

Larval development of a new hybrid Malaysian mahseer (*Barbonymus gonionotus* ♀ *Tor tambroides* ♂)

ABSTRACT

Hybrid Malaysian mahseer is a crossbreed between the male Malaysian mahseer, *Tor tambroides* and female silver barb, *Barbonymus gonionotus* through induced breeding. The study was carried out to observe the morpho-histological development of the F1 hybrid Malaysian mahseer larvae for the entire duration of its larval stage. Newly hatched larvae were reared in three 120 L aquaria at a stocking density of 5 larvae per liter. Larval development was observed daily from 1 to 9 DAH (day after hatching) and at 2-day intervals until 25 DAH by means of light and scanning electron microscopy (SEM), and histology. Newly hatched larvae had tiny body with closed mouth and simple gut formation. The hybrid larvae commenced exogenous feeding by 3 DAH using the taste buds and neuromasts to detect the presence of foods. Larval eyes were underdeveloped in early stage. They became fully functional as early as 9 DAH with larval TL and BW of 8.36 ± 0.24 mm and 4.3 ± 0.14 mg, respectively. By 7 DAH the stomach and intestinal tract were completely developed while complete tissue layers (mucosa, submucosa, muscularis and serosa) were visible in the larval gut by 18–21 DAH indicating the end of the larval stage. The post larval stage of the hybrid Malaysian mahseer was short and completed by 21–25 DAH when the scales fully covered its body. The rapid completion of larval stages and morphological features took after the maternal brood-fish, *Barbonymus gonionotus* but with larger scales. These positive attributes in larval development could be of interest to the aquaculture industry.

Keyword: F1 hybrid; Mahseer; Silver barb; Larval development; Morpho-Histology; Tissue layers