The stepwise flow of energy from the source through a series of trophic interrelationship of organisms is referred to as the 'food chain' and results in the transfer of organic matter and energy in any ecosystem. As the trophic classification is one of function and not of species, it may occupy more than one trophic level depending on the available source of energy. Thus, we can see different trophic modes in the benthic environments. Although only a few of the species may be of direct economic value, it is well known that all organisms form a vital part of the intricate food web system.

In the present study, an attempt has been made to estimate the energy flow from benthic system to other levels of trophic components. There are many investigations on the biomass and production of sandy intertidal region of Indian coast (Owen et al., 1973; McLusky et al., 1975; Achutankutty et al., 1979; Ansell et al., 1978 and Ayyappan Nair, 1978), besides the study of other aspects of production ecology such as rate of assimilation (Conover, 1977), evaluation of transfer efficiencies (Strickland, 1970), transport of elements from food into organisms (Sorokin, 1968) and rate of growth (Mann, 1982). For the studies on biomass and production in the Indian coastal waters, mention may be made of the works of Damodaran (1973), Parulekar
There are few studies on the benthic biomass and production estimation of sewage disposal regions (Unnithan et al., 1980; Dauer and Conner, 1980; Varshney, 1982; Remani et al., 1984, 1986 and Varshney et al., 1984, 1986).

In this section, temporal and spatial variation in the biomass and production estimates for different taxa have been discussed. Monthwise biomass of different taxa are represented in Tables 48 to 49 and Figures 40 to 44 with mean biomass of individual species being depicted in Figures 45 to 48. Figure 49 shows the total biomass of macrobenthic fauna in stations 1 to 5 during different months. The percentage occurrence of different species are given in Table 50. Table 52 and Figures 50, 51 and 52 show the percentage composition of different taxa within, between and among the stations.

Station 1:
The polychaetes contributed maximum to the biomass by their occurrence in enormous numbers during most of the month (Tables 48 and 49 and Figure 40). The polychaete species which have contributed for maximum in the biomass were *L. heteropoda* (43.3%), *e. elba* (28.30%) followed by *N. polybranchiata* (10.66%) with mean biomass of 1243.96 mg/m², 813.91 mg/m² and 306.46 mg/m² (Table 50 and Figure 45) respectively. Among the gastropoda, none of the...
species occurred in large numbers (Table 50). The species responsible for higher biomass among bivalvia (Table 50) were D. incarnatus (39.14%) and C. assimile (11.44%). The mean biomass for the above two species were 375.13 mg/m² and 100.00 mg/m² respectively (Figure 47). But the contribution of D. incarnatus was as much as 40% of the total biomass of bivalves at this station (Table 50). The bivalvia ranked 2nd in biomass (Figure 40) with gastropoda contributing minimum, while nemerteans which had negligible density and biomass was not considered for discussion. Among the gastropoda (Figure 46), almost all the species yielded substantially to the biomass with the exception of D. margaritica (8.91%) and T. trisulcata (0.74%). O. ceratophthalma constituted more than 90% (95.25%) of the crustacean biomass (Table 50 and Figure 40) at station 1.

The mean biomass of polychaeta, gastropoda, bivalvia and crustacea were 2.875 g/m², 0.046 g/m², 0.954 g/m² and 0.279 g/m² (Table 51) respectively.

Table 52 shows the share of different taxa within the station, where polychaetes formed 68.56% followed by bivalvia with 22.73% (Figure 50). The nemertea was constituted by a meagre of 0.95% of the biomass. Between the stations, polychaetes have contributed 6.76% with gastropoda 7.86% (Figure 51). It is interesting to note that all the taxa had minimum biomass production at station 1, where the percentage composition of individual group in the
combined biomass was less than recorded at other stations with polychaeta sharing 4.74% followed by bivalvia with 1.41% (Table 52 and Figure 52).

Station 2:
In this station, maximum biomass of 13.939 g/m² and 10.052 g/m² were obtained for polychaeta in the months of March, 1985 and February, 1986 (Table 46 and Figure 41) respectively. The same trend was observed for other taxa with maximum biomass of 37 g/m² (January, 1986), 4.53 g/m² (March, 1985), 0.801 g/m² (February, 1987) and 0.11 g/m² (January, 1986) for gastropoda, bivalvia, crustacea and nemertea (Figure 41) respectively. It is clear that, the biomass was maximum during the pre and post-monsoon seasons and low (0.801 g/m²) during the monsoon period.

The maximum biomass was constituted by *L. heteropoda* (44.34%) and *O. algia* (24.80%) among polychaeta, *B. melanoide* (20.10%) and *T. trisulcata* (17.88%) among gastropoda, *O. incarnatus* (30.53%) and *O. scortum* (70.08%) among bivalvia, and *O. cornifonthalma* (23.29%) and *O. malabarica* (19.65%) among crustacea with mean values of 2350.93 mg/m², 1292.65 mg/m², 1354 mg/m², 12.54 mg/m², 568.88 mg/m², 374.19 mg/m², and 153.56 mg/m² respectively, corresponding to their high density (Table 17). Among crustacea, only *O. cornifonthalma* had the maximum percentage of 35.29, but was less than at station 1 (55.25%). Total biomass produced by polychaeta (127.25 g/m²)
exceed by two folds the combined biomass (56.87 g/m²) of other taxa (Table 51).

Percentage contribution of polychaeta within, between and among the stations were 69.11, 12.46 and 7.82 (Table 52) and are depicted in Figures 50, 51 and 52 respectively. Bivalvia's contribution stood next only to polychaeta with negligible share by gastropoda (Figure 41). The trend in the occurrence of biomass was similar to density, attaining peak during the pre and post-monsoon seasons.

Station 3.
In this station, maximum biomass was recorded in March, 1985 (33.44 g/m²) and minimum during August, 1986 (3.653 g/m² (Figure 49)). Like the other stations hitherto considered, biomass in station 3 was low during the other periods of the year (Table 47). Among polychaetes, L. heteropoda and G. alba with 42.93% and 19.52% constituted maximum in the biomass (Table 50 and Figure 45). Polychaetes had 65.38% of biomass within the station recording less than at stations 1 and 7 followed by bivalvia with 27.38% (Table 52 and Figure 50). Between the stations, polychaetes, gastropoda and bivalvia shared 20.96%, 23.46% and 20.20% (Table 52 and Figure 51) respectively. Among the stations, gastropoda with just 0.21% accounted for a minimum biomass (Table 52 and Figure 52). Biomass of bivalvia was maximum during the pre-monsoon season because of recruitment.
with decline in the monsoon period owing to unfavourable conditions.

