

Bioacoustic features of self-esteem in the cheetah

E.V. VOLODINA & I.A. VOLODIN

Scientific Research Dept., Moscow Zoo, B. Gruzinskaya, 1, 123242, Russia;
popovsv@orc.ru

The theory of mammalian vocal control states that most mammal sounds derive from cerebral emotional centers. The close relationship between certain call structures and pleasant or aversive emotional states suggests the use of animal sounds as welfare indicators. But animal sounds have the potential to provide much more extensive information about the internal state of a caller.

We tried to find vocal indicators of the internal state in cheetah (*Acinonyx jubatus*) in captivity. We compared the vocal performance of males and females in the context of courtship. We also compared the vocal performance of mothers and their cubs during their routine life in Moscow Zoo. The males produced significantly more pulsed sounds than females and the mothers produced significantly more pulsed sounds than cubs. For tonal sounds the picture was reversed. In both cases the higher proportion of pulsed sounds was produced by a stronger animal, whereas the weaker animal produced more tonal sounds.

We also compared the diversities of adult and juvenile vocal repertoires. All pitch parameters were significantly higher in cubs, however, duration was significantly longer in cub's miaowing, and significantly shorter in their chirr, growling and howling. These differences are not explained by maturation processes alone and are probably also conditioned by infantile or adult self-esteem.

The tonal/pulsed sound structure together with infantile vocal characteristics in the cheetah appear to be clues to the recognition of an animal's self-esteem as being strong or weak.