

Spatiotemporal variation in growth and condition factor of *Ellochelon vaigiensis* (Mugiliformes: Mugilidae)

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Abstract

The Squaretail mullet *Ellochelon vaigiensis* is a commercial fish and distributed from marine to freshwater in Indo-Pacific, including the Vietnamese Mekong Delta. Data on the length-weight relationship (LWR), growth pattern, and condition factor (CF) play an essential role in fisheries assessment but are limited to *E. vaigiensis*. This study examined whether growth pattern and CF of *E. vaigiensis* vary with sex, season, month, and site variables. The analysis results of 942 fish specimens (525 male and 416 female) showed that total length (TL=17.86±0.13 cm) and weight (W=54.29±1.05 g) changed with sex, season, month, and site. The W of squaretail could be estimated from a given TL due to high determination coefficients of LWRs ($r^2>0.8$). The species showed negative allometry as the b value (2.34±0.30) obtained LWR was <3, indicating that most fish specimens were caught in the immature stage. The growth pattern of this species did not change with sexes, seasons and sites, but varied with months ranging from negative allometry to isometry. The CF of *E. vaigiensis* showed sexual variation as this value of females (1.08±0.01) was higher than that of males (0.99±0.01). Also, the CF showed spatiotemporal variation ranging from 0.81±0.01 to 1.25±0.02. Overall, the CF of this species (1.02±0.01) was higher than 1, indicating that *E. vaigiensis* lived an adequate food availability condition.

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