Station 4:
This station was the most productive among all the stations. Taxa-wise, maximum biomass was formed by polychaeta, gastropoda, bivalvia and crustacea (Table 40 and Figure 43) with their corresponding values being 34.87 g/m² (March, 1987), 0.572 g/m² (March, 1986), 13.07 g/m² (March, 1985) and 2.69 g/m² (March, 1985) respectively. The maximum and minimum biomass was found during the months of March, 1985 (51.33 g/m²) and July, 1986 (6.59 g/m²). _L. heteropoda_ (44.69%), _Cerithium_ sp (10.00%), _T. trisulcata_ (17.79%), _D. incarnatus_ (22.5%), and _M. mercirivum_ (15.65%) _D. malabarica_ (39.41%) and _U. annulipes_ (26.70%) were the dominant species accounting for maximum biomass at this station (Table 50). The mean biomass values for the above species were 7,558.93 mg/m², 4950 mg/m², 4843 mg/m², 1610 mg/m², 112266 mg/m², 623.33 mg/m² and 422.30 mg/m² (Figures 45 to 48) respectively. It is seen that, at station 4 bivalvia formed as much as 40% of the polychaeta biomass with the mean values being 7.172 g/m² and 16.914 g/m² (Table 51) respectively.

The above account amply shows that monsoon months had accounted for minimum biomass than the pre and post-monsoon months (Figure 49). Polychaetes with 64.73% formed the maximum in the total biomass followed by crustacea with 27.45% within the station.
It is noticeable that though the ratio in density between Divalvia and Crustacea is less than 15:1.0 (Table 19), there was considerable increase in the biomass between the two taxa, which exceeded 45:1.0. This was mainly due to difference in the individual weight shown by different species. Table 51 reveals the dominance of polychaetes over other stations which is almost six times as that of station 1 and two fold with those at stations 3 and 5 (Figure 53). But it is also important to note that the percentage composition of biomass by other taxa were also higher at this station. Among the stations, polychaeta with 24.95% had maximum biomass followed by bivalvia with 10.58% (Table 52 and Figure 52).

Station 5:
Station 5 being situated away from the other stations had more stable conditions of environmental parameters (Tables 3 to 11) and the situation can be comparable with those prevailing at stations 3 and 4, which also reflected in the similarity in biomass and density with the former. The temporal variation of biomass are given in Table 49 and Figure 44, and the speciosewise biomass is depicted in Figures 45 to 48. As in other stations, the biomass at this station was also minimum during the monsoon season, with highest and lowest recording in the months of March 1984 (70.70 g/m²) and August, 1985 [4.50 g/m² (Table 49 and Figure 49)].
Among the polychaetes, *L. heteropoda* (47.50%) and *N. cirratulius* (15.09%) constituted the maximum biomass (Table 50). Among the bivalvia, *M. meretrix* which incidentally ranked second at station 4 had maximum biomass (28.11%), followed by *M. casta* (27.63%). It is interesting to note that the crustacean species, *E. haliatus* which failed to occur at other stations has dominated here contributing 33.85% next to *D. malebarica* (42.35%, Table 50 and Figure 48). The mean biomass at this station (161.70 g/m²/month) was the highest, barring station 4 (261.79 g/m²/month, Table 51).

The bulk of the biomass was constituted by polychaeta (52.71%), bivalvia (28.93%) and crustacea (17.09%) unlike at other stations where the former had dominated (Table 50). Between the stations, polychaetes in this station formed only 20.04%, nearly one half as that was observed at station 4 (39.76%, Figure 51), showing remarkable improvement in crustacean biomass (48.07%) over polychaeta as opposed to the observation at stations 1 to 3. Among the stations, polychaetes emerged as the dominant taxa (12.57%) followed by bivalvia with a percentage of 6.96% (Figure 52) in the total biomass. Though, polychaetes also dominated at this station, it was crustacea which showed significant improvement in the biomass.

Macrobenthic production:

The annual biomass production was estimated by multiplying...
turnover rate of 2.5 for the macrofauna (McLachlan, 1977) and are represented as wet weight excluding hard parts and shells of molluscs. The mean biomass of each species in different stations are given in Table 53. _L. heteropoda_ formed the dominant species in the annual biomass production in all the stations. The maximum biomass at station 4 (7.559 g/m²). _N. cirratulus_ though absent at station 1, constituted the second highest in the individual mean biomass in other stations. The mean biomass for the total species in stations 1 to 5 were 4.195 g/m² (Station 1), 7.673 g/m² (Station 2), 13.640 g/m² (Station 3); 26.029 g/m² (Station 4) and 16.170 g/m² (Station 5) respectively (Table 53).

Table 54 gives the annual biomass production of macrobenthic fauna in different stations. They were 14.406 g wet wt./m²/year (Station 1); 19.179 g wet wt./m²/year (Station 2), 26.098 g wet wt./m²/year (Station 3), 65.323 g wet wt./m²/year (Station 4) and 40.26 g wet wt./m²/year (Station 5). Harkantra (1984) reported an annual macrobenthic production of 514.88 g dry wt./mt/year and 874.90 g dry wt./mt/year in different sandy beaches of Goa. However, Ansell et al. (1972) have reported that the elimination of most of the polychaete species during the monsoon periods have accounted for the decreased annual biomass production and the same trend is observed in the present study, in which bulk of the biomass was formed by the polychaetes. Achuthankutty and Wafar (1976) have reported that the low survival rate of _E. holthuizen_ which perish at the end of the first year of life due to natural...
conditions also holds good for other species, particularly in the dynamic intertidal region of coastal belts where the vagaries of the monsoon arc the highest.

Discussion:
From the Table 45 to 49 and Figures 40 to 44, it is clear that polychaetes have dominated over other taxa in the production of biomass with minimum percentage frequency biomass at the reference site (Station 5) with 52.71 and maximum biomass at station 2 (69.11%). Except at station 5, barring bivalvia, the biomass of other taxa was negligible in the remaining stations. At station 5, crustacea, along with bivalvia also shared substantially to the biomass. It is clear that the percentage occurrence of polychaetes decreased from station 1 to station 5 except at station 2 (Figure 50). Contribution of crustacea was negligible in other stations except at station 5. Bivalvia remained fluctuating between 22.00% to 29.00% with maximum record at station 5 (28.93% (Table 52)).

Among all the stations, the 4th station had the highest biomass with 313.55 g/m²/year followed by station 5 with 194.04 g/m²/year (Table 51). Table 52 and Figure 50 gives a clear idea about the percentage sharing of different taxa in the total biomass at different stations. The percentage share of polychaetes in the total biomass in stations 1 to 5 was 62.72 with maximum record at
station 4 (24.95% (Table 52)) followed by station 5 (12.57%). The other taxa which contributed maximum biomass were hivalvia and crustacea with maximum and minimum biomass share of 10.5% (Station 4) and 1.41% (Station 1), and 4.08% (Station 5) and 0.41% (Station 1) respectively.

