

## Phylogenetic Relationships of Common Reef Fish Species in Vietnam

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**Abstract :** One of the greatest environmental challenges facing Asia is the management and conservation of the marine biodiversity threaten by fisheries overexploitation, pollution, habitat destruction, and climate change. To date, a few molecular taxonomical studies has been conducted on marine fauna in Vietnam. The purpose of this study was to clarify the phylogeny of economic and ecological reef fish species in Vietnam Reef fish species covering Labridae, Scaridae, Nemipteridae, Serranidae, Acanthuridae, Lutjanidae, Lethrinidae, Mullidae, Balistidae, Pseudochromidae, Pinguipedidae, Fistulariidae, Holocentridae, Synodontidae, and Pomacentridae representing 28 genera were collected from South and Center, Vietnam. Combine with Genbank sequences, a phylogenetic tree was constructed based on 16S gene of mitochondrial DNA using maximum parsimony, maximum likelihood, and Bayesian inference approaches. The phylogram showed the well-resolved clades at genus and family level. Perciformes is the major order of reef fish species in Vietnam. The monophyly of Perciformes is not strongly supported as it was clustered in the same clade with Tetraodontiformes syngnathiformes and Beryciformes. Continue sampling of commercial fish species and classification based on morphology and genetics to build DNA barcoding of fish species in Vietnam is really necessary.

**Keywords :** reef fish, 16s rDNA, Vietnam, phylogeny

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