

MULLET FRY POPULATION ANALYSIS AT MEX, ALEXANDRIA

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Monthly variations in the percentage composition of mullet fry swarms at Mex is studied together with length frequency distribution, theoretical and experimental estimation of the population, percentage utilization of the fry a source of stocking fish ponds.

Mullet fry are attracted to the outflow of lake Maryut and collection in a channel at Mex where a fry collecting station is established.

The species of mullet identified among the ascending fry in Mex channel are *Mugil cephalus* Lin and *Mugil capito* Cuv.

Mugil cephalus enters the channel from early July, increasing in the catch during August, to form the main bulk of the population till December.

Starting from January *M. capito* begins to appear in the catch, increasing gradually to form the main population during February to June.

Two periods of maximum concentration of the fry are observed. The first in October and November in this period the catches composed mainly of *Mugil cephalus* (91 and 98 %), the second period is in March and April, the catch being composed mainly of *M. capito* (97 and 99 %).

For *Mugil cephalus* the length frequency of the catch varied between 19-28 mm at the beginning of the season to about 40 mm at the end of the season. The length frequency of *M. capito* varied between 17-22 mm in January to reach about 60 mm in May.

To assess the total number of fry entering the channel and to evaluate the channel as a source of fry in stocking fish pond, a tagging experiment was done to estimate how often the population in the channel is changed. The following table gives the statistical estimation of the total number of fry found in the channel during the period of study, also the total number of captured fry. From this table it is shown that the maximum percentage of utilization is 30 % and the minimum percentage is 2 %.

| Month | Total number of fry | Number of fry captured | % of utilisation |
|--------------|---------------------|------------------------|------------------|
| October 1969 | 2,440,350 | 746,000 | 30.5 |
| November | 9,331,200 | 1,032,000 | 11.0 |
| December | 1,101,600 | 42,200 | 2.19 |
| January 1970 | 933,120 | 255,500 | 27.3 |
| February | 7,698,240 | 1,069,000 | 11.0 |
| March | 8,146,800 | 21,061,000 | 25.7 |
| April | 5,313,600 | 1,180,000 | 22.2 |
| May | 1,209,168 | 357,000 | 29.5 |
| June | 103,680 | 12,000 | 11.5 |
| July | 174,960 | 42,200 | 24.1 |
| August | 174,960 | 37,000 | 21.2 |
| September | 712,800 | 73,000 | 10.2 |
| October | 2,332,800 | 470,000 | 20.1 |
| November | 349,920 | 245,000 | 30.0 |
| December | 486,000 | 50,000 | 10.2 |

The seasonal variation in the number of fry per haul and their concentration in the canal are affected by :

- 1- Success of spawning season of mullet in the sea.
- 2- Salinity of water discharged from the lake.
- 3- Wind direction and force.
- 4- The problem of pollution in lake Maryut and Mex area.