**APPLICATION OF DNA BARCODING GENES AS UNIVERSAL MARKERS FOR IDENTIFICATION OF COMMERCIAL FISH SPECIES OF INDONESIAN ORIGIN** (🏛 poster)

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Advancement of DNA-based methods for fish species identification is an important process for fisheries research laboratories and international food control authorities, as a result of species substitutions practices in commercial fish markets. 54 reference fish species from Indonesian commercial markets were identified by biological characteristics and assessed using DNA sequencing of mtDNA genes in order to estimate the applicability of these genetic markers up to species level. A 464 bp segment of the cytochrome b (cyt b) gene and a 655 bp segment of cytochrome c oxidase I (COI) gene was amplified by PCR and sequenced using universal primers. 81 original sequences were obtained and compare by BLAST to sequences available in GenBank. Comprehensive results showed that cyt b and COI sequences enabled authentication process for 90.74% and 59.25% respectively. In addition, 12 sequences of cyt b gene and 4 sequences of COI gene cannot be assigned in GenBank. Nevertheless, there was any intention of mislabeled species in the Indonesian fish market. This preliminary results show that mtDNA markers present a high possibility to act as a tool for Indonesian commercial fisheries product authentication in the future. Due to any difficulties to differentiate *Thunnus* species and *Oreochromis* species, we undertake an effort to develop other species-specific markers from nuclear DNA besides DNA barcoding genes in order to evade misidentification at species level particularly for closely related species.