http://biology.num.edu.mn
http://mjbs.100zero.org/
Volume 10(1-2), 2012

Mongolian Journal of Biological Sciences

ISSN 1684-3908 (print edition)
MJBS
ISSN 2225-4994 (online edition)

http://dx.doi.org/10.22353/mjbs.2012.10.07

Original Article

Genetic Structure of Mongolian Gazelle (*Procapra gutturosa*): The Effect of Railroad and Demographic Change

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Abstract

Key words:
Mongolian gazelle, genetic diversity, railroad, mitochondrial control region

Article information:
Received: 21 Sept. 2012
Accepted: 28 Nov. 2012
Published: 25 Dec. 2012

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The Mongolian gazelle (*Procapra gutturosa*) is a representative ungulate species of Mongolia that inhabits steppes. Their number and range decreased during the last century, and the population has been suffered from occasional demographic changes caused by human and environmental factors. During the summer of 2005, we obtained genetic samples from gazelle carcasses encountered along the international railroad between Russia and China, to examine genetic diversity and its changes in relation to historical demographic shifts. Gazelle genetic structure and diversity were investigated using mitochondrial control region sequence. In the phylogenetic analysis, we confirmed that there are two genetic groups unrelated to geographical location. We also showed the genetic structure of gazelles was unrelated to existence of the railroad. Based on the genetic diversity indices and demographic parameters, the population was suggested to have experienced demographic expansion historically, and effect of known demographic decline was not detected.

Cite this paper as: Okada, A., Ito, T. Y., Buuveibaatar, B., Lhagvasuren, B. & Tsunekawa, A., 2012. Genetic structure of Mongolian gazelle (*Procapra gutturosa*): the effect of railroad and demographic change. *Mong. J. Biol. Sci.*, 10(1-2): 59-66.

Introduction

Mongolian gazelles (*Procapra gutturosa*) a migratory antelope species; they are recognized as one of the largest remaining wildlife populations in Asia. During 1950s, Mongolian gazelles widely distributed in steppe and semi-desert ecosystems of 780,000 km^2 range throughout Mongolia, parts of Kazakhstan, the Russian Federation, and in China (Bannikov *et al.,* 1961; Lhagvasuren & Milner-Gulland, 1997). In the past 50 years, however, their entire range