

Histological Study of Reproduction Indices in *Dysidea fragilis* Species (phylum: Porifera)

Derakhshesh, Negin^{1*}; Savari, Ahmad²; DoustShenas, Babak³;
Dehghan Madise, Simin⁴; Doraghi, Abdolmajid⁵

1- M.Sc. in Marine Zoology, Department of Marine Biology, School of Marine Science, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran. Email: negin.biology@gmail.com

2- Professor, Department of Marine Biology, School of Marine Science, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran. Email: savari53@yahoo.com

3- Assistant Professor, Department of Marine Biology, School of Marine Science, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran. Email: babakdoust@yahoo.com

4- Assistant Professor, South Aquaculture Research Center, Ahvaz, Iran. Email: s_dehghan2002@yahoo.com

5- Assistant Professor, Department of Marine Biology, School of Marine Science, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran. Email: a.doraghi@yahoo.com

Received Date: January 1, 2012

*Corresponding Author

Accepted Date: August 18, 2013

© 2013 Oceanography. All rights reserved.

Abstract

Sponges are one of the most important resources in marine natural productions. Therefore, it is essential to study their reproductive biology for protection and management of these species in aquatic ecosystems. Despite broad biological knowledge, the role of reproduction in the structuring and maintenance of sponge population is limited. For this purpose, we studied reproductive biology of sponge (*Dysidea fragilis*) over a year. Samples were collected by diving in artificial reefs (12M) in Bahrakan, located in Northwest of the Persian Gulf. The samples were fixed in methanol, rinsing in 70% ethanol and run through an alcohols and xylene sequence. Paraffin blocks were made and serial 5 μm microtome sections were stained with H&P. The sea water temperature appears to play a fundamental role in the sponge reproductive process. The results showed that the onset and progression of reproduction in *Dysidea fragilis* coincided with water temperature and photoperiod. Synchronized, spermatocytes and Oogenesis were present in the spongocell. Oogenesis and spermatocytes occurred from least autumn and the maximum sizes over the sampling period were 18.24 ± 8.11 and 8.47 ± 5.11 μm (mean \pm SE), respectively. Maximum size in embryo was 75.302 ± 0.05 . As sponges are now recognized as one of the richest sources of marine natural productions, understanding the reproductive biology of them is essential for the effective management and conservation of the organisms population.

Keywords: *Sponge, Histology, Cell Reproduction, Dysidea fragilis, Persian Gulf.*
