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Short Communication

Food and feeding habits of *Clarias batrachus* (Linnaeus, 1758) from Ambajogai, Maharashtra, India

Vishwas Balasaheb Sakhare • Ashvini Dnayndeo Chalak

Post Graduate Department of Zoology, Yogeshwari Mahavidyalaya, Ambajogai-431517, India

Correspondence: Dr. Vishwas Balasaheb Sakhare, Head, Post Graduate Department of Zoology, Yogeshwari Mahavidyalaya; Email: vbsakhare@rediffmail.com

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Abstract

The food analysis of 150 specimens of *Clarias batrachus* revealed that the food consisted of insect larvae, small fish, shrimps and organic debris. Small fish and insect larvae were preferred as the primary food item in all the seasons. On average for all months of the study period, small fish dominated the list with a percentage of 30.27.The other food items in descending order are insect larvae (27.66%), worms (20.27%), shrimps (14.3%) and organic debris (7.05%).The feeding intensity in mature fishes was found to be very poor during August to September. This period of poor feeding activities in case mature fishes coincides with the peak spawning season.

Keywords: Food and feeding, *Clarias batrachus*, Asian catfish, walking catfish, Maharashtra, India

INTRODUCTION

The Asian catfish '*Clarias batrachus*' is popularly known as 'magur' in Bengali and 'walking catfish' in English. It is found across southern Asia including India, Pakistan, Sri Lanka, Bangladesh, Thailand, Indonesia, China and Philippines. It is an air-breathing fish as well as a hardy fish, which can thrive where many other fish struggle to survive. In addition to reservoirs, lakes and tanks, they can be found in brackish waters. They can remain dormant through periods of drought ad go several months without eating. When they do eat, they consume a wide variety to prey. The fish is voracious who are mainly active at night. It is an important cat fish with good markets especially in North-Eastern parts of India where it fetches a higher price than the carps. In some parts of Assam, the fish is sold at more than Rs. 300 per kg. The fish is revered as nutritious and therapeutic in nature. It is generally cultured in ponds along with carps. However, the culture practices of this species have not received much attention, probably due to inadequate supplies of seed and proper feed.

The culture of magur has good prospects for developing domestic trade, because of its high market price, medicinal value, better taste, rich protein content and of fewer spines. The fish is in great demand in the northeastern part of India particularly in West Bengal, Assam, Odisha and Bihar for its high nutritional value. It contains higher percentage of protein and iron as compared to other edible freshwater fish species (Sakhare 2012). Its fat content is also very low and is therefore easily digestible so that it is very useful during convalescence. With most other it is a delicacy because of the characteristic aroma and softness of its flesh.

The study of the food and feeding habits of freshwater fish species is a subject of continuous research because it constitutes the basis for the development of a successful fisheries management program on fish capture and culture (Oronsaye and Nakpodia 2005).Food and feeding habits of fishes have been a field of interest to fisheries researchers since very long. Serajuddin *et al.* (1998) and Dutta (1990) described the food and feeding habits of *Mastacembelus armatus*. Basudha and Vishwanath (1999) studied food and feeding habits of *Osteobrama belangiri*. Another study on *Mystus montanus* from Tambarabarani River in Tirunelveli reveals the fish as omnivorous (Raj

2002). Similarly Rao and Rao (2002) reported food and feeding habits of *Glossogobius giuris*. Jesu *et al.* (2004) studied food and feeding habits of *Notopterus notopterus* from Bhavanisagar dam of Tamil Nadu. Rajagopal (2005) studied the feeding ecology of inland catfishes from wetlands of Tamil Nadu. Kumar *et al*. (2007) have given a report on the food and feeding habits of *Catla catla* from Daya Reservoir (Rajasthan). Mondal and Kaviraj (2010) studied feeding and reproductive biology of *Gudusia chapra* from floodplain lakes and concluded the planktophahgus and omnivorous feeding habit of the fish. Sakhare (2010) studied food and feeding of *Cyprinus carpio* from local markets, reservoirs and ponds around Ambajogai. Arthi *et al.* (2011) conducted the study on food and feeding habits of *Ompak bimaculatus* and *O. malabaricus* of river Amaravathy in Tamil Nadu and reported both fishes as omnivorous, feeding mainly on vegetable matter and fish. Despite of all this, there is no literature on food and feeding habits of catfish, *C. batrachus* from this region. Hence the purpose of the present study was to investigate the food and feeding habits of *C. batrachus*.

METHODOLOGY

The specimens were collected from different water bodies around Ambajogai in Beed district of Maharashtra during the period from October 2011 to September 2012. Samples were collected by using cast-net and gill-net. The collections were carried out in morning and at evening. The specimens were preserved in 10% formalin immediately after the collection and were brought to the laboratory for further analysis. The total length, standard length and weight of fish were measured. After taking the length and weight the entire gut was taken and for the analysis of the different food items. Gravimetric method (Hynes 1950) was used for the percentage composition of different food items.

RESULTS AND DISCUSSION

The food analysis of 150 specimens of *C. batrachus* collected from different water bodies around Ambajogai revealed that the food consisted of insect larvae, small fish, shrimps and organic debris. From Table 1 it can be stated that in *C. batrachus* small fish and insect larvae were preferred as the primary food item in all the seasons. On average for all months of the study period, small fish dominated the list with a percentage of 30.27 and the other food items in descending order are insect larvae (27.66%), worms (20.27%), shrimps (14.3%) and organic debris (7.05%) (Figure 1).

In the present investigation it is found that the feeding intensity in mature fishes was found to be very poor during August to September. This period of poor feeding activities in case mature fishes coincides with the peak spawning season. Bhuiyan *et al.* (2006) reported very poor feeding intensity in mature species of *Channa punctatus* during May to July. Saikia *et al.* (2012) also reported low feeding intensity of *Channa punctatus* in June-July and November-January. Basudha and Vishwanath (1999) observed low feeding intensity in *Ostebrama belangiri* during June-August.

Table 1: Percentage occurrence of various food items in relation to different months of *Clarias batrachus*

Year and months	*No. of fishes examined*	*Insect larvae*	*Worms*	*Shrimps*	*Small fish*	*Organic debris*
2011						
Oct	10	27.4	18.8	13.3	28.8	11.7
Nov	12	29.3	11.1	13.2	33.2	13.2
Dec	10	26.3	22.6	12.4	33.4	5.3
2012						
Jan	12	24.4	21.6	18.2	33.0	2.8
Feb	14	25.8	22.7	16.4	30.4	4.7
Mar	12	23.8	24.2	18.5	27.8	5.7
Apr	10	29.6	18.7	16.2	31.0	4.5
May	15	30.2	19.2	14.3	30.0	6.3
Jun	12	26.0	22.0	18.0	30.2	3.8
Jul	14	27.6	24.2	10.2	29.0	9.0
Aug	14	30.7	23.6	9.3	29.6	6.8
Sep	15	30.9	19.8	11.6	26.9	10.8

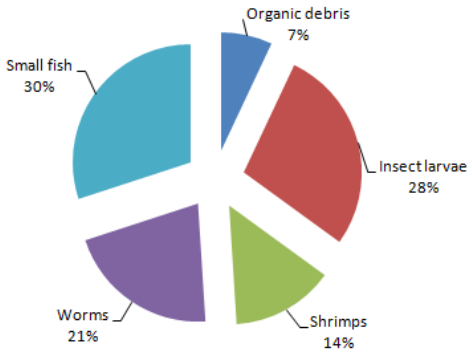

Figure 1: Percentage composition of the food items of *Clarias batrachus*

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