

A case of natural co-infection of Tilapia Lake Virus and *Aeromonas veronii* in a Malaysian red hybrid tilapia (*Oreochromis niloticus* × *O. mossambicus*) farm experiencing high mortality

ABSTRACT

This paper reports a case of natural co-infection of Tilapia Lake Virus (TiLV) and *Aeromonas veronii* in a Malaysian red hybrid tilapia (*Oreochromis niloticus* × *O. mossambicus*) farm. In May 2017, a tilapia farm operator reported a mass mortality among cultured red hybrid tilapia juveniles, approximately 45 days after introduction into earthen ponds. Affected fish showed lethargy, loss of appetite, swim near the pond edge, pale and isolated from schooling group. There were skin redness and haemorrhages, particularly at the operculum area and at the base of dorsal, caudal and anal fins. Histopathological examinations revealed swollen hepatocytes, haemorrhagic spleens and perivascular cuffing consisted of mononuclear cells in the brains. PCR and sequence analyses confirmed the presence of TiLV and *A. veronii* in the diseased fish. Phylogenetic tree revealed that Malaysian's TiLV strain was more closely related with the virus isolated in Israel than in Egypt or Thailand, while Malaysian's *A. veronii* strain 5L was closely related with strains from China. TiLV infection is a significant threat to global tilapia industry. However, synergistic co-infection of TiLV and other bacterial might aggravate the problem.

Keyword: TiLV; *Aeromonas*; Red hybrid tilapia; Co-infection; Malaysia