

Abstract:

Animal domestication has been one of the most significant agricultural activities of modern humans. It allowed not only more efficient utilization of some animals, but also their breeding which led to improvements in their properties and through crossbreeding to gain of novel forms utilizable in agriculture. This artificial selection and in several cases probably also interspecific hybridization allowed the emergence of the contemporary diversity of breeds of the domestic animals. The origin of individual breeds has been, however, long forgotten and comparative morphology cannot provide us much guidance for understanding of the relatedness of individual breeds. The information on relatedness of breeds is, nonetheless, highly needed, for instance, for evaluation of selection and prediction of the functional significance of the existing genetic variability. Hence, methods of molecular genetics represent the only way how to estimate phylogeny of the domestic breeds. The aim of this work is to shortly review molecular methods which have been used in animal domestication research and outline the results which have been obtained by their application. Based on incongruences and agreements in the results of the published studies the applicability of these methods is critically evaluated and credibility of various hypothesis concerning the origin of domestic animals is discussed.

Key words:

domestication, evolution, farm animals, variability, selection, molecular methods