

Comparative Analysis Between Body Size and Weight of *Johnius Carouna* (Perciformes: Sciaenidae) With Otolith Size and Mass, From the Coastal Waters of Pakistan

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ABSTRACT

The Croakers belongs to family Sciaenidae and are demersal fishes found worldwide in marine and as well as fresh water. These species are usual inhabitant of sandy shores and as well as in estuarine water. The morphometric studies are helpful to know the current status for fishery potential.

Keywords: Croaker, Growth Otolith, Sciaenidae.

INTRODUCTION

Sciaenid fishes (family Sciaenidae), well known as Croakers are one of the main coastal fishery resource of the tropical and temperate waters (Liting et al., 2022). Furthermore, this perciform family is widely recognized and represented with the diverse number of species (66 genera and 286 valid species) and their global distribution (Froese et al., 2018 Froese and Pauly, 2022). Caroun croaker (*Johnius carouna*) is one of the demersal fish belong to family Sciaenidae, which are commonly caught in different coastal areas of Pakistan and usually captured by gillnet seine net and trawl net.

OBJECTIVES

The objective of the study is to determine the relationship between otolith morphology and body size and weight of Caroun croaker *Johnius carouna* (Bleeker 1851) from the coast of Pakistan.

MATERIALS AND METHODS

The representatives of selected Fish species were collected from Karachi and Korangi fish harbors and identified with the help of available concerned literature. The desire sagittal otolith of fish was detached through the cranium dissection, eviscerated, photographed after measured. Individual otolith weight (gm) and size (cm) was resolute with the help of a standard electronic balance. The fishes were examined by using the association between the otolith size (length, width, weight) and body size (total weight, total length and body depth) with the help of least square regression among studies measurements.

RESULTS

By the analysing of morphometric relationship of fish body size with otolith; its concluded that the total length and width of *Johnius carouna* have strong relationship with the length and width and their otolith, and analyses result showed the significant correlation between fish weight with Otolith mass ($P < 0.05$). The range of the weight, width and total length of fish sample are 68.40-10.20, 5-2.90 and 17.80-9.90 same as 0.17-0.04, 0.60-0.40 and 0.90-0.04 of otolith was observed respectively.

CONCLUSION

It's concluded that the Otolith size and weight correlated with the fish body size and weight. The regression Coefficients as observed between the fish length and fish weight in relation with otolith measurements can be the preminent indicator for growth estimation of fish.

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REFERENCES

1. Bleeker. Checklist dataset.GBIF Backbone Taxonomy. 1851. Accessed via GBIF.org on (2022).<https://doi.org/10.15468/39omei>
2. Froese, Rainer, and D. Pauly.Family: Sciaenidae. "Fish base." Accessed 14th Jan, 2022.<https://www.fishbase.de/summary/FamilySummary.php?ID=331>
3. Froese, Rainer, et al. "A new approach for estimating stock status from length frequency data." *ICES Journal of Marine Science* 75.6 (2018): 2004–2015. doi:10.1093/icesjms/fsy078
4. Li-ting, Yan, et al. "Reproductive dynamics of the large yellow croaker *Larimichthys crocea* (Sciaenidae), a commercially important fishery species in China." *Frontiers in Marine Science* 9 (2022): 868580. doi: 10.3389/fmars.2022.868580