The monthly variation in percentage density and corresponding biomass and total density with total biomass in stations 1 to 5 are depicted in Figures 5 to 58 which indicates that increase in biomass is closely related with the increase in the density. To supplement the result, the log mean values of density were plotted against log mean values of biomass and are shown in Figure 59. This shows the linear relation existing between density and biomass.

Conclusion.

It is obvious that polychaetes have dominated over other taxa both temporally and spatially in density and biomass production. L. heteropoda and G. alba are the dominant species contributing maximum to the biomass production.

Thus, from the foregoing discussion, it is clear that variation in density and biomass occurred mainly due to monsoon season which eliminates the populations of most of the species either through physical or chemical processes together with biological interactions. Besides, the hazards of monsoon, typical of
coastal region and more so in the intertidal zone is the added discomfiture of domestic sewage disposal. Though, no clear indication of the pollution due to sewage discharge was discernible, there seems to be considerable effect on the occurrence of few species, especially in the stations 1 and 2 situated near the point of sewage discharge. Perhaps, station 3 and 4 can be considered as the 'transitional zones' wherein the density was higher caused by the enhancement of the nutrient level, and such increase in the polychaete density has been reported earlier (Unnithan, 1975, Mearns and Greene, 1976, McIntyre, 1977, Parulekar et al., 1980, Ansari et al., 1985, and Varshney et al., 1988).

Besides these factors, the sediment texture, anthropogenic activities like use of the intertidal zone for recreational purposes, current patterns and dredging activities together with the fluctuating environmental parameters were responsible for the temporal variation in the occurrence of macrobenthos. Almost the flat intertidal region at the sewage disposal site has made the inhabitation and wide distribution of species possible from low tide to high tide watermark, which otherwise reported to restrict to certain zones of the intertidal area.

As a whole, it can be concluded that, enrichment of the medium at the disposal site along with the vagaries of the monsoon are
responsible for the varying occurrence of macrobenthic species in general, and enrichment of polychaeta in particular in all the stations, especially in the sewage disposal site.
Table 45. Monthwise biomass of macrobenthic taxa (mg/m²) at station 1

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Mar'85</th>
<th>Apr'85</th>
<th>May'85</th>
<th>Jun'85</th>
<th>Jul'85</th>
<th>Aug'85</th>
<th>Sep'85</th>
<th>Oct'85</th>
<th>Nov'85</th>
<th>Dec'85</th>
<th>Jan'86</th>
<th>Feb'86</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>4943.40</td>
<td>3920.29</td>
<td>2194.57</td>
<td>1041.11</td>
<td>943.74</td>
<td>561.75</td>
<td>2022.30</td>
<td>1767.64</td>
<td>1423.10</td>
<td>1842.34</td>
<td>8096.69</td>
<td>7372.79</td>
</tr>
<tr>
<td>G</td>
<td>5490.17</td>
<td>3632.65</td>
<td>2134.65</td>
<td>831.39</td>
<td>629.16</td>
<td>486.85</td>
<td>1677.76</td>
<td>3093.37</td>
<td>1587.88</td>
<td>2179.59</td>
<td>603.94</td>
<td>5228.02</td>
</tr>
<tr>
<td>B</td>
<td>69.29</td>
<td>47.71</td>
<td>28.94</td>
<td>2.79</td>
<td>0.99</td>
<td>14.55</td>
<td>39.58</td>
<td>58.29</td>
<td>89.47</td>
<td>89.29</td>
<td>85.08</td>
<td>94.31</td>
</tr>
<tr>
<td>C</td>
<td>83.25</td>
<td>42.89</td>
<td>16.04</td>
<td>1.29</td>
<td>0.93</td>
<td>5.34</td>
<td>20.28</td>
<td>45.08</td>
<td>55.01</td>
<td>63.06</td>
<td>72.31</td>
<td>85.76</td>
</tr>
<tr>
<td>N</td>
<td>1788.00</td>
<td>1012.70</td>
<td>647.50</td>
<td>242.80</td>
<td>141.40</td>
<td>192.50</td>
<td>486.20</td>
<td>898.40</td>
<td>887.20</td>
<td>1317.30</td>
<td>1567.10</td>
<td>1799.10</td>
</tr>
<tr>
<td>B</td>
<td>2051.80</td>
<td>1034.60</td>
<td>235.40</td>
<td>73.80</td>
<td>32.80</td>
<td>235.80</td>
<td>462.40</td>
<td>925.80</td>
<td>1322.60</td>
<td>1777.60</td>
<td>1809.50</td>
<td>1925.10</td>
</tr>
<tr>
<td>C</td>
<td>574.17</td>
<td>485.50</td>
<td>292.43</td>
<td>223.68</td>
<td>157.12</td>
<td>180.48</td>
<td>257.56</td>
<td>271.69</td>
<td>363.47</td>
<td>364.13</td>
<td>480.09</td>
<td>568.33</td>
</tr>
<tr>
<td>N</td>
<td>324.71</td>
<td>170.35</td>
<td>91.28</td>
<td>17.51</td>
<td>39.32</td>
<td>64.66</td>
<td>126.81</td>
<td>196.76</td>
<td>283.64</td>
<td>294.03</td>
<td>427.96</td>
<td>435.82</td>
</tr>
<tr>
<td>P</td>
<td>59.21</td>
<td>37.87</td>
<td>21.64</td>
<td>0.00</td>
<td>0.00</td>
<td>27.05</td>
<td>48.69</td>
<td>59.51</td>
<td>75.74</td>
<td>86.56</td>
<td>37.87</td>
<td>64.92</td>
</tr>
<tr>
<td>G</td>
<td>64.92</td>
<td>48.69</td>
<td>21.64</td>
<td>0.00</td>
<td>0.00</td>
<td>5.41</td>
<td>21.64</td>
<td>48.69</td>
<td>48.69</td>
<td>48.69</td>
<td>70.33</td>
<td>59.51</td>
</tr>
<tr>
<td>Total</td>
<td>7434.07</td>
<td>5486.07</td>
<td>3195.08</td>
<td>1510.38</td>
<td>1243.25</td>
<td>976.33</td>
<td>2834.33</td>
<td>3093.55</td>
<td>2938.98</td>
<td>3699.82</td>
<td>10267.63</td>
<td>9799.45</td>
</tr>
</tbody>
</table>

