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**Book of Abstracts**

**Talks**



## **B15. Acoustic variables indicate needs in Siberian crane chicks (*Grus leucogeranus*, Gruidae)**

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It's well known that chick calls can convey information about their needs and state. However, most studies have focused on food begging behavior, while the data about vocal encoding of other chick needs, such as need of warm, is scarce. Here we experimentally tested whether vocal activity and call variables of human-raised Siberian crane chicks are related with cooling. In Oka Crane Breeding Centre (Russia) we recorded calls of 10 5-15 day old chicks two times: in indoor pen at comfort temperature of 25C (control) and in outdoor enclosure at temperature of 7-17C (experiment); each recording session lasted 5 min. We measured 9 variables in 20 calls from the first half and in 8-20 calls from the second half of the recording session ("first" and "last" calls respectively, 786 calls in total), as well as total time spent on vocalization. We found that both "first" and "last" calls of warmth-deprived chicks were higher in all measured frequency variables; they also were longer and followed each other through smaller gaps (e.g. peak frequency of "last" calls - 2.270.38 in control and 2.630.37 kHz in experimental recordings;  $F_{1,374}=322.5$ ,  $p$  less than 0.001). The total time of vocal activity in cooled chicks was also greater than in control ( $F_{1,18}=11.3$ ,  $p$  less than 0.05). Thus the level of vocal activity, according to previous studies of bird begging behavior, is quite universal indicator of need in chicks. We found also that unlike some other species, temporal-frequency variables of Siberian crane chick calls are also good indicators of needs, both need of warmth (this study) and need of food (our previous study). Hence we discuss how the way of need' expression is related with ecological traits of different species. Supported by Russian Science Foundation (14-14-00237).