STUDY ON TRANSMISSION OF INFECTION BY THE MICROSPORIDIAN, *ENTEROCYTOZOOON HEPATOPENAEI* (EHP) IN SHRIMP

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Microsporidia are eukaryotic obligate intracellular protozoan parasites with a close ancestral relationship to fungi. Inside their host organisms, they grow and produce spores that are highly resistant and able to survive outside their hosts for up to several years. The microsporidian *Enterocytozoon hepatopenaei* (EHP) was first described in hepatopancreas of *Penaeus monodon* and *Penaeus vannamei* affected with Monodon Slow Growth Syndrome (MSGS) in 2009 in Thailand. To control the spread of EHP among shrimp farms in Thailand, this project aims to determine the transmission mechanism of EHP in shrimp. Preliminary data from a co-habiting study, in which EHP-infected and naïve shrimp were reared in the same tank but not allowed to come into contact, suggested that the horizontal transmission of EHP may be mediated by spores. This study has, therefore, developed a spore extraction protocol that yields viable spores capable of reproducing in an insect cell model according to quantitative PCR assays. These spores are being used to develop a challenging model to demonstrate the transmission route of EHP so that a preventative strategy can be issued to shrimp farmers to minimize the spread of EHP in Thailand.

Key word: *Penaeus monodon*, microsporidian, *Enterocytozoon hepatopenaei*