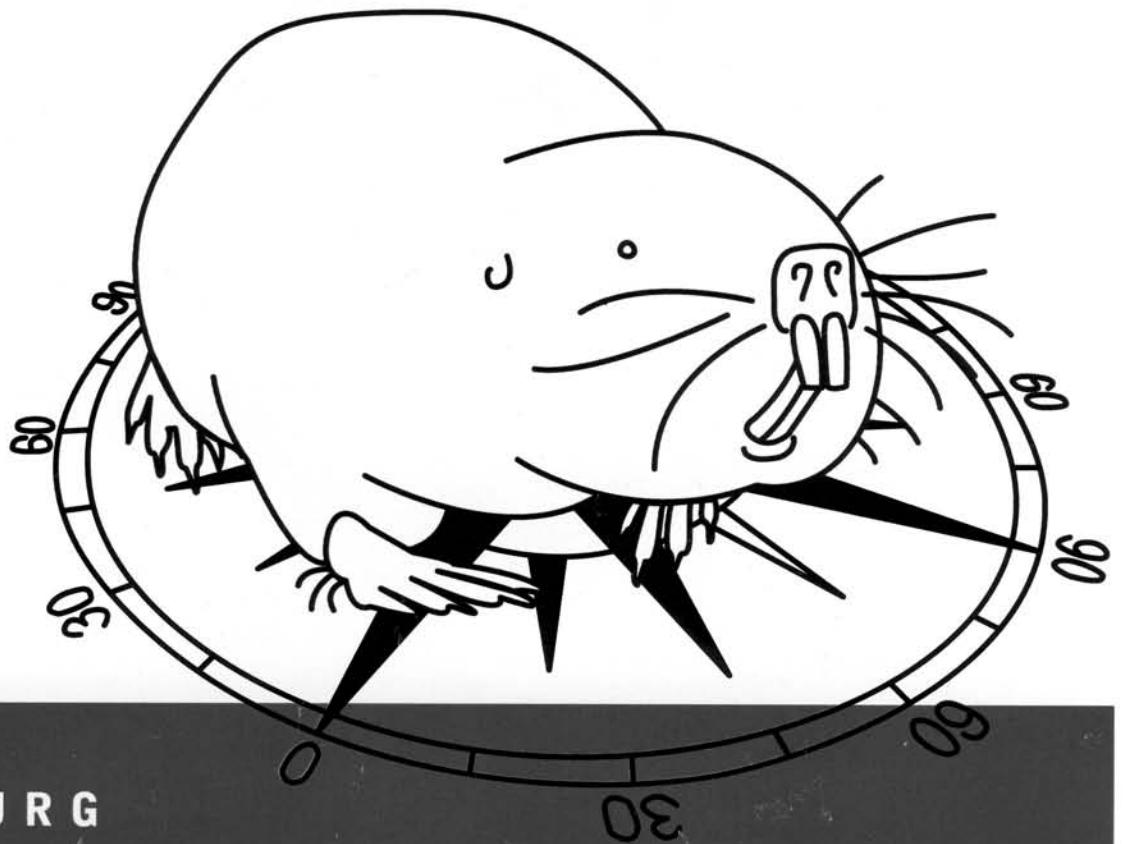


# Book of Abstracts

## ECBBVI

### European Conference on Behavioural Biology 2012

July 19 - 22 | Essen | Germany



UNIVERSITÄT  
DUISBURG  
ESSEN

## On vocal production mechanisms of male rutting calls in two ruminant species

*Roland Frey*<sup>1</sup>, *Ilya Volodin*<sup>2</sup>, *Elena Volodina*<sup>3</sup>

<sup>1</sup> Leibniz Institute for Zoo and Wildlife Research (IZW), Berlin, Germany

<sup>2</sup> Department of Vertebrate Zoology, Faculty of Biology, Lomonosov Moscow State University, Moscow, Russia,

<sup>3</sup> Scientific Research Department, Moscow Zoo, Moscow, Russia

frey@izw-berlin.de

Regarding emotional states in male mammals, rutting behaviour is certainly among the most intense, as it directly correlates with reproductive success. This applies particularly to polygamous species where few males get most of the matings favouring the evolution of specific male calls temporally restricted to the rutting season. Concomitantly, the males of some species, independent of each other, evolved specific morphological features of the vocal organs and associated mechanisms of vocal production. These are of high relevance to male reproductive success and subjected to sexual selection both by male-male competition and female choice. This talk presents the peculiar vocal morphology and male sexually motivated vocal behaviour of two species from two families of ruminants: goitred gazelle (*Gazella subgutturosa*, Bovidae) and red deer (*Cervus elaphus*, Cervidae). A synthesis of data from several fields reveals the potential production mechanisms of their rutting calls. In both species these involve pronounced momentary retraction of the larynx and corresponding positional changes of the vocal organs including their supportive structures. These movements of the vocal organs were graphically reconstructed in a 2D-model. Additionally, the larynx itself has become evolutionarily enlarged and specialised in the male goitred gazelle but not in red deer. Rutting calls in the goitred gazelle are often emitted during fast locomotion while calling red deer stags mostly stand. These behavioural and anatomical features correlate with differing acoustic parameters of the rutting calls. In red deer, a state of higher arousal, when facing a rival male, regularly evokes a specific call type, which is audibly different from a more relaxed call.

Keywords: emotional state, reproductive success, vocal organs, vocal behaviour, larynx retraction, graphical reconstruction

---

## What determines beauty in human eyes

*Daniel Frynta*, *Silvie Lišková*

Department of Zoology, Faculty of Science, Charles University in Prague, 128 44 Praha 2, Czech Republic

frynta@centrum.cz

Some authors have argued that human preferences towards “beautiful” birds may skew the selection of species for possible conservation. Such findings evoke a new direction of research, questioning the importance of color, shape, and other appearance traits of birds, for the very species survival in nature through artificial human selection.