

Abstract

Domestication, i.e., artificial selection carried out by humans to increase yield and ease of breeding of animals, affects not only their morphological but also behavioral and physiological characteristics. Domestication can also impact the structure of the nervous system, often leading to a reduction in relative brain size. This change is attributed to the animals' reduced need to process diverse environmental stimuli, but is also, at least to some extent, an artifact of utilizing relative brain size derived from the allometric relationship between body and brain size. If the absolute size of the brain is also considered, the change is usually not so pronounced; in some domesticated animals, the brain size even increases, but more slowly than the body size. Also, the cognitive abilities of domesticated animals are not affected as severely as has long been assumed. The aim of this work is to summarize the available data on changes in the size of the brain and its individual parts and changes in cognitive abilities in selected species of domesticated birds and mammals. I also deal with the effect of feralization on the nervous system of domesticated animals. The observed changes are discussed in the context of the type and duration of artificial selection.

Keywords: brain size, domestication, feralization, evolution, cognition