

THE DISTRIBUTION OF THE POLYCHAETA IN THE SOFT SUBSTRATUM  
OF GÜLBAHÇE AREA IN THE BAY OF İZMİR

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*Résumé* : L'étude de 36 prélèvements réalisés en 6 stations sur substrat meuble à Gülbahçe (golfe d'Izmir) a révélé 82 espèces de Polychètes (35 Errantes et 47 Sédentaires), dans cette zone non encore polluée.

*Summary* : Study of 36 samples conducted in 6 stations at Gülbahçe (Izmir Bay) during several months in 1983 has shown a total of 82 Polychaeta species (35 Errantia and 47 Sedentaria) in this non-polluted zone.

**INTRODUCTION** : Gülbahçe is located in the southern part of İzmir Bay and there is no evident pollution yet. However increasing population density from year to year and gradually spreading dense pollution from the inner towards the outer part of İzmir Bay indicate that this area will be affected by the pollution in near

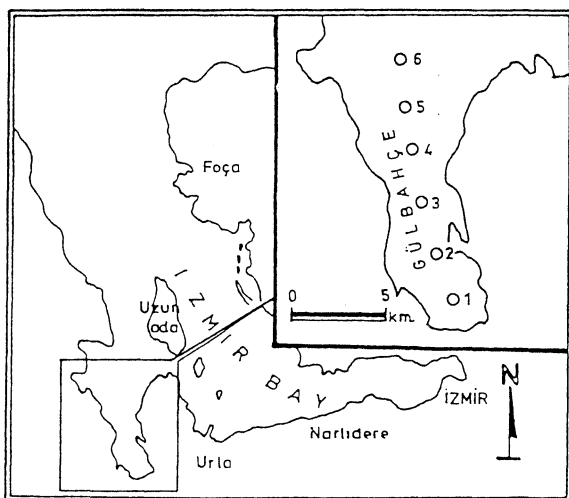


Figure 1: The sampling stations

employed in the calculation of the diversity indices for each station.

**RESULTS AND DISCUSSION** : Upon 36 samplings carried out at 6 stations during the year of 1983 in Gülbahçe area, a total of

future. The deepest point of this area which is surrounded by a number of beaches is 32. m. deep and its soft substratum exhibits a detritic bottom structure containing mainly muddy sand and the shells of various molluscs.

**METHODS** : During various months of 1983, sampling at 6 station were carried out using an orange-peel. Margalef's method was

82 Polycheta species were determined and 3182 individuals belonging to those species were counted. No significant differences were found between the number of species, number of individuals and the diversity indices of stations (Table 2), the depth of which varies between 5 m (station 1) and 32 m (station 6).

Table I. Distribution of the number of species and number of individuals at the stations and the diversity indices.

Station	Number of sampling	Number of Species	Number of individuals	Diversity index
1	6	49	550	7.61
2	6	46	547	7.13
3	6	40	443	6.40
4	6	48	557	7.43
5	6	39	545	6.02
6	6	46	536	7.16

As compared with the number of species obtained during the course of the investigations (ERGEN, 1979, KOCATAŞ, GELDIAY 1980, ERGEN, ÖNEN, 1983) carried out in the polluted or slightly polluted areas with similar substrata in İzmir Bay, this area seems to be much richer in the content of these species.

Of the 82 polychaeta species determined within the area 35 belong to Errantia and 47 to sedentaria. Among these sthenelais minor, Hyalinoecia brementi, Clymene gracilis, Clymene affinis, Maldane glebifex, Asychis biceps, Pectinaria auricoma and Amaea trilobota from all Turkish coasts; Clymene lophoseta and Sternaspis scutata from Aegean and Mediterranean coasts of Turkey are being reported for the first time.

#### REFERENCES :

- ERGEN, Z. 1979 : The effects of pollution on the distribution of the Polychaeta in the Bay of İzmir. T.U.J.J.B. yayınları No.11, 77-82.
- ERGEN, Z., ÖNEN, M. 1983 : The Effects of pollution on the macrobenthic fauna of the soft substratum in the Urla Harbour (İzmir Turkey). Rapp.Comm.Int.Mer Medit, 28.3.
- KOCATAŞ, A., GELDIAY, R. 1980 : Effects of domestic pollution in İzmir Bay Helgolander Meeresunters. 33, 393-400.