P. Polychaeta, G: Gastropoda; B. Bivalvia; C. Crustacea; N. Nemertea
Table 46. Monthwise biomass of macrobenthic taxa (mg/m²) at station 2

| Taxa  | Mar'85 | Apr'85 | May'85 | Jun'85 | Jul'85 | Aug'85 | Sep'85 | Oct'85 | Nov'85 | Dec'85 | Jan'86 | Feb'86 | Mar'86 | Apr'86 | May'86 | Jun'86 | Jul'86 | Aug'86 | Sep'86 | Oct'86 | Nov'86 | Dec'86 | Jan'87 | Feb'87 |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| P     | 13938  | 8950   | 5340   | 37    | 2831   | 72     | 2059.75| 1265.81| 3999.72| 4254.32| 3333.05| 4031   | 52     | 10141  | 46     | 10937  | 47     |
| G     | 10448.55| 7617.33| 3797.43| 2314.41| 1275.30| 801.43 | 3070.90| 3939.74| 3460.38| 4074.56| 8755.81| 6591.20|       |        |        |        |        |        |        |
| B     | 126.67 | 69.82  | 54.40  | 4.89   | 1.05   | 11.23  | 62.93  | 92.30  | 106.75 | 114.57 | 137.33 | 135.63 |       |        |        |        |        |        |        |
| C     | 103.24 | 59.81  | 33.37  | 0.00   | 1.29   | 13.47  | 38.91  | 70.93  | 77.94  | 90.58  | 104.43 | 96.09  |       |        |        |        |        |        |        |
| N     | 4532.00| 3105.20| 2460.70| 962.50 | 340.60 | 355.30 | 724.10 | 1181.90| 1070.50| 2688.90| 3657.40| 3904.30|       |        |        |        |        |        |        |
|       | 3337.70| 1741.30| 579.30 | 132.80 | 84.40  | 501.90 | 913.80 | 1476.20| 2049.60| 2448.20| 2840.20| 2933.40|       |        |        |        |        |        |        |
|       | 731.10 | 271.01 | 61.15  | 14.34  | 76.86  | 213.43 | 289.83 | 390.07 | 607.40 | 703.30 | 541.23 | 801.10 |       |        |        |        |        |        |        |
|       | 648.88 | 336.01 | 154.32 | 70.28  | 90.30  | 145.31 | 233.22 | 436.95 | 496.74 | 559.93 | 608.85 | 622.09 |       |        |        |        |        |        |        |
|       | 70.33  | 37.87  | 27.05  | 27.05  | 0.00   | 43.28  | 64.92  | 91.97  | 64.92  | 86.96  | 113.61 | 86.56  |       |        |        |        |        |        |        |
| N     | 59.51  | 75.74  | 16.23  | 37.87  | 48.69  | 64.92  | 70.33  | 64.92  | 86.96  | 102.79 | 70.33  |       |       |        |        |        |        |        |        |
| Total | 19398  | 991243 | 45     | 3840.50| 2478.26| 1889.25| 5141.50| 11230.56| 5902.62| 7624.85| 14591.23| 15786.01|       |        |        |        |        |        |        |
|       | 14627  | 66     | 9830.19| 4602.49| 2533.72| 1487.16| 1510.80| 3921.75 | 5994.33 | 6149.58 | 7247.03 | 12412.08| 08     | 10313  | 50     |       |        |        |        |        |

P Polychaeta, G Gastropoda; B Bivalvia, C Crustacea, N Nemertea
Table 47  Monthwise biomass of macrobenthic taxa (mg/m²) at station J

