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RESEARCH ARTICLE

Variations of protein contents in the muscle of fish *Notopterus notopterus* (pallas) from Godavari river at Nanded region, Maharashtra. India.

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ABSTRACT

The seasonal variation in protein content of fresh water fish *Notopterus notopterus* from Godavari River at Nanded region, Maharashtra state were observed form January 2016 to December 2016.the obtained results showed that protein content was high in the month of July (16.9+ 1.20), the lowest was high in the month of January 16.16 and December 15.63,then there was a slight increase in the protein content in the month of February, March, April, May and June which ranges 16.17,16.70,18.42,18.62,19.30 tissue respectively. Variation of protein content during different seasons of the year helps. Nutritionists & researchers who are striving to improve the nutritive value, processing & marketing of endangered fish species & in fishing industry.

Keywords : Protein, monthly variation, Seasonal l variation, *Notopterus notopteru.*

INTRODUCTION

Fish are known to be a very healthy food items. They are an excellent protein source & also content various minerals & Vitamins necessary for good health. Scientist reported that societies with high fish intake have considerably lower rates of acute myocardial infarctions & other ischemic heart diseases. The present availability of protein is much below the minimum daily requirements and the livestock sector alone will not be able to meet the protein requirement of ever increasing human population. Fish is an excellent & relatively cheaper protein source of high biological value. Fish protein contain all essential amino acids in the required proportion and hence have a high nutritional value, which contribute to their high biological value. Cereal protein is an excellent source of these amino acids.

Fish also contain lysine threonine tryptophan, isoleucine, leucine, phenylalanine & valine amino acids. in diets based mainly on cereals, a supplement of fish can. Therefore, raise the biological value significantly. Fish is also rich in the non-protein amino acid taurine which has unique role in neurotransmission [1, 2, 3].

Although several studies deal with proximate composition of biochemical component of many commercially important fishes, but no works has been carried out on *Notopterus notopterus* particularly from Nanded Region of Maharashtra state. Therefore, the present study was undertaken to show seasonal & monthly variation in the amount of total protein content in muscle of *Notopterus notopterus* determine the nutritional value and variations during the fishing season which is very important in recent years.

MATERIALS AND METHODS

Samples of *Notopterus notopterus* were collected from fish market at monthly intervals during the period of January 2016 to December 2016. They were immediately transpired to the laboratory of Fishery Science of N.E.S. Science College, Nanded. worked with cold tap water. Then total length total weight and sex were determined. Body Muscle samples (free from skin & scales) of each month were collected and homogenized in a homogenizer before the analysis of biochemical components. Weight of *Notopterus notopterus* varied from 15gm to 152gm and length varied from 13cm to 28cm.

Protein Estimation:

Biuret Method:

This is the most widely urged method for protein estimation. It is carried out by using std. kit Erba. The peptide bonds of protein react with copper II io ns in alkaline solution to from blue- violet complex (biuret reaction) Each copper ion complexion with 5 or 6 peptide bonds. Tartar ate is added as a stabilizer whilst Iodide is used to prevent auto - reduction of the alkaline copper complex. The color is proportional to the protein concentration and is measured at 546nm (520-560nm).

RESULT

The protein composition of Notopterus was determined over the period 1 year and obtained Result are present in Table 1.

Protein Content varied from 15.63 to 19.30g/g tissue. The highest protein content was in month of June and the lowest protein content in the month of December. In the month of Jun/July/Aug/Sep the protein content was 19.30,19.76,18.68,18.28 g/g in the month of respectively. A decreased in the protein content in the month of December was Recorded (Table.1).

Table : 1 Monthly changes in protein content of *Notopterus notopterus* (g/g tissue)

Sr. No	Month	Protein content of *Notopterus notopterus* Muscles
1	January 2016	16.16
2	February 2016	16.17
3	March 2016	16.70
4	April 2016	18.42
5	May 2016	18.62
6	June 2016	19.30
7	July 2016	19.76
8	August 2016	18.68
9	September 2016	18.28
10	October 2016	16.80
11	November 2016	16.60
12	December 2016	15.63

Seasonal variation shows the highest value of protein percentage in Summer season, the lowest protein percentage was recorded in Winter season (Table.1).

The decreased in the protein content is same be due to spawning season month.

CONCLUSION

The result suggested that the protein content of fish greatly various during the different season. It may be due to the physiological condition and Environmental condition that is spawning breeding, migration & heavy feeding.

This study provides valuable information on variations in protein content of fish species studied in order to take necessary precaution in processing from manufacturer point of view. Biochemical studies of fish tissue are of considerable interest for their specificity in relation to the food values of the fish and for the evaluation of their physiological needs at different periods of life. It is also necessary. Biochemical studies of fish tissue are of considerable interest far their specificity in relation to the food values of the fish and for the evaluation of their physiological needs at different periods of life.

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