

Acoustic communication is a wide-spread phenomenon in all animal taxones. The theme of evolutionary mechanisms and their functioning in acoustic communication has become more and more frequently studied during last years, and geographic variation in acoustic signals has been reported in various taxa such as insect, birds, anurans and mammals. However, some evolutionary mechanism still remain poorly understood. The mechanisms comprise mainly stochastic forces such as genetic drift and bottleneck or cultural drift. Genetic drift causes stochastic changes in acoustic signals, whereas bottleneck probably primarily spawns reduction of acoustic variability.

Some acoustic parameters are shaped by habitat and others by species' phylogeny. Physical environment and other ecological factors play important role in shaping vocalizations in most species, and thus distantly related populations occupying similar habitats may possess very simmilar vocalization. Because of that, revealing phylogenetic pattern is possible only by careful cladistic analysis of vocal characters in taxa that have simple songs or calls that are not learned, and whose habitat distributions are well understood. By finding the proper acoustic parameters we can also e.g. map connection between acoustic divergence and glaciations, history of colonisation of islands and so on.