

**PHYLOGENETIC STUDY of *Tenualosa ilisha* FROM
LABUHANBATU and OTHER ASIAN WATERS BASED on
CYTOCHROME b GENE DNA MITOCHONDRIA**

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Abstract: *Tenualosa ilisha* eggs trade is still ongoing, which may lead to future population decline. Molecular information related to *T. ilisha* as an anadromous fish in the Barumun River is not yet available. This research will be the first phylogenetic study of *T. ilisha* from Indonesia. The phylogenetic study utilized the Cytochrome b (Cyt b) gene as this gene has been used to determine intra-population kinship within the same species. Samples were taken from the Barumun River and Bilah River which are the location of *T. ilisha* migration for spawning. DNA isolation using the KIT Extragene Gene All DNA Mini Kit protocol. The results of *T. ilisha* DNA amplification contained 572 base pairs, with a composition of T (U) 29.0%, C (27.6%), A (23.5%), and G (19.9%). The sequence of *T. ilisha* from Barumun River was compared with 12 gene sequences in Genbank. The results of the Cyt b gene analysis showed that *T. ilisha* from the Barumun River and Bilah River were closely related to *T. ilisha* from India and Malaysia with a genetic distance (p-0.00%). BLAST analysis showed the similarity of *T. ilisha* sequences from the Barumun River and Bilah River with genebank data by 99.98%. Analysis of genetic distance using the Kimura two Parameter Model (K2P) showed that there was genetic distance within species, genus, and family with an average of 0.08%, 0.28%, and 0.32%. Therefore, it can be concluded that *T. ilisha* from Sungai Bilah and Barumun is one population with *T. ilisha* from Malaysia and India.
