Distribution patterns of the striped mullet (Mugil cephalus) in mangrove creeks of Zanzibar, Tanzania. African Journal of Marine

Author Augustine W. Mwandya, Yunus D. Mgaya, Marcus C Öhman, Bryceson I, Martin Gullström

Abstract

Spatial and seasonal variations in density of striped mullet Mugil cephalus were investigated in four mangrove creeks in Zanzibar, Tanzania, during a one-year cycle. Fish were collected monthly in the lower, intermediate and upper reaches of each creek using a beach-seine net. All fish collected were juveniles between 2 and 16 cm standard length. The density of juvenile mullet differed significantly among the creeks, but the spatial patterns within them were consistent with higher densities upstream in three of the creeks. Generally, small mullet (2–10 cm) were more abundant in the upper reaches compared to the lower and intermediate reaches. Seasonal patterns were weak, although mullet densities were high during the period of heavy rains (March–May). Principal component analysis showed that a muddy substrate with microphytobenthos was positively correlated with high mullet densities, although site-specific variables such as shallow water depth and water clarity were also significantly correlated. Our findings suggest that the densities of juvenile striped mullet vary among sites and creeks in response to refuge availability from turbid, shallow water and the accessibility of food from benthic microalgae.

Key Word (Mugil cephalus), mangrove creeks