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**Book of Abstracts**

# Posters



## **B42. Effects of captive and free-ranging management on male rutting calls in Siberian wapiti *Cervus elaphus sibiricus***

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In red deer *Cervus elaphus*, captive and free-ranging management potentially affects rutting calls, responsible for male reproductive success. We collected rutting calls using automated recording systems SongMeter2+ in rut periods of 2013 and 2015 from three populations of Siberian red deer *C. e. sibiricus* originated from the Altai/Khakasian region of Central Siberia. We examined the total of 435 rutting calls, 145 calls per each population: Farmed (density 2.0 animals/ha at 70 hectares), Fenced (density 0.08 animals/ha at 5000 hectares) and Wild (density 0.00206 animals/ha in the wild). We analysed calls, given singly (81.6% of all calls) or longest calls given in bouts (18.4% of all calls). The fundamental frequency contour patterns were "trapeze", "down" and "saddle" (respectively 74.3%, 23.7% and 2.1% of the 435 calls). The "trapeze" pattern prevailed in Farmed (84.8% calls), was less often in Fenced (71.0% calls) and still less often in Wild males (66.9% calls). In contrast, the "down" pattern was more often in Wild (30.4%), less often in Fenced (27.6%) and rarest in Farmed males (13.1%) calls. The maximum fundamental frequency  $f_{0max}$  ranged from 0.52 to 2.56 kHz (1.360.29 kHz), with well-defined plateau of  $f_0$ . However, compared to Fenced and Wild males, in Farmed males, the entire call duration and the plateau duration were significantly shorter ( $F_{2,432}=10.1$  and  $F_{2,432}=17.2$ ), whereas the  $f_{0max}$  was significantly higher ( $F_{2,432}=12.2$ ). This could be related to better food availability and therefore better physical condition of Farmed males as well as their elevated emotional arousal in dense surrounding of potential mates and male competitors. Similar effects were reported for other deer. Support: the Russian Scientific Foundation, grant 14-14-00237.