

Bill abnormalities in a pair of Black Wheatears *Oenanthe leucura*

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Both members of a pair of Black Wheatears captured in central Spain showed an appreciable elongation of both mandibles. The male had an extraordinary elongation and curvature of its upper mandible, which later broke and took on the normal form.

Key words: Black Wheatear, *Oenanthe leucura*, bill abnormalities.

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Among the many morphological deformations which have been described in birds, those affecting the bill are the most varied (Pomeroy 1962, Santos 1981). They may be of genetic origin, or caused by accidents, food deficiencies, parasites or due to the action of mutagenic and theratogenic agents present in the environment (Pomeroy 1962, Gilbertson et al. 1976, Threlfall & Roy 1988). The frequency of occurrence of such abnormalities in birds' bills is always low, although there is a great deal of variation between different species and areas, depending on the presence and/or operation of the factors causing these abnormalities (Pomeroy 1962, Gilbertson et al. 1976).

A male Black Wheatear *Oenanthe leucura* was captured while roosting with a conspecific female inside an old gypsum mine near San Martín de la Vega, Madrid (40.17N 3.32W), on August 23, 1992. It showed extraordinary elongation of the

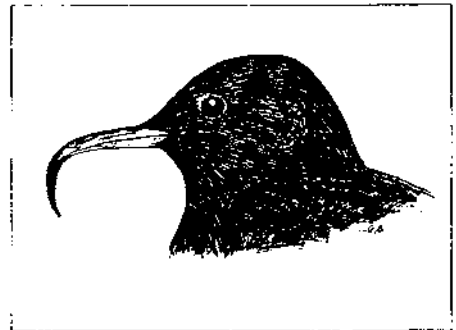


Fig. 1. Initial stage of bill deformation in the male Black Wheatear.

Fig. 1. Aspecto inicial del pico del macho de *Collalba negra*.

rhamphotheca in its upper mandible, with an estimated curvature in the distal third of the bill of about 180°. The lower mandible was normal in both length and curvature,

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Sex	Male	Female	Male
Weight	37	35	37
Wing	98	95	99
Tail	68	71	—
Bill length	32.80	25.20	22.90
Bill depth	—	4.50	5.00
Bill width	—	3.90	4.60
Head length ¹	54.60	46.90	—
Lower mandible	23.50	—	—
Tarsus ²	32.00	30.80	—

1. From back of head to tip of bill.
2. Method of Potti & Montalvo (1991).

Table 1. Biometrics (mm; weight in grammes) of a pair of Black Wheatears with bill abnormalities.

Tabla 1. Biometría (mm; peso en gramos) de una pareja de Collalbas negras con malformaciones en el pico.

although its end was blunt (Fig. 1). This same individual was again captured, and ringed, in the same site on 11 November 1992; this time we measured several characteristics (Table 1), following Svensson (1984), except for tarsus length which followed Potti and Montalvo (1991). On a later visit (21 November 1992) aimed at capturing the female wheatear, we ascertained that the male's bill was again close to "normal", as a consequence of the fragmentation of the rhamphotheca at the level of the beginning of the curvature. The upper and lower mandible ends were both blunt in this occasion.

On 18 December 1992 both individuals were captured and measured in the same roosting site (Table 1). The female showed an appreciable elongation in both mandibles (see Svensson 1984, Cramp 1988, and Zamora 1988, for the normal measurements of the bill), while the male's upper mandible now showed its normal pointed form. The rest of the measurements (Table 1)

were within the normal range for the species. Only on this last visit did we find ectoparasites (Acarina) around one of the male's eyes. No plumage alterations caused by the putative inability to maintain it correctly (Pomeroy 1962) were noted during any of the visits. Hence, the basic abnormality in both individuals consisted of an abnormal elongation in both mandibles, with a later breakage in the male's lower mandible, which was probably the cause of the excessive elongation in the upper mandible (see Pomeroy 1962 for several similar examples).

Among bill deformations in birds, excessive growth and subsequent arching of one or both mandibles is observed quite frequently in many species. However, pronounced curvature is rare in passerine birds (Pomeroy 1962). The duration and evolution of these abnormalities is unknown for most observed cases in wild birds as these are usually based on circumstantial observations which are not subsequently monitored. The

example of the male Black Wheatear here documented shows that the structure of the deformed bill may be temporary in nature and very plastic, as a probable consequence of accidental events. Also, behavioural idiosyncrasies may also be implied (Howard 1951, Cuthill et al 1992). The fact that both members of the pair showed the same abnormality, albeit at different stages, suggests that factors enhancing the malformation had been acting in the same way on both individuals and were probably of environmental origin (Threlfall & Roy 1988).

Foraging behaviour and survival may be affected by bill deformations and the bird's mass may be indicative of overall physical condition (Pomeroy 1962). The male's weight before and after recovering its normal bill form was the same, and higher than that of the female (Table 1) which showed a less advanced stage of deformation. It seems logical to conclude that the male's bill malformation did not affect his physical condition. On the other hand, the male did not carry stones to the base of the nest, as commonly occurs in this species: 87.00 %, 90.48 % and 91.95 % of nests had stones in study areas in Almeria (n=37), Granada (n=57) and the Valle del Ebro (n=87) respectively (Richardson 1965, Soler et al. 1983 and pers. obs.). This could be due to the male's inability to carry stones because of his deformed bill, combined with other factors, such as the distance of the nest from the mine entrance (38 m), or the total absence of light in the surroundings of the nest. •

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RESUMEN

Malformaciones en el pico de una pareja de Collalbas negras Oenanthe leucura.

Los componentes de una pareja de collalbas negras capturados en España Central mostraron una irregularidad en el pico consistente en la elongación anormal de ambas mandíbulas. El macho presentaba una curvatura desmesurada en la mandíbula superior, que posteriormente se rompió adquiriendo una forma y longitud normal.

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