

ABSTRAK

IDENTIFIKASI MOLEKULER IKAN BAUNG (*Hemibagrus* sp.) ASAL PAPUA DAN JAWA BERDASARKAN SEKUEN GEN 12S rRNA

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Ikan baung merupakan salah satu jenis ikan air tawar golongan *catfish* yang banyak ditemukan di Indonesia. Kandungan protein yang tinggi serta tekstur daging yang tebal membuat ikan ini sangat digemari masyarakat. Populasi ikan baung saat ini terus berkurang karena kegiatan tangkapan yang berlebihan disamping penurunan kualitas lingkungan. Melihat kondisi ini, perlu dilakukan pelestarian dan budidaya ikan baung agar tidak punah. Kajian molekuler terhadap keragaman genetik ikan baung sangat diperlukan untuk keberhasilan pelestariannya. Penelitian ini bertujuan untuk mengetahui hubungan kekerabatan antar spesies ikan baung Sungai Elo, Progo, Bengawan solo, dan Bomberay menggunakan sekuen gen penyandi 12S.

Sampel ikan baung berjumlah 12 sampel berasal dari 3 ekor ikan baung asal Sungai Progo, 2 ekor asal Sungai Elo, 3 ekor asal Sungai Bengawan Solo, dan 4 ekor dari Sungai Bomberay. Ke 12 sampel yang telah didapatkan hasil isolasi *deoxyribonucleic acid* (DNA) totalnya kemudian diamplifikasi dengan teknik *polymerase chain reaction* (PCR) dan elektroforesis gel agarosa. Produk PCR (1309 bp) dilakukan sekuensing. Fragmen DNA hasil sekuensing menggunakan primer 12SF dan 12SR mempunyai panjang 1309 nt, kemudian dianalisis keragaman genetik dengan spesies lain dari *Genbank* menggunakan program MEGA X.

Hasil penelitian menunjukkan bahwa sampel ikan baung tergolong menjadi 4 genus, yaitu *Hemibagrus*, *Mystus*, *Pangasianodon*, dan *Netuma*. Ikan baung asal Sungai Elo, Magelang teridentifikasi sebagai *Mystus* sp. dengan jarak genetik sebesar 7,1%. Ikan baung asal Sungai Progo, Magelang teridentifikasi sebagai *Hemibagrus nemurus* dengan jarak genetik sebesar 0,2%. Ikan baung asal Sungai Bengawan Solo, teridentifikasi sebagai *Pangasianodon* sp. dengan jarak genetik sebesar 4,3%. Ikan baung asal Sungai Bomberay teridentifikasi sebagai *Netuma* sp. dengan jarak genetik sebesar 5,9%.

Kata kunci: ikan baung, gen 12S rRNA, *Mystus* sp., *Pangasianodon* sp., *Hemibragus* sp., *Netuma* sp.

ABSTRACT

IDENTIFICATION MOLECULAR OF BAUNG FISH (*Hemibagrus* sp.) FROM PAPUA AND JAVA BASED ON 12S rRNA GENE

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Baung fish is one type of catfish that is found in Indonesia. High protein content and thick meat texture makes this fish very popular with the public. The current population of baung fish continues to decrease due to excessive catching activities in addition to a decrease in environmental quality. Seeing this condition, it is necessary to preserve and cultivate baung fish so it will not become extinct. Molecular studies of the genetic diversity of baung are indispensable for the success of their conservation. This study aims to determine the kinship between species of Elo, Progo, Bengawan solo, and Bomberay River fish using 12S gene coding sequences.

There are 12 samples of baung from 3 fish from the Progo River, 2 from the Elo River, 3 from the Bengawan Solo River, and 4 from the Bomberay River. The 12 samples that had been obtained from the total isolation of deoxyribonucleic acid (DNA) were then amplified by polymerase chain reaction (PCR) technique and agarose gel electrophoresis. PCR products (1309 bp) were sequenced. DNA fragments sequenced using 12SF and 12SR primers have a length of 1309 nt, then genetic diversity was analyzed with other species of Genbank using the MEGA X program.

The results showed that the fish samples were classified into 4 genera, namely *Hemibagrus*, *Mystus*, *Pangasianodon*, and *Netuma*. Fish from the Elo River, Magelang, were identified as *Mystus* sp. with a genetic distance of 7.1%. Fish from the Progo River, Magelang, were identified as *Hemibagrus nemurus* with a genetic distance of 0.2%. Fish from the Bengawan Solo River, identified as *Pangasianodon* sp. with a genetic distance of 4.3%. Fish from the Bomberay River were identified as *Netuma* sp. with a genetic distance of 5.9%.

Keyword: baung fish, 12S rRNA gene, *Mystus* sp., *Pangasianodon* sp., *Hemibragus* sp., *Netuma* sp.