

POLYCHAETES FROM THE MANAVGAT RIVER DELTA (TURKISH MEDITERRANEAN COAST)

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Abstract

This study deals with the polychaete fauna from the Manavgat River Delta situated in the southern coast of Turkey. The samples were collected at 14 stations in July 1995, from the depths 10 to 165m. A total of 378 individuals belonging to 68 species was recorded. The collection included two species, *Lysidice collaris* and *Rhodine loveni* with Red Sea affinities. The most widely distributed worms in the area were *Lumbrineris gracilis* and *Cirratulus chrysoderma*. The stations having relatively low salinity, situated at the mouth of Manavgat River, were characterized by low and fluctuating diversity index values, whereas in the deeper stations, far from the influence of the river, these values were higher and fairly constant. The similarity between the stations was compared and discussed.

Key-words : *Polychaeta*, biodiversity, Eastern Mediterranean

Introduction

The Manavgat River Delta, situated in the north-western part of the Levantine Basin along the southern coast of Turkey, has become a fashionable resort site (Fig 1). In spite of its importance, no study regarding Polychaeta, which is known as a key taxon for monitoring the marine water quality (1), has been published in the area. Concerning inshore of the Turkish Mediterranean coast, limited number of papers are available on Polychaeta fauna (2,3,4). Within the framework of the polychaete studies being continued since 1972 along the Turkish coasts, some benthic samples were collected in this area in July 1995.

Material and methods

Samples (one replicate in each station) was taken using a Van-Veen Grab, sampling ca. 10 dm³ volume of sediment, in 14 stations from 10 to 169 m depths (Table 1). Salinity of the stations varied from 37.75‰ (Stations 3 and 4) to 39 ‰. The samples were washed through sieve with 1 mm mesh size, fixed with 5 % formalin and preserved in 70% ethanol. Polychaetes were identified and counted. Diversity Index (H'), Evenness Index (J'), Frequency Index and Similarity Index were calculated according to Shannon-Weaver (5), Pielou (6), Soyer (7) and Bray and Curtis (8), respectively.

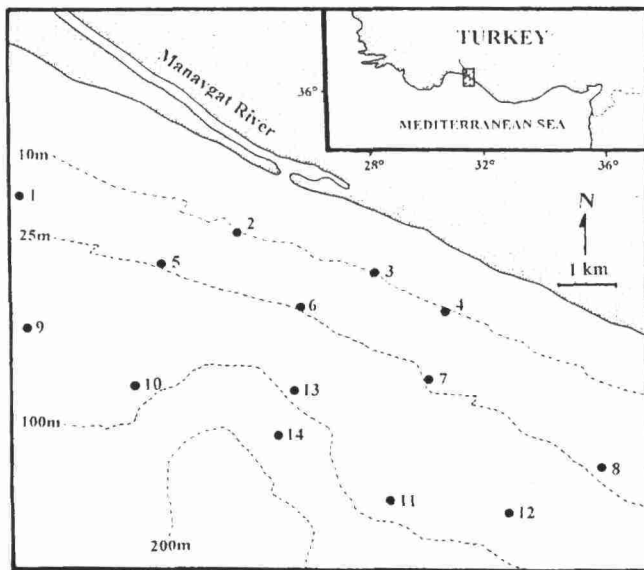


Figure 1 : Map of the investigated area with location of sampling sites.

Table 1. Depths, biotop structures, total number of species (S) and individuals (N), and dominant species of the stations.

