

ISSN 2319 - 8508
AN INTERNATIONAL MULTIDISCIPLINARY
HALF YEARLY RESEARCH JOURNAL

GALAXY LINK

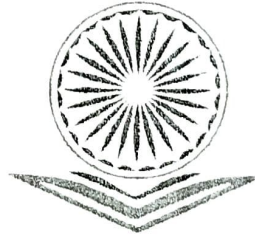
Volume - VII

Issue - I

November - April - 2018-19

English Part - I

Peer Reviewed Refereed
and UGC Listed Journal
(Journal No. 47023)



ज्ञान-विज्ञान विमुक्तये

IMPACT FACTOR / INDEXING
2018 - 6.256
www.sjifactor.com

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4. Study of Reproductive Biology of the Freshwater Female Prawn, *Macrobrachium rosenbergii* in Relation to the variations in the Gonadosomatic & Hepatosomatic Indices

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Abstract

The Study of reproductive biology of edible species is very essential for the expansion of aquaculture. Considering the importance of freshwater female prawn, *Macrobrachium rosenbergii* its annual reproductive cycle was investigated using the gonadosomatic (GSI) and hepatosomatic indices (HSI) as a criterion. Annual reproductive cycle of *M. rosenbergii* was carried out from October - 2004 to September - 2005. Highest gonadosomatic index (5.287 ± 1.75) was observed in the month of August, whereas highest hepatosomatic index (8.303 ± 0.24) was observed in the December. Lowest GSI was recorded in the month of February (0.404 ± 0.14) and lowest HSI was recorded in the month of August (2.961 ± 0.47). It was observed that the commencement of ovary maturation takes place in the month of March continuing further showing distinct breeding activity during June to July indicating highest peak in August. GSI recorded during September to December indicated decreased pattern representing spawning period. The spent stage which is almost immature stage showed lowest GSI during January to March. Annual reproductive cycle shows continues breeding pattern having single highest breeding peak in August.

Keywords: Gonadosomatic index, Hepatosomatic index, *Macrobrachium rosenbergii*.

Introduction

Crustaceans provide a good substitute for human consumption to meet the need of protein rich food for ever increasing human population. Development of crustacean culture on commercial scale basically depends upon the reproductive performance of the particular species. So it becomes very essential to study the reproductive biology which is the fundamental and vital