

Florida Bay and Adjacent Waters Benthic Community Assessment

Submitted to

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INTRODUCTION

Florida Bay and Adjacent Waters was sampled during August 1996. One aspect of this evaluation was benthic community characterization, which was accomplished via sample collection by National Oceanic and Atmospheric Administration (NOAA) personnel, and laboratory and data analysis by Barry A. Vittor & Associates, Inc. (BVA).

METHODS

Sample Collection And Handling

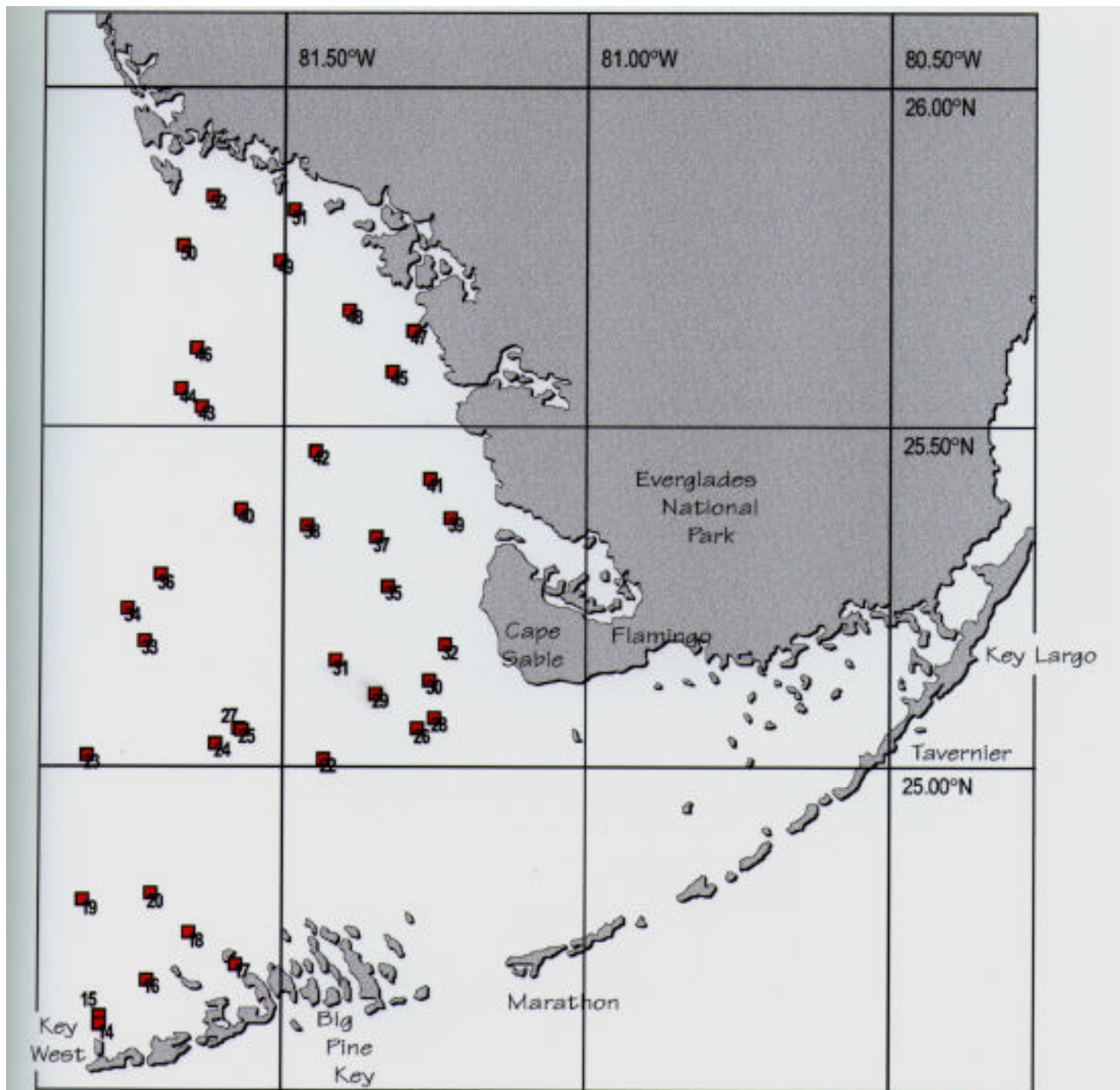
A Young dredge (area = 0.04 m²) was used to collect replicate bottom samples at each of 36 stations in Florida Bay (Figure 1). Macroinfaunal samples were sieved through a 0.5-mm mesh screen and preserved with 10% formalin on ship. Macroinfaunal samples were transported to the BVA laboratory in Mobile, Alabama.

