Abstract

The grey wolf (*Canis lupus*) is a predator widely distributed across the Holarctic, and its genetic structure reflects a combination of historical events and evolutionary processes. The genetic differentiation of wolf populations mostly occurred during the Pleistocene due to isolation in glacial refugia. Subsequent contact between lineages (intraspecific reticulate processes) led to gene flow. Interspecific reticulate processes, such as hybridization with related *Canis* species, have significantly shaped the genomes of certain populations. Notable examples include gene flow between wolves and coyotes in eastern North America, and introgression of dog´s alleles into wolve´s populations. The observed patterns of divergence and admixture provide a detailed insight into the evolutionary dynamics of the species demonstrating that its development has been shaped by both long-term isolation and repeated gene exchange across lineages and species.

Keywords: gray wolf*, Canis lupus,* phylogeography, admixture, hybridization