

FOOD AND FEEDING HABIT OF BARTAIL *PLATYCEPHALUS INDICUS* (LINNAEUS, 1758) IN MITHBAV CREEK OF SOUTH KONKAN, MAHARASHTRA, INDIA

S.S. Yeragi & S.G. Yeragi
K.J.Somaiya College of Science, Vidyavihar, Mumbai-400 077, India
E-mail – dryeragi@gmail.com

ABSTRACT : The family platycephalidae also called as bartail, crocodile or flathead, includes many species, but only three of which can be found in the coastal area of Mithbav (L.16°, 20' N., L, 17° 25' E), *P. indicus* (Punctatus Day) *P. scaber* and *P. macracanthus* are present in this creek. Amongst *P. indicus* is dominating species available throughout the seasons in huge numbers. It supports economically on to the coastal natives on large scale. Its population density is more in monsoon than any other seasons. All are demersal and spend more time in burrowing than free swimming. It is rarely found on muddy ground because of burrowing habit. It is good food fish hence marketed freshly. Also used in traditional medicine. This species is an ambush predator and locally known as "Mech".

KEYWORDS : Mithbav, Flathead

INTRODUCTION

The family of platycephalidae is one of the fish families to be found in Indian seas. The most commonly known platycephalids are flat head fish, which belong to a family of tropical and temperate marine fish. The species are characterized by an elongated body, depressed head and large crocodile like, wide mouth lower jaw longer than upper. *P. indicus*, *P. scaber* and *P. macracanthus* are three famous species from the flathead family. These are to be found throughout the seasons in Mithbav coast. The percentage composition of density of *P. indicus* is always high compare to others. The juveniles of *P. scaber* were plenty in pre-monsoon and they always remain in the algal blooms.

Currently there is no wide information about the biology and ecology of these three species in Indian waters. The main significance of this paper is to describe the characteristic of these species for the first time of this area. The present paper reports on the feeding habits of *P. indicus* (*Punctatus*) which is demersal fish. It is commonly found in the shallow coastal

water of Mithbav zone. The aim of this study is to provide information on the food and feeding habits of the species and have to elucidate their functional role in the coastal food web^{5, 6}.

P. indicus is elongated, cylindrical, tapering fish with head that are formed moderately to strongly depressed. The lower jaw is longer, spoon like to pick up the food items quickly. The mouth is act as fish trapper. There are spines or serration present on the body ridged of the head. These spines are also help in protective mechanism during emergency. These spine are used to make the deep wound to the lower surface of feet. The operculum is powerful and spread widely. It has two spines on outer side. The inner most is small but outermost strong, hook like and pointed. Both the spines help in escaping during emergency. If the foot of fishermen fall on the head then immediately the opercular part powerfully spread out, and body turned left and right making deep prick to the side of the foot. **The museles are very much strong to bear**

about 50-60kg of fresher man weight. The upper skin of the body having mucus secreting glands which secrete mucus. The mucus help in lubrication through the hand and also help in easy burrowing in hard sand, without making any injury to the body. The ventral skin does not secrete mucus, hence it is rough. Another peculiarity of this species is head covered with spiny scales, upper side of the trunk lined with tiny scales, while ventral side tough and thick. The dorsal body has two separate fins. The dorsal fin has 8-10 spines, soft rays 13, anal spines absent, but soft rays 13. The spines of dorsal fins are also pointed and raised up during emergency time. These spines also make injury to the feet and hand during trapping process. Only the ventral fin has comparatively weak spines and they do not raised downward. Brownish or greyish colour skin is dorsally but ventrally whitish- yellow. The caudal fin has 2-3 horizontal black stripes. Distinctive colour pattern is seen on the caudal fin, It has centrally yellow and black stripes on upper and lower margins.

P. indicus is a benthic fish found on sandy beds in very shallow area in Mithbav creek and near shores with depth of about 2-3 feet. The body colour is matching with the surrounding. This species grow to a maximum length of 40-45cm., TL Information of diate is an importance for understanding the basic functioning of fish assemblages and is widely use for ecological work as well as in future for fish farming and also becoming an increasingly significant component in ecological based management⁴. Fish forms a vital source of food and is man's most important single source of high quality protein. Fish consumption is on the increase in many countries and in India ^{5,6}. Fisheries has emerged as major industry all over the world. This species is really a good model for fish farming to get more yield production in future. In monsoon, it has high

local market because of their taste and medicinal value.

