Poster Session 1 – Rodent Behaviour

21 Ultrasonic pulse bouts of a blind fast-climbing rodent (*Typhlomys chapensis*): similarities and differences with echolocation calls of bats

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Bouts of ultrasonic pulses produced by blind Vietnamese pygmy dormice (*Typhlomys chapensis*) are reminiscent of ultrasonic calls of echolocating bats, however they display some remarkable differences in the acoustics. Echolocation pulses of the dormouse are organized in bouts. We examined 1,481 bouts that consisted of 1-6 pulses per bout; 51.3% of bouts contain more than one pulse. The number of pulses per bout affected bout duration and inter-bout interval, whereas the period from start of a previous bout to start of the next bout was constant (80.0±2.9 ms) in spite of the number of pulses per bout. Ultrasonic pulses (540 pulses measured in a subset of 234 bouts), represented short (0.68±0.15 ms) convex sweeps with the fundamental frequency slope from 127.3±6.3 kHz to 64.1±4.6 kHz and peak frequency at 93.3±7.4 kHz, emitted with a within-bout pulse period 13.03±3.01 ms. Single pulses and start pulses of multi-pulse bouts were lower in frequency than other pulses of the bouts. In contrast, pulse duration was independent on pulse position within bout. Pulses were reminiscent of echolocation calls of *Murina* and *Myotis* bats, but were higher in frequency, much shorter, fainter, displayed a convex contour of frequency modulation and displayed only the fundamental frequency band without harmonics. At the same time, the organization of the ultrasonic pulses in bouts is not characteristic for bat echolocation. In contrast, hippopotamus (*Hippopotamus amphibius*) uses clicks organized in bouts for echo-ranging in muddy waters. Probably, the Vietnamese pygmy dormice can also use their ultrasonic pulses for echo-ranging during their locomotion and jumps among bush branches. Compared to bats, the speed of the dormice locomotion is not so high. Therefore, they do not need vary strongly the period between the ultrasonic pulses as in the echolocation series of bats. Supported by the RSF grant 14-14-00237.

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