Reproductive characteristics of the pond-farmed Sultan fish (Leptobarbus hoevenii)

ABSTRACT

Sultan fish (Leptobarbus hoevenii) is a high value freshwater fish, cultured in some Southeast Asian countries, including Malaysia and Thailand. However, information on its reproductive characteristics is very scarce. This study examined the gonadosomatic index (GSI), fecundity, egg diameter, and determined whether L. hoevenii is a single-or multiple-spawner. Twenty male and female pond-farmed L. hoevenii broodstock were obtained to measure their total length (TL), body weight (BW), and gonad weight to calculate the GSI. Ten females were randomly sampled from the 20 to determine their fecundity. A total of 1,500 eggs were sampled from each female. The egg diameter was measured then its frequency distribution was analyzed to detect the number of egg class group, and to determine whether L. hoevenii is a single-or multiple spawner. The female L. hoevenii examined were 32.2-47.1 cm and 350-1,200 g, while the males were 30.7-45.8 cm and 180-970 g in TL and BW, respectively. All female specimens contained gonads. The potentially smallest mature samples were recorded at 350 g (female) and 180 g (male). GSI for the female and male L. hoevenii were 1.81-12.28 % and 1.03-5.09 %, respectively. The fecundity was 35,467-128,067 eggs, while the highest fecundity was observed in a 1,000 g fish. The observed egg diameter ranged from 500 to 1,855 µm. Two to five groups of egg class were detected, indicating that L. hoevenii is a multiple spawner.