

STUDY ON ANTIBACTERIAL EFFECT OF
Chaetoceros calsitrans* ON CONTROLLING *Vibrio
spp. ASSOCIATED IN SHRIMP HATCHERIES

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ABSTRACT

Penaeus monodon is the main species that is export oriented in Sri Lankan shrimp farming industry. The quality of the hatchery reared post larvae is the one of major important factor and it plays the critical role for sustainability of the industry. Vibriosis is a serious threat and often caused mass mortality in shrimp larvae. To manage this condition, shrimp hatcheries routinely used several antibiotics such as Furazolidone. Those were rejected by European countries and also banded by Sri Lanka. Because the results of its bad effect for the human. Wang (1996) found that *Chaetoceros* has novel pharmaceutical compositions which are having antibacterial effective isolates from the extracts. The supernatant and pellet of five algal extracts on water based and various organic based was introduced to antibacterial sensitivity test. There is no significant difference. Furthermore 40 individuals of zoea stage were selected and field experiment was conducted in the laboratory conditions under four times per day feeding regime. Feed on algal density was 2.5×10^6 cells per millilitre. There were four treatments. The data were analyzed through one way ANOVA table by using Minitab 15 software. There were significant differences in survival of animals among T1T2, T1T3, and T3T4. Therefore antibiotics are mixed to prevent Vibriosis diseases in hatchery operations. Furthermore antibiotics such as Oxy tetracycline are found useful in the control. As an alternative natural bio controller *Chaetoceros calcitrans* can be introduced through the field application. But further studies are needed. In vitro experiment was not success to prove the antibacterial properties on *Vibrio* spp.

Key words: *Chaetoceros calcitrans*, antibiotics, *Vibrio* spp, *P.monodon*, post larvae