<table>
<thead>
<tr>
<th>Taxa &amp;</th>
<th>Mar'85</th>
<th>Apr'85</th>
<th>May'85</th>
<th>Jun'85</th>
<th>Jul'85</th>
<th>Aug'85</th>
<th>Sep'85</th>
<th>Oct'85</th>
<th>Nov'85</th>
<th>Dec'85</th>
<th>Jan'86</th>
<th>Feb'86</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>21938</td>
<td>21820</td>
<td>87</td>
<td>9302</td>
<td>58</td>
<td>4591</td>
<td>37</td>
<td>4763</td>
<td>64</td>
<td>3078</td>
<td>39</td>
<td>5827</td>
</tr>
<tr>
<td></td>
<td>4340</td>
<td>16200</td>
<td>30</td>
<td>3469</td>
<td>48</td>
<td>4763</td>
<td>64</td>
<td>3078</td>
<td>39</td>
<td>5827</td>
<td>22</td>
<td>4340</td>
</tr>
<tr>
<td></td>
<td>16672</td>
<td>74</td>
<td>12633</td>
<td>40</td>
<td>7235</td>
<td>34</td>
<td>3527</td>
<td>79</td>
<td>3632</td>
<td>63</td>
<td>2516</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>7928</td>
<td>7235</td>
<td>34</td>
<td>3527</td>
<td>79</td>
<td>3632</td>
<td>63</td>
<td>2516</td>
<td>64</td>
<td>4838</td>
<td>54</td>
<td>7928</td>
</tr>
<tr>
<td></td>
<td>258</td>
<td>66</td>
<td>120.10</td>
<td>63</td>
<td>20</td>
<td>13</td>
<td>64</td>
<td>9</td>
<td>12</td>
<td>36.99</td>
<td>89.87</td>
<td>132.31</td>
</tr>
<tr>
<td></td>
<td>290.37</td>
<td>141</td>
<td>05</td>
<td>66</td>
<td>07</td>
<td>15</td>
<td>43</td>
<td>10</td>
<td>85</td>
<td>30.47</td>
<td>80</td>
<td>06</td>
</tr>
<tr>
<td></td>
<td>9246</td>
<td>60</td>
<td>6332</td>
<td>30</td>
<td>4076</td>
<td>30</td>
<td>1943</td>
<td>30</td>
<td>691.30</td>
<td>649.80</td>
<td>710.10</td>
<td>1506.60</td>
</tr>
<tr>
<td></td>
<td>7397</td>
<td>10</td>
<td>3069</td>
<td>20</td>
<td>1098</td>
<td>10</td>
<td>324.90</td>
<td>20</td>
<td>206.30</td>
<td>799.40</td>
<td>1722.10</td>
<td>3238.30</td>
</tr>
<tr>
<td></td>
<td>1054</td>
<td>84</td>
<td>758.12</td>
<td>293.72</td>
<td>138.08</td>
<td>113.58</td>
<td>162.49</td>
<td>416.69</td>
<td>778.24</td>
<td>1140.18</td>
<td>1177.76</td>
<td>1544.29</td>
</tr>
<tr>
<td></td>
<td>1474</td>
<td>36</td>
<td>724.40</td>
<td>359.09</td>
<td>164.47</td>
<td>139.70</td>
<td>226.16</td>
<td>410.43</td>
<td>624.47</td>
<td>824.83</td>
<td>949.31</td>
<td>1150.15</td>
</tr>
<tr>
<td></td>
<td>146.07</td>
<td>151.48</td>
<td>75.74</td>
<td>37.87</td>
<td>21.64</td>
<td>32.46</td>
<td>64.92</td>
<td>108.20</td>
<td>108.20</td>
<td>146.07</td>
<td>167.71</td>
<td>216.40</td>
</tr>
<tr>
<td></td>
<td>119.02</td>
<td>75.74</td>
<td>01.15</td>
<td>32.46</td>
<td>43.28</td>
<td>81.35</td>
<td>86.56</td>
<td>119.02</td>
<td>113.61</td>
<td>129.84</td>
<td>91.97</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total</th>
<th>33444</th>
<th>38</th>
<th>23562</th>
<th>95</th>
<th>13811</th>
<th>54</th>
<th>6725</th>
<th>05</th>
<th>5599</th>
<th>28</th>
<th>3960</th>
<th>13</th>
<th>7108</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>259.59</td>
<td>59</td>
<td>16643</td>
<td>81</td>
<td>0889</td>
<td>75</td>
<td>4063</td>
<td>05</td>
<td>4032</td>
<td>78</td>
<td>3635</td>
<td>82</td>
<td>7157</td>
</tr>
<tr>
<td></td>
<td>624.83</td>
<td>119.02</td>
<td>75.74</td>
<td>37.87</td>
<td>21.64</td>
<td>32.46</td>
<td>64.92</td>
<td>108.20</td>
<td>108.20</td>
<td>146.07</td>
<td>167.71</td>
<td>216.40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>119.02</td>
<td>75.74</td>
<td>01.15</td>
<td>32.46</td>
<td>43.28</td>
<td>81.35</td>
<td>86.56</td>
<td>119.02</td>
<td>113.61</td>
<td>129.84</td>
<td>91.97</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P Polychaeta, G Gastropoda, B Bivalvia, C Crustacea, N Nemertea
<table>
<thead>
<tr>
<th>Taxa</th>
<th>Mar'85</th>
<th>Apr'85</th>
<th>May'85</th>
<th>Jun'85</th>
<th>Jul'85</th>
<th>Aug'85</th>
<th>Sep'85</th>
<th>Oct'85</th>
<th>Nov'85</th>
<th>Dec'85</th>
<th>Jan'86</th>
<th>Feb'86</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>34873</td>
<td>44</td>
<td>23356</td>
<td>05</td>
<td>24087</td>
<td>84</td>
<td>12096</td>
<td>35</td>
<td>5035</td>
<td>75</td>
<td>8568</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25166</td>
<td>40</td>
<td>24432</td>
<td>30</td>
<td>19024</td>
<td>60</td>
<td>14770</td>
<td>28</td>
<td>4201</td>
<td>89</td>
<td>3467</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>431</td>
<td>02</td>
<td>422</td>
<td>04</td>
<td>466</td>
<td>71</td>
<td>341.61</td>
<td>244</td>
<td>185</td>
<td>22</td>
<td>122</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>522</td>
<td>59</td>
<td>215.51</td>
<td>100</td>
<td>51</td>
<td>44.88</td>
<td>26</td>
<td>10</td>
<td>72</td>
<td>51</td>
<td>139</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13074</td>
<td>40</td>
<td>12685</td>
<td>90</td>
<td>12768</td>
<td>20</td>
<td>9875</td>
<td>50</td>
<td>4879</td>
<td>50</td>
<td>3174.30</td>
<td>2193.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11952</td>
<td>10</td>
<td>6705</td>
<td>80</td>
<td>4296</td>
<td>40</td>
<td>2580</td>
<td>10</td>
<td>1899</td>
<td>20</td>
<td>3128</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11591</td>
<td>92</td>
<td>1463</td>
<td>37</td>
<td>876</td>
<td>79</td>
<td>555</td>
<td>28</td>
<td>399</td>
<td>69</td>
<td>573</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2693</td>
<td>02</td>
<td>2530</td>
<td>90</td>
<td>1909</td>
<td>31</td>
<td>970</td>
<td>71</td>
<td>447</td>
<td>91</td>
<td>598</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2659</td>
<td>92</td>
<td>1463</td>
<td>37</td>
<td>876</td>
<td>79</td>
<td>555</td>
<td>28</td>
<td>399</td>
<td>69</td>
<td>573</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>238</td>
<td>04</td>
<td>297</td>
<td>55</td>
<td>189</td>
<td>55</td>
<td>254.27</td>
<td>183</td>
<td>94</td>
<td>119</td>
<td>02</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>205</td>
<td>58</td>
<td>146.07</td>
<td>75</td>
<td>74</td>
<td>64</td>
<td>64</td>
<td>92</td>
<td>81</td>
<td>15</td>
<td>119</td>
<td>02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21332</td>
<td>92</td>
<td>39492</td>
<td>52</td>
<td>39421</td>
<td>41</td>
<td>23538</td>
<td>44</td>
<td>10811</td>
<td>56</td>
<td>12646</td>
<td>09</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21754</td>
<td>15</td>
<td>25090</td>
<td>41</td>
<td>28246</td>
<td>18</td>
<td>34204</td>
<td>54</td>
<td>41485</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40506</td>
<td>61</td>
<td>32963</td>
<td>13</td>
<td>24374</td>
<td>04</td>
<td>18021</td>
<td>46</td>
<td>6591</td>
<td>8</td>
<td>7323</td>
<td>78</td>
</tr>
</tbody>
</table>