Sediment Analysis

Sediment texture was determined at half-phi intervals using the hydrometer technique for fractions smaller than 44 µm and nested sieves for larger particle fractions. Texture parameters that were computed included percent gravel, sand, and silt /clay. Total organic carbon (TOC) content was measured as ash-free dry weight expressed as a percentage.

Macroinfaunal Sample Analysis

In the laboratory of BVA, benthic samples were inventoried, rinsed gently through a 0.5 mm mesh sieve to remove preservatives and sediment, stained with Rose Bengal, and stored in 70% isopropanol solution until processing. Sample material (sediment, detritus, organisms) was placed in white enamel trays for sorting under Wild M-5A dissecting microscopes. All macroinvertebrates were carefully removed with forceps and placed in labelled glass vials



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containing 70% isopropanol. Each vial represented a major taxonomic group (*e.g.* Polychaeta, Mollusca, Arthropoda). All sorted macroinvertebrates were identified to the lowest practical identification level (LPIL), which in most cases was to species level, unless the specimen was a juvenile, damaged, or otherwise unidentifiable. The number of individuals of each taxon, excluding fragments, was recorded. A voucher collection was prepared, composed of representative individuals of each species not previously encountered in samples from the region.

DATA ANALYSIS

All data generated as a result of laboratory analysis of macroinfauna samples were first coded on data sheets. Enumeration data were entered for each species according to station and replicate. These data were reduced to a data summary report for each station, which included a taxonomic species list and benthic community parameters information. Archive data files of species identification and enumeration were prepared.

The QA/QC report for the Florida Bay and Adjacent Waters samples is given in the Appendix.

The analytical methodologies utilized for this study were similar to those used in similar benthic community characterization reports prepared for other state and federal agency surveys. Macroinfaunal characterization involves an evaluation of several biological community structure parameters (*e.g.*, species abundance, species composition and species diversity indices) during initial data reduction, followed by pattern and classification analysis for delineation of taxa assemblages. Since species are distributed along environmental gradients, there are generally no distinct boundaries between communities. However, the relationships between habitats and species assemblages often reflect the interactions of physical and biological factors and indicate major ecological trends.

Assemblage Structure

Several numerical indices were chosen for analysis and interpretation of the macroinfaunal data. Selection was based primarily on the ability of the index to provide a meaningful summary of data, as well as the applicability of the index to the characterization of the benthic community. Infaunal abundance is reported as the total number of individuals per station and the total number of individuals per square meter (= density). Taxa richness is reported as the total number of taxa represented in a given station collection.

Taxa diversity, which is often related to the ecological stability and environmental "quality" of the benthos, was estimated by the Pielou's Index (Pielou, 1966), according to the following formula:

$$H' = - \sum_{i=1}^S p_i (\ln p_i)$$

where, S = is the number of taxa in the sample,

i = is the i'th taxa in the sample, and

p_i = is the number of individuals of the i'th taxa divided by the total number of individuals in the sample.

Taxa diversity within a given community is dependent upon the number of taxa present (taxa richness) and the distribution of all individuals among those taxa (equitability or evenness). In order to quantify and compare faunal equitability to taxa diversity for a given area, Pielou's Index J' (Pielou, 1966) was calculated as $J' = H' / \ln S$, where $\ln S = H'_{\max}$, or the maximum possible diversity, when all taxa are represented by the same number of individuals; thus, $J' = H' / H'_{\max}$.

Macroinfaunal data were graphically and statistically analyzed to identify any differences in density between stations. Data for total density were variously transformed and tested for normality (Shapiro-Wilk W ; SAS Institute, 1995). Data could not be normalized with standard transformations [*e.g.* $\ln(x+1)$, $\sqrt{x+1}$], so data were analyzed using non-parametric methods (SAS Institute, 1995).

