

ABSTRACT

GENETIC DIVERSITY STUDY ON *Cytochrome Oxidase Sub-unit II* (*COX2*) ENCODING GENE IN *Tarsius bancanus borneanus*, *Tarsius spectrum* AND *Tarsius dianae*

Indonesia known as the countries with the biggest biodiversity in the world after Brazil. The biodiversity included diversity of flora and fauna. The diversity of fauna, especially primates, in recent decades has decreased the number of population and some species even endangered. One of Indonesian endemic primates was endangered is *Tarsius sp.* Therefore, conservation efforts are needed to preserve the *Tarsius sp.* Information about the difference characteristics each species is expected to help efforts to conserve and restore *Tarsius sp.* to the original habitat. The main objective of this research was to study the genetic diversity in *Tarsius bancanus borneanus*, *Tarsius spectrum* and *Tarsius dianae* based on the sequence of the gene coding for cytochrome oxidase sub-unit II (*COX2*) as a basic for classification in conservation efforts.

Amplification of *COX2* gene by PCR used the result of DNA isolation, primer *COX2* forward and primer *COX2* reverse. The PCR technique produced 657 bp DNA segment which has followed by sequencing. The result of *COX2* gene sequences then multiple aligned with other primates which are taken from *Genbank*.

The results showed there was no genetic diversity between *Tarsius bancanus borneanus*, *Tarsius spectrum* and *Tarsius dianae*. This shown by a genetic distance of nucleotide and amino acid sequences 0.3% and 0.4%. *Tarsius bancanus borneanus* and *Tarsius dianae* can be distinguished with *Tarsius spectrum* by using a sequence of nucleotide site-634th and site-640th as well as amino acid position site-212th.

Keywords : *Tarsius bancanus borneanus*, *Tarsius spectrum*, *Tarsius dianae*
COX2 gene, *DNA sequence*