

QUALITATIVE ANALYSIS OF THE CONTENTS  
OF THE ANTERIOR PORTION OF THE OESOPHAGUS  
FROM ADULT MILKFISH, CHANOS CHANOS,  
CAPTURED IN PANDAN BAY FROM 10 MAY-JUNE 1975\*

by

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Abstract

Qualitative analysis of food items in the anterior spiral portion of the oesophagus suggests that adult milkfish feed on both benthic and planktonic materials.

Introduction

The little that is known of the food of milkfish in the wild has been reported by Sunier (1922), Reijntjes and Schuster (unpublished report cited by Schuster, 1949) and Schuster (1949) in Java and by Chacko (1949) in the Gulf of Mannar and Tampi (1953) also in Southern India. Others are of the opinion that milkfish in the sea are benthic feeders. While Chacko concluded that the milkfish are plankton feeders, Schuster (1960) has suggested that milkfish are facultative feeders.

Bridge and Boulanger (1910) has described the alimentary tract of milkfish, Chanos chanos, as follows: "The oesophagus, before making a real U-shaped bend in the gizzard section, follows a complete S-shaped curve. The interior surface of this part of the oesophagus displays parallel spiral folds with a great number of backward directed papillae. The lower part of the oesophagus is equipped with longitudinal folds, dwindling at the beginning of the gizzard, the so-called 'stomach' of Chanos."

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A qualitative analysis of the contents of the anterior spiral portion of the oesophagus from 96 of the adult milkfish captured in Pandan Bay between 10 May and 16 June, 1975, as reported by Tiro et al. 1976. forms the basis of this report.

### Materials and Methods

The methods used in obtaining and processing adult milkfish captured in the otoshi-ami located at Mag-aba, Pandan during the 1974-75 fishing season has been reported by Tiro et al 1976. Following dissection of these fish the spiral portion of the oesophagus was preserved in 10% seawater formalin and the contents analyzed at a later date. For analysis the spiral portion of the oesophagus was cut lengthwise and the contents rinsed into a specimen bottle with distilled water. After settling, the food particles were removed by pipet and placed on a microscope slide where tips of the papillae, which had been cut from the oesophagus, were removed. The particles were then covered with a cover glass and examined. The different food items found in the oesophagus were then identified (Esguerra, 1951 Raymont, 1963 Dawson, 1966 Shirota, 1966 Yamaji, 1966 and Barnes, 1968) and classified into four groups: diatoms, animal forms, algae and other items.

### Results and Discussion

The contents of the oesophagus from the 96 specimens examined, consisted of both benthic and planktonic materials as summarized in Table I.

Table I. Oesophagus contents from 96 adult milkfish captured in Pandan Bay from 10 May-16 June 1975.

Food Items	Number of specimens containing each item	Percentage of specimens containing each item
<u>Diatoms</u>		
<u>Nitzchia</u> , <u>Thalassiothrix</u> , <u>Fragillaria</u> , <u>Rhizosolenia</u> , <u>Coscinodiscus</u> , <u>Deratium</u> , <u>Navicula</u> , <u>Chaetoceros</u> , <u>Eucampia</u> , <u>Ditylum</u> , <u>Melosira</u> , <u>Biddulphia</u>		
<u>Animal Forms</u>		
Vorticellid	1	1.0
Sarcodinan	1	1.0
Foraminifiran	1	1.0
Ciliophoran	2	2.1
Echinoderm larvae	1	1.0
Cladoceran	1	1.0
Copepods	83	86.5
Crustacean eggs and egg cases	9	9.2
Crustacean nauplii	2	2.1
Crustacean zoea	4	4.2
Crustacean juvenile	1	1.0
Crustacean shell and appendages	4	4.2
Fish eggs	14	14.6
Fish larvae	5	5.2
<u>Algae</u>		
Chlorophytes	39	40.6
Cyanophytes	37	38.5
Rhodophytes	28	29.0
<u>Other Items</u>		
Detritus	70	72.9
Sand	1	1.0

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