Faunal Similarities

Numerical classification analysis (Boesch 1977) was performed on the faunal data to examine within- and between- stations differences at the Florida Bay stations and to compare faunal composition at each station within the site. Both normal and inverse classification analyses were used in this study. Normal analysis (sometimes called Q-analysis) treats samples as individual observations, each being composed of a number of attributes (*i.e.* the various taxa from a given sample). Normal analysis is instructive in helping to ascertain community structure and to infer specific ecological conditions between sampling stations from the relative distributions of species. Inverse classification (termed R-analysis) is based on taxa as individuals, each of which is characterized by its relative abundance in the various samples. This type of analysis is commonly used to identify species groupings with particular habitats or environmental conditions.

Classification analysis of both station collections (normal analysis) and taxa (inverse analysis) was performed using the Czekanowski quantitative index of faunal similarity (Field and MacFarlane 1968). This index is computationally equivalent to the Bray-Curtis similarity measure (Bray and Curtis 1957). The value of the similarity index is 1.0 when two samples are identical and 0 when no taxa are in common. Hierarchical clustering of similarity values was achieved using the group-average sorting strategy (Lance and Williams 1967) and displayed in the form of dendrograms.

Both similarity classification and cluster analysis were performed using the microcomputer package, "Community Analysis System 5.0" (Bloom 1994), as modified for use in BVA's benthic data management program. Taxa used in these analyses were selected according to their percent abundance and percent frequency. Total densities for each of the selected taxa at a given station were log-transformed [$x=\ln(x+1)$] for the analysis.

HABITAT CHARACTERISTICS

Sediment data for the 36 stations are given in Table 1 and Figures 2, 3 and 4. Sediment composition at the 36 stations varied considerably from sandy clay at Station 17 to gravelly sand at Stations 18, 29, 33, 34, 36, 38 and 42 (Table 2; Figure 2); however, the sediment at the majority of stations was predominantly gravel (shell hash) and sand (Figure 3). The total organic carbon (TOC) fraction of the sediment ranged from 0.8% at Station 18 to 12.6% at Station 26 (Table 2; Figure 4).

BENTHIC COMMUNITY CHARACTERIZATION

Faunal Composition, Abundance, And Community Structure

Table 2 provides a complete phylogenetic listing for all stations as well as data on taxa abundance and station occurrence. Four Microsoft™ Excel 5.0 (Macintosh version) spreadsheets are being provided separately to NOAA which include: raw data on taxa abundance and density by replicate, a complete taxonomic listing with station abundance and occurrence and QA/QC comments, a major taxa table with overall taxa abundance, and an assemblage parameter table including data on mean number of taxa, mean density, taxa diversity and taxa evenness by station.

A total of 43,964 organisms, representing 989 taxa, were identified from the 36 stations (Table 3). Polychaetes were the most numerous organisms present representing 38.5% of the total assemblage, followed in abundance by gastropods (13.9%), amphipods (13.5%), bivalves (7.9%) and tanaids (7.4%). Polychaetes represented 34.9% of the total number of taxa followed by other malacostraca taxa (14.0%), gastropods (13.9%), amphipods (11.2%) and bivalves (10.9%) (Table 3). The percentage abundance of the major taxa at the 36 stations is given in Figure 5.

The dominant taxa collected from the samples were the tanaid, *Leptochelia* (LPIL), the gastropod, *Caecum pulchellum*, the annelid class Oligochaeta (LPIL) and the amphipod, *Chevalia carpenteri* representing 6.2%, 6.0%, 3.2% and 3.0% of the total number of individuals,

Table 1. Summary of sediment and benthic macroinfaunal data for the Florida Bay and Adjacent Waters stations, August 1996.

