

Reaction to Predators in Guinea Pigs (*Cavia Porcellus*)

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INTRODUCTION

In South America, wild cavies (*Cavia aperea*), feral ancestors of domestic guinea pigs (*Cavia porcellus*), are attacked by predators from the air, on the ground, and from the water [1]. Cavies make three types of alarm call when a predator approaches – **drrr** to warn close individuals and **chirrup** and **alarm whistle** to intimidate potential predator at long distances [2].

Some species, for example, California ground squirrel [3,4,5], tamarins [6], lemurs [7], guerezas [8] and chickens [4] are able to differ the presence of terrestrial predators from the aerial ones by producing of unique alarm call.

AIMS

The aim of the study was to test the differences in vocalization and in behavioural reactions of domestic guinea pigs to terrestrial and aerial types of predators.

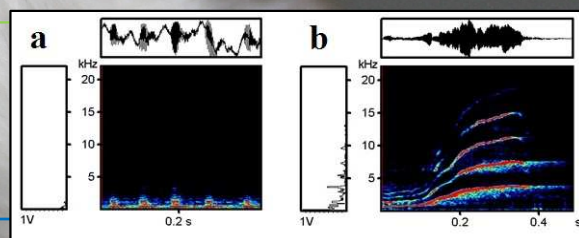
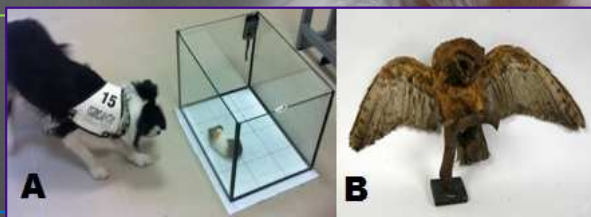
HYPOTHESIS

Guinea pigs can recognize and react to several types of predators.



MATERIAL AND METHODS

We used 27 (14 males, 13 females) Short Haired breed guinea pigs housed in Demonstration and Experimental Stable of Czech University of Life Sciences in Prague. Each individual was exposed to contact with a dog (border collie) (A), to a stuffed bird of prey (B) and a human. We monitored four types of reaction (freezing, moving, head moving toward stimulus and vocalization) – and their duration and frequency. We used the non-parametric test Kruskal-Wallis to test the reaction of animals to each predator type.

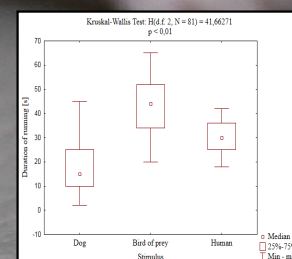
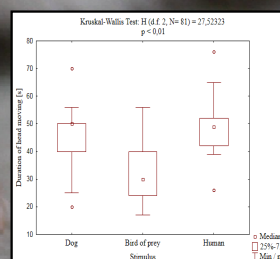
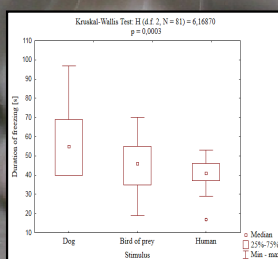


RESULTS

Only two guinea pigs responded to presence of predator by vocalization **drrr** (a) as reaction to dog presence and **alarm whistle** (b) in presence of aerial bird of prey. Guinea pigs reacted significantly ($p < 0.01$) more often and longer by moving in presence of an aerial predator model than to the presence of a live terrestrial one. Longer time of freezing with higher frequency occurred upon exposure to dog. Likewise, guinea pigs moved their heads towards terrestrial predators significantly ($p < 0.01$) more often and longer than towards the aerial one.

CONCLUSION

Under the experimental conditions, i.e. using two live species and one predator model, we observed a minimum vocal communication (most probably due to absent conspecifics to be warned) in the guinea pigs tested but a clearly differentiated locomotor response to the model of aerial vs live terrestrial predator. However, also domestication may have influenced these reactions to some extent.



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