P Polychaeta, G Gastropoda, B Bivalvia, C Crustacea, N Nemertea
<table>
<thead>
<tr>
<th>Taxa</th>
<th>Mar'85</th>
<th>Apr'85</th>
<th>May'85</th>
<th>Jun'85</th>
<th>Jul'85</th>
<th>Aug'85</th>
<th>Sep'85</th>
<th>Oct'85</th>
<th>Nov'85</th>
<th>Dec'85</th>
<th>Jan'86</th>
<th>Feb'86</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>13219</td>
<td>85</td>
<td>12216.19</td>
<td>8688.40</td>
<td>4993 83</td>
<td>3814 88</td>
<td>3377.99</td>
<td>5894.63</td>
<td>14485.66</td>
<td>11399 78</td>
<td>11602 01</td>
<td>10725 68</td>
</tr>
<tr>
<td></td>
<td>11347</td>
<td>35</td>
<td>10658 27</td>
<td>6606 18</td>
<td>4546.43</td>
<td>3954.72</td>
<td>2996 00</td>
<td>4494.00</td>
<td>11991 49</td>
<td>9160.27</td>
<td>9826 98</td>
<td>8568.56</td>
</tr>
<tr>
<td>G</td>
<td>143.44</td>
<td>20</td>
<td>180.02</td>
<td>123.88</td>
<td>2.58</td>
<td>0.00</td>
<td>0.68</td>
<td>29.39</td>
<td>59.77</td>
<td>92.93</td>
<td>120.74</td>
<td>141.19</td>
</tr>
<tr>
<td></td>
<td>92 17</td>
<td>55</td>
<td>86</td>
<td>25.02</td>
<td>3.08</td>
<td>4.14</td>
<td>11.42</td>
<td>44.05</td>
<td>62.37</td>
<td>85.78</td>
<td>102.21</td>
<td>107.49</td>
</tr>
<tr>
<td>B</td>
<td>10323</td>
<td>20</td>
<td>7669.80</td>
<td>5631 20</td>
<td>2789 10</td>
<td>1209.00</td>
<td>600.30</td>
<td>1294.00</td>
<td>2041.21</td>
<td>4020.80</td>
<td>4265.90</td>
<td>8342.30</td>
</tr>
<tr>
<td></td>
<td>7952 40</td>
<td>3925 60</td>
<td>2312 30</td>
<td>1720 10</td>
<td>1203 80</td>
<td>1524.30</td>
<td>2446.80</td>
<td>3617 90</td>
<td>5499.80</td>
<td>8061.80</td>
<td>7651 80</td>
<td>8215 10</td>
</tr>
<tr>
<td>C</td>
<td>4810.56</td>
<td>4333 18</td>
<td>2358 41</td>
<td>969 56</td>
<td>550 48</td>
<td>437.47</td>
<td>1460.10</td>
<td>2376 75</td>
<td>2921.47</td>
<td>4086.09</td>
<td>4316 61</td>
<td>4701 41</td>
</tr>
<tr>
<td></td>
<td>4845 66</td>
<td>3881 99</td>
<td>1906 44</td>
<td>775.00</td>
<td>538.07</td>
<td>841.10</td>
<td>1564 49</td>
<td>2346.50</td>
<td>3255.07</td>
<td>3999 25</td>
<td>4517 23</td>
<td>4546.27</td>
</tr>
<tr>
<td>N</td>
<td>205 58</td>
<td>243 45</td>
<td>97.38</td>
<td>102 79</td>
<td>16.23</td>
<td>75 74</td>
<td>54.10</td>
<td>129 84</td>
<td>243 45</td>
<td>183 94</td>
<td>205 58</td>
<td>167 71</td>
</tr>
<tr>
<td></td>
<td>189.35</td>
<td>124 43</td>
<td>70 33</td>
<td>37.87</td>
<td>32.46</td>
<td>70 33</td>
<td>119 02</td>
<td>156 89</td>
<td>194 76</td>
<td>205 58</td>
<td>238 04</td>
<td>205 58</td>
</tr>
</tbody>
</table>

**Total**

|          | 28702 63 | 24521 34 | 18678 81 | 8859 86 | 5610 59 | 4500.18 | 8732 41 | 19093 22 | 2378 68 | 22258 68 | 23731 36 | 24288 83 |
| F Polychaeta, G Gastropoda, B Bivalvia, C Crustacea, N Nemertea |
Table 50. Percentage biomass occurrence of macrobenthic species (mg/m²) in the total biomass within the stations

<table>
<thead>
<tr>
<th>Texas</th>
<th>Species</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>L.H</td>
<td>43.25</td>
</tr>
<tr>
<td></td>
<td>N.P</td>
<td>10.66</td>
</tr>
<tr>
<td></td>
<td>N.C</td>
<td>00.00</td>
</tr>
<tr>
<td></td>
<td>D.E</td>
<td>09.69</td>
</tr>
<tr>
<td></td>
<td>Polychaeta</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G.A</td>
<td>28.30</td>
</tr>
<tr>
<td></td>
<td>L.L</td>
<td>06.35</td>
</tr>
<tr>
<td></td>
<td>P.I</td>
<td>00.00</td>
</tr>
<tr>
<td></td>
<td>D.N</td>
<td>01.73</td>
</tr>
<tr>
<td></td>
<td>N.D</td>
<td>00.00</td>
</tr>
<tr>
<td></td>
<td>Total (%)</td>
<td>100.06</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gastropoda</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T.A</td>
<td>17.06</td>
</tr>
<tr>
<td></td>
<td>T.D</td>
<td>10.12</td>
</tr>
<tr>
<td></td>
<td>C.S</td>
<td>14.83</td>
</tr>
<tr>
<td></td>
<td>T.T</td>
<td>08.34</td>
</tr>
<tr>
<td></td>
<td>N.A</td>
<td>14.06</td>
</tr>
<tr>
<td></td>
<td>Total (%)</td>
<td>100.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Species</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>I</td>
</tr>
<tr>
<td>D I</td>
<td>39.34</td>
<td>30.53</td>
</tr>
<tr>
<td>D.S</td>
<td>10.19</td>
<td>20.08</td>
</tr>
<tr>
<td>C A</td>
<td>11.44</td>
<td>10.11</td>
</tr>
<tr>
<td>A G</td>
<td>09.22</td>
<td>12.60</td>
</tr>
<tr>
<td>M M</td>
<td>02.83</td>
<td>11.25</td>
</tr>
<tr>
<td>M C</td>
<td>08.22</td>
<td>05.13</td>
</tr>
<tr>
<td>S S</td>
<td>06.71</td>
<td>05.7u</td>
</tr>
<tr>
<td>P M</td>
<td>07.05</td>
<td>04.60</td>
</tr>
<tr>
<td></td>
<td>Total (%)</td>
<td>100.00</td>
</tr>
<tr>
<td>T S</td>
<td>09.47</td>
<td>11.02</td>
</tr>
<tr>
<td>G S</td>
<td>00.00</td>
<td>00.00</td>
</tr>
<tr>
<td>E P</td>
<td>00.47</td>
<td>00.55</td>
</tr>
<tr>
<td>E.S</td>
<td>00.91</td>
<td>01.14</td>
</tr>
<tr>
<td></td>
<td>Total (%)</td>
<td></td>
</tr>
<tr>
<td>D M</td>
<td>08.64</td>
<td>19.65</td>
</tr>
<tr>
<td>D C</td>
<td>05.23</td>
<td>33.29</td>
</tr>
<tr>
<td>S.W</td>
<td>00.23</td>
<td>01.27</td>
</tr>
<tr>
<td>U A</td>
<td>12.01</td>
<td>16.95</td>
</tr>
<tr>
<td>E.H</td>
<td>00.00</td>
<td>00.00</td>
</tr>
<tr>
<td>D N</td>
<td>13.00</td>
<td>13.12</td>
</tr>
<tr>
<td></td>
<td>Total (%)</td>
<td>100.00</td>
</tr>
<tr>
<td>N S</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Nemertea: NS.  

