

A study on increasing larval survival of sea horse (*Hippocampus kuda*) under culture conditions

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Seahorse (*Hippocampus kuda*), one of the most heavily exploited species in both traditional medicines and marine aquarium trade were reared for their marketable size at the hatchery of National Aquaculture Development Authority (NAQDA), Pitipana, Negombo. Some aspects of biology (growth parameters, survival rates) and pathology (recurrent outbreaks of disease conditions leading to mass mortalities of larvae) of the *H. kuda* were studied under the hatchery conditions. Average height of the adult male *H. kuda* used in the study was 10.65 cm \pm 0.15 while female was 11.10 cm \pm 0.21. Average weight of the adult male was 9.10 g \pm 0.55 and female was 7.82 g \pm 0.34 respectively. Average number of larvae released by a male at releasing time was 250 \pm 30 individuals. The length of new born larvae was 0.98 cm \pm 0.02.

Growth was characterized by three inflexion points at the 2nd, 10th and 16th weeks, during their growth cycle up to marketable size. The mean growth rates at three inflexion points were 1.66, 1.06 and 1.028 cm week⁻¹ respectively. The highest growth rate was observed in the second week. Highest condition factor (1.03 \pm 0.371) was observed in the first week. Specific growth rates (SGR) showed great variability while the highest SGR was observed within first week (5.15 \pm 0.95) and the lowest in the 8th week (0.72 \pm 0.13). Survival rates of larvae within first five weeks ranged from 40 – 50% while it was 3.25% at marketable size under present hatchery conditions. *Vibrio* species and fungi were identified in moribund individuals and three antibiotics (Tetracycline, Oxi-tetracycline and Erythromycin) were tested as remedial measures for *Vibrio* infections. Tetracycline as a bath treatment (30 mg/L) was the most effective antibiotic to control *Vibrio* outbreaks. The effective dosage of CuSO₄ was 0.25 ppm for control fungal infections. According to the trials conducted survival rates of larvae could be increased up to 80 % within first five weeks using above mentioned treatments.