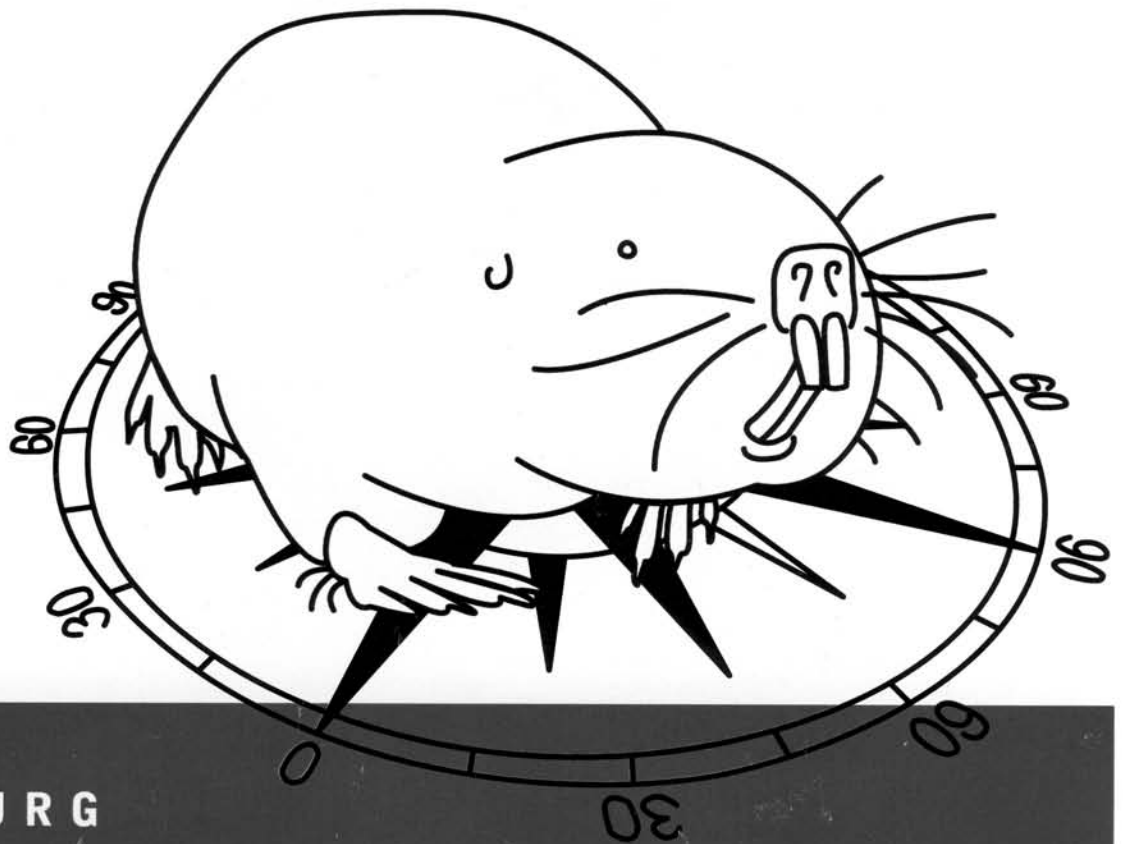


Book of Abstracts

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piercing quality of screech calls due to the deep the sinusoidal frequency modulation, matching periodicity of body vibration, may be important for agonistic communication in this species. Supported by RFBR grant 12-04-00260.

Keywords: Insectivora, piebald shrew, seismic vibration, vocalization, exploring behaviour, screech call

Estimating degrees of discomfort in silver fox vocalization using “joint calls”

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Negative emotional arousal impairs welfare and decreases productivity in farm, zoo and shelter animals. Call-based automated monitoring of emotional arousal STREMODO has proved to be useful for farm pigs. The search of universal across mammals vocal characteristics of emotional arousal should help to create software for automated measuring discomfort also in other animals. With a human-approach test, we designed the steady increase and decrease of fox-human distance and registered vocal responses of 25 farm silver vixens. The foxes displayed high vocal activity toward humans, producing calls of five types: whines, moos, growls, coughs and snorts, strongly different in their acoustic structure. We analyzed vocal features, produced by the foxes at different fox-human distances, assuming that changes in vocal responses reflect the degrees of human-related discomfort. For revealing the discomfort-related vocal traits, we proposed and tested the algorithm of „joint calls“, equally applicable for analysis of all calls independently on their structure, either tonal or noisy. We discuss that the increase in proportion of time spent vocalizing and the shift of call energy towards higher frequencies may be integral vocal characteristics of short-term welfare problems in farm silver foxes and probably in other captive mammals. Additional tests, conducted with silver foxes, selected for tameness and for aggressiveness to people, showed that the method, that has been developed initially for unselected for behaviour farm silver foxes, is equally applicable for any kind of emotional arousal, either positive or negative. Supported by RFBR grants 09-04-00416 & 12-04-00260, and NIH grant R01 MH077811.

Keywords: welfare indicators; emotional arousal; vocalization; acoustic analysis; farm animals; *Vulpes vulpes*