Station	Total Taxa	Mean Taxa per Repl.	Total No. Indivs.	Mean Density (no/m2)	Density (Std. Dev.)	H'	J'	Bottom Salinity (ppt)	Bottom DO (mg/l)	% Gravel	% Sand	% Silt	% Clay	TOC	Textural Description
14	100	51.0	709	5908	2065	3.48	0.76	37.7	2.30	1.43	59.60	13.74	25.23	6.62	clayey sand
15	83	55.7	992	8267	3568	3.53	0.80	37.7	4.08	4.54	63.05	12.86	19.55	7.07	silty sand
16	192	107.3	1422	11850	2391	4.19	0.80	37.8	5.17	1.79	84.23	6.05	7.92	8.37	sand
17	128	67.3	1154	9617	5541	3.73	0.77	36.9	5.75	1.96	31.00	31.55	35.49	10.50	sandy clay
18	191	97.7	911	7592	2788	4.24	0.81	36.6	7.95	9.10	90.27	—	—	11.13	gravelly sand
19	146	74.7	1548	12900	4318	3.70	0.74	36.4	8.52	3.80	52.43	30.70	13.07	9.98	silty sand
20	124	70.3	1251	10425	2983	3.64	0.75	36.5	8.30	10.84	70.20	10.21	8.75	8.13	gravelly muddy sand
22	208	113.3	1346	11217	2927	4.55	0.85	35.8	7.60	17.43	72.70	3.36	6.52	11.08	gravelly muddy sand
23	153	72.7	667	5558	1011	4.29	0.85	36.3	5.95	3.83	78.29	14.84	3.04	11.44	sand
24	202	94.0	1347	11225	5770	4.03	0.76	36.0	7.97	3.74	95.08	—	—	9.45	sand
25	180	89.7	1106	9217	568	4.19	0.81	—	—	4.64	92.94	—	—	8.15	sand
26	233	133.0	1713	14275	6566	4.54	0.83	36.4	5.45	16.16	69.32	5.79	8.73	12.57	gravelly muddy sand
27	213	110.3	2115	17625	2114	3.59	0.67	36.1	7.98	4.09	83.02	5.76	7.12	11.22	sand
28	192	96.7	914	7617	5070	4.53	0.86	36.5	5.29	8.07	74.81	4.99	12.13	7.93	gravelly muddy sand
29	187	98.7	1115	9292	1825	4.22	0.81	36.5	5.62	29.83	65.63	—	—	7.40	gravelly sand
30	158	81.7	665	5542	1127	4.39	0.87	36.3	4.96	12.40	70.96	6.58	10.06	9.99	gravelly muddy sand
31	221	125.7	1423	11858	5373	4.55	0.84	35.6	7.07	6.29	80.79	6.40	6.52	10.75	gravelly muddy sand
32	146	70.0	763	6358	3821	3.75	0.75	36.7	5.60	9.98	73.44	4.18	12.40	10.29	gravelly muddy sand
33	213	116.7	2062	17183	6423	3.62	0.68	36.2	6.31	5.31	93.72	—	—	11.07	gravelly sand
34	181	85.0	1032	8600	3115	4.42	0.85	36.4	7.25	9.76	89.37	—	—	9.18	gravelly sand
35	187	103.3	1299	10825	620	4.01	0.77	36.4	5.27	18.65	62.39	7.53	11.43	10.42	gravelly muddy sand
36	189	93.7	1568	13067	6076	4.10	0.78	36.3	7.43	5.41	94.16	—	—	10.37	gravelly sand
37	—	—	—	—	—	—	—	35.5	8.51	8.01	75.62	7.72	8.65	11.00	gravelly muddy sand
38	229	109.3	1354	11283	4866	4.34	0.80	35.7	8.65	14.48	84.58	—	—	10.82	gravelly sand
39	223	117.7	1853	15442	677	3.98	0.74	33.3	5.33	6.62	75.37	8.58	9.43	8.28	gravelly muddy sand
40	228	118.3	1961	16342	3545	3.96	0.73	35.9	9.10	—	—	—	—	—	—
41	169	91.7	1003	8358	2786	4.10	0.80	32.2	5.18	5.50	78.82	6.77	8.91	7.23	gravelly muddy sand
42a	—	—	—	—	—	—	—	35.5	7.31	5.04	93.42	—	—	11.29	gravelly sand
42b	—	—	—	—	—	—	—	—	—	6.13	79.33	3.85	10.69	11.00	gravelly muddy sand
43	173	94.3	3129	26075	6279	3.43	0.67	35.5	9.04	2.03	97.39	—	—	9.47	sand
44	208	113.7	3676	30633	13019	3.47	0.65	35.3	8.37	—	—	—	—	—	—
45	117	60.7	514	4283	645	4.03	0.85	33.9	4.72	3.06	95.31	—	—	3.10	sand
46	124	63.0	636	5300	1342	4.10	0.85	34.6	8.97	0.98	98.81	—	—	1.45	sand
47a	89	47.7	474	3950	850	3.66	0.82	30.0	4.74	0.73	99.00	—	—	0.97	sand
47b	—	—	—	—	—	—	—	—	—	0.19	98.61	—	—	7.59	sand
48	104	51.0	634	5283	2414	3.72	0.80	31.2	4.68	0.21	98.54	—	—	0.83	sand
49	77	39.7	281	2342	336	3.81	0.88	31.8	5.00	0.48	87.72	4.63	7.17	1.53	sand
50	38	17.7	239	1992	1176	2.44	0.67	31.9	5.03	2.16	97.84	—	—	1.27	sand
51	103	55.7	559	4658	643	3.84	0.83	25.2	4.50	—	95.34	2.14	—	1.65	sand
52	91	47.0	529	4408	397	3.43	0.76	28.8	4.01	3.26	76.30	9.86	10.58	2.93	silty sand

Figure 2. Sediment composition for the Florida Bay and Adjacent Waters stations, August 1996.

