SOME EFFECTS OF POLLUTION ON THE BENTHIC COMMUNITIES OF THE SOFT SUBSTRATE IN THE GULF OF IZMIR (TURKEY)

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Résumé

Sur 10 stations se trouvant dans la partie intérieure du Golfe d'Izmir, 120 prélèvements effectués à l'aide d'une benne (orangé-peel) ont fourni 88 espèces.

Summary

Monthly sampling by orange-peel was done at 10 stations chosen in the inner part of the Gulf of Izmir, From the total 120 samplings 88 benthic species were found.

Introduction

Izmir Gulf is topographically divided into two parts designated as the inner part and the outer. The inner part of the Gulf of Izmir, where the domestic wastes of almost a million people and industrial residues of many factories are emtied, has a narrow channel leading to the outer part of the Gulf and in physical appearance it resembles a lagoon.

Methods

Monthly sampling was done at 10 stations using the method of BELLAN (1967), which is by using an orange-peel with a capacity of 5 dm^3. In the calculation of the diversity indices for the stations, Margalef's method was used.

Results

During the investigation period (July 1974-June 1975) 88 species were found and 5636 individuals were counted at the 10 stations. The taxonomical distribution of the species and number of individuals are seen in table I. As it will be easily seen from the table, Polychaeta has the greatest number of species and individuals and Mollusca follows the Polychaeta.

Table I : The taxonomical distribution of species and individuals

Taxonomical group	Number of species	Percentage of species	Number of indiv.	Percentage of indiv.
Algae + Angiosp.	6	6.8	-	-
Platyhelminthes	2	2.2	9	0.16
Nemertea	1	1.1	4	0.07
Polychaeta	40	45.4	4352	77.2
Mollusca	24	27.2	1136	20.1
Crustacea	10	11.3	127	2.3
Echinodermata	3	3.4	8	0.14
Ascidiacea	2	2.2	-	-
Total	88		5636	

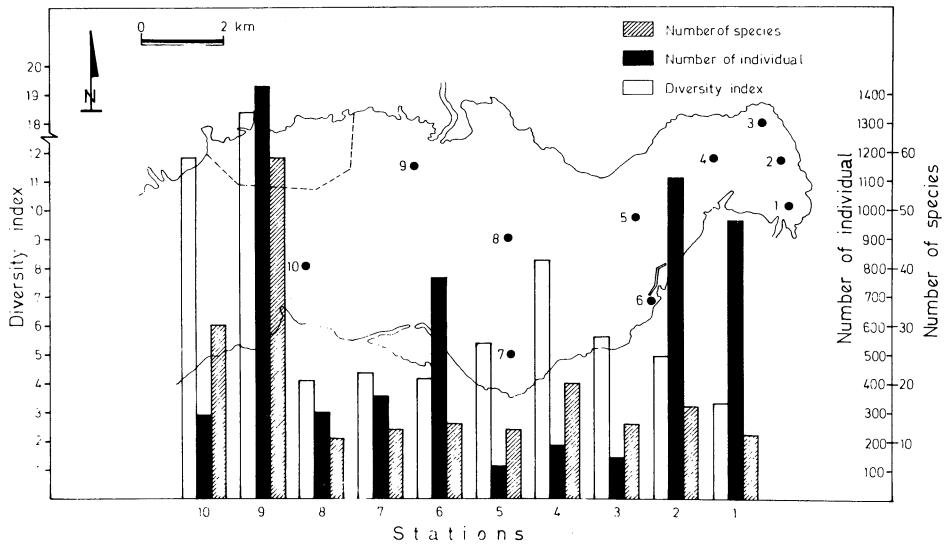

Figure 1: Distribution of the number of species and the number of individuals at the stations and the diversity indices.

As it is seen in Fig.1, variations from station ta station are obvious.

Conclusion

A gradual increase in the number of species ranging from the region where the introduction of the domestic wastes of almost a million people and various industrial residues are greatest to the region where pollution is least was observed during the investigation. Accordingly, following the earlier descriptions of REISH (1959) and BELLAN (1967), it can be considered that while the polluted bottom is found in only a few places, the semi-polluted bottom covers larger areas of the inner part of the Gulf of Izmir.