



Aleksandra LEDWOŃ^{1*}, Maciej SZANSER², Krzysztof ADAMCZYK¹, Piotr SZELESZCZUK¹

¹ Department of Pathology and Veterinary Diagnostics,
Warsaw University of Life Sciences, 159c Nowoursynowska St. 02-776 Warsaw, Poland

² Centre for Ecological Research Polish Academy of Sciences,
1 Konopnickiej St. 05-092 Łomianki, Dziekanów Leśny, Poland

* Author for correspondence: A. Ledwoń, aledwonn@yahoo.pl

A CASE OF BEAK INJURIES IN CHICKS OF THE RAZA ESPAÑOLA CANARY CAUSED BY A PARENT DURING REARING

ABSTRACT

In four 12-13-day-old chicks of the Raza Española Canary, partial amputation of beaks by the male that fed the chicks was observed. The chicks were in a good nutrition condition. The mating couple had already reared one clutch in the same season without complications. The young were separated and reared manually. Despite the deformation, the birds are able to feed autonomously. The most likely cause of the parent's aggressive behaviour is stress associated with high intensity of rearing and a nervous disposition of the male.

Key words: parental aggression, beak mutilation, canary, Raza Española,

Running head: Beak injuries in young canaries caused by a parent

Introduction

In birds, there are mainly two reasons for the aggression of parents towards the offspring. The first is parental aggression encourages chicks to feed independently and parents use parental aggression as a way to modulate the amount of feedings that are allocated to older vs. younger offspring (Shizuka & Lyon 2013). The second is broad-scale investment decisions made after hatching involve whether or not individual offspring should continue to live (Kilner & Drummond 2007). Offspring may be killed directly by parents, which is known to happen in rails (Horsfall 1984), gulls (Urrutia & Drummond 1990), storks (Tortosa & Redondo 1992) and estrildid finches (Schuetz 2005), or by their siblings by inflicting lethal injuries (Drummond 2006) or causing starvation by non-violently out-competing rivals for food (Magrath 1990). In *Rallidae* family, which commonly display parental aggression in the form of 'tousling', whereby the parent grabs and shakes the chick by the head or nape and sometimes even kills them (Horsfall 1984, Leonard et al. 1988, Shizuka & Lyon 2013). According to Shizuka and Lyon (2013) observations in the allocation of parental aggression towards chicks

of different hatch order, there were no significant differences between first-, middle- and late-hatched chicks. Injuries to the bodies of chicks during rearing are observed in parrots, particularly cockatiels (*Nymphicus hollandicus*). Male cockatiels damage the feathers on the backs and necks of the young, and may also kill chicks in some instances (Bauck 1996). According to Macwhirter (1994), passerine parents that become aggressive toward their chicks are preparing to lay a second clutch of eggs. Based on the authors' own observations, male's aggression toward the young can also be observed in pigeons, when a couple starts mating to produce a second clutch too early.

CASE DESCRIPTION

An experienced breeder of canaries and finches delivered to the clinic four young patchy Raza Española canaries, one female and 3 males, aged 13-14 days in which beak injuries had been found the preceding day. The injuries were partial amputations of the upper and lower beak. Scabs formed in the damaged areas, and small bleeding occurred once the scabs were removed. According to the breeder, the injuries were caused by the 3-year-old father of the chicks. The birds came from the second clutch of these parents contained six eggs, two of which were unfertilized. During the rearing of the young, the couple was ready for another mating, although the owner did not provide a second nest. After interventional separation of the young, parents were transferred into flight cages. It was decided to rear the young birds manually. The rearing was conducted using a ready-to-use hand rearing food for birds. In the initial period, the wounds on the beaks were disinfected with Betadine 10% for several days (EGIS, Poland). After two weeks, the wounds were healed, but deformations remained for their further life (Figure 1). In all four birds, the tongue was not damaged and did not protrude. Only in the female who had the shortest beak (Fig. 1, 2, 3 – C), the tongue is visible beyond the jaw edge. The young were moved with their nest to a large cage, where they continued to receive the slurry for chick rearing, a premium mix of grain, granules for canaries, egg-based feed, greens, fruit, ears of grass, including the millet, cattle fish bone and sand for birds. With time, the birds showed increasing interest in grain: mainly millet, rapeseed, canary grass and poppy seed, and less interest in oat. The birds eat greens, ears of grass and plantains, selectively fruit. The birds are not interested in pellets, as well as pre-made or fresh egg feed. Autonomous nutrition began after one month, and the birds continue to receive the slurry into their bowl, but at the age of four months they eat very small amounts of it. In two individuals (Figure 2 C, D), a problem with hypertrophy of the edges of the lower beak caused by the deformation of the upper beak, as well as a problem with maintaining the cleanliness of the beak occurred (Figure 1, 2). After completely discontinuing the slurry, the canary with the shortest beak preferred mostly millet in ears and dry egg food. Two birds (Figure 1, 2 C,D) required a beak correction every 4 weeks. The cutting of the oblong edges of the beaks was done with small surgical scissors, without the need for anesthesia. In one canary (Figure 1, 2 A),