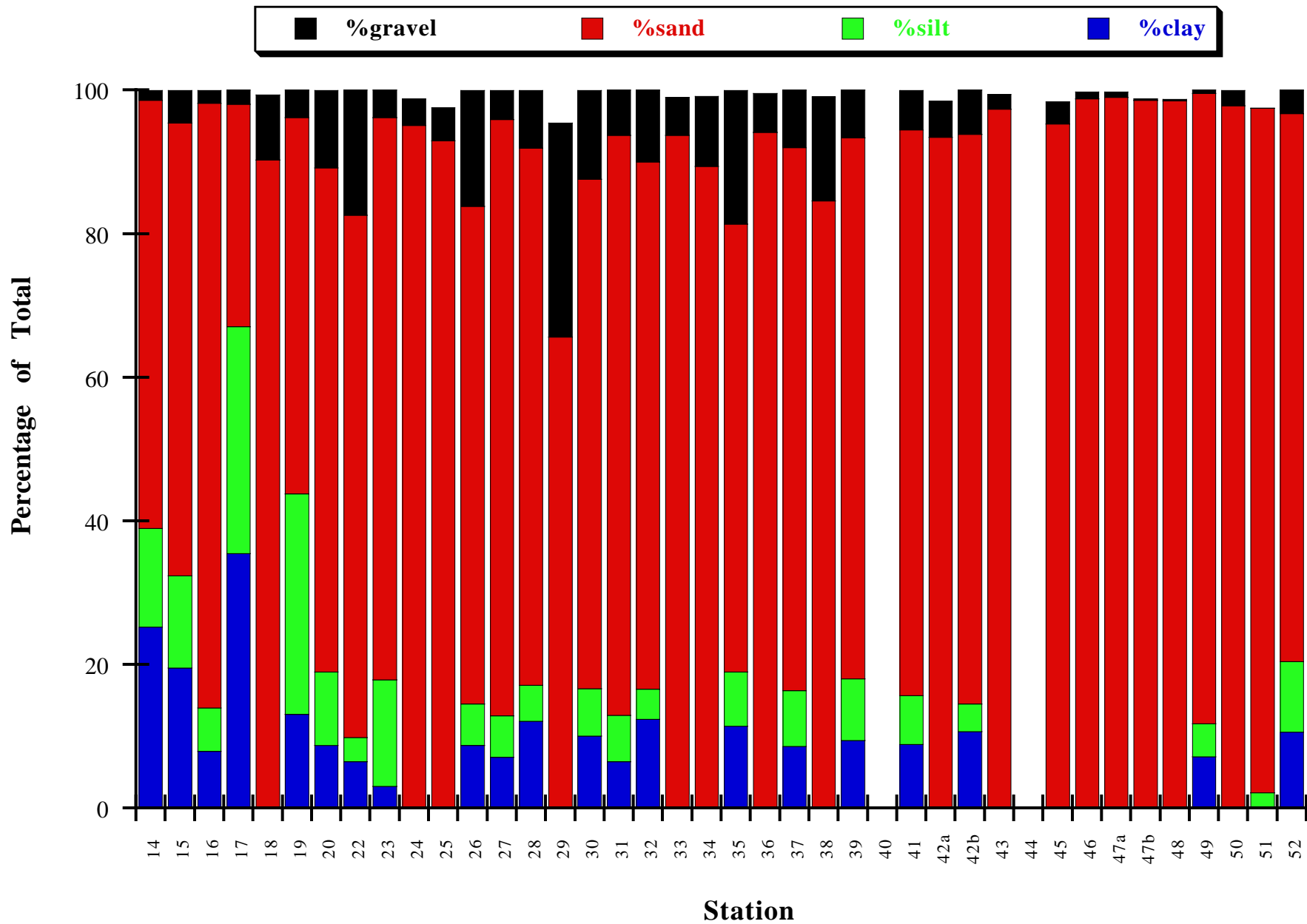


Figure 3. Percent gravel/sand and percent silt/clay content of sediments for the Florida Bay and Adjacent Waters stations, August 1996.

