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 Ordem dos biólogos



BANCO ESPÍRITO SANTO

Vocal development via voice breaking in the red-crowned crane *Grus japonensis*

Klenova, A (1); Volodin, I (1,2); Volodina, E (2) & Postelnykh, K (3)

Department of Biology, Moscow State University, Vorobiovi Gori, 119899, Russia (1); Scientific Research Department, Moscow Zoo, Russia (2); Oka Biosphere State Nature Reserve, Russia (3)

klenova2002@mail.ru

Voice breaking is a process associated with puberty of human males and attends adolescence also in some birds. This phenomenon is well studied in humans, but still is poor studied in birds including cranes. Unanswered are questions about when do cranes start and complete the process, what changes occur in time and frequency vocal parameters throughout it and how they are related to the sex, date of birth and overall body growth. Here we traced the vocal development in 31 cranes from hatching to 1.5 years old relating to increase of body mass and in comparison with voices of 13 conspecific adults. During voice breaking, calls of both sexes contained two independent fundamental frequencies: the high one, that was a retained juvenile frequency, and the low one, that was a newly appeared adult frequency. Before voice breaking, calls contained only the high frequency, while after voice breaking - only the low frequency. Values of both frequencies didn't overlap and didn't change during all ontogenesis. Cranes starts voice breaking in 7 month and complete it at 11.5 month on average. The onset of voice breaking coincided with achieving the adult weight, while factors influencing on its completion were not evident. We don't find any effect of sex and date of birth on the onset and completion of voice breaking. We discuss that in nature the completion of voice breaking could be related to cessation of parental care after the break of a parent-chick bond closely before the beginning of a new breeding season.

Notes
