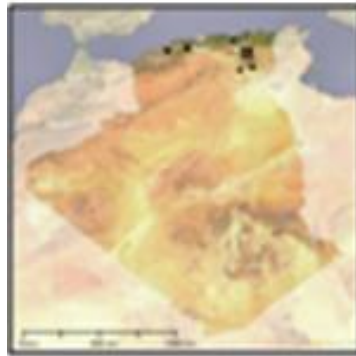


Figure1. Distribution map of *Plecotus gaisleri* in Algeria (circles: Current locations), square: location of the leucistic specimen)



Figure2. Photos of the leucistic specimen from Ain el Maleh



Figure3. Photo of a normal specimen of *Plecotus gaisleri* from Algeria

In 17 June 2023, a leucistic specimen was discovered in the department of Setif located on the high plateaus, in old colonial mines of iron precisely at the locality of Ain el Maleh (35° 41' 50" N, 5° 12' 53" E) during a prospection in the region with a forest conservancy member. A photo of the specimen and it was released and it is the second time a leucemic bat has been observed in Algeria. According to Cayley (2008) , Kane et al. (2009), Locha et al (2013) a leucism is a rare phenomenon in hereditary condition produced by a recessive gene that causes a deficiency in the formation of the pigment melanin.

Leucism and albinism are distinct forms of a melanism that influence pigmentation and personal coloration, and they should not be confused with other modifications like melanism. Leucism is a pigmentation deficiency that is localized in the integument, whereas albinism is a congenital absence

of pigmentation caused by a mutation that results in the loss of an enzyme involved in melanin formation (**Roncancio and Ramírez-Chaves 2008, Marin-Vasquez et al. 2010**)

In the case of bats, there are limited accounts, likely because this group has not received as much attention as other vertebrates, and as a result, there aren't many research and scholarly communications about bat leucism and albinism (**Uieda 2000**)

Complete albinism is characterized by a complete lack of melanin, where as leucism is characterized by a partial loss of pigment, which can occur as a result of an accident or a genetic defect. (**Rocha et al. 2013**) and it is not frequent among bats.

This special observation, probably the first in North Africa from this species could be a striking observation for further research into this precious genus, which is confined to the high plains and plateaux.



Figure4. Surroundings of the old mines of ain el Maleh and habitat of the leucestic specimen *Plecotus gaisleri*

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