Station	Depth	Sediment	S	N	Dominant Species
1	18 m	muddy sand	6	9	<i>Lumbrineris gracilis</i> (22.2%)
2	10 m	muddy sand	3	3	<i>L. gracilis</i> (33.3%)
3	10 m	muddy sand	1	1	<i>L. gracilis</i> (100%)
4	10 m	muddy sand	2	2	<i>L. gracilis</i> (50%)
5	23 m	muddy sand	14	25	<i>Cirratulus chrysoderma</i> (20%)
6	23 m	muddy sand	21	77	<i>Scoloplos armiger</i> (24.7%)
7	23 m	muddy sand	14	19	<i>Melinna palmata</i> (15.8%)
8	23 m	muddy sand	10	12	<i>Glyceria rouxii</i> (16.7%)
9	65 m	sandy mud	8	17	<i>Prionospio</i> sp. (35.3%)
10	85 m	sandy mud	10	31	<i>Prionospio</i> sp. (45.2%)
11	85 m	sandy mud	9	22	<i>Prionospio</i> sp. (45.5%)
12	65 m	sandy mud	13	27	<i>Prionospio</i> sp. (33.3%)
13	85 m	sandy mud	12	55	<i>Prionospio</i> sp. (43.6%)
14	165 m	sandy mud	14	78	<i>Monticellina heterochaeta</i> (38.5%)

Results and discussion

A total of 68 taxa belonging to 28 families, represented by 378 specimens, was determined. The following species, *Eteone lactea*, *Ancistrosyllis hamata*, *Aricidea* cf. *longobranchiata*, *Therochaeta flabellata*, *Monticellina heterochaeta* and *Ampharete grubei*, were new to the Turkish fauna. Thirty-four species are newly reported from the Turkish Levant coast (Table 2).

