

1100054059

Perpustakaan Sulfanah Nur Zalarah (UNIT) Universiti Malaysia Torongganu

CN 5144



1100054059

Food preferences of rabbit fishes (Siganus javus) in Chendering Coastal Area and Setiu Wetland, Terengganu / Mohd Kamel Zikry Salleh.



PERPUSTAKAAN SULTANAH NUR ZAHIRAH UNIVERSITI MALAYSIA TERENGGANU (UMT) 21030 KUALA TERENGGANU

L100054	059
 _	
	1
 	+
 	1
1	
 1	Lihat sabelah

Lihat sabelah

HAR KALIN PERPUSTAKAAN SULTANAH NUR ZAHIRAH UHT

FOOD PREFERENCES OF RABBIT FISHES (*Siganus javus*) IN CHENDERING COASTAL AREA AND SETIU WETLAND, TERENGGANU.

By:

MOHD KAMEL ZIKRY B. SALLEH

Research Report submitted in partial fulfillment of The requirement for the degree of Bachelor of Science Marine Biology

Department of Marine Science Faculty of Maritime Study and Marine Science UNIVERSITY MALAYSIA TERENGGANU

2007

1100054059

This project should be cited as:

Mohd Kamel Zikry, S. 2007. Food preferences of rabbit fishes (*Siganus javus*) in Chendering coastal area and Setiu Wetland, Terengganu. Project report of Bachelor of Science (Marine Biology). Faculty of Maritime studies and Marine Science. Universiti Malaysia Terengganu. 57p.

No part of this report may be reproduced by any mechanical, photographic, or electronic process, or in the form of phonographic recording, nor may it be stored in a retrieval system, transmitted, or otherwise copied for public or private use, without written permission from the author and the supervisor of the project.



JABATAN SAINS MARIN FAKULTI PENGAJIAN MARITIM DAN SAINS MARIN UNIVERSITI MALAYSIA TERENGGANU

PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: Food Preferences of Rabbitfishes (*Siganus javus*) in Chendering Coastal Water and Setiu Wetland, Terengganu oleh Mohd Kamel Zikry B. Salleh, No. Matrik UK10535 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Marin sebagai memenuhi sebahagian daripada keperluan memperolehi ijazah Sarjana Muda Sains (Biologi Marin), Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

Disahkan oleh:

Penyelia Utama

Nama: En. Amirrudin B. Ahmad

Cop Rasmirmirrudin AHMAD Pensyarah Jabatan Sains Biologi Fakulti Sains dan Teknologi Universiti Malaysia Terengganu 21030 Kuala Terengganu.

Penyelia Kedua

Nama: Dr. Siti Aishah Bt. Abdullah

Cop Rasmi:

instine Q. Chares



01 MAY 2007 Tarikh:

Tarikh: 10/6/2007

ACKNOWLEDGEMENT

Alhamdullillah, praise be to Allah, God of all the living and the world, because of His kindness and love has keeping me healthy and also allowing me to finish my final year project and also finishing my study in UMT with peacefully.

Here, I would like to praise my gratitude for my supervisor and co-supervisor, En. Amirrudin Ahmad and Dr. Siti Aishah Bt. Abdullah, which has always helping me a lot and also provided a invaluable guidelines and also concern for me in order to finish my project and also my study.

I also like to thanks to both my parent and also my precious family members and all my friend because of been so supportive and also helping me out with my project and also providing uncountable financing support from my father and brothers to me starting from the first day I am in the UMT and until now.

I would like to deliver my acknowledgement to the UMT staff, especially all the members of Biodiversity Laboratory which is Mr. Mat Zan, Mr. Maliki, Mr. Jalal, and also Mrs. Kartini who has give their support, helping and supply of all the materials and chemicals that are needed to accomplishing my project. I would also like to deliver my special thanks to Mr. Mohd Shahnon because of his willingness to spend some of his precious time to helping me out with the sample analysis and also providing a good advice for completing my thesis.

CONTENT

TITL	Æ		PAGE
BOR	ANG P	ENGESAHAN	
ACK	NOWL	EDGEMENT	ii
CON	TENT		iv
LIST	OF TA	BLE	vii
LIST	OF FI	GURE	viii
LIST OF SYMBOL			ix
LIST OF APPENDIX			X
ABST	FRACT		xi
ABS	FRAK		xii
1.0	INTR	RODUCTION	1
	1.1	Objective of study	3
2.0	2.0 LITERATURE REVIEW		
	2.1	Stomach Content Analysis	4
	2.2	Mangrove and Estuaries Communities	5
	2.3	The Rocky Shores	6
	2.4	Algae and Seaweed	7
	2.5	Environment-Factor Interaction	9

