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Study of gonado somatic index of fresh water fish Notopterus chitala (Pallas) from Godavari River, nanded region, Maharashtra, India

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Abstract
This study deals with the Gonado Somatic Index of fish *Notopterus Chitala* (Pallas) in Godavari River, Nanded Region, Maharashtra. The fishes were Collected during the period January 2018 to December 2018 and observed total length, weight of both the sexes of fishes were recorded. Gonado somatic index values high during maturity and low after spawning.

Keywords: gonado somatic index, Notopterus chitala

1. Introduction
Notopterus Chitala is a fresh water fish. Body is elongated, giving them a knife–like appearance. The caudal fin is small & fused with three black sot on fin side. Dorsal fin is small & narrow, Commonly known as chapati/chambhari. *Notopterus chtala* has a wide spread distribution & commonly found in ponds, reservoirs & River. Body is elongated, giving them a knife – like appearance caudal fin small & fused with three black spot is present, common name 'feather back'. It is valuable food fish. Due to ever increasing population and industrialization availability of agriculture land is reducing day by day. Morecover in a developing country like India where 30% of population is still suffering severely by malnutrition and health hazards fish food may be useful tool to provide portentous and easity digestible food item. The scientific management for obtaining high yield of fish production eventually calls the adequate and in-depth study of breeding mechanism (Ashwini G Ghanbahadur *et al*., 2013) [1]. The present study know accurately spawning period of *Notopterus chitala*. This is reported in tearms of gonad somatic index which express the relative change in gonad weight to the percentage of body weight.

Materials and Methods
For the present study fishes were collected from Godavari River, Nanded Region, during the period January 2018 to December 2018. Immature and mature fishes were collected one year & weighted along with the weight of gonads monthly.

Gonado–Somatic indexs (GSI): GSI of *Notopterus chitala* I was calculated. After calculating the % of GSI the period of maturity of fish was divided in to following stages pre spawning phase. Spawning phase, post spawning phase, preparatory phase.
The weight of the individual fish was Yuen (1955) noted and the male and female fish gonads ware removed Carefully and weighed in a monopan balance after removing the excess of moisture using a blotting paper.

$$\text{Gonad somatic index} = \frac{\text{Weight of gonads}}{\text{Weight of body}} \times 100$$

Gonado somatic index of fish increases with maturation being maximum during peak period of maturity and abruptly declines after Spawning.

Table 1: Gonadosomatic index of Notopterus Chitala.

Month	Average wt. of body (GMS)	Average wt. of ovary (GMS)	G.S.I. (%)
January	14.80	2.90	19.59
February	14.95	2.95	19.73
March	15.25	3.9	25.52
April	18.2	7.0	38.46
May	20.7	9.380	47.34
June	17.0	4	23.52
July	15.1	3.5	23.17
August	11.95	1.65	13.80
September	27.90	2.2	7.88
October	18.2	2.0	10.98
November	25.5	3	11.90
December	28.80	3.86	13.40

Result and Discussion
Gonadosomatic index of *Notopterus chitala* were estimated monthly for female and value are presented as percentages in table No.1
Gonadosomatic index values rises from 25.52% in month of March to 47.34% in May indicating pre spawning period. It decreases 23.52% in June to 13.80% in August indicating that spawning period. It decreases uptill 7.88% in September to 11.90% in November indicating post spawning period. It increases from 13.40% in December to 19.73% in February indicating preparatory period. In *Notopterus chitala* peak value of GSI is observed only once in the month of May, indicating only one spawning period from June to August.

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