Fig. 1 (A, B, C, D). Truncation of the beak observed in 4-month-old canaries. Authors: Aleksandra Ledwoń & Piotr Adamczyk

the overgrowth of the beak was very limited and, as noted, the bird itself disposed of the excess by intentionally pecking the leg band. Young canaries are currently kept by a new owners under regular veterinary supervision.

The owner noted that the father of the young with damaged beaks- intensively yellow lipochrome individual is more irritable than other birds and shows increased aggression toward other birds in flight cages, in which the birds are placed during autumn moulting. That year, a 2-year-old brown melanin female had joined the male. The couple reared the first clutch without problems, and another lay occurred when the young from the first clutch were four weeks old: In previous years, both birds had successfully reared their young, but with other partners. The owner noted that the male was no longer as aggressive toward other birds as it had been in the preceding season. The breeder had not seen a similar case in his stock; only pecking of feathers from the heads of chicks by another male irritated by the presence of competing males had been noted. The breeder keeps the birds mainly on a sheltered balcony. He says that there are probably too many cages with birds, which could be the cause of stress. He also keeps two gentle cats in his flat.

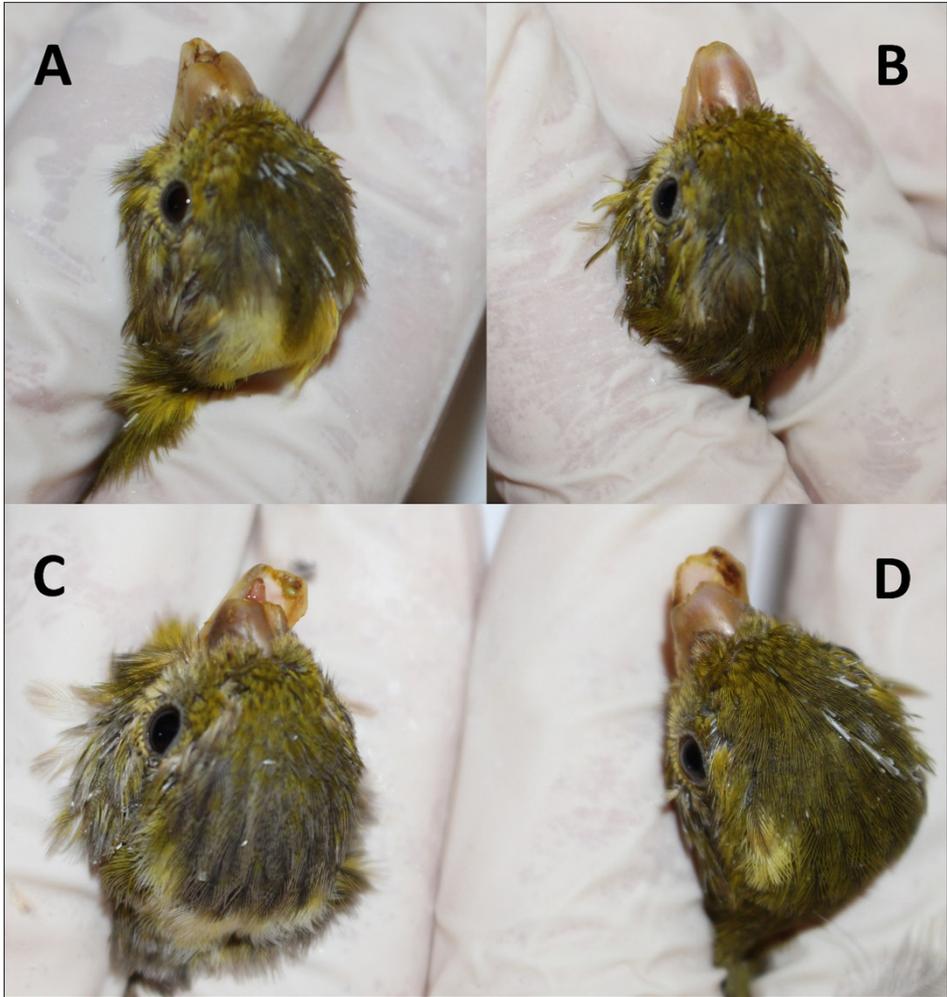


Fig. 2 (A, B, C, D). Truncation of the beak observed in 4-month-old canaries. Canaries C and D in which the injury caused hypertrophy of the horn of the lower beak that requires monthly correction. In canary C, tongue protruding from the edge of the jaw is visible. Authors: Aleksandra Ledwoń & Piotr Adamczyk

