

To study growth aspect of two different species of pieces sillago sihama and otolithus rubber of JODIA coast of gulf of Kuchchh

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ABSTRACT

India possesses about 6100 km long coastal area. About 23% of the total fishermen population is actually engaged with fishery business. In developing country like India the human population needs protein rich food. It is possible to get such nutritive food from the marine resources as we have such long coastal area and sufficient men power. Gujarat is one of the best marine state having about 1600 km long coastal area. Gulf of Kuchh possesses more marine fish production. More than 350 different species of class pieces provide an excellent food resource for human population. It is necessary to get scientific knowledge. The present paper deals with growth aspect of two different species of class pieces in gulf of Kuchchh. © 2014 Trade Science Inc. - INDIA

INTRODUCTION

The marine water possesses more diversity in living beings with compare to that of fresh water to fulfil the food requirements of the ever increasing world population we have to search for other resources. Now we have turned towards the sea. Fishes are the main source of food. By catching the commercial fishes we can evaluate of the average growth history. Size frequency study could be used for two main purpose (i) one can estimate the mortality rate and (ii) one can assess the sustaining power of the fishery stock.

MATERIALS AND METHODS

In the present study, frequency distribution of size of fish, which is obtained from commercial catch, is presented with an equal interval of length. The length measurements were grouped with an interval of 5 cm in each class. The data were grouped in to three

and five classes in case of sillago sihama and otolithus rubber respectively.

RESULTS AND DISCUSSION

In case of sillago sihama, the month-wise catch was arranged in three classes Viz, 10-15 cm, 15-20cm and 20-25 cm respectively. In this investigation the minimum size of catch available is 11.4cm where as the maximum size of catch was available is 25.0 cm

The month wise distribution of length of fishes is shown in TABLE 1 and graph1, according to data the size group of 15-20 cm remained dominant throughout the year, except in the month of November. It is also seen that the size group of 10-15 cm increases in February but decreases in March and again increases in April and then start decreases and increases from May to September and reaches at the peak in the month of November. However, in the TABLE 1 in the month of October distribution under

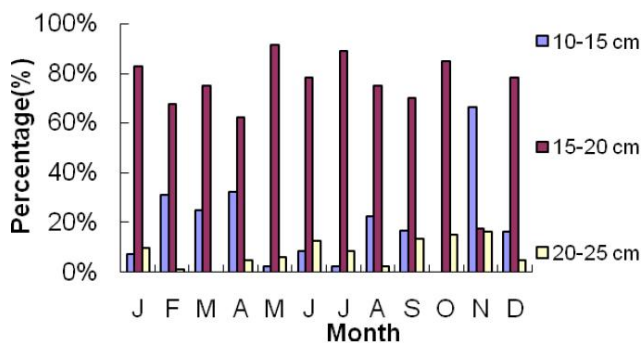
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10-15 cm is shown nil as fishes of this class interval are not available. The less magnitude of the said size group is recorded in January, May and July. The size group of 20-25 cm is available in less number throughout the year. It disappears completely in the month of March and the minimum value is available in month of February. Normally following classes are available during different stages of physiologi-

- Fry : 40mm size
- Fingerlings : 41 to 100mm
- Adults : about 100mm
- Maturing : 140mm

TABLE 1 : Month wise length- frequency percentage in different graphs of sillago sihama

Month	10-15 cm	15-20 cm	20-25 cm
January	7.40%	82.72%	9.88%
February	31.25%	67.50%	1.25%
March	25.00%	75.00%	0
April	32.50%	62.50%	5.00%
May	2.50%	91.25%	6.25%
June	8.75%	78.25%	12.50%
July	2.50%	88.75%	8.75%
August	22.50%	75.00%	2.50%
September	16.67%	70.00%	13.33%
October	0	85.00%	15.00%
November	66.25%	17.50%	16.25%
December	16.25%	78.25%	5.00%



Graph 1 : Graph showing the variation in size group percentage in sillago sihama

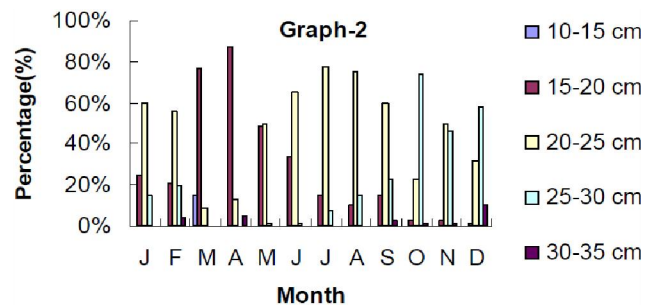
cal activities.

It is observed that the fish bread from August to February in Rameshwaram area and in Kali estuary from August to October. Evident from the above information it can be deduced that mature size would be from 10 to 25 cm. Fish also migrates to estuary during monsoon season in search of spawning ground.

So 10-15 cm size group and 15-20 cm size groups are mostly available throughout the year.

The number of 15-20 cm size group increase during pre-spawning time in gulf area. Normally a decrease in number is observed during spawning time from August to February. As fish lay eggs in batches and after egg lying process, it might be returning back to gulf area; so a slight increase and decrease level in number of size group 15-20 cm is recorded. After spawning, the fish might be returning back to open sea, that's why larger size of group 20-25 cm is available in less magnitude throughout the year. 10-15 cm size group is also available in less magnitude during pre-spawning time and again appearing during August, September and completely absent in October again increase in November and February. The smaller size group (bellow 10cm) and larger size group (above 25cm) are not available in gulf area. It is clear from the above discussion that maturing and mature size group might be entering in gulf area during reproductive migration to estuary.

In case of otolithus rubber the month wise catch was arranged in five classes viz 10-15cm, 15-20cm, 20-25 cm, 25-30cm and 30-35 cm. TABLE-2, graph-2). The minimum size available in catch is 13.4cm and the larger size available in catch is 35 cm. It is



Graph 2 : Graph showing the variation in size group percentage in Otolithus ruber

clear from the classes of various size groups that 15-20 cm and 20-25 cm size groups are available throughout the year. The size group 15-20 cm increase in March and April (pre-spawning time). A normal trend remains in May and June and percentage decrease in July, August, September. The percentage remains at low level during October, November and December. The size group 20-25 cm increases in number from May to August. A decrease

trend is observed in October and December again the percentage increase during January and February and a sudden decrease trend is observed in March and April. The size group 25-30 cm remain absent during March and April as it is beginning of the Pre-

spawning time. The size group is available at low level during spawning time from July to September and it increases in percentage in October, November and December. The smallest size group 10-15 cm is available only in March, it remains absent

TABLE 2 : Month wise length-frequency percentage in different size groups of *Otolitus ruber*

Month	10-15 cm	15-20 cm	20-25 cm	25-30 cm	30-35 cm
January	0	25.00%	60.00%	15.00%	0
February	0	20.99%	55.56%	19.75%	3.70%
March	15.00%	76.25%	8.75%	0	0
April	0	87.50%	12.50%	0	5.00%
May	0	48.53%	50.00%	1.47%	0
June	0	33.75%	65.00%	1.25%	0
July	0	15.00%	77.50%	7.50%	0
August	0	10.00%	75.00%	15.00%	0
September	0	15.00%	60.00%	22.50%	2.50%
October	0	2.50%	22.50%	73.75%	1.25%
November	0	2.57%	50.00%	46.15%	1.28%
December	0	1.25%	31.25%	57.50%	10.00%

throughout the year except in March. It is clear from the above result the mature size groups are available in maximum number throughout the year.

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