

Jaruwee Kayman 2011: Genetic Diversity of Cytochrome b and Control Region on Mitochondrial DNA in Dhole (*Cuon alpinus*). Master of Science (Agricultural Biotechnology),
Major Field: Agricultural Biotechnology, Interdisciplinary Graduate Program. Thesis Advisor:
Mr. Sitthawee Thongtipsiridech, Ph.D. 82 pages.

Dhole (*Cuon alpinus*) is a medium-sized canine. International Union for the Conservation of Nature and Natural Resources [IUCN] Species Survival Commission (2009) reported about two-thousand and five-hundred dholes lived worldwide and the dhole is listed as an endangered species. In Thailand, population of wild dhole is decreasing due to the impacts of illegal hunting and increasing rate of habitat fragmentation. Furthermore, captive dholes have small populations and little chance of mating. These reasons might be effect to increase genetic diversity lossing and inbreeding opportunity. Mitochondrial DNA diversity, which indicates the variation of maternal lineage is one of important tool for wildlife conservation. At present, no report on genetic information of dholes in Thailand. Then, the objective of this study was to analyze the sequence variation of the partial cytochrome b and control region sequence on mitochondrial DNA (fragment length 407 and 246 base pairs, respectively) in faecal samples from wild dholes in Khao Ang Ruenai Wildlife Sanctuary (KARWS) and captive dholes in Chaing Mai Province, Thailand. The obtained sequences were compared with complete mitochondrial DNA genome in GenBank accession number NC013445 and the previously reported by Iyengar *et al.* (2005). The results revealed two haplotypes (1 and 2) of 407 bp on cytochrome b and three haplotypes (R, U and T) of 246 bp on control region among all thirty-one faecal samples. Two of the three haplotypes based on this control region are new haplotype. The new haplotype from twenty-three faecal samples from KARWS is identified grouping in haplotype T. The new haplotype U was found from four faecals samples from captive dholes. This datas will be used to fulfill dhole conservation program in Thailand.

Student's signature

Thesis Advisor's signature