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ABSTRACT BOOKLET
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Effects of species and body size on the acoustic variables of pup ultrasonic isolation calls in six gerbil species

Julia D. Kozhevnikova

Lomonosov Moscow State University, Russia

Co-authors

Ilya A. Volodin; Alexandra S. Zaytseva; Daria D. Yurlova; Olga G. Ilchenko; Elena V. Volodina

Gerbils (Gerbillinae), inhabiting arid areas of Asia and Africa, display different ecological specialisations and sociality. Adults primarily use ultrasound, but some species produce also audible vocalisations. Pup vocal behaviour is poorly known. For six species (*Dipodillus campestris*, *Gerbillus perpallidus*, *Meriones unguiculatus*, *Meriones vinogradovi*, *Sekeetamys calurus*, *Pachyuromys duprasi*), we compared ultrasonic isolation calls of captive 6-10-day old pups (each from a different litter; 10 pups per species, 60 pups in total). Each pup was recorded for 2 min at 22°C using a recorder Pettersson D1000X (384 kHz, 16 bit) and weighed and measured for body variables. Calls (20 per pup, 1200 in total) were examined using Avisoft SASLab Pro software for duration and fundamental frequency variables and contour shape. All species had one type of contours they prefer. All the five contour variants occurred in *Dipodillus campestris*, *Gerbillus perpallidus* and *Meriones vinogradovi*. Most short calls were produced by *Pachyuromys duprasi* (56 ± 33 ms), the longest calls were produced by *Meriones vinogradovi* (159 ± 38 ms). The maximum fundamental frequency was the highest in *Dipodillus campestris* (74.8 ± 5.59 kHz) and ranged of 35-55 kHz in other species. Pups of *Dipodillus campestris* were the smallest in body weight and size, pups of *Meriones vinogradovi* were the biggest in body weight and size. GLMM analysis revealed a higher effect of species compared to body size, on the acoustics. This research was supported by an RSF grant (19-14-00037).