Stocking details

Seventy five crabs were stocked @ 6 no./ sq.m (floor area). The total biomass at the time of stocking was 0.828 kg. The sex ratio was 30 males: 45 females. Details of the length and the weight of males and females are given below.

<table>
<thead>
<tr>
<th></th>
<th>CL range (mm)</th>
<th>CW range (mm)</th>
<th>Weight range (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>15-34</td>
<td>36-67.5</td>
<td>5.3-23.9</td>
</tr>
<tr>
<td>Females</td>
<td>18-31</td>
<td>35-72</td>
<td>3.8-19.6</td>
</tr>
</tbody>
</table>

The crabs were grown for 60 days.

Feeding and schedules

Feeding was done in the evening hours only (1700-1900 hrs). The pellet feed was fed at the rate of 3% of the biomass of nearly 850 g of crab stocked, gradually increasing the quantity with the growth of the crabs. Biomass was estimated every fortnight by collecting all the crabs using small scoop nets. The daily feed offered ranged from 25 g to 85 g during the experiment. The total feed consumed was 3.27 kg for the entire culture duration. The weight gain recorded in spite of the cannibalism was 1.77 kg. The apparent FCR for the pellets worked out to 1.9:1 (1.9 kg of feed for production of 1 kg of crab).

Harvest details

A total of 45 (60%) crabs (26 males and 19 females), survived at the end of the experiment and showed good growth rates. A total biomass of 2.597 kg was realized from the experiment. Only four deaths were recorded initially in the system mainly due to cannibalism. No disease or stress deaths were recorded in the system. The sizes recorded at the time of harvest are given below.

<table>
<thead>
<tr>
<th></th>
<th>CL range (mm)</th>
<th>CW range (mm)</th>
<th>Weight range (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>41-55</td>
<td>79-110</td>
<td>25-82</td>
</tr>
<tr>
<td>Females</td>
<td>41-53</td>
<td>84-110</td>
<td>36-73</td>
</tr>
</tbody>
</table>

The survival rate was higher for males than the females. This is also corroborated by the observations on the thin shelled females produced and their much delicate attacking chelipeds suggesting that the females are more vulnerable at the time of moulting. Thus the sex ratio is important for stocking in a pond and a ratio of 1:1 at the stocking time is ideal for a better survival. The growth rate of approximately 0.4 mm CL per day recorded is comparable with the rates observed in the earlier experiments fed on clam, prawn and egg. If the cannibalism rates could be reduced by improved substrate interventions the results would be more encouraging.

On the seasonal abundance of juvenile threadfin breams from Mumbai waters

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A very high catch of juvenile threadfin breams was observed at New Ferry Wharf, Mumbai in March 2007 by shrimp trawlers. The fishing was at about 60-80m depth to the southwest direction of Mumbai (off Ratnagiri) and the fishing duration was for a period of seven days.

On 3rd March 2007, 1,680 kg of juveniles of *Nemipterus* spp. were landed at New Ferry Wharf, forming approximately 30% of the estimated day’s catch of threadfin breams. A sample of 180 specimens of the dominant species, *Nemipterus mesoprimon* weighing 1.99 kg was measured and they ranged in size between 40-79 mm with a mode at 70-79 mm (Fig 1). The smaller sized fishes ranging in size between 40-54 mm (Plate 1) were sold as trash, locally known as kutta and the comparatively bigger specimens, up to 79 mm (Plate 2) were auctioned at the landing centre at the rate of Rs. 3-4/kg. The species composition showed dominance of *Nemipterus mesoprimon* (68.0%), followed by *Nemipterus japonicus* (31.5%) and *Nemipterus delagoae* (0.5%).
Fig 1. Length frequency of juveniles of *Nemipterus mesoprion* landed during March 2007 at NFW.

Plate 1. Juveniles ranging in size between 40-54 mm.

Plate 2. Juveniles ranging in size up to 79 mm.

Plate 3. Heap of threadfin breams at New Ferry Wharf.

Heavy landings of juveniles, comprising of larger fishes than the above were observed again on 20\textsuperscript{th} March 2007 (Plate 3). The catch amounting to 2,380 kg, formed about 70\% of the total estimated day's catch of threadfin breams. A total of 157 specimens of the major species, *N. mesoprion*, weighing 5.2 kg were measured and they ranged in size between 60-149 mm with a prominent mode at 110-119 mm (Fig 1). The catch was auctioned at the landing centre at the rate of Rs. 8/kg. *N. mesoprion* (61.0\%) formed the dominant species followed by *N. japonicus* (37.5\%) and *N. delagoae* (1.5\%).

The total estimated monthly catch of threadfin breams in March '07 was 186.3t. The entire catch including adults was transported to Ratnagiri for processing into a minced paste, known as *Surimi*, which forms an important item for export.

The seasonal abundance of threadfin breams over a period of 3 years from 2004-2006 showed that the maximum catch was during March-April with a smaller peak during September-October (Fig 2). However, occurrence of juveniles of small sizes in large numbers during the periods of abundance in the fishery is indeed a matter of great concern. Such unrestricted exploitation of juveniles could lead to growth overfishing.