ABSTRACT

Arya, Fitra. 2015. Identification of Haplotype Pattern of Mitochondrial DNA from Fine Shrimp (*Metapenaeus elegans*) in Segara Anakan District of Cilacap Central Java Using Restriction Enzyme of *Hind*III. Biology Supervisor: Kholifah Holil, M.Si. Religious Supervisor: Umaiyatus Syarifah, M.A

Keyword : Haplotype pattern, mitochondrial DNA, Fine Shrimp (*Metapenaeus elegans*), Restriction Enzyme *Hind*III.

The damage of the ecosystem in Segara Anakan, District of Cilacap, Central Java and the abundant-continous exploitation have provoked problem with the sustainability of fine shrimp resources. The genetic information of fine shrimp is very needed in order to preserve the germplasm in nature. One of some ways to obtain the genetic information of fine shrimp is by identifying haplotype pattern of mitochondrial DNA using a restriction enzyme *Hind*III. Mitochondrial DNA is only maternal inheritance and has a high variation. Restriction enzyme *Hind*III used in Klinbunga research (1998) and digested many fragments in penaeidae shrimp. This study aims to find out the number and size of the fragment which is digested by restriction enzyme *Hind*III.

This kind of the study is descriptive. Seven samples are taken from shrimp catches in Segara Anakan, district of Cilacap, Central Java. The DNA isolation conducted to the walking leg and tail using Tamayo (2006) method with modification, amplification using COIL and COIH primers. The parameters of this study are concentration (µg/ml), purity ($A_{260/280}$) and size (bp) of genomic DNA resulted from isolation, size (bp) of mitochondrial DNA resulted from amplification, size (bp) and haplotype pattern of mitochondrial DNA resulted from digestion using restriction enzyme *Hind*III.

Result of the study show that the concentration of genomic DNA is 1,85-8,23µg/ml, the purity is 1,30-1,95 and the size is more than 10.000 bp. Amplification of mitochondrial DNA resulted in 950 bp and the digestion using *Hind*III resulted 4 fragments consist of 114 bp, 200 bp, 250 bp, 386 bp which formed monomorphic pattern.