

Vol 6 Issue 2 Nov 2016

ISSN No : 2249-894X

*Monthly Multidisciplinary
Research Journal*

*Review Of
Research Journal*

Chief Editors

Ashok Yakkaldevi
A R Burla College, India

Ecaterina Patrascu
Spiru Haret University, Bucharest

Kamani Perera
Regional Centre For Strategic Studies,
Sri Lanka

Review Of Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

Regional Editor

Dr. T. Manichander

Advisory Board

Kamani Perera Regional Centre For Strategic Studies, Sri Lanka	Delia Serbescu Spiru Haret University, Bucharest, Romania	Mabel Miao Center for China and Globalization, China
Ecaterina Patrascu Spiru Haret University, Bucharest	Xiaohua Yang University of San Francisco, San Francisco	Ruth Wolf University Walla, Israel
Fabricio Moraes de Almeida Federal University of Rondonia, Brazil	Karina Xavier Massachusetts Institute of Technology (MIT), USA	Jie Hao University of Sydney, Australia
Anna Maria Constantinovici AL. I. Cuza University, Romania	May Hongmei Gao Kennesaw State University, USA	Pei-Shan Kao Andrea University of Essex, United Kingdom
Romona Mihaila Spiru Haret University, Romania	Marc Fetscherin Rollins College, USA	Loredana Bosca Spiru Haret University, Romania
	Liu Chen Beijing Foreign Studies University, China	Ilie Pinteau Spiru Haret University, Romania
Mahdi Moharrampour Islamic Azad University buinzahra Branch, Qazvin, Iran	Nimita Khanna Director, Isara Institute of Management, New Delhi	Govind P. Shinde Bharati Vidyapeeth School of Distance Education Center, Navi Mumbai
Titus Pop PhD, Partium Christian University, Oradea, Romania	Salve R. N. Department of Sociology, Shivaji University, Kolhapur	Sonal Singh Vikram University, Ujjain
J. K. VIJAYAKUMAR King Abdullah University of Science & Technology, Saudi Arabia.	P. Malyadri Government Degree College, Tandur, A.P.	Jayashree Patil-Dake MBA Department of Badruka College Commerce and Arts Post Graduate Centre (BCCAPGC), Kachiguda, Hyderabad
George - Calin SERITAN Postdoctoral Researcher Faculty of Philosophy and Socio-Political Sciences Al. I. Cuza University, Iasi	S. D. Sindkhedkar PSGVP Mandal's Arts, Science and Commerce College, Shahada [M.S.]	Maj. Dr. S. Bakhtiar Choudhary Director, Hyderabad AP India.
REZA KAFIPOUR Shiraz University of Medical Sciences Shiraz, Iran	Anurag Misra DBS College, Kanpur	AR. SARAVANAKUMAR LAGAPPA UNIVERSITY, KARAIKUDI, TN
Rajendra Shendge Director, B.C.U.D. Solapur University, Solapur	C. D. Balaji Panimalar Engineering College, Chennai	V. MAHALAKSHMI Dean, Panimalar Engineering College
	Bhavana vivek patole PhD, Elphinstone college mumbai-32	S. KANNAN Ph.D , Annamalai University
	Awadhesh Kumar Shirotriya Secretary, Play India Play (Trust), Meerut (U.P.)	Kanwar Dinesh Singh Dept. English, Government Postgraduate College , solan

More.....



FECUNDITY OF FISH PUNTIUS SARANA SARANA (HAMILTON) FROM GODAVARI RIVER, AT NANDED (MAHARASHTRA)

M. M. Deshmukh and K. S. Shillewar

Department of Fishery Science, N.E.S. Science college, Nanded, India.

ABSTRACT

The fecundity is the most important aspect in biological studies of fishes. In these study 70 specimens of fish *Puntius sarana* were collected out of them 20 males and 50 females was observed. By using (Lacrae, 1951) equation follows the relationship between fecundity and various are calculated.

KEYWORDS : Fecundity, *Puntius sarana*.

INTRODUCTION

Fecundity is reproductive capacity of a fish determined by the number of eggs stored in each spawning season and its knowledge is extremely important in successful management and exploitation of its fishery.

The analysis of fecundity data in relation to size and weight of the fish has often been used to provide a reliable index of density dependent factors affecting the population of physico-chemical factors affects fecundity. Dense population of fish brings in intra and interspecific competitions for food and reproduction.

Clark (1934) and Franz (1940) have observed that the fecundity in fishes increases in proportion to the square of the length. Hickling (1940), observed that the fecundity

increased at a rate above the cube of the length in Herring of Southern North area. Simpson (1951) concluded that the number of eggs is related to the volume and consequently to the cube of the length. Lehman (1953), found straight relationship between the fecundity and length there is a direct proportional in fecundity with increase in length, weight and age of the fish.

MATERIALS AND METHODS

Mostly sampling of normal, good, healthy and mature fish specimens of the *Puntius sarana* were done for

estimation of fecundity from station B, on river Godavari at Nanded (Maharashtra State) Mature specimens were collected in the months of June to August-2016.