Table 51 Total and mean biomass of macrobenthic taxa (mg/m²) in the study stations

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Station I</th>
<th>Station II</th>
<th>Station III</th>
<th>Station IV</th>
<th>Station V</th>
<th>Total</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total &amp; &amp;</td>
<td>Total &amp; &amp;</td>
<td>Total &amp; &amp;</td>
<td>Total &amp; &amp;</td>
<td>Total &amp; &amp;</td>
<td>Total</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polychaeta</td>
<td>69020.35</td>
<td>127250.07</td>
<td>214002.04</td>
<td>405939.67</td>
<td>204359.49</td>
<td>1020771.62</td>
<td>45532.14</td>
</tr>
<tr>
<td></td>
<td>2875.85</td>
<td>5302.08</td>
<td>8916.75</td>
<td>16914.15</td>
<td>8523.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastropoda</td>
<td>1111.53</td>
<td>1616.22</td>
<td>3342.56</td>
<td>6532.70</td>
<td>1532.84</td>
<td>14135.85</td>
<td>589.00</td>
</tr>
<tr>
<td></td>
<td>46.32</td>
<td>67.34</td>
<td>159.27</td>
<td>272.20</td>
<td>63.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bivalvia</td>
<td>22885.40</td>
<td>44720.90</td>
<td>89620.30</td>
<td>172129.00</td>
<td>112285.20</td>
<td>441640.80</td>
<td>18401.70</td>
</tr>
<tr>
<td></td>
<td>953.56</td>
<td>1963.37</td>
<td>3734.13</td>
<td>7172.04</td>
<td>4678.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>6692.32</td>
<td>9083.96</td>
<td>18059.17</td>
<td>37935.09</td>
<td>66339.16</td>
<td>130132.70</td>
<td>5755.54</td>
</tr>
<tr>
<td></td>
<td>278.85</td>
<td>378.50</td>
<td>752.47</td>
<td>1581.59</td>
<td>2754.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nemertea</td>
<td>957.27</td>
<td>1449.88</td>
<td>2320.89</td>
<td>4344.40</td>
<td>3370.43</td>
<td>12643.07</td>
<td>526.59</td>
</tr>
<tr>
<td></td>
<td>39.39</td>
<td>60.41</td>
<td>96.70</td>
<td>199.16</td>
<td>140.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100666.87</td>
<td>184121.03</td>
<td>327344.97</td>
<td>627103.96</td>
<td>388987.12</td>
<td>1627324.04</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4194.47</td>
<td>7671.70</td>
<td>13639.37</td>
<td>25129.34</td>
<td>16170.29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 52. Percentage biomass occurrence of macrobenthic taxa (m²/m²) within (a), between (b) and among (c) the stations

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Station 1</th>
<th>Station 2</th>
<th>Station 3</th>
<th>Station 4</th>
<th>Station 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>68.56</td>
<td>76.04</td>
<td>69.11</td>
<td>76.07</td>
<td>72.56</td>
</tr>
<tr>
<td>G</td>
<td>01.11</td>
<td>07.86</td>
<td>00.00</td>
<td>07.86</td>
<td>00.11</td>
</tr>
<tr>
<td>B</td>
<td>22.73</td>
<td>05.18</td>
<td>01.64</td>
<td>01.41</td>
<td>02.75</td>
</tr>
<tr>
<td>C</td>
<td>06.65</td>
<td>04.84</td>
<td>00.41</td>
<td>04.93</td>
<td>06.57</td>
</tr>
<tr>
<td>N</td>
<td>00.00</td>
<td>07.75</td>
<td>00.06</td>
<td>07.99</td>
<td>00.00</td>
</tr>
<tr>
<td>P1</td>
<td>Polychaeta, G</td>
<td>Bivalvia, C</td>
<td>Gastrococha, B</td>
<td>Crustacea, N</td>
<td>Nemerida</td>
</tr>
</tbody>
</table>

Olta: (J. Univ. Oceane.)
Table 53. Mean biomass values (g/m²) of macrobenthic species in the study stations

