

Prevalence of Infectious Hypodermal and Hematopoietic Necrosis Virus Disease in *Penaeus monodon* Shrimp Industry in Sri Lanka

J.A. Athula^{1*}, Chaminda N. Walpita², H.A.D. Ruwandeepika²,
T.N.S. Thilakasiri³, E.G.R. Dayananda³, J.A.S. Lakmal³, and P.N. Chandraratne³

¹Dept. of Animal Science, UvaWellassa University, Badulla, Sri Lanka

²Dept. of Livestock Production, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka

³National Aquaculture Development Authority of Sri Lanka, New Parliament Rd, Pelawatte, Battaramulla, Sri Lanka

*athulajasin@gmail.com

Growth of shrimp industry in Sri Lanka has been severely affected, time after time, by three reported viral diseases-White spot disease, Monodon Bacculoviral disease and Yellowhead disease. However, incompatible disease symptoms to those, that were found in shrimps during the recent past, led to discover another shrimp viral disease in Sri Lanka - Infectious Hypodermal and Hematopoietic Necrosis Virus (IHHNV). It has been listed by World Animal Health Organization (OIE) as a disease causing severe economic losses, but with low mortality in *Penaeus monodon*. Despite the economical significance, however, prevalence of IHHNV in Sri Lanka has not properly been studied. Therefore, the aim of this study was to investigate the prevalence of IHHNV in wild caught broodstock (BS), hatchery reared post larvae (PL) and farmed *Penaeus monodon*. Samples were collected representing broodstock collecting regions of the country. PCR was done using IQ 2000TM test kit for the samples collected during the years of 2017 and 2019. In 2017, 131 samples of BS collected from two BS collecting areas, 54 samples of PL representing 03 BS collecting areas and 66 pond samples representing 02 shrimp farming provinces were tested. Results revealed that 31.3% BS, 24.07% PL and 18.03% of farmed shrimp samples were positive for the IHHNV and the severity of most of the infection was recorded as very light. From the samples collected in 2019, 44 BS samples representing 05 BS collecting areas, 30 PL samples from 02 BS collecting areas and 18 pond samples from 01 shrimp farming province (North Western Province) were tested and the results indicated that 27.27% BS, 16.67% PL and 5.56% of farmed samples were slightly positive for IHHNV. Therefore, this study provides the evidence to show the prevalence of IHHNV in *Penaeus monodon* in Sri Lanka, in all three life stages that is important for farming. As IHHNV is more severe in *P. vannamei* than that of *P. monodon*, emphasis should be made in strengthening Good Management Practices for the success of both *P. monodon* & *P. vannamei* industries.

Keywords: Prevalence of IHHNV, *P. monodon*, *P. vannamei*, Shrimp viral diseases