Phylogenetic Relationships among Ornamental Achanturid Fish from Ujunggenteng and Taman Manalusu, West Java

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Abstract	Acanthuridae is a marine fish family with some members are known as ornamental species. Previous studies has been reported the diversity of Acanthuridae. However, there was no study on the phylogenetic relationship of the Acanthuridae from Ujunggenteng and Taman Manalusu southern coast of West Java. The purpose of this study was to provide information about the phylogenetic relationship among ornamental fishes under the Acanthuridae family of Ujunggenteng Beach Sukabumi and Taman Manalusu Beach Garut, West Java. The phylogenetic tree was reconstructed based on morphological characters using maximum parsimony algorithm in software PAUP with 1000 pseudoreplicates and with Halichoeres marginatus selected as an outgroup species. The phylogenetic tree had a consistency index of 0.6429. The value means that the tree was highly reliable due to its low homoplasy. Acanthuridae formed a monophyletic clade compared to the outgroup species by having seven synapomorphic characters. Acanthurid clade was divided into two subclades at generic levels by nine derived characters; three apomorphic characters in Acanthurus and six apomorphic characters in Naso. The tree indicates that Naso brevirostris and Naso lituratus represents basal group, while all species within genus Acanthurus are the most advanced species.ÃƒÂ‚Ã‚Â This study is the first to provide the data about the evolutionary relationship of ornamental acanthurid fish from the southern coast of West Java. Data on closely related species is one of the essential scientific basis on making policies regarding the sustainable use of those closely related species.
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