STUDY ON SPAWNING PERIOD OF FRESH WATER FISH Heteropneusteus fossilis

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ABSTRACT
The present study was undertaken to trace accurately spawning period Heteropneusteus 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.

\[
\text{Gonadosomatic index} = \left( \frac{\text{weight of gonads}}{\text{weight of body}} \right) \times 100
\]

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 pre-spawning 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 *Heteropneusteus fossilis* the peak value of 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*

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


