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B89. Acoustic variation in rutting calls of the Pannonian red deer *Cervus elaphus pannoniensis* (Banwell 1997)

Ilva Volodin Biology Department, Lomonosov Moscow State University, Moscow, Russia; Moscow Zoo, Russia

A. Nahlik University of West Hungary, Hungary

T. Tari University of West Hungary, Hungary

E. Volodina Moscow Zoo, Russia

In red deer *Cervus elaphus*, rutting calls are good indicators of subspecies. However, the puzzle of acoustic variation is incomplete without studies of the Central European subspecies. Rutting calls of the Pannonian red deer (common roars, harsh roars and grunt roars) were collected in the largest native population of the *Cervus elaphus pannoniensis* (Banwell 1997) in South Hungary (46.067 N, 17.492 E) in September 2015 using an automated recording system SongMeter2+. We analysed 673 bouts consisting 1-15 roars per bout (3.51+/-2.30), a total of 2360 roars. Single-call bouts comprised 19.61% and two-call bouts 20.80% of the total number. The average duration of the longest (main) roar of a bout was 1.21+/-0.52 s; min-max 0.55-4.44 s. In a total of 673 main roars within bouts, 428 (63.6%) were common roars and 245 (36.4%) were harsh roars (containing over 50% of deterministic chaos). Compared to common roars, main harsh roars were significantly shorter (0.90+/-0.27 s vs 1.38+/-0.55 s, $t=12.62$) and lower in the maximum fundamental frequency f_{0max} (133.3+/-40.5 Hz vs 163.9+/-59.7 Hz, $t=6.99$). In bouts containing one or two calls, the f_{0max} was significantly higher than in multi-call bouts. Comparison with other subspecies indicates that the Pannonian subspecies is distinctive by the acoustics of its rutting roars. For instance, in the Pannonian red deer compared to the well-studied Iberian red deer (*C. e. hispanicus*), the number of calls per bout was higher, the main roars were shorter, the harsh roars occurred more often and were shorter and lower in f_{0max} compared to the common roars. Only 52% of the longest roars within bouts were also the highest in f_0 compared to 94% in the Iberian red deer. Support: RFBR grant 15-04-06241.