

## **Pathogenicity of *Aeromonas hydrophila* in giant freshwater prawn; *Macrobrachium rosenbergii*, cultured in East Malaysia**

### **Abstract**

*Aeromonas* infections are becoming a major risk factor in commercial aquaculture and it has been reported that a wide variety of fish and shellfish species are susceptible to this infection. In this study, 3 isolates of *Aeromonas hydrophila* were isolated from giant freshwater prawn (*Macrobrachium rosenbergii*) cultured in Kuala Pilah Simbilan Nigri in East Malaysia. Conventional and rapid identification systems (API 20E strips) were used for preliminary identification based on the biochemical characters of the isolated bacteria. On the other hand, polymerase chain reaction (PCR) using the universal primer; 16S rRNA, was done as an accurate and confirmatory identification. The virulence of *A. hydrophila* was determined using a pathogenicity test via I/M injection. The results revealed that the isolated bacteria were identified as *A. hydrophila* that revealed a high degree of similarity (98%) to the NCBI or Genbank database. Based on pathogenicity test results, LD<sub>50</sub> was determined as 1×10<sup>6</sup> CFU/50µl, while 1×10<sup>7</sup> CFU/50µl induced 100% mortality in the experimentally injected prawns. Histopathological changes were found in several organs including gill, hepatopancreas and heart. Those changes were mainly, melanisation, tissue erosion and necrosis, infiltration and hyperplasia of gill lamellae and mild or massive haemocyte reaction in the infected organs.

**Keyword:** *Aeromonas hydrophila*; Giant freshwater prawn; Pathogenicity; Malaysia