

An albino Northern Wheatear *Oenanthe oenanthe* in the Pyrenees (N Iberian Peninsula)

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We report here a case of a juvenile Northern Wheatear ringed at the nest as an aberrant but confirmed as a case of albinism after fledging. Of the four chicks in the nest, only one was albino; two of the smaller chicks died but the aberrant albino chick survived.

Key words: Northern Wheatear, *Oenanthe oenanthe*, albinism, ringing, Pyrenees.

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Received: 01.08.19; Accepted: 21.11.19 / Edited by O. Gordo

Albinism is defined as a total lack of melanin pigmentation (van Grouw 2006, Rodríguez-Ruíz *et al.* 2017). It stems from the disruption of the metabolic pathway of the transformation of the amino acid tyrosine into melanin, which is usually a consequence of the presence of recessive alleles in the autosomal genes that codify for the tyrosinase enzyme (Fox & Vevers 1960).

Reported cases of albinism in the wild are usually hard to verify. Albinism should not be confused with leucism, a broader concept that encompasses several factors (e.g. mutations, physiological dysfunction, diet, age and disease) causing a partial and variable lack of melanin colouration (van Grouw 2013, 2018). Any bird showing mostly white plumage but with some parts with melanin-based colour is not a true albino but simply leucistic (van Grouw 2006, 2018). The best diagnostic feature for separating leucistic and albino individuals is eye colour, as true albinos have pink or red eyes, while leucistic birds have some pigmentation in their irises that mask the blood colour (van Grouw 2006, Mahabal *et al.* 2016). Albinism in birds does not imply necessarily a total lack of pigmentation as carotenoids or structural colours are not affected

by the congenital lack of melanin (van Grouw 2006, 2013).

A lack of melanin has negative consequences for individuals as feathers without melanin are weaker and more prone to wear (Bonser 1995); this can seriously affect flight ability and the insulating properties of plumage. Moreover, albino birds are usually more conspicuous as they are more easily detected by their predators or prey targets (van Grouw 2006). There is also evidence that birds with a total or partial lack of melanin have less success in mate-choice due to impaired melanin-based signals (Møller & Mousseau 2003). Additionally, in albinos eyesight is impaired because normal eye development may not occur if melanin is absent (van Grouw 2006). All these factors explain why albinos are so rare in nature (< 1% of individuals) and so it is important to report cases of true albinos reliably separated from far commoner whitish leucistic individuals, whose plumage anomalies are caused by other factors.

During the monitoring of the breeding population of Northern Wheatears in the Cadí-Moixeró Natural Park in the Pyrenees, a nest with four chicks was found on 6 July 2019 at Coll de

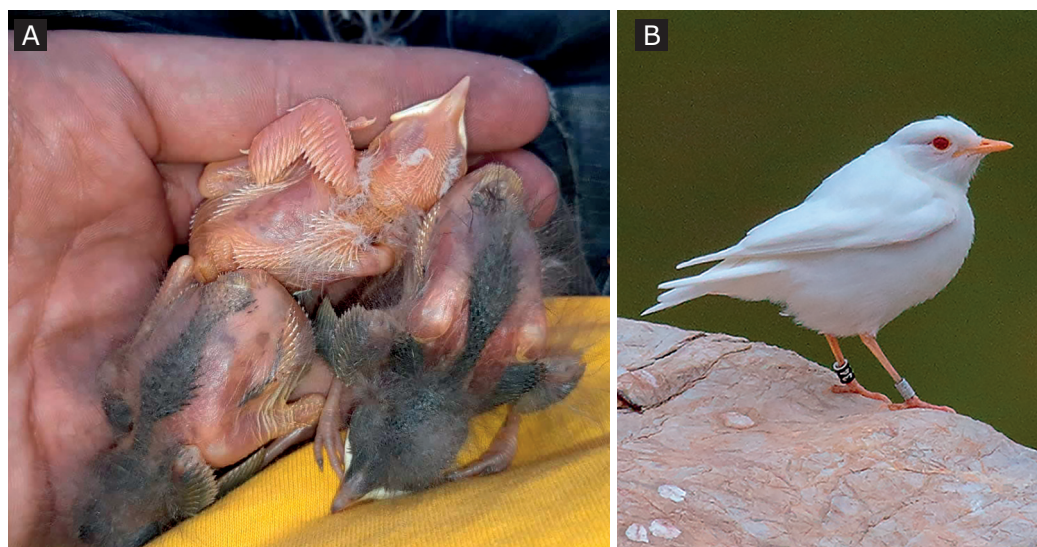


Figure 1. A) Three of the four chicks in the nest on 6 July 2019. One is obviously paler and has white juvenile down and white feather shafts. Picture: Marc Illa. B) The same individual after fledging, confirmed as albino, on 30 July 2019. Picture: Xavier Mañas.