2.6Fish and Algae Relationship10

3.0 MATERIALS AND METHODS

3.1	Materi	als	12
3.2	Water	Parameter	12
3.3	Sampling Location		12
3.4	Sampling Method		
	3.4.1	Fish Sampling	14
3.5	Laboratory Method		
	3.5.1	Gut Content Dissecting	14
	3.5.2	Measurement of Stomach Content	
		3.5.2.1 The Food Frequency Method (F %)	15
		3.5.2.2 Counting Method (N %)	16
		3.5.2.3 Length-Weight Relationship	16

4.0 RESULT

4.1	Water Parameter	17
4.2	Size Class of the Fishes and Weight-Length Relationship	17
4.3	Stomach Analysis	20
4.4	Type of Algae Eaten	25

5.0 **DISCUSSION**

5.1	Water Parameters	30
5.2	Size Cass of the Fishes and Weight-Length Relationship	31
5.3	Food Preferences	33

	5.4	Algae Distribution and Their Influence	
		To Feeding Behavior of S. javus	36
6.0	CON	CLUSION	38
REFE	ERENC	ES	40
APPENDIXES		43	
CURICULUM VITAE			56

LIST OF TABLE

TABLE TITLE PAGES 1 The mean reading of water parameters between Setiu Wetland 17 and Chendering coastal area 2 The food item frequency value and total of all food item value 21 and percentage inside the stomach of S. javus in Setiu Wetland. 3 The food item frequency value and percentage and total of all 21 food item value and percentage inside the stomach of S. javus in Chendering coastal area 4 Type of algae eaten by the S. cannaliculatus for both sampling 26 site.M1 and A1 shows the most eaten algae then other algae

which were present inside the stomachs of the fishes

LIST OF FIGURE

FIGURES	TITLE	PAGE
1	Sampling site located on Chendering, Kuala Terengganu, Terengganu.	13
2	Sampling site located on Setiu Wetland, Setiu, Terengganu.	13
3	The graph of size class of all <i>S.javus</i> from all sampling sites	18
4	Graph of weight and length relationship for <i>S. javus</i> within the size class of 5.1 cm-10.0 cm	19
5	Graph of weight and length relationship for <i>S. javus</i> within the size class of 10.1cm-15.0cm	19
6	Graph of weight and length relationship for <i>S. javus</i> within the size class of 15.1cm-20.0cm	20
7	Graf of stomach item percentage (N %) that have been found inside all <i>S. javus</i> (mangrove and marine)	22
	according to their size class.	
8	Percentage of food frequency of <i>S. javus</i> taken from Chendering coastal area	23
9	Percentage of food frequency of <i>S. javus</i> taken from the Setiu Wetland sample	24
10	Comparison between quantities of food item taken by S. javus from both sampling sites	24
11 (a) & (b)	6 common different algae that can be found inside the stomach of <i>S. javus</i> samples from Setiu Wetland.	27 & 28
12	Algae that can be found inside the stomach of <i>S. javus</i> from Chendering samples.	29

LIST OF SYMBOL

- **ppt** = part per thousand
- ⁰C = degree Celsius
- **g** = gram
- **mg/l** = milligrams per liter
- **cm** = centimeters
- **No.** = number of specimen

LIST OF APPENDIXES

FIGURES	TITLE	PAGE
Appendix 1	The size measurement for each samples taken from Setiu Wetland	43
Appendix 2	The size measurement for each sample taken from	44
Appendix 3	Chendering coastal area Table of common rabbitfished and their distribution in the world	45
Appendix 4	Two different size of <i>S. cannaliculatus</i> that has been taken from the Setiu Wetland, Setiu	47
Appendix 5 & 6	Available food item inside the stomach of <i>S. javus</i> from the mangrove samples	48
Appendix 7 & 8	Available food item inside the stomach of <i>S. javus</i> from the marine samples	50
Appendix 9	Available food item inside the stomach of S.	52
	cannaliculatus from the mangrove samples	
Appendix 10	Available food item inside the stomach of S.	55
	cannaliculatus from the marine samples	

ABSTRACT

A study has been conducted in order to determine the stomach content of *Siganus javus* or 'dengkis' from the family Siganidae at two different locations, which is Setiu Wetland, Setiu and Chendering coastal area, Kuala Terengganu, Terengganu. A total of 88 fishes of rabbit fishes, of which 70 of them were taken from Setiu Wetland, and were examined their stomach content. The food item inside the stomach have been observed and counted by using the suitable method. Early observation shows that almost 100% of the content is filled with algae. A few type of zooplankton such as copepod, amphipod and also isopods were also observed.