Isolation, molecular characterization and antimicrobial susceptibility of *Aeromonas* spp. obtained from Tiger Grouper (*Epinephelus fuscoguttatus*) and Marble Goby (*Oxyeleotris marmoratus*) fish in Sabah, Malaysia

ABSTRACT

Aeromonads are ubiquitous in aquatic environments and have been implicated in fish and human infections. In this study, we isolated, studied antimicrobial susceptibility patterns and screened the existence of 15 virulence genes in aeromonads from two famously consumed fish species—seven marine Tiger Grouper (*Epinephelus fuscoguttatus*) and eight freshwater Marble Goby (*Oxyeleotris marmoratus*) from the aquaculture hatchery in Sabah, Malaysia. A total of 30 aeromonads (17 *A. caviae,* 9 *A. rivuli*, 4 *A. dhakensis*) were identified using PCR targeting *GCAT* gene, *rpoD*-restriction fragment length polymorphism and multi-locus phylogenetic analysis. All 30 strains were resistant to amoxicillin and cephalothin and five strains were multidrug-resistant. Nine virulence genes (*lip*, *ela*, *eno*, *fla*, *aerA*, *hylA*, *dam*, *alt* and *ser*) present in *A. dhakensis*, suggesting the virulence potential of this species as a fish pathogen. This study offers as a baseline for future studies in monitoring and managing these two fish in aquaculture industry.