

Possible transmission routes of *Vibrio* spp. in tropical cage-cultured marine fishes

ABSTRACT

This study investigates the possible transmission routes of *Vibrio* spp. in a tropical cage-cultured marine fishes. Samplings of cultured Asian seabass, red snapper, hybrid grouper, wild fish, trash fish, fish fry, water and sediment samples were conducted from December 2016 to August 2017. All fish were dissected *in situ* and swabs were taken aseptically from the skin, eye, liver and kidney for bacterial isolation and identification. Bacterial isolation and identification from water, sediment and trash fish were also made. A total of 261 *Vibrio* spp. isolates recovered from the cultured, wild and fry fish, as well as from the sediment and water of the farm environment were analysed. Sequences of the *pyrH* gene were used to investigate the degree of relatedness and possible transmission routes existing between the isolated *Vibrio* spp. The population tree revealed the existence of selected *Vibrio* spp. that possibly transmitted between the newly introduced fish fry and wild fish into the cultured fish, while water also might possibly serves as natural transmission medium of certain *Vibrio* spp. in this fish farm.

Keyword: Aquaculture; Fry fish; Transmission; Vibriosis; Wild fish