<table>
<thead>
<tr>
<th>Stations</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>L. heteropoda</em></td>
<td>07.249</td>
<td>02.375</td>
<td>00.3828</td>
<td>07.359</td>
<td>06.49</td>
</tr>
<tr>
<td><em>N. polybrachiata</em></td>
<td>00.010</td>
<td>00.373</td>
<td>00.522</td>
<td>01.664</td>
<td>00.00</td>
</tr>
<tr>
<td><em>N. cirratulus</em></td>
<td>00.080</td>
<td>00.578</td>
<td>01.117</td>
<td>02.410</td>
<td>01.285</td>
</tr>
<tr>
<td><em>C. permuta</em></td>
<td>00.279</td>
<td>00.428</td>
<td>00.594</td>
<td>01.513</td>
<td>00.460</td>
</tr>
<tr>
<td><em>G. alba</em></td>
<td>00.141</td>
<td>01.293</td>
<td>01.740</td>
<td>02.762</td>
<td>00.79</td>
</tr>
<tr>
<td><em>L. latreilli</em></td>
<td>00.183</td>
<td>00.216</td>
<td>00.231</td>
<td>00.544</td>
<td>00.231</td>
</tr>
<tr>
<td><em>P. indicus</em></td>
<td>00.000</td>
<td>00.000</td>
<td>00.111</td>
<td>01.005</td>
<td>00.05</td>
</tr>
<tr>
<td><em>O. neapolitanus</em></td>
<td>00.050</td>
<td>00.059</td>
<td>00.465</td>
<td>00.468</td>
<td>00.360</td>
</tr>
<tr>
<td><em>N. dujardini</em></td>
<td>00.000</td>
<td>00.000</td>
<td>00.000</td>
<td>00.000</td>
<td>00.00</td>
</tr>
<tr>
<td><em>B. melanoides</em></td>
<td>00.062</td>
<td>00.014</td>
<td>00.024</td>
<td>00.045</td>
<td>00.013</td>
</tr>
<tr>
<td><em>F. testulata</em></td>
<td>00.061</td>
<td>00.012</td>
<td>00.017</td>
<td>00.049</td>
<td>00.021</td>
</tr>
<tr>
<td><em>O. margeriticola</em></td>
<td>00.041</td>
<td>00.005</td>
<td>00.012</td>
<td>00.026</td>
<td>00.003</td>
</tr>
<tr>
<td><em>T. attenuata</em></td>
<td>00.079</td>
<td>00.009</td>
<td>00.027</td>
<td>00.043</td>
<td>00.017</td>
</tr>
<tr>
<td><em>T. duplicata</em></td>
<td>00.047</td>
<td>00.006</td>
<td>00.017</td>
<td>00.022</td>
<td>00.000</td>
</tr>
<tr>
<td><em>C. ceratophthalma</em></td>
<td>00.064</td>
<td>00.009</td>
<td>00.016</td>
<td>00.049</td>
<td>00.003</td>
</tr>
<tr>
<td><em>T. spiralis</em></td>
<td>00.059</td>
<td>00.005</td>
<td>00.009</td>
<td>00.014</td>
<td>00.001</td>
</tr>
<tr>
<td><em>N. albus</em></td>
<td>00.066</td>
<td>00.007</td>
<td>00.017</td>
<td>00.026</td>
<td>00.007</td>
</tr>
<tr>
<td><em>O. increatus</em></td>
<td>00.375</td>
<td>00.569</td>
<td>01.073</td>
<td>01.619</td>
<td>00.675</td>
</tr>
<tr>
<td><em>O. strumum</em></td>
<td>00.097</td>
<td>00.374</td>
<td>00.708</td>
<td>01.023</td>
<td>00.451</td>
</tr>
<tr>
<td><em>T. annulipes</em></td>
<td>00.100</td>
<td>00.188</td>
<td>00.406</td>
<td>00.036</td>
<td>00.357</td>
</tr>
<tr>
<td><em>E. granosa</em></td>
<td>00.088</td>
<td>00.235</td>
<td>00.361</td>
<td>00.703</td>
<td>00.092</td>
</tr>
<tr>
<td><em>M. merelrix</em></td>
<td>00.073</td>
<td>00.210</td>
<td>00.502</td>
<td>01.123</td>
<td>01.315</td>
</tr>
<tr>
<td><em>M. casta</em></td>
<td>00.070</td>
<td>00.098</td>
<td>00.251</td>
<td>00.792</td>
<td>01.012</td>
</tr>
<tr>
<td><em>S. olvidra</em></td>
<td>00.064</td>
<td>00.106</td>
<td>00.253</td>
<td>00.716</td>
<td>00.459</td>
</tr>
<tr>
<td><em>P. malabarica</em></td>
<td>00.067</td>
<td>00.005</td>
<td>00.023</td>
<td>00.716</td>
<td>00.459</td>
</tr>
<tr>
<td><em>T. orchiestis</em></td>
<td>00.027</td>
<td>00.042</td>
<td>00.092</td>
<td>00.101</td>
<td>00.114</td>
</tr>
<tr>
<td><em>G. simile</em></td>
<td>00.000</td>
<td>00.000</td>
<td>00.000</td>
<td>00.000</td>
<td>00.000</td>
</tr>
<tr>
<td><em>E. perforata</em></td>
<td>00.001</td>
<td>00.002</td>
<td>00.000</td>
<td>00.010</td>
<td>00.010</td>
</tr>
<tr>
<td><em>E. fulvescens</em></td>
<td>00.003</td>
<td>00.004</td>
<td>00.006</td>
<td>00.014</td>
<td>00.012</td>
</tr>
<tr>
<td><em>D. miles</em></td>
<td>00.024</td>
<td>00.074</td>
<td>00.287</td>
<td>00.623</td>
<td>01.171</td>
</tr>
<tr>
<td><em>O. crenatophthalma</em></td>
<td>00.013</td>
<td>00.134</td>
<td>00.052</td>
<td>00.054</td>
<td>00.203</td>
</tr>
<tr>
<td><em>S. waithi</em></td>
<td>00.001</td>
<td>00.001</td>
<td>00.003</td>
<td>00.006</td>
<td>00.009</td>
</tr>
<tr>
<td><em>U. annulipes</em></td>
<td>00.033</td>
<td>00.064</td>
<td>00.131</td>
<td>00.422</td>
<td>00.000</td>
</tr>
<tr>
<td><em>F. holoinusi</em></td>
<td>00.000</td>
<td>00.000</td>
<td>00.000</td>
<td>00.000</td>
<td>00.000</td>
</tr>
<tr>
<td><em>D. malabarica</em></td>
<td>00.036</td>
<td>00.057</td>
<td>00.173</td>
<td>00.363</td>
<td>00.000</td>
</tr>
<tr>
<td><em>Nomertea sp</em></td>
<td>00.040</td>
<td>00.060</td>
<td>00.097</td>
<td>00.189</td>
<td>00.140</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>04.195</td>
<td>07.673</td>
<td>13.640</td>
<td>26.029</td>
<td>16.10</td>
</tr>
</tbody>
</table>
Table 54. Total biomass, mean biomass and production estimation (g/m²) of macrobenthic fauna in the study stations

<table>
<thead>
<tr>
<th>Station</th>
<th>Total biomass (g/m²)</th>
<th>Mean biomass (g/m²)</th>
<th>Production (g/m²)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station 1</td>
<td>100 670</td>
<td>4 190</td>
<td>10 486</td>
<td>06.18</td>
</tr>
<tr>
<td>Station 2</td>
<td>184 120</td>
<td>7 670</td>
<td>19 179</td>
<td>11.31</td>
</tr>
<tr>
<td>Station 3</td>
<td>327 340</td>
<td>13 640</td>
<td>34 098</td>
<td>20.12</td>
</tr>
<tr>
<td>Station 4</td>
<td>627 100</td>
<td>26 120</td>
<td>63 323</td>
<td>35.54</td>
</tr>
<tr>
<td>Station 5</td>
<td>388 090</td>
<td>16 170</td>
<td>40 426</td>
<td>23.850</td>
</tr>
</tbody>
</table>
Fig 40 Temporal variation in biomass of different macrobenthic taxa at station 1
Fig 41 Temporal variation in biomass of different macrobenthic taxa at station 2
Fig 42 Temporal variation in biomass of different macrobenthic taxa at station 3
Fig 43 Temporal variation in biomass of different macrobenthic taxa at station 4
Fig 44 Temporal variation in biomass of different macrobenthic taxa at station 5
Fig 45 Variation in mean biomass of different macrobenthic species (Polychaeta) in stations 1–5
Fig 46 Variation in mean biomass of different macrobenthic species (Gastropoda) in stations 1–5
Fig 47 Variation in mean biomass of different macrobenthic species (Bivalvia) in stations 1–5.

Fig 48. Variation in mean biomass of different macrobenthic species (Crustacea and Nemertea) in stations 1-5.
Fig 49 Monthwise biomass of total macrobenthic fauna in different study stations.
Figure 50: Percentage frequency of biomass composition of macrobenthic taxa within the stations.
Fig. 51. Percentage frequency of biomass composition of macrobenthic taxa between the stations.
Fig. 52. Percentage frequency of biomass composition of macrobenthic taxa among the stations
Fig. 53 Total biomass of macrobenthic taxa in stations 1–5.
Fig 54 Percentage prevalence of taxonic density and biomass (a) and total macrobenthic density and biomass (b) at station 1.
Fig 55 Percentage prevalence of taxonic density and biomass (a) and total macrobenthic density and biomass (b) at station 2
Fig 56 Percentage prevalence of taxonomic density and biomass (a) and total macrobenthic density and biomass (b) at station 3.
Fig 57 Percentage prevalence of taxonomic density and biomass (a) and total macrobenthic density and biomass (b) at station 4.
Fig 58 Percentage prevalence of taxonomic density and biomass (a) and total macrobenthic density and biomass (b) at station 5
Fig 59 A–E Composition of mean taxonomic density and biomass and
F Total mean macrobenthic density and biomass in the study stations 1 to 5.