

SAAD M. S. ABDULSAMAD<sup>1</sup>, LAITH A. JAWAD<sup>2</sup>, AZAL N. B. AL-NUSEAR<sup>3</sup>,  
BARADI WARYANI<sup>4</sup>, JITKA RUTKAYOVÁ<sup>5</sup>

<sup>1</sup>University of Basrah, College of Education for Pure Sciences,  
Department of Biology, Basrah, Iraq

<sup>2</sup>Pokeno, Auckland 2417, New Zealand

<sup>3</sup>University of Basrah, College of Veterinary Medicine,  
Department of Anatomy and Histology, Basrah, Iraq

<sup>4</sup>Department of Fresh Water Biology and Fisheries, University of Sindh, Jamshoro, Sindh, Pakistan

<sup>5</sup>University of South Bohemia, Faculty of Agriculture, Department of Animal Science,  
České Budějovice, Czech Republic

Corresponding author email: saad.dr76@gamil.com

## THE RELATIONSHIP BETWEEN TOTAL LENGTH AND LENGTH & WIDTH OF THE IN OTOLITH OF THREE SPARID FISH SPECIES COLLECTED FROM IRAQ WATERS

### SUMMARY

The relationships of the fish total length and measurement of the otolith (length and width) was computed for the sparid species, *Acanthopagrus bifasciatus*, *A. arabicus* and *Sparidentex hasta* collected from the marine waters of Iraq at the North West part of the Arabian-Persian Gulf. Fish total length-Otolith length and width equations showed positive allometric growth. The coefficient of determination was  $R^2 = 0.939$ ,  $0.954$  and  $0.878$  for *A. bifasciatus*, *A. arabicus* and *S. hasta* for TL-OL relationship respectively. The results display that assessments of body size of the species through biometric examines of otoliths are consistent.

### INTRODUCTION

The information about the association between body size and otolith size will give better thoughtful of predator-prey relationships and feeding habitats of piscivorous species (GRANADEIRO and SILVA, 2000). Additional usage of otolith retrieved can be seen in the paleontological studies of recent fish species as otoliths are well-preserved inner ear parts in fossils of marine species (REICHENBACHER *et al.*, 2007).

Assumed the significance and implementations of the mathematical mod-