

Bill deformity in a White-winged Becard, *Pachyramphus polychopterus*, (Aves: Suboscines: Tityridae) from Minas Gerais, Brazil

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Recebido em 27 de setembro de 2005; aceito em 22 de fevereiro de 2006

RESUMO. Deformidade de bico em um Caneleiro-preto, *Pachyramphus polychopterus*, (Aves: Suboscines: Tityridae) de Minas Gerais, Brasil. Nós apresentamos um indivíduo de *Pachyramphus polychopterus* com deformidade de bico coletado em um fragmento florestal de uma fazenda de plantação de *Eucalyptus* no município de Bocaiúva, norte de Minas Gerais. Esta ave apresentava um bico bem mais curto que de espécimes sem deformidade no bico e sua mandíbula e maxila eram curvadas entre si, embora as outras medidas corporais tenham se apresentado normais. Não sabemos explicar as causas desta deformidade, mas suspeitamos que ela esteja relacionada a uma mutação genética muito rara na espécie.

PALAVRAS-CHAVE: Deformidade de bico, *Pachyramphus polychopterus*, Caneleiro-preto, Tityridae, Brasil.

KEY WORDS: Bill deformity, *Pachyramphus polychopterus*, White-winged Becard, Tityridae, Brazil.

Bill deformities have been recorded for several bird species around the world. Craves (1994) presented a revision on bill deformities in passerines (Aves: Passeres), which was updated by the Rouge River Bird Observatory (University of Michigan-Dearborn 2004). Bill abnormalities are known to occur in low frequency in bird populations (less than 0.5%) and may be caused by injury, poor nutrition, genetic or developmental diseases, and chemical pollutants (Pomeroy 1962, Craves 1994). Nevertheless, from 1991 to 2000, more than 500 individuals of the Black-capped Chickadee, *Poecile atricapillus* (Linnaeus, 1766) (Aves: Paridae) have been reported with deformed bills in south-central Alaska, but the causes of these abnormalities remain unknown (Alaska Science Center 2000, University of Michigan-Dearborn 2004). In this paper, we report and describe a White-winged Becard, *Pachyramphus polychopterus* (Vieillot, 1818), with a deformed bill.

On 24 November 1998 a male White-winged Becard was mist-netted in a deciduous forest fragment adjacent to a plantation of *Eucalyptus* located at Fazenda Corredor (17°06'S, 43°48'W), Bocaiúva municipality, Minas Gerais, south-eastern Brazil. Fazenda Corredor is a 12,556 ha area of *Eucalyptus* farm that holds 2,199 ha of natural patches, being 35.7% of 'cerradão', 25.5% of 'cerrado *sensu stricto*', and the remaining areas with deciduous and gallery forests. For a definition of these vegetation types, see Eiten (1992). The bird presented a noteworthy deformed bill, which was strongly shorter than normal individuals and with crossed mandibles (figure 1). This bird was collected and deposited in the Ornithological Collection of the Department of Zoology (DZUFMG), Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil, under the number DZUFMG 2565. This specimen was an adult (skull 100% pneumatized).



Figure 1. On the left, White-winged Becard, *Pachyramphus polychopterus* specimen (DZUFMG 2565) with a deformed bill besides another specimen with a normal bill (DZUFMG 1183). Photo: D. Hoffmann.

Measurements of the deformed specimen were compared with mensural data for nine morphometric characters from 11 males without deformities housed at DZUFMG (Table 1). All bill measurements from the deformed becard were smaller than those from specimens without bill deformities, except for bill width. Wing, tail, total length, and tarsus measurements of DZUFMG 2565 were among the range obtained for specimens without bill deformities.

Among passerines, bill abnormalities have been reported mainly for Oscines (89 species), with records for just three Suboscines species: Short-billed Canastero, *Asthenes baeri* (Berlepsch, 1906), Lark-like Brushrunner, *Coryphistera alaudina* Burmeister, 1860, and an unidentified flycatcher from the

Table 1. A comparison of nine morphometric characters (mm) between a male White-winged Becard with deformed bill and 11 males with no apparent physical deformities. Values for specimens without deformities are mean \pm SD with range in parentheses.

White-winged Becards	Top mandible (total culmen)	Lower mandible	Nares-tip	Bill width	Bill depth	Wing length	Tail length	Total length	Tarsus
DZUFMG 2565	8.2	10.5	5.0 (right); 6.1 (left)	6.6	4.9	76.7	61.2	144.0	17.5
Males without bill deformities	15.1 \pm 0.6 (14.0-15.8)	15.6 \pm 1.1 (13.9-16.7)	10.3 \pm 0.6 (9.5-11.7)	6.9 \pm 0.4 (6.4-7.6)	5.8 \pm 0.3 (5.4-6.2)	78.0 \pm 1.7 (75.8-81.3)	61.5 \pm 2.9 (56.7-66.0)	155.6 \pm 10.3 (135.0-171.0)	18.3 \pm 0.7 (17.1-19.5)

genus *Empidonax* (Parkes 1969, Craves 1994, University of Michigan-Dearborn 2004). There were not found any records for bill deformities in becards from the genus *Pachyramphus*. Since Suboscines passerines are distributed mainly in the Neotropics (Sick 1997, del Hoyo *et al.* 2003), and are less studied than European or North American Oscines, it is possible that bill deformities occur at a higher frequency than that reported for this group.

Despite possessing a bizarre bill, the deformed White-winged Becard was able to survive and became an adult bird. We cannot explain the causes for this abnormality, but it is possible that the occurrence of a bizarre bill in this White-winged Becard is a very rare genetic mutation in the population. A bird monitoring program has been developed at Fazenda Corredor since 1998 and so far, after 1,600 net-hours and 1,081 bird captures, only another bird, a Pale-breasted Thrush, *Turdus leucomelas* Vieillot, 1818, held a deformed bill (MR pers. obs.).

In Brazil, many field ornithologists eventually face bill, tarsus or wing deformities in the field, but never publish their findings. More studies and reports on deformed birds must be carried out in order to access their patterns and causes.

ACKNOWLEDGEMENTS

We are grateful to Guilherme Dias de Freitas, Michelle Alves Moura and Antonio Claret of 'Vallourec & Mannesmann Florestal' for facilitating all the phases of the project of bird monitoring at Fazenda Corredor. MFV thanks CAPES and the Brehm Foundation (Germany) for supporting his research. MR thank the Brazilian Research Council (CNPq) for a scholarship from 1998 to 2000 and a research grant for 2005-2006 (473428/2004-0). We also thank Diego Hoffmann for the photograph of specimens housed at DZUFMG.

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