ABSTRAK

IDENTIFIKASI MOLEKULER IKAN BAUNG (*Hemibagrus sp.*) ASAL MAGELANG, SAMARINDA, DAN SINTANG BERDASARKAN SEKUEN GEN PENYANDI *Cytochrome C Oxidase Subunit II (COX2)*

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Ikan baung dari famili Bagridae merupakan jenis ikan lokal beberapa sungai di Indonesia. Minat konsumsi ikan baung semakin meningkat. Sebagian besar penangkapan ikan baung berasal dari tangkapan di alam secara terus menerus sehingga keberadaan dan ketersediaannya di alam cukup mengkhawatirkan. oleh karena itu, budidaya ikan baung mulai dikembangkan namun belum memperhatikan spesies dari ikan baung yang dibudidaya. Tujuan penelitian ini adalah untuk mengidentifikasi ikan baung asal Magelang, Samarinda, dan Sintang secara molekuler berdasarkan sekuen gen penyandi *Cytochrome C Oxidase Subunit II*.

Sampel DNA total diisolasi dari lima ekor ikan baung asal Magelang, tiga ekor asal Samarinda, dan dua ekor asal Sintang. Amplifikasi segmen gen COX2 menggunakan PCR dengan primer Baung COX2 *Forward* dan Baung COX2 *Reverse* menghasilkan amplikon sepanjang 1242 bp. Pengolahan data menggunakan program MEGA versi 6.06 dengan penjajaran berganda program Clustal W menghasilkan sekuen nukleotida gen penyandi COX2 sepanjang 691 nt. Hasil sekuensing gen COX2 yang diperoleh selanjutnya dianalisis menggunakan metode *Neighbor Joining* dengan nilai *bootsrap* 1000 kali yang kemudian dibandingkan dengan spesies lain dari *GenBank*.

Hasil analisis menunjukkan ikan baung asal sungai Progo (Magelang), Samarinda, dan Sintang teridentifikasi sebagai *Hemibagrus nemurus* dengan penanda genetik yang terdiri dari dua situs nukleotida. Selain itu, ikan baung asal sungai Elo (Magelang) teridentifikasi sebagai *Mystus sp*.

Kata Kunci : Ikan baung, *Hemibagrus sp.*, *Mystus sp.*, gen COX2

ABSTRACT

MOLECULAR IDENTIFICATION OF BAUNG (*Hemibagrus sp.*) FROM MAGELANG, SAMARINDA, AND SINTANG BASED ON ENCODING GENE SEQUENCES *Cytochrome C Oxidase Subunit II (COX2)*

Siti Munawaroh

Baung from the Bagridae family is a local fish originated from several rivers in Indonesia. People's consumption of baung has been increasing from time to time. Considering this fish is mostly gathered from natural fishing and the people's desire to fish baung is uncontrollable, therefore the existence and availability of this fish in nature is quite worrying and might be declining. To tackle this issue, baung cultivations have already been carried out since then. However, people are not concern about which species of baung they cultivate. The purpose of this research was to identify baung from Magelang, Samarinda, and Sintang molecularly based on sequences of genes encoding Cytochrome C Oxidase Subunit II.

Total DNA samples were isolated from five baungs from Magelang, three baungs from Samarinda, and two baungs from Sintang. Amplification of gene segments COX2 used PCR with COX2 Forward Primer, and COX2 Reverse Primer produced throughout 1242 bp. The data was processed by using MEGA version 6.06 with multiple alignment program Clustal W produced nucleotide sequences COX2 encoding genes along the 691 nt. The result of COX2 gene sequencing were analyzed by using Neighbor Joining method with bootstrap value of 1000 times, and then compared with another species from GenBank.

The data analysis showed that baung from Progo river (Magelang), Samarinda, and Sintang was indentified as *Hemibagrus nemurus* with genetical markers consist of two nucleotide site. Besides that, baung from Elo river (Magelang) was indentified as *Mystus sp.*

Key words : Baung, *Hemibagrus sp., Mystus sp.,* COX2 gene