

**KEANEKARAGAMAN GENETIK IKAN SELAIS (PISCES: SILURIDAE)
DARI SUNGAI ARUT, KOTAWARINGIN BARAT, KALIMANTAN
TENGAH BERDASARKAN GEN MITOKONDRIA *COI***

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ABSTRAK

Ikan selais termasuk ke dalam famili Siluridae yang terdiri atas 12 genus dengan 104 spesies tervalidasi. Di Indonesia, ikan-ikan anggota familia Siluridae banyak dikonsumsi untuk memenuhi kebutuhan protein hewani dan saat ini kebutuhan tersebut meningkat cukup tajam. Namun demikian informasi genetik ikan-ikan anggota familia Siluridae di Indonesia masih sangat terbatas dan banyak diantaranya belum teridentifikasi secara akurat, karena secara morfologis ikan-ikan anggota famili Siluridae sulit dibedakan, sehingga pendekatan DNA *barcoding* dengan penanda molekuler gen mitokondria *COI* pada penelitian ini diaplikasikan terutama untuk mengklarifikasi ikan selais dari Sungai Arut (Kalimantan Tengah, Indonesia) dan juga digunakan untuk penyusunan *COI database library*. Metode yang digunakan pada penelitian ini adalah metode PCR dengan sepasang primer universal FishF2 dan FishR2. Hasil penelitian menunjukkan bahwa seluruh sampel ikan selais yang disampling dari Sungai Arut teridentifikasi sebagai *Ompok hypophthalmus* dengan nilai similaritas 96,61% - 96,77% (GenBank) dan 96,71% - 97,19% (BOLD). Selain itu, dari 672 bp panjang fragmen gen *COI*, rata-rata komposisi nukleotida yang didapatkan adalah C = 30,65%, T = 26,64%, A = 24,40%, dan G = 18,30% dengan jumlah komposisi AT sedikit lebih tinggi dibandingkan dengan total CG. Hasil analisis menunjukkan dari 9 sampel yang dianalisis hanya ditemukan 1 haplotipe dan ini mengindikasikan tidak ada variasi genetik intrapopulasi. Analisis filogenetik dengan metode NJ, ML dan BI menunjukkan ikan selais dari Sungai Arut hanya membentuk satu clade (monofiletik).

Kata kunci: Ikan Selais, Siluridae, DNA *Barcoding*, gen *COI*, Filogenetik

**GENETIC DIVERSITY OF SELAIS FISH (PISCES: SILURIDAE) FROM
ARUT RIVER, WEST KOTAWARINGIN, CENTRAL KALIMANTAN
BASED ON *COI* MITOCHONDRIAL GENE**

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ABSTRACT

Selais fish belongs to family Siluridae consisting of 12 genera with 104 properly validated species. The human need for the silurid fish including selais fish has sharply increased due to the benefits provided especially for consumption to fulfill protein need. However, genetic information related to the silurid fish including selais fish in Indonesia is poorly known and mostly they have not been identified accurately due to the similar morphology which difficult to distinguish among other silurid fish. Thus, the DNA barcoding approach using the *COI* mitochondrial gene in this study was applied to clarify the species of selais fish from Arut River (Central Kalimantan, Indonesia) and was also to assembly DNA *COI* database library of the selais fish from Indonesia. The method used in this study was a PCR method with a pair of universal primers FishF2 and FishR2. Based on *COI*-based barcoding, the whole samples were molecularly identified and verified as *Ompok hypophthalmus* with identity percentage of 96,61% - 96,77% (GenBank) and 96,71% - 97.19% (BOLD). From 672 bp alignment *COI* sequence, the mean nucleotide composition obtained was C = 30.65%, T = 26.64%, A = 24.40%, G = 18.30% with the amount of AT was slightly higher than the total of CG. All samples revealed the presence of homolog sequences (1 haplotype) in which there was no genetic variation within population. This haplotype was supported by the construction of a phylogenetic tree (NJ/ML/BI) where the Selais fish samples from the Arut River only formed one clade (monophyletic).

Keywords: Selais Fish, Siluridae, DNA Barcoding, *COI* gene, Phylogenetic