MATERIALS AND METHODS

The fish specimens were collected from the local fishermen. The stomach were removed by cutting the alimentary canal anterior to the stomach and posterior to the pylorus. The contents were frozen until processed. The contents of each individual gut were pushed on to a petridish and examined under dissecting binocular microsops. All the food items were identified as far as possible and expressed of percentage occurrence by point method. The specimens were collected in day and night time for the period of January 2014 to December 2014. The food items were preserved in 5% formalin.

RESULT AND DISCUSSION

The present investigation is carried out in Mithbav creek of sindhudurg district, Maharashtra, *P. indicus* is commercially important and high prized fish available in the market throughout the seasons. This species, specially adults fish migrate in the creek on large numbers in monsoon period. The purpose



behind this movement is only for feeding purposes. It is also noticed that the juveniles present in large scale during the month of April-May. They migrate in the estuary only for their further growth. They remain along with the algal blooms for protection as well as for easily available food amongst the algal mass. It is also seen that within two to three months, they grow to 25-30 cm. TL.

P. indicus a demersal fish feed on Zoobenthic and second priority was shrimps. The knowledge of feeding regimes of fish species is of great importance in understanding their ecological interacting. It is therefore give full information in relation to an aquaculture farm. The food and feeding is always directly correlated to their habitat and availability of food diates⁴. The species always remain in sandy-muddy region but never found in purely muddy ground. In mud, it has great difficulty in take off as well as for burrowing mechanism. It is also observed that in muddy field, the species has lote of problems in search of food items. During buried condition, their protruded eyes remain in exposed condition for observation only. The colour of the skin is completely matching the sandy colour, so that

easy for trapping the prey. It is voracious feeder, hence spend less time in feeding. Their stomachs were observed full within short time.

P. indicus having relatively big head and wide mouth with sharp teeth, enhance in swallowing the prey easily. The presence of food items in the fish diet is related to availability of food, food selection and age of fish. The food preference of predatory fishes is very complex and influenced by many factors such as prey accessibility, mobility, prey abundance, prey energy content, prey selection and seasonal changes. The diet of most of the fishes will change with a number of factors likey, temperature seasons, and hydrology of the water³ (Patole, 2009) either intrinsic or extrinsic. *P. indicus* are unspecialized and opportunists carnivores, feeding on a variety of burrowing fishes like, *sillago*, *Gerres*, *Cynoglossus*, *Mugil*, *Anguilla*, *Therapone* etc.

The crustaceans art the secondary important food items like *portunus spp*, *Matuta spp*, *Pinnotherus spp*, *Penaeus spp*, *Uca spp*, *Dotilla spp*. etc during day and night. It is also observed that in monsoon, this fish fed tremendously on

Table-1: Percentage composition and major food items consumed by *Platycephalus indicus* in different seasons

Major food items	Monsoons %	Post monsoon %	Pre-monsoon %
Fish	19.22	37.97	40.56
Crustacean	35.12	28.12	20.17
Detratus	10.97	03.22	02.56
Polychaetes	05.57	07.18	09.32
Molluscs	02.23	08.32	11.29
Larvae	15.15	08.44	03.33
Eggs	07.27	01.14	05.53
Plant materials	04.37	05.51	07.24

shrimps because of easily availability of easy available food in the creek. In relation to feeding habit, it has lower jaw long and spoon like which help in quick lifting the prey which can be easy to swallow.

The index and vacuity or index of emptiness is the percentage ratio between the number of empty stomachs (ES) and the number of stomachs analysed (TS). In this, it was observed that no stomachs in any seasons remain empty. In monsoon, due to unstable environmental situation, low intensity of feeding showed, that no full stomachs but 50 % stomach were seen half filled, 20% three-fourth and remaining one fourth full. It is also noticed that, the fish spent more time in feeding than other seasons. In monsoon, the major food item was shrimps hence percentage remain high (35.12%) compare to 21.17% in pre-monsoon. In pre-monsoon, this bartail feed on *Mugil Gerres, sillago, Therapon etc.* The crustaceans were stand second and lowest compare to other seasons. The polychaetes were also highest 9.32% in the gut content. The average percentage composition of major food items are presented in table 1.

CONCLUSION

This is a wide spread species, It is commercially harvested across its range further research is needed on the population trends and harvest level of the species before a more accurate assessment of conservation study can

be made. This species is an ambush predator. Younger life stages use estuaries as nursery ground. A good food fish and is marketed, freshly with high price. It is also used in traditional medicine hence further investigation in the field of pharmacy is required. It is also a good model for an aquaculture practices in associated lagoons at this creek.

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