

Conservation genetics and genomics of threatened vertebrates in China

Huizhong Fan, Yibo Hu, Yonggang Nie, Li Yan, Fuwen Wei

China

Abstract

Conservation genetics and genomics are two independent disciplines that focus on using new techniques in genetics and genomics to solve problems in conservation biology. During the past two decades, conservation genetics and genomics have experienced rapid progress. Here, we summarize the research advances in the conservation genetics and genomics of threatened vertebrates (e.g., carnivorous, primates, ungulates, cetaceans, avians, amphibians and reptiles) in China. First, we introduce the concepts of conservation genetics and genomics and their development. Second, we review the re-

cent advances in conservation genetics research, including noninvasive genetics and landscape genetics. Third, we summarize the progress in conservation genomics research, which mainly focuses on resolving genetic problems relevant to conservation such as genetic diversity, genetic structure, demographic history, and genomic evolution and adaptation. Finally, we discuss the future directions of conservation genetics and genomics.

Keywords

Conservation genetics, Conservation genomics-Threatened, speciesAdaptationEvolution