

Ontogenic variation of otolith morphology in three different populations of common tooth-carp, *Aphanius dispar* (Rüppell, 1829)

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In this study, ontogenic variations of otolith morphology were studied in three populations of common tooth-carp, *Aphanius dispar* (Rüppell, 1829). 37-47 specimens, from three populations (Minab, Khurgu hot spring and Shur River from Hormozgan basin), were collected. The specimens were transferred to laboratory after fixation in 96% ethanol, and were then categorized in 4 size classes, according to their standard length (SL). Morphometric and meristic characters were calculated and the otoliths were extracted by standard method and were then photographed. The results indicated that the otoliths of the three populations are clearly different in general shape. These differences are mostly related to Rosterum and Antirosterum regions. Also, the otoliths in size class I (SL<18mm) in Shur river are rounded whereas in Khurgu hot spring, Rosterum and Antirosterum are being formed. In the otoliths of Minab, Rosterum and Antirosterum are somehow rounded in some samples, and in some of the other samples, they are being formed. The most differences were seen in size class 4 (SL>34mm). All of the otolith characters in this size class were developed. Based on previous studies, both genetic and environmental factors are involved in otolith growth, therefore, it can be concluded that in the early stages of fish and otolith growth, when genetic factors are involved, the shape of otolith is invariant in the three populations. According to differences in environmental conditions of the three habitats, these factors may affect the growth and formation of the otoliths and make a difference in otolith morphology. These differences may result in environmental compatibility of animal with different environmental conditions in order to increase efficiency of otolith function in the inner ear.

Keywords: ontogenic, otolith, cyprinodontids, Hormozgan basin.