ANALYSIS of *Vibrio* spp COMPOSITION CHANGES OF TIGER SHRIMP (*Penaeus monodon*) CULTIVATED IN SOUTH SULAWESI

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ABSTRACT

The purposes of this research are to analyze *Vibrio* spp composition and its changes during shrimp cultivation, and to determine the dominant bacteria in the media and in the shrimp body. Sampling was conducted monthly for one production cycle at several shrimp ponds located in South Sulawesi and West Sulawesi. Bacteria belonging to *Vibrio* spp c are recognized as opportunistic bacteria associated with shrimp. These bacteria can cause significant disease problems at certain circumstance in shrimp ponds during the culture period. *Vibrio* spp either luminous or non-luminous may cause disease problems and hampered the development of shrimp pond industry. The diseases signs include, empty and eroded shells, reddish in color, lethargy and swimming to the edge of pond. Species of *Vibrio* spp found in culture media and in shrimp body was *V. alginolyticus*, *V. harveyi*, *V. mimicus*, *V. tubiashi*, *V. natriegens*, and *V. ordalii*. The most dominant bacteria monitored shrimp pond were *V. alginolyticus* with the percentage of isolate number ranging from 17 to 55%. The highest concentration of *V. alginolyticus* was found in shrimp hepatopancreas reaching $10^8$ CFU/g. Other bacteria *V. mimicus* and *V. ordalii* were also found to reach concentration of $10^5$ CFU/g. The change of bacterial *Vibrio* spp composition in the culture media as well as in the hepatopancreas of shrimp, impact of bacterial infection and efforts to control *Vibrio* disease problems is discussed in this paper.

Keywords: *Vibrio* spp, tiger shrimp *Penaeus monodon*, hepatopancreas, shrimp pond, South Sulawesi

INTRODUCTION

Shrimp aquaculture especially in South Sulawesi, and to the world shrimp the shrimp productivity has increased from the 1980s to 1990s with the intensive farming system expanded. Afterwar below 150000 metric tons 350000 metric tons may be caused by either luminous or non-luminous bacteria diseases. T. Batca (1968) has been obtaining the changes of *Vibrio* species 68% of isolates from shrimp *Vibrio* species: *V. damsela*, which has a tendency that *V. h. period* and further *V. harveyi* and *V. natriegens* at a level of concentration 100.

In South Sulawesi been well main layering by thick mud. This situation results in cultivation, even shrimp cultivation is good habitat for the very common...