Altogether 70 specimens of *Puntius sarana* were collected during sampling from June 2016 to August 2016. Out of which 20 specimens were male and 50 were females. From these 50 females, a sample of 10 fish was drawn randomly to determine fecundity. Specimens ranging from 18.6 cm to 26.6 cm in length in total body length, from the tip of snout to distal end of caudal fin were selected. Before dissecting the females, ovaries were weighed carefully and weight noted. After dissecting the females, ovaries in stage IV were preserved in 10 %



formalin. The ovaries after being hardened for few days, removed from formalin and surface moisture was blotted with blotting paper. The entire ovary was then weighed accurately to nearest milligram.

A small portion (1gm) from the middle region of the ovary was then teased on a slide and few drops of formalin were put on them and number of ova were counted under the microscope. Care was taken to ensure that the ova were spread evenly in single layer. From the number of ova obtained from the small portion of ovary of known weight (1gm), the number of ova in the entire ovary was calculated on the basis of its total weight.

OBSERVATIONS AND RESULTS

The fecundity estimates of the entire specimens examined were made by egg counts and also from variables like weight of fish and weight of ovary. The females ranged between 18.6 cm to 26.6 in length and 66.0 and 202.7 gm in weight, where as the weight of ovary varied between 4.0 and 6.9 gm.

In *Puntius sarana*, the total number of ova varied from 4780 to 8715 which has given an average of 1228 number of eggs per gram body weight (Table 1)

DISCUSSION

Studies on fecundity are receiving much attention as they play a key role in fish stock assessment. Fecundity has been determined for many fishes which provide information of population and stock recruitment problems.

Different relationship has been found to exist between fecundity and various parameters. In Catla the fecundity is more closely related to weight of fish. The rate of total number of ova varied from 2,72,945 in a fish measuring 529 mm total length to 27,17036 in the fish measuring 824 mm total length. The minimum fecundity of Catla was 2,10,118 number of eggs in a fish measuring 504 in length and largest specimens of 840 mm had the maximum fecundity of 34.21,005 number of eggs (Sakhare,2000).

According to Chonder (1977) the number of eggs production depends upon the weight of ovary more closely as observed during present study of *Puntius sarana*, also appears to be related more specifically to the ovary weight.

Table 1. Fecundity of *Puntius sarana* in Godavari, Maharashtra.

Sr. No.	Total Wt. of fish (gm)	Total length of fish (cm)	Length of ovary (cm)	Weight of ovary (gm)	Fecundity in 1 gm	Total eggs
1	66.00	18.60	6.00	4.00	1195	4780
2	66.30	19.00	7.00	4.50	1220	5490
3	88.90	20.60	7.10	4.70	1185	5569
4	90.00	20.90	7.40	4.90	1205	5904
5	116.90	22.30	7.60	5.10	1209	6165
6	117.50	22.50	7.90	5.40	1217	6572
7	137.20	23.70	8.10	5.63	1221	6874
8	141.18	24.14	8.20	5.36	1229	6587
9	196.34	25.60	9.30	6.21	1237	7682
10	202.70	26.60	9.60	6.90	1249	8681

REFERENCES

- Clark,F.N. 1934 Maturity of *California Sardine (Sardinella caerulea)* determined by ova diameter measurements.
- Calif. Dept. Fish and Game Fish Bull.,42:1-49.
- Chondar,S.L. 1977. Fecundity and its role in racial studies of *Gadusia chapra*.Proc.Indian Acad.Sci.,B86: 245-254.

4. Franz, Victor 1910. Die epiproduction der scolle, Meeresunter suchugen N.E.Bed. Abth.Wiss. Helgolandi, 2:59-141.
5. Hickling, C.F. 1940. The fecundity of *Herring* of the South-North Sea J.Mar.Biol. Ass. U.K.24:619-632.
6. Lehman, B.A. 1953. Fecundity of Hudson River Shad.U.S. Fish and Mid Life Service Res. Report,33.8.
7. Sakhare, V.B. 2000. Fecundity of *Catla* (Hamilton) from Yeldari Reservoir, Maharashtra J.Aqua Biol.15(1&2): 50:51.
8. Simpson, A.C. 1951. The fecundity of Plaice, Fishery. Invest Land.,Ser2,17(5):27.



M. M. Deshmukh

Department of Fishery Science, N.E.S. Science college, Nanded, India.

Publish Research Article

International Level Multidisciplinary Research Journal For All Subjects

Dear Sir/Mam,

We invite unpublished Research Paper, Summary of Research Project, Theses, Books and Books Review for publication, you will be pleased to know that our journals are

Associated and Indexed, India

- ★ Directory Of Research Journal Indexing
- ★ International Scientific Journal Consortium Scientific
- ★ OPEN J-GATE

Associated and Indexed, USA

- DOAJ
- EBSCO
- Crossref DOI
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Database
- Digital Journals Database
- Current Index to Scholarly Journals
- Elite Scientific Journal Archive
- Directory Of Academic Resources
- Scholar Journal Index
- Recent Science Index
- Scientific Resources Database

Review Of Research Journal
258/34 Raviwar Peth Solapur-
413005, Maharashtra
Contact-9595359435

E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com