Narong Abking 2014: Study on Biological Characteristic and Infection of Aquatic Fungi Isolated from Eggs of Mekong Giant Catfish (*Pangasianodon gigas*, Chevey). Master of Science (Veterinary Microbiology), Major Field: Veterinary Microbiology, Department of Veterinary Microbiology and Immunology. Thesis Advisor: Associate Professor Ong-ard Lawhavinit, Ph.D. 61 pages.

The 2 genus aquatic fungi were isolated from the both of a Makong Giant Catfish, (*Pangasianodon gigas*, Chevey) eggs and the rearing water at Inland Aquaculture Research Institute, Phra Nakhon Sriayutthaya province, in spawning season, during 2008 to 2010. Aquatic fungi were morphological characterized as following: genus *Achlya* including *Achlya* spp. 8 of Achlya spp. isolated from Mekong Giant Catfish eggs and 1 isolated from rearing water. Genus *Saprolegnia* including 5 isolates of *Saprolegnia* spp. isolated from Mekong Giant Catfish eggs and 2 isolates from rearing water. From some biological characteristic study, optimal temperature for 2 genera were 30 °C. Almost the isolated of *Achlya* spp. and *Saprolegnia* spp. could tolerated to high salinity medium at 10 part per thoundson (ppt) and 25 ppt, respectively. Except for *Saprolegnia* spp. (E3/52-P2) could tolerated up to 30 ppt. Those isolates could grow in broth at pH 4 -11, while the optimal pH for *Achlya* spp. and *Saprolegnia* spp. were pH 5 and 6, respectively. The studies on pathogenicity test were conducted in eggs of Mekong Giant Catfish by exposed 1×10^4 spores/mL and the histological examination of infected eggs showed hyphae penetrated into cell membrane of eggs and digested yolk granules dued to vacuole form inside. The results show that, pathogens are *Achlya* spp. (T.MCF1-02, E.MCF 2-001, E4/52-10) and *Saprolegnia* spp. (E1/53-12).

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