

## **Assessment of bacteria and water quality parameters in cage cultured *Pangasius hypophthalmus* in Temerloh, Pahang River, Malaysia**

### **ABSTRACT**

*Pangasius hypophthalmus* or famously known by local Malaysians as Patin Hitam is one of the most important sources of food in Malaysia. It is widely cultured in the Peninsular Malaysia especially in Pahang as Patin and is a popularly consumed freshwater fish. Global economic interest in the fish has increased its demand in the USA and Europe. However, high mortality due to bacterial and viral infections is the main problem that needs to be solved. Therefore, bacteria in *P. hypophthalmus* in Pahang is being focused with the factors connected to the prevalence of bacteria and virus in *P. hypophthalmus*. This research was conducted for two cycles (February-September 2016 and January-August 2017) in different farms in Temerloh, Pahang. Bacteria and virus samples were taken from three organs of Patin Hitam which are kidney, liver and spleen. Physical parameters for water quality were measured using a multiparameter probe sensor (YSI, USA) and chemical parameters were analysed with DR900 colorimeter (Hach, USA). Bacteria samples were identified using biochemical test kits, API 20NE and 20E, followed by confirmation of the bacteria using Polymerase Chain Reaction (PCR). Virus samples were identified using conventional PCR. There are several bacteria isolated throughout the culture period. The highest prevalence of *Aeromonas hydrophila* in Temerloh in the first cycle was in May 2016 (40%), however, was equally evident in four out of the seven months of the second cycle, which was in April, May, June and July 2017 (20%). There was a relationship between the prevalence of *A. hydrophila* and iron, nitrite and pH in the first cycle in Temerloh. However, there was no relationship in the second cycle. Significantly, these results could contribute to better treatment of fish disease and development of standard operating procedure of future fish culture for early disease prevention.

**Keyword:** Cage culture; *Pangasius hypophthalmus*; Pahang River; Water quality