

Embryonic and larval development of lemon fin barb hybrid (♂ *Hypsibarbus wetmorei* × ♀ *Barbonymus gonionotus*)

ABSTRACT

Aim: The Lemon fin barb hybrid was developed by crossing Lampam (*Barbonymus gonionotus*) females with Kerai (*Hypsibarbus wetmorei*) males as a potential food source for lower income people in Malaysia due to fast growth and ease of culture. For delicious flesh and high market demand, the farming of this hybrid has subsequently expanded rapidly. Many of the basic biological aspects of this hybrid have not yet been investigated and in this study the embryonic and early larval development were examined. **Methodology:** After injecting the brood-stocks with hormones, the matured eggs and sperms were collected by strip spawning. The developing embryonic stages were subsequently observed at 10 min intervals for the first hour, 20 min intervals at the second hour, 30 min for the next hour, and then hourly intervals up to hatching. After hatching, observations continued at 2 hr intervals for the first day and a minimum of 6 hr intervals for the following days. **Results:** In the consortium, there was more than 2-fold increase in the maximum algal specific growth rate and a 1.3-fold increase in the maximum bacterial specific growth rate. Furthermore, the maximum ethylene glycol removal efficiency by consortium was 89%, while those by bacteria monoculture was 31%. No apparent removal of ethylene glycol by the *C. fusca* monoculture was observed. **Interpretation:** This study represents the first description of the early development stages for Lemon fin barb hybrids that may assist with the establishment of seed production and rearing techniques for aquaculture development in Malaysia.

Keyword: *Barbonymus gonionotus*; Early larval development; *Hypsibarbus wetmorei*; Lemon fin barb