

Kanita Ouithavon 2009: Molecular Phylogenetic Relationships among Thai Deer (Subfamily Cervinae). Doctor of Philosophy (Bioscience), Major Field: Bioscience, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Savitr Trakulnaleamsai, Ph.D. 196 pages.

The five extant Thai deer species and spotted deer (*Axis axis*) were analyzed by using molecular phylogenetic approach from genes that consist of two rapidly evolving mitochondrial markers; cytochrome *b* and control region and one slower nuclear marker; intron1 of the protein kinase C, iota gene (PRKCI). The aims of this study were to assess the molecular phylogenetic relationships among Thai Cervinae species, to clarify the taxonomic position of hog deer and to understand evolutionary history of Thai deer.

The results reveal that hog deer (traditionally named *Cervus porcinus*) and spotted deer (*Axis axis*) were grouped together as monophyly. Therefore, this study suggests the taxonomic position of hog deer to be placed into the genus *Axis* and confirms a scientific nomenclature of hog deer as “*Axis porcinus*”. This study also confirms that Schomburgk’s deer (traditionally named *Cervus schomburgki*) and swamp deer (*Cervus duvaucelii*) were grouped together as sister lineage close to the genus *Axis* clade, with clearly separated from the genus *Cervus* clade. Therefore, this study suggests the splitting Schomburgk’s deer into different genus depart from the genus *Cervus* by changing the taxonomic position to be placed into the genus *Rucervus* and confirms a scientific nomenclature of Schomburgk’s deer as “*Rucervus schomburgki*”. Thus, these results were evidence for three distinct genera of Cervinae in Thailand; *Cervus*, *Rucervus* and *Axis*. This new classification should be considered by reclassifying these species into the new zoological names under the Thai Wildlife Protection Act.

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Thesis Advisor’s signature