

## FOOD AND FEEDING HABIT OF THE JUVENILE AND ADULT SNAKEHEAD, *CHANNA PUNCTATUS* (BLOCH)

\*Abdus Salam Bhuiyan, Shamima Afroz and Tanjeena Zaman.

Department of Zoology, University of Rajshahi, Rajshahi-6205, Bangladesh

### Abstract

*Channa punctatus* is mainly a carnivorous fish. Its food consists mainly of crustaceans, insects, molluss, fishes, plant and semi-digested materials. The juvenile and adult *C. punctatus* are surface feeders. Monthly variations in the percentage composition of the food items in both stages of the fish were recorded. The fish changed its food and feeding habit seasonally. The feeding intensity was very poor in mature fishes during the spawning period. The juvenile fishes fed actively throughout the year. The ratio of the total length and alimentary canal length of juvenile and adult stages is 1:0.36 and 1:0.28 respectively.

**Keywords :** Food, feeding habits, *C. punctatus*.

**মি বস্ক :** *Channa punctatus* (উন্মক গুও) চাঁবZ GKউ গুসমকx গুও| Bnvi Lv`` mavi bZ μvómmqv, KxUcZ½, kvgK, gvQ, Dm`c vsk Ges AaRxY`e` Dcv`vb mgštq MmVZ| cÓß I AcÓß UwmKgvQ Dcwi Zj vrvix| gvQmUi weifbæchqí Lv`` Dcv`vbi gwmK Zvi Ztg`i nvi chfēY Kiv nq| gvQmU FZ†f†` Lv``vfv`m I Lv`` cwi eZß K†i | cRbb Kv†j gv†Qi Lv`` Mh†Yi cwi gvb D†j L†hvM` n†i K†g hvq| AcÓß eq`c gvQ mvi v eQi B mμqf†vte Lv`` Mh†Y K†i \_†K| AcÓß I cÓß Ae`vq gvQmUi tgvU % N`I cwi cvKbj xi `†N† AbcvZ h\_vμ†g 1:0:36 Ges 1:0:28 |

### Introduction

*Channa punctatus* is one of the most important fish species of Bangladesh flood plains (Hossain *et al.* 2000). It is a common freshwater fish which is abundantly found in ponds, beels and canals of Bangladesh (Bhuiyan 1964). It has a great demand in market because of its high nutritional value. Study of food and feeding habits of fishes have manifold importance in fishery biology. For successful fish farming a thorough knowledge about the food and feeding habit is necessary. As the nature of food depends to a great extent upon the nature of environment, the problem is interesting from specific, as well as ecological point of view.

The food and feeding habit of fishes vary from season to season. Seasonal change in temperature not only influence food consumption and rate of digestion but also quality and quantity of available food organisms. Studies on the food and feeding habits of different fishes have been made by different workers (Hynes 1950, Alikunhi 1952, Mustafa *et al.* 1981, Bhuiyan and Islam 1988, Bhuiyan *et al.* 1992, 1994, 1999). The present study deals with the food of the juvenile and adult stages of *C. punctatus*, monthly

variation in the degree of feeding, feeding habits and feeding in relation to sexual cycle.

### Materials and Methods

The samples for the present study were collected from the local markets, Cholon beel, canals, ponds and ditches in Rajshahi during the period from February 2002 to January 2004. The samples were collected once in every month and preserved in 10% formalin. In order to stop digestion of food items some live samples were dissected out for food analysis just after collection. The stomachs were classified into full, ¾ full, ½ full, ¼ full and empty. Individual food items were separated in petridishes and identified under microscopes. Gravimetric method (Hynes, 1950) was followed for estimation of the percentage composition of different food items. The food items particularly the plankton were identified following the keys of Ward and Whipple (1959).

### Results and Discussion

*The food of the juvenile of C. punctatus:* The food analysis of 119 specimens of juvenile *C. punctatus* (TL 90mm to 125mm) revealed that the food consisted of crustaceans, insects, molluscs, plant

\* To whom correspondence may be made

materials and semi-digested materials. The highest percentage of fish items was recorded in March, 2002 (37.5%) and December, 2003 (38.46%) in the first and second observations respectively. The lowest percentage of fishes occurred in December, 2002 (28.37) and in February, 2003 (34.48%) in first and second observations respectively. Table 1 shows the Percentage composition and the list of food items of the juvenile *C. punctatus*. Out of 460 stomachs collected in different months over a period of 2 years, it was found that on the average there were 92 (23.90%) full, 87 (18.64%) 3/4 full, 89 (19.63%) 1/2 full, 74 (18.41%) 1/4 full and 118 (29.39%) empty.

*Seasonal occurrence of various food items of adult C. punctatus:* The average percentage occurrence of the food items of the adult *C. punctatus* was crustaceans (17.65%), insects (9.25%), molluscs (12.75%), fishes (56.69%), plant materials (2.02%) and semi-digested materials (16.43%). Smaller fishes and their larvae were very dominant food item of *C. punctatus* (Table 2).

*Feeding in relation to sexual cycle:* In the present investigation, the feeding intensity in mature fishes was found to be very poor during the months from May to July. This period of poor feeding activities in case of mature fishes coincides with the peak spawning season. It was also observed that the maximum number of empty stomachs were recorded during this season.

From the present findings it is noted that the food and feeding habit of *C. punctatus* is almost the same in juvenile and adult stages. The juvenile and adult stages of *C. punctatus* feed on higher percentage of crustaceans, insects, molluscs, fishes and semi-digested materials etc. and lower percentage of plant materials. So it can be inferred that *C. punctatus* is a surface feeding and carnivorous fish.

**Table 1.** Percentage composition and the list of food items of the juvenile *C. punctatus* .

Food group (%)	Food items
Crustaceans (10.98)	Copepods : <i>Cyclops</i> Ostracods : <i>Cypris, Eucypris</i> Cladocerans : <i>Daphnia, Moina</i> Prawns and shrimps
Insects (13.98)	Mosquito larvae insects pupae
Molluscans (13.96)	<i>Pila</i> (larvae)
Fishes (35.57)	Fish larvae and hatchlings
Plant materials (10.76)	Dry stems leaves etc.
Semi-digested materials (14.73)	

**Table 2.** List of food items of adult *C. punctatus* with their percentage composition.

Food groups	Food items
Crustaceans (17.65)	Prawns, shrimps and crabs
Insects (9.25)	Water bug , Mosquito larvae, Insects pupae
Molluscs (12.75)	<i>Unio</i> (larvae) , <i>Pila</i> (larvae)
Fishes (56.69)	Fish larvae and hatchlings
Plant materials (2.02)	Dry stems, leaves etc.
Semi-digested materials (16.43)	

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