



# IBAC

## 2019 BRIGHTON

31<sup>ST</sup> AUGUST -  
5<sup>TH</sup> SEPTEMBER 2019

50<sup>TH</sup> ANNIVERSARY OF  
THE INTERNATIONAL  
BIOACOUSTICS COUNCIL

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**IBAC 2019**  
**ABSTRACT BOOKLET**  
**ORAL & POSTER PRESENTATIONS**

International Bioacoustics Congress  
Brighton, UK  
31 August – 5 Sept 2019

Refer to conference programme for schedule

## **Male impala (*Aepyceros melampus*) rutting calls: Bout structure, the acoustics and remarkable similarity of the rutting and alarm**

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This study investigates the bout structure and the acoustics of male rutting calls in a free-ranging population of common impala (*Aepyceros melampus melampus*) at Okambara Elephant Ranch, Namibia. The 202 analysed bouts contained  $13.5 \pm 6.5$  (from 4 to 38) rutting calls per bout. We identified five types of rutting calls: nasal snorts; three types of roars: pant-roars with rapid alternation of inhalations and exhalations; interrupted roars, with one to few short inhalations; purely exhalatory continuous roars; and roar-snorts, with transit of short roar to snort without pause. All bouts contained both snorts and roars. of the total number of 2723 rutting calls within 202 bouts, snorts comprised 67.2%, continuous roars 6.9%, interrupted roars 9.8%, pant-roars 10.0% and roar-snorts 6.1%. Bouts mostly started with snorts (86.1% of the bouts) and ended with snorts (92.1% of the bouts). Acoustic comparison of 43 continuous roars, 91 interrupted roars and 68 pant-roars did not reveal differences in the average fundamental frequency (ranging of 49.5 - 51.4 Hz) or in values of the first, second and fourth formants; the third formant was higher in the interrupted roars. The length of the elongated vocal tract during the maximal retraction of the larynx during the roaring calculated based on the first four formants, varied from 379 to 384 mm and did not differ between the three types of the roars. Snorts were remarkable similar between the rutting context (toward conspecifics) and alarm contest (toward people), similar to findings for the topi antelope (*Damaliscus lunatus*). This research was supported by RFBR (grant 19-04-00133).