Lalipat Duangsawang 2010: Reproductive Cycle and Culture of Glochidia from the Freshwater Pearl Mussel *Hyriopsis* (*Limnoscapha*) *desowitzi* (Brandt, 1974) in Artificial Media. Master of Science (Zoology), Major Field: Zoology, Department of Zoology. Thesis Advisor: Associate Professor Uthaiwan Kovitvadhi, Ph.D. 58 pages.

The reproductive cycle and development of glochidia in marsupia of *Hyriopsis* (*Limnoscapha*) *desowitzi* were studied every month throughout the year. Various stages of germ cells from the gonad of both sexes were observed under a light microscope, while development of glochidia in marsupia was recorded as seen from its morphological changes. It was found that germ cells and glochidia development were continuously preceded all year round. Male germ cells morulae were found in 3 stages, i.e., early stage (spermatogonia), middle stage (spermatocytes morulae) and late stage (spermatid morulae and spermatozoa), while female germ cells was found in 2 stages, i.e., immature and mature oocytes. The temperature had no effect to gametogenesis but it played a crucial role on glochidia development. The marsupial in both outer and inner demibranch was found at the water temperature lower than 28$^{o}$C whereas outer demibranch could be formed at the temperature higher than 28$^{o}$C. Glochidia were cultured in artificial medium containing 3.5 ml of M199 medium, protein sources (different plasma sources from three fish species and horse serum), and antibiotics/antimycotic at a ratio of 2:1:0.5, and a density of 100 glochidia per dish under sterile conditions. Medium supplemented with *Cyprinus carpio* plasma resulted in 99.6±0.7% survival. The glochidia were cultured in medium containing fish *C. carpio* plasma with different densities (50-70, 71-90, 91-110, 111-150 and 171-230 glochidia per dish) under sterile conditions and the density 50-70 is highest in 97.08±0.9% of survival. These studies of the glochidia culture in different plasma sources and density levels of artificial medium, they were found that the percentage of transformation were 100.

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