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Selection for tame or aggressive behaviour toward humans affects vocalization in the red fox *Vulpes vulpes*

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We compared the calling activity and occurrence of different call types in 104 adult female farm-raised red foxes, derived from five selection groups: 25 "tame" (44-45 generation of selection for tame behaviour toward humans); 25 "aggressive" (34-35 generation of selection for aggressive behaviour toward humans); 10 "hybrid" (the "tame" and "aggressive" cross-breeding); 19 "backcross" (the "tame" and "hybrid" cross-breeding) and 25 "wild", unselected for behaviour control. To collect vocalizations, an unfamiliar to foxes researcher approached to a focal fox cage and recorded calls for 4 - 6 minutes. We classified calls to eight structural types, measured their duration and checked them for the presence of nonlinear phenomena and/or articulation effects. In total, we analyzed 18072 calls. The foxes produced five tonal (*whine, moo, cackle, growl* and *bark*) and three noisy (*pant, snort* and *cough*) call types. The *whine* and *moo* did occur in all the five selection groups, the *cackle* and *pant* - only in the "hybrid" and "tame" foxes; whereas the *snort* and *cough* - nearly exclusively in the "aggressive" and "wild" foxes. The *bark* was the rarest call (only 0.08% of all calls) occurred only in two "aggressive" foxes. Therefore, the selection for aggressive behaviour did not affect the vocal behaviour of the "aggressive" selection group in comparison with the "wild" control, whereas the selection for tame behaviour resulted in the vocal types' set perfectly different from the "wild" control. The "hybrid" and "backcross" foxes did not show an intermediate vocal behaviour between the parental forms. All the selected for behaviour fox groups showed significantly higher vocal activity in comparison with the "wild" control, consistently to Cohen and Fox (1976) hypothesis that domestication relaxes the selection pressure for silence still acting in wild canids to prevent the predators attraction and prey frightening.
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Bellow amplitude of bison (*Bison bison*) reflects male quality, motivation, and seasonal condition

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Amplitude (intensity or "loudness") is an acoustical parameter that has received little attention within communication research, especially in large, free-living mammals. This is partly due to the difficulty involved in measuring this attenuation-prone signal properly in the field. Nonetheless, amplitude is a potentially important parameter of sexually-selected signals. In North American plains bison, 'bellows' are low, guttural vocalizations made by bulls during the breeding season in the context of male-male contests. We hypothesize that bellow amplitude may be used to assess bulls and thereby make strategic decisions to challenge or submit to rival males. We examined the utility of amplitude as a sexually-selected signal by determining significant associations between