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## STUDY ON SPAWNING PERIOD OF FRESH WATER FISH *Heteropneustes fossilis*

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### ABSTRACT

The present study was undertaken to trace accurately spawning period *Heteropneustes fossilis* of this is reported in terms of gonadosomatic index which express the relative change in gonad weight to the percentage of body weight. During present study two peak values of GSI were observed indicating that there are two peak periods of spawning in *H.fossilis* first from July to August and second from January to March.

**KEY WORDS:** *H.fossilis*, Gonadosomatic index, preparatory period, spawning, post spawning

### INTRODUCTION

Reproduction in fishes is one of the basic biological feature enabling survival and continuation of species. For efficient fish culture and effective management practices it is essential to study reproductive biology. Determination of Gonadosomatic index is of prime importance for detecting the spawning period of any fish. The present study was undertaken to trace accurately spawning period of *H.fossilis*. This is reported in terms of gonadosomatic index which express the relative change in gonad weight to the percentage of body weight. Rao (1972) reported observations on spawning of *C.reba*, Gupta (1975) studied biology of *C.reba*, Admassu (1996) studied breeding season of *Oreochromis niloticus*.

### MATERIALS AND METHODS

Material for the study was obtained from Godavari river dist. Nasik (Gangapur dam). Matured and immature fishes were weighed along with the weight of gonads monthly. Later % of gonad weight in relation to the total body weight was calculated by using the following formula.

$$\text{Gonadosomatic index} = \frac{\text{weight of gonads}}{\text{weight of body}} \times 100$$

Gonadosomatic index of *H.fossilis* was calculated. After calculating the % of GSI the period of maturity of fish was divided into following stages (Quyyam and Quasim, 1961) *Ophiocephalus puntatus*.

1. Prespawning phase
2. Spawning phase
3. Postspawning phase
4. Preparatory phase

Gonadosomatic index of fish increases with maturation being maximum during peak period of maturity and abruptly declines after spawning.

## RESULTS AND DISCUSSIONS

The GSI of *H.fossilis* was estimated monthly for females and values are expressed as percentages in Table 1. It increases from 13% in March to 13.9 % in June indicating the prespawning period. It decreases from 12.5% in July to 8.3% in August indicating the spawning period It decreases from 6% from September to November indicating the post spawning period. It gradually increases in G.S.I from 8.5% in December to 12.2% in February indicating the Preparatory Phase.

In *Heteropneustus fossilis* the peak value off G.S.I is observed only once in June indicating only one spawning period, from July to August. Similar Single Peak of G.S.I were observed in *Heteropneustes* by Talwar, P. Kand A.G. Jhinglan (1991) and Nazir etal (1978) in *Barbus luteus*.

**Table 1. Gonadosomatic index of *H.fossilis***

Month	Average Weight of body (gms)	Average weight of ovary (gms)	GSI (%)
May	1150	150	13
June	1150	160	13.9
July	800	100	12.5
August	600	50	8.3
September	500	30	6
October	450	30	6.2
November	500	30	6
December	750	60	8.5
January	950	95	11.1
February	900	110	12.2
March	1000	130	13
April	1100	145	13.1

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