DISCUSSION

To date, no similar case of damaging the beaks of young canaries by their parents has been described. The most likely cause of such behaviour was a nervous disposition of the male and stress associated with high intensity of rearing. Aggressive behaviour of a male toward its young is normal when the young are fledged (5-6 weeks of age). In this way, the parents of *Passeriformes* prepare to the rearing of another clutch,



Fig. 3. Canary C at the age of 6 months after correction of the beak. Author: Aleksandra Ledwoń

encouraging their previous clutch to become autonomous (Raihani & Ridley 2008). Aggression consists mostly of chases, supplantings and attacks. The most aggressive interactions occur when the young follow a parent closely or beg (Leonard et al. 1991). Territorial aggression in male birds is typically associated with a high level of testosterone in the breeding period. The highest level of the hormone is observed during mating, while during the rearing of the young, testosterone levels decrease (Wingfield et al. 1987). It can therefore be suspected that rearing several clutches per season at the same time, with a close presence of other birds, could predispose the male to such a behaviour. However, no reports of similar cases among stocks suggest individual predisposition of the male to aggression as the primary cause. Welfare conditions at the rearing site of the birds are satisfactory in terms of proper nutrition and disease prevention. Unfortunately in terms of keeping conditions, standards are not met due to too high density and intensity of rearing (Hoek et al. 1998), as well as the presence of predatory animals in the vicinity of birds (Clinchy et al. 2013). The young canaries were successfully reared manually and show a good nutrition and plumage condition. Despite the acquired beak dysfunction, good nutrition status and plumage condition, as well as absence of abnormal behaviour are evidence of good welfare conditions of these animals understood as its state as regards its attempts to cope with its environment

(Broom 1986). Damage to the beak in this early period probably contributed to an increased ability of food uptake than in cases in which similar injuries occurred in adult birds.

REFERENCES

- Bauck L. 1996 – Avian Dermatology – In Avian Medicine and Surgery, Eds. R.B. Altman, S.L. Clubb, G.M. Dorrestein, K. Quesenberry – W.B. Saunders Company.
- Broom D.M. 1986 – Indicators of poor welfare – Br. Vet. J., 142: 524-526.
- Clinchy M., Sheriff M.J., Zanette L.Y. 2013 – The ecology of stress. Predator-induced stress and the ecology of fear – Funct. Ecol., 27: 56-65.
- Drummond H. 2006 – Dominance in vertebrate broods and litters – Q. Rev. Biol., 81: 3-32.
- Hoek van C.S., Ten Cate C. 1998 – Abnormal Behavior in Caged Birds Kept as Pets – J. Appl. Anim. Welf. Sci., 1: 51-64.
- Horsfall J.A. 1984 – Brood reduction and brood division in coots – Animal Behav., 32: 216-225.
- Leonard M.L., Horn A.G. & Eden S. 1988 – Parent-offspring aggression in Moorhens – Behav. Ecol. Sociobiol., 23: 265-270.
- Leonard M.L., Horn A.G. Ratcliffe L.M. 1991 – Parent-offspring aggression in black-capped chickadees – Behav. Ecol., 2: 228-233.
- Macwhirter P. 1994 – Passeriformes – In Avian Medicine Principles and Application Eds. B. Ritche, G.J. Harrison & L.R. Harrison – Wingers Publishing, Inc., Lake Worth, Florida.
- Raihani N.J., Ridley A.R. 2008 – Parental aggression against dependent young results in task partitioning in a cooperatively breeding bird – Biol. Lett., 4: 23-26.
- Shizuka D. and Lyon B.E. 2013 – Family dynamics through time: brood reduction followed by parental compensation with aggression and favoritism – Ecol. Lett., 16: 315-322.
- Schuetz J.G. 2005 – Low survival of parasite chicks may result from their imperfect adaptation to hosts rather than expression of defenses against parasitism. – Evolution 59: 2017-2024.
- Tortosa F.S., Redondo T. 1992 – Motives for parental infanticide in white storks *Ciconia ciconia* – Ornis scand., 23:185-189.
- Urrutia L.P., Drummond H. 1990 – Brood reduction and parental infanticide in Heermann's Gull (*Larus heermanni*) – Auk, 107: 772-774.
- Wingfield J.C., Ball G.F., Dufty A.M. Jr., Hegner R.E., Ramenofsky M. 1987 – Testosterone and Aggression in Birds – AmSci., 75: 602-608.