A) *Tres dels quatre pollets al niu, quan es va trobar el 6 de juliol de 2019. Un d'ells destaca per ser més pàl·lid, amb les plomes de pollet blanques i els canons de les plomes en creixement també blancs. Foto: Marc Illa. B) El mateix exemplar després de volar, confirmat com a albi, el 30 de juliol del 2019. Foto: Xavier Mañas.*

Pal (Bagà, Catalonia; 42°18'N 1°55'E; 2100 m a.s.l.). We immediately noticed that one of the four chicks was paler in colouration, having white down and white feather shafts. The bird was obviously aberrant in colouration in some way but at that stage we were unable to confirm whether it was albino or leucistic (Fig. 1a). All four chicks were individually marked with a metal ring and a small PVC ring with a black background and white codes (numbers 33 to 36) as part of the monitoring program.

The chicks had hatched slightly asynchronously and there were two larger (rings 33 and 34, the latter the aberrant chick) and two smaller individuals, one of which was patently even smaller (not shown in Figure 1a). Differences in age were small, although the first two chicks (unlike the smaller two) showed in addition to their greater size well-developed feather shafts. The third chick (ring 35; bottom left in Figure 1a) may also have hatched on the same date as 33 and 34, despite being somewhat smaller, perhaps due to poorer food intake. Despite being occasionally reported in large clutches in the Northern Weather (Cramp *et al.* 1988), in our study we have observed asynchronous hatching

in all nests ($n = 12$). Even though we find nests when the chicks have already hatched, in all nests with 3–5 chicks there are always one or two siblings that are clearly younger (perhaps by even one or two days).

In a visit to the same nest 12 days later, the two smaller chicks (35 and 36) were found to have died with already 2 mm of feathers emerged from the shafts, which indicates that they died when they were 9–10 days old. The heavy rain that fell during the week after they were ringed was probably the cause of death. However, the two larger birds, including the aberrant chick, survived and had already left the nest. Albinism is not related to survival in early stages of life, i.e. during nestling age, when size and/or dominance are the key factors for survival during harsh weather and starvation. Mortality caused by albinism is more related to survival during early the fledging period due to impaired vision and greater predation risk (van Grouw 2006).

On 30 July 2019 an albino Northern Wheatear was observed 100 m from the nest site. We confirmed that it was the aberrant chick by reading its PVC ring (Fig. 1b). The bird had become independent from its parents and was

observed hunting insects efficiently. We determined it as albino due to its total lack of melanin pigmentation, not only in its plumage but also in its eyes, bill and legs, which appeared red due to the blood colour (van Grouw 2006, 2013). Other birdwatchers visited the same site several times afterwards but the bird was not observed again.

To the best of our knowledge, this is the first documented report of an albino Northern Wheatear. There are undocumented mentions in the literature (e.g. Deane 1880) but albinism has often been used to describe several different chromatic aberrations including leucism. Our particular observation of a chick that developed into a fully independent juvenile challenges the idea that albinos rarely survive in the wild and adds to the growing number of reports of albino birds that have survived for longer than expected (Alaja & Mikkola 1997, Kusch & Donoso 2017), as has also occurred in cases of leucistic birds (e.g. Ayala-Pérez *et al.* 2015).

The Northern Wheatear breeding population in the Cadí-Moixeró Natural Park is notably strong (Estrada *et al.* 2004). First-year recruits and older birds do not exhibit strong phylopatry according to our mark-recapture information (unpubl. data). It is possible that the vast area of suitable habitat in the Pyrenees encourages dispersal over the years. Thus, the population where the albino was found cannot be considered to be isolated or to have high inbreeding rates, which could favour phenotypes such as albinos due to rare recessive alleles (Bensch *et al.* 2000, Prado-Martínez *et al.* 2013).

Acknowledgements

We would like to thank Jordi Garcia-Petit and the Cadí-Moixeró Natural Park for their interest in and support for the Northern Wheatear breeding survey over the years, and Maria Serra, Joan Giménez and Aïda Sabaté who helped with the fieldwork. Thanks are also due to Oscar Gordo for his work editing this manuscript and to an anonymous reviewer for the improvements.

Resum

Un còlit gris *Oenanthe oenanthe* albí al Pirineu (península Ibèrica)

Reportem el cas d'un juvenil albí de còlit gris anellat de pollet al niu com a un exemplar aberrant i confir-

mat com a albí després de sortir del niu. Dels quatre pollets presents al niu només un era albí, i tot i que els dos pollets més petits no van sobreviure, sí que ho va fer l'exemplar aberrant.

Resumen

Una collalba gris *Oenanthe oenanthe* albina en Pirineos (península Ibérica)

Reportamos el caso de un juvenil albino de collalba gris anillado de pollo al nido como ejemplar aberrante y confirmado como albino después de salir del nido. De los cuatro pollos presentes solo uno era albino, y aunque los dos pollos más pequeños no sobrevivieron, sí que lo hizo el ejemplar aberrante.

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