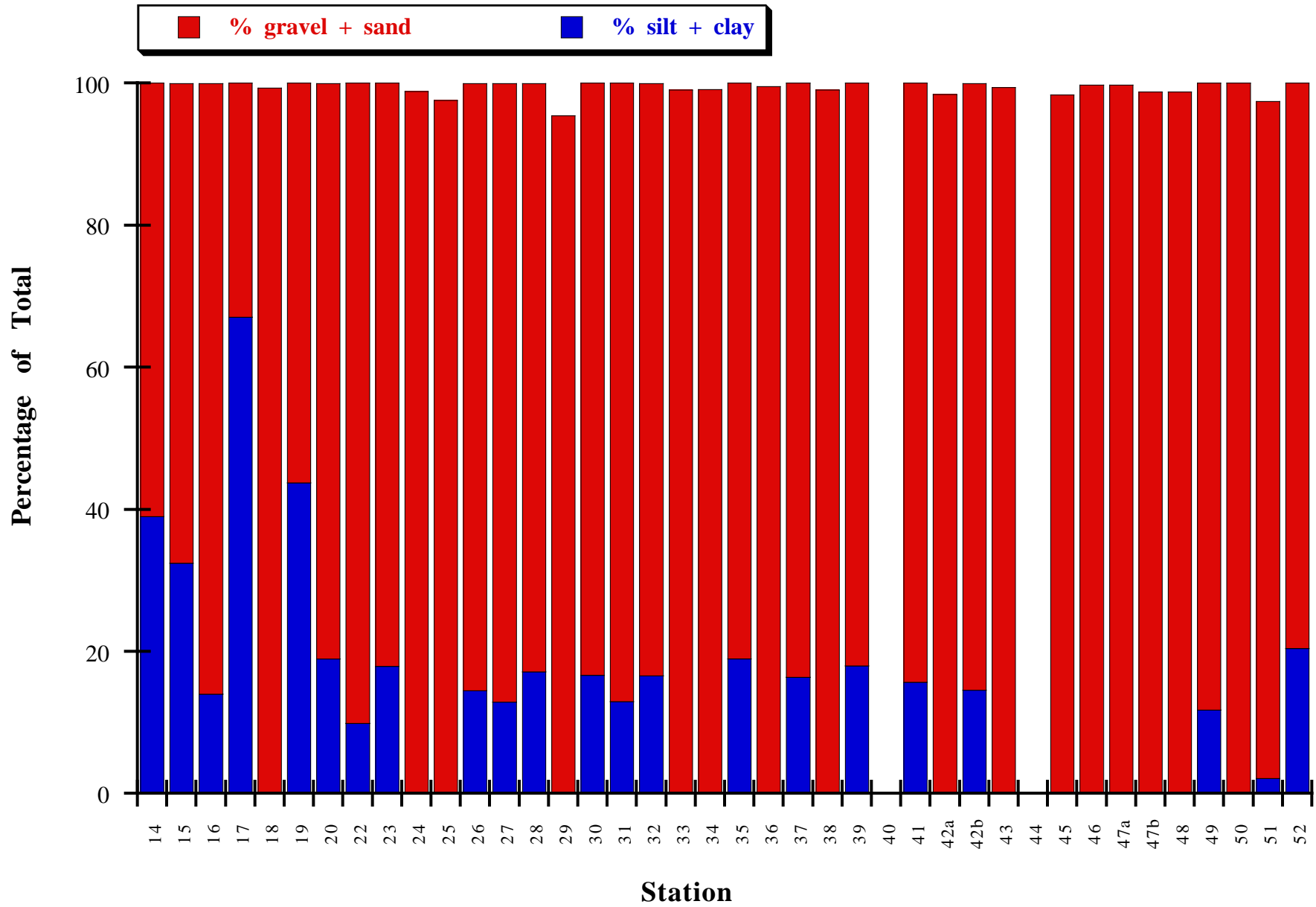


Figure 4. Percent total organic carbon (TOC) content of sediments for the Florida Bay and Adjacent Waters stations, August 1996.

