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April, 2021

**STUDY ON FEEDING BIOLOGY OF
HILSHA (*TENUALOSA ILISHA*) IN THE
COASTAL WATERS OF CHATTOGRAM**

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This is to certify that we have examined the above Master's thesis and have found that is complete and satisfactory in all respects, and that all revisions required by the thesis examination committee have been made.

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TABLE OF CONTENTS

CHAPTER	TITLE	PAGE NO.
	AUTHORIZATION	I
	ACKNOWLEDGEMENTS	III-IV
	LIST OF TABLES	VII
	LIST OF FIGURES	VIII-IX
	LIST OF ABBREVIATIONS	X
	ABSTRACT	XI
1	INTRODUCTION	01-03
	1.1 Background of this study	01
	1.1 Significance of the study	02
	1.2 Objectives	03
2	REVIEW OF LITERATURE	04-06
	2.1 Gut morphology of Hilsha	04-06
	2.2 Feeding habit of Hilsha	06-07
	2.3 Studies on feeding biology of Hilsha	07-08
3	MATERIALS AND METHODS	09-15
	3.1 Study area	09
	3.2 Sample Collection	10
	3.3 Processing of sample	10
	3.4 Stomach content analysis	10-11
	3.5 Observation of diluted gut content under microscope	11
	3.6 Analysis of water sample and plankton number of gut content	12
	3.7 Determination of Food and Feeding of Hilsha	12-15
	3.8 Statistical analysis	15
4	RESULTS	11-29
	4.1 Plankton compositions in the gut analysis	16-17
	4.2 Percentage of different groups of plankton	17-18

	4.3 Food categories based on frequency of occurrence method	18-23
	4.4 Abundance of plankton according to month	23-25
	4.5 Relationship between Plankton and weight group	25-26
	4.6 Composition of Plankton according to Length group	26-28
	4.7 Relationship between size and fullness of stomach of Hilsha	28-29
5	DISCUSSION	30-32
6	CONCLUSION	33
7	RECOMMENDATION	34
8	REFERENCES	35-38
	APPENDIX	39-41
	BRIEF BIOGRAPHY OF THE AUTHOR	42

LIST OF TABLES

TABLE NO.	TITLE	PAGE NO.
1.	Points allotted in each gut according to number of plankton	13
2.	Index of fullness of stomach criteria	14
3.	Groups of Plankton found in Hilsha gut	16-17
4.	Monthly percentage of total points according to month	24
5.	Relationship between size and fullness of stomach of Hilsha	29

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE NO.
1.	Photograph of Hilsha Shad	04
2.	Gut morphology of Hilsha	05
3.	St 1. Fishery ghat, Chattogram; St 2. Faillatoli Bazar, Chattogram; St 3. Cox's Bazar	09
4.	Morphometric data collection	10
5.	Gut content analysis	11
6.	Observation of diluted gut content under microscope	11
7.	Percentage of Different groups of Plankton	18
8.	Abundance of Bacillariophyceae	19
9.	Abundance of Chlorophyceae	19
10.	Abundance of Cyanophyceae	20
11.	Abundance of Dinophyceae	21
12.	Abundance of Pyrrophyceae	21
13.	Abundance of Copepoda	22
14.	Abundance of Cladocera	22
15.	Abundance of Rotifera	23
16.	Abundance of plankton according to month	25
17.	Simple scatter of Plankton by Hilsha weight	26
18.	Abundance of plankton according to size group 1	27
19.	Abundance of plankton according to size group 2	27

20.	Abundance of plankton according to size group 3	28
21.	Pictures of plankton found in Hilsha gut	39-40
22.	Pictures of lab activities	41

LIST OF ABBREVIATIONS

Words	Abbreviation
MT	Metric Ton
Mm	Millimeter
Cm	Centimeter
G	Gram
GIS	Geographical Information System
BoB	Bay of Bengal
Tk	Taka
GI	Geographical Indication
TL	Total Length
SL	Standard Length
ISF	Index of Stomach Fullness
BFRI	Bangladesh Fisheries Research Institute
ECNEC	Executive Committee of the National Economic Council
FAO	Food and Agriculture Organization
DoF	Department of Fisheries

ABSTRACT

Hilsha (*Tenualosa ilisha*) is the national fish, engages the most important open water single species fishery in Bangladesh. This study was designed to describe about the feeding biology of Hilsha (*T. ilisha*) in coastal waters of Chattogram. For this research work, fishes were sampled from February, 2019 to January, 2020 and collected from 3 stations in coastal waters of Chattogram, Bangladesh and laboratory analysis conducted from Marine Bioresource Science Lab, Chattogram Veterinary and Animal Sciences University, Chattogram. To analyze gut content, seasonal variation of food and feeding habits and length and weight relationship with their food and feeding habits were analyzed in the study. To determine the whole condition, various methods such as numerical method, frequency of occurrence method, index of fullness method, point's method and statistical analysis (Correlation and Regression Analysis) were performed to complete the study. According to point's method, higher amount of plankton found in stomach content in winter than other season of the year. By correlation and regression analysis, (401-500) g and (301-400) g had consumed highest amount of plankton. In index of stomach fullness method, 3/4 full found in 3 different sizes (21-30cm, 31-40cm, 41-50cm) of Hilsha (*T. ilisha*) fed phytoplankton much more than zooplankton. There was no empty stomach found throughout the study. 93% phytoplankton and 7% zooplankton were found in gut analysis where Bacillariophyceae (57%), Chlorophyceae (29%), Dinophyceae (4%), Cyanophyceae (2%), Pyrrophyceae (2%) and Copepoda (2%), Cladocera (1%), and Rotifera (4%) were found in the gut. From the analysis, it was found that *T. ilisha* was preferred phytoplankton to zooplankton. It also was observed that, Bacillariophyceae and Chlorophyceae was the most preferable food item to Hilsha shad (*T. ilisha*). This study describes biology of Hilsha, existing Hilsha conversation and management strategy and its influence on Hilsha.

Keywords: Feeding biology, Gut content analysis, Phytoplankton, Zooplankton, Bacillariophyceae, Chlorophyceae, Preferrable food item.