Table 2. List of species found and their abundance at the stations

SPECIES	STATIONS													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Harmothoe impar</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	1
* <i>Harmothoe lunulata</i>	-	-	-	-	-	-	-	-	-	1	-	-	-	-
<i>Harmothoe</i> sp.	-	-	1	-	-	-	-	-	-	-	-	-	-	-
* <i>Pholoe synophthalmica</i>	-	-	-	-	-	-	-	1	-	-	-	-	-	-
<i>Sigalion mathidae</i>	-	-	-	-	-	-	2	-	-	-	-	-	-	-
<i>Pelogenia arenosa</i>	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Aphroditidae gen. sp.	-	-	-	-	-	-	-	-	-	-	1	-	-	-
<i>Euprosyne</i> sp.	-	-	-	-	-	-	-	-	1	-	-	-	-	-
** <i>Eteone lactea</i>	-	-	-	-	1	-	-	-	-	-	-	-	-	-
** <i>Ancistrosyllis hamata</i>	-	-	-	-	-	-	-	-	-	-	-	-	1	-
<i>Syllis armillaris</i>	-	-	-	-	-	-	-	1	-	-	-	-	-	-
<i>Syllis cornuta</i>	-	-	-	-	-	-	-	1	-	-	-	-	-	-
<i>Nereis</i> sp.	-	-	-	-	-	1	-	-	-	-	-	-	-	-
* <i>Glyceria convoluta</i>	-	-	-	-	-	-	-	1	-	-	-	-	-	-
* <i>Glyceria capitata</i>	-	-	-	-	-	-	-	-	-	-	-	-	1	-
* <i>Glyceria rouxii</i>	1	-	-	-	-	-	-	-	2	1	1	-	-	-
* <i>Nephtys caeca</i>	-	-	-	-	-	-	-	-	-	1	-	-	-	-
* <i>Nephtys incisa</i>	-	-	3	-	1	-	-	-	-	-	-	-	-	-
* <i>Goniada emerita</i>	-	-	-	1	1	-	-	-	-	-	-	-	-	-
<i>Lysidice collaris</i>	-	-	-	-	-	-	-	-	1	-	-	-	-	-
<i>Lumbrineris gracilis</i>	2	1	1	-	-	2	1	-	1	-	-	1	2	1
<i>Lumbrineris latreillei</i>	-	-	-	-	-	1	-	-	-	-	-	-	-	-
<i>Lumbrineris coccoinea</i>	-	-	-	-	-	1	-	-	-	-	-	-	-	-
<i>Scoletoma imatiens</i>	-	-	-	-	-	1	5	-	-	-	-	1	-	-
<i>Scoletoma fragilis</i>	-	-	-	-	-	-	7	-	2	2	-	-	-	-
<i>Scoletoma funchatensis</i>	-	-	-	-	-	1	-	-	-	-	-	-	-	-
<i>Aporonuphis fauveli</i>	-	-	-	-	-	1	-	-	-	-	-	-	-	-
* <i>Scoloplos armiger</i>	-	-	-	-	-	3	19	2	-	-	-	-	-	-
* <i>Spio filicornis</i>	-	-	-	-	-	1	-	-	-	-	-	-	-	-
* <i>Nerine foliosa</i>	-	-	-	-	-	1	1	-	-	1	-	-	-	-
* <i>Spiophanes bombyx</i>	-	-	-	-	-	2	1	-	1	-	-	-	-	-
* <i>Laonice cirrata</i>	-	-	-	-	-	1	-	-	4	-	-	-	-	-
* <i>Prionospio cirrifera</i>	-	-	-	-	-	5	-	-	-	7	4	1	3	5
* <i>Prionospio steenstrupi</i>	-	-	-	-	-	1	-	-	-	-	-	-	-	1
<i>Prionospio</i> sp.	-	-	-	-	-	3	-	-	6	14	10	9	24	9
** <i>Ancidea</i> cf. <i>longobranchiata</i>	-	-	-	-	-	-	-	-	-	-	-	1	1	5
* <i>Paradoneis lyra</i>	-	-	-	-	-	-	-	-	-	1	-	-	-	-
* <i>Magelona papillicornis</i>	-	-	-	-	-	-	-	-	-	-	1	-	-	-
* <i>Poecilochaetus serpens</i>	-	-	-	-	-	-	-	-	-	-	1	-	-	-
** <i>Therochaeta flabellata</i>	-	-	-	-	-	-	-	-	-	-	-	-	1	1
<i>Cirriformia</i> sp.	-	-	-	-	-	1	-	-	-	-	-	-	-	-
* <i>Cirratulus chrysoderma</i>	-	-	-	-	-	5	5	2	-	1	2	-	4	1
* <i>Chaetozone setosa</i>	-	-	-	-	-	-	-	-	-	-	2	-	-	1
** <i>Monticellina heterochaeta</i>	-	-	-	-	-	-	7	-	-	-	-	-	14	30
Cirratulidae gen. sp.1	2	-	-	-	-	-	-	-	1	-	-	-	-	-
Cirratulidae gen. sp.2	-	1	-	-	-	-	-	-	-	-	-	-	-	-
<i>Notomastus latericeus</i>	-	-	-	-	-	2	-	-	1	-	-	-	-	-
** <i>Notomastus cf. lineatus</i>	-	-	-	-	-	-	-	-	-	-	-	1	-	-
<i>Pseudoleiocapitella fauveli</i>	-	-	-	-	-	-	2	-	1	-	-	1	-	-
Capitellidae gen. sp.	2	-	-	-	-	-	-	-	-	-	-	-	-	-
* <i>Euclymene gracilis</i>	-	-	-	-	-	-	-	-	-	-	-	-	2	2
<i>Euclymene</i> sp.	-	-	-	-	-	-	-	1	-	-	-	1	-	-
* <i>Rhodine loveni</i>	-	-	-	-	-	1	-	-	-	-	-	-	-	-
* <i>Petaloproctus terricola</i>	-	-	-	-	-	-	2	-	-	-	-	-	-	-
<i>Cossura</i> sp.	-	-	-	-	-	-	6	-	-	-	-	-	-	1
* <i>Stemaspis scutata</i>	-	-	-	-	-	-	4	1	-	1	-	4	4	4
* <i>Terebellides stroemi</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	2
** <i>Ampharete grubei</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	2
<i>Melinna palmata</i>	1	1	-	-	3	-	3	2	-	-	-	-	-	-
<i>Amphitrite</i> sp.	-	-	-	-	-	1	-	-	-	-	-	-	-	-
* <i>Pista cnstata</i>	-	-	-	-	-	1	-	-	-	-	1	-	-	-
<i>Pista unibranchiata</i>	-	-	-	-	-	-	-	1	-	-	-	-	-	-
<i>Polycirrus</i> sp.	-	-	-	-	-	1	-	-	-	-	-	-	-	-
<i>Chone</i> sp.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chone</i> sp.2	-	-	-	-	-	-	-	-	1	-	-	-	-	-

* species new to Turkish Levant fauna

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