

The Comparison of morphometric characteristics of sagitta otolith in *Eleutheroonema tetradactylum*, *Polynemus plebeius* and *Polynemus sextarius* in coral reefs of the Persian Gulf and Oman Sea

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Abstract

This study aimed to comparison of morphometric characteristics of otolith in *Eleutheroonema tetradactylum*, *Polynemus plebeius* and *Polynemus sextarius* in the coral reefs of the Persian Gulf and Oman Sea. Sampling lasted from March 2014 to April 2015. During this period 52 specimens of in *E. tetradactylum*, 23 specimens of *P. plebeius*, and 45 specimens of *P. sextarius* were cut with diving method. All the fish were identified and their otolith was extracted to verify them. Investigation of otolith morphometric characteristics (length, breadth, weight, perimeter and area) were conducted. Data indicated high correlation between otolith length and otolith weight, fork length and otolith length and between fish length and weight, the highest correlation was observed in *E. tetradactylum*. The results showed significantly different between otolith weight in *P. plebeius* with other species ($P < 0.05$), but not in *E. tetradactylum* and *P. sextarius* ($P > 0.05$). Otolith area shown significantly different in *E. tetradactylum* with other species ($P < 0.05$), but not in *P. plebeius* and *P. sextarius* ($P > 0.05$). Otolith perimeter, otolith width and otolith length had significantly different in all species ($P < 0.05$). This study indicated that *P. plebeius* can distinguished from other species with using otolith width, otolith length, otolith weight and otolith perimeter, and also otolith area, otolith perimeter, otolith width and otolith length are the factors can use in separation *E. tetradactylum* from two other species.

Keywords: Otolith, *Polynemidae*, Persian Gulf, Oman Sea.