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**BANCO ESPÍRITO SANTO**

# The goitred gazelle: sex-specific vocal development and permanently descended and mobile larynx in ungulate species

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A descended and sexually dimorphic larynx is known only for humans and for a few species of ungulates. The enlarged and descended larynx of adult male goitred gazelles *Gazella subgutturosa* is remarkably mobile. Here we study, whether the vocal ontogenesis in male and female goitred gazelles proceeds similarly to those of human adolescents. We recorded nasal calls from 10 male and 13 female goitred gazelles captured on the fenced 5000 hectares-territory of Ecocenter "Djeiran" and then human-raised. Acoustic recordings of nasal calls were taken daily and measurements of body mass and neck region were made bi-weekly from May to August and during October 2008. We also dissected the head and neck regions of two 3-4 weeks old male specimens. First inter-sexual differences in fundamental frequency were found at the age of two weeks and of body mass and neck dimensions at the age of 10 weeks. In addition, larynx size diverged well before puberty, i.e. at the age of 24 weeks. In juveniles of both sexes, the mobility of the larynx was limited compared to those of adult males, but nevertheless imposed noticeable effects on formant frequencies of their calls. Supported by RFBR grant 09-04-00416 (for E.V., I.V., K.E.).

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