

Investigation of otolith asymmetry in *Mulloidichthys flavolineatus* and *Parupeneus forsskali* (Perciformes: Mullidae) from Egypt's Hurghada fishing harbour on the Red Sea

by

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Abstract

The current study aims to calculate and assess the asymmetry of the two goatfish species, Yellowstripe goatfish *Mulloidichthys flavolineatus* (Lacepède 1801) and Red Sea goatfish, *Parupeneus forsskali* (Fourmanoir & Guézé 1976) collected from Hurghada fishing harbour, Egypt. The asymmetry valuation for *M. flavolineatus* and *P. forsskali* is imperative to demonstrate the impact of asymmetry on the larvae settlement in this vital fishing ground. Asymmetry was calculated for the saccular otolith (Sagittae) biometry, namely length, width, and mass. The results showed that the otolith height had a lower asymmetry value than the otolith length for the two goatfish species inspected. No relationship between the asymmetry value of otolith length and width and total fish length was observed. Both goatfish species' calculated otolith mass asymmetry was higher than that of many teleost fish species.

Key words: otolith length, otolith height, otolith mass, measurements, morphometrics