

Keragaman genetik intraspecies ikan gupi (*Poecilia reticulata*) di wilayah Jabodetabek menggunakan marka cytochrome C oxidase subunit 1 (CO1) = Intraspecies genetic variation of guppy fish (*Poecilia reticulata*) in Jabodetabek region using cytochrome C oxidase subunit 1 (CO1) as genetic marker

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Abstrak

Ikan gupi (*Poecilia reticulata*) merupakan ikan hias air tawar yang telah menjadi komoditas ekspor utama di Indonesia. Persilangan antar strain ikan gupi sudah banyak dilakukan, namun masih sedikit ketersediaan informasi genetik intraspecies ikan gupi. Penelitian ini bertujuan untuk mengetahui keragaman genetik intraspecies ikan gupi dan hubungan kekerabatan antar populasi di wilayah Jakarta, Bogor, Depok, Tangerang, dan Bekasi menggunakan marka gen Cytochrome Oxidase Subunit 1 (CO1). Amplifikasi PCR dan sekuensing menggunakan marka gen CO1 (F): 5 TCAACCAACCACAAAGACATTGGCAC-3 (26 pb) dan CO1 (R): 5 TAGACTTCTGGGTGGCCAAAGAATCA-3 (26 pb). Analisis yang dilakukan terhadap sekuen DNA ikan gupi antara lain; homologi BLAST, jarak genetik, dan analisis filogenetik. Hasil analisis homologi berdasarkan BLAST menunjukkan persentase similaritas 98-99% terhadap mtDNA *Poecilia reticulata* dan *Poecilia wingei*. Hasil analisis didapatkan jarak terbesar dan kekerabatan terjauh adalah populasi Bekasi strain Albino Full Red dengan populasi Tangerang strain Cobra. Sekuens tersebut mungkin dapat digunakan untuk menghasilkan benih dengan keragaman tinggi.

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Guppy fish (*Poecilia reticulata*) is fresh water ornamental fish which have been the top export commodity in Indonesia. A lot of guppy strains had been hybridized, yet there are still few information about intraspecies genetic variation. Research was conducted to study intraspecies genetic variation and phylogenetic relationship among guppy population in region Jakarta, Bogor, Depok, Tangerang and Bekasi using Cytochrome Oxidase Subunit 1 (CO1) as genetic marker. Amplification and sequencing were using CO1 (F): 5 TCAACCAACCACAAAGACATTGGCAC-3 (26 pb) and CO1 (R): 5 TAGACTTCTGGGTGGCCAAAGAATCA-3 (26 pb). Some analysis which had been done with guppy DNA were; BLAST homology, genetic distance, and phylogenetic analysis. BLAST homology resulted 98-99% similarity according to mtDNA *Poecilia reticulata* and *Poecilia wingei*. The biggest distance and farthest relationship belong to Albino Full Red strain in Bekasi with Cobra strain in Tangerang. Those sequences might be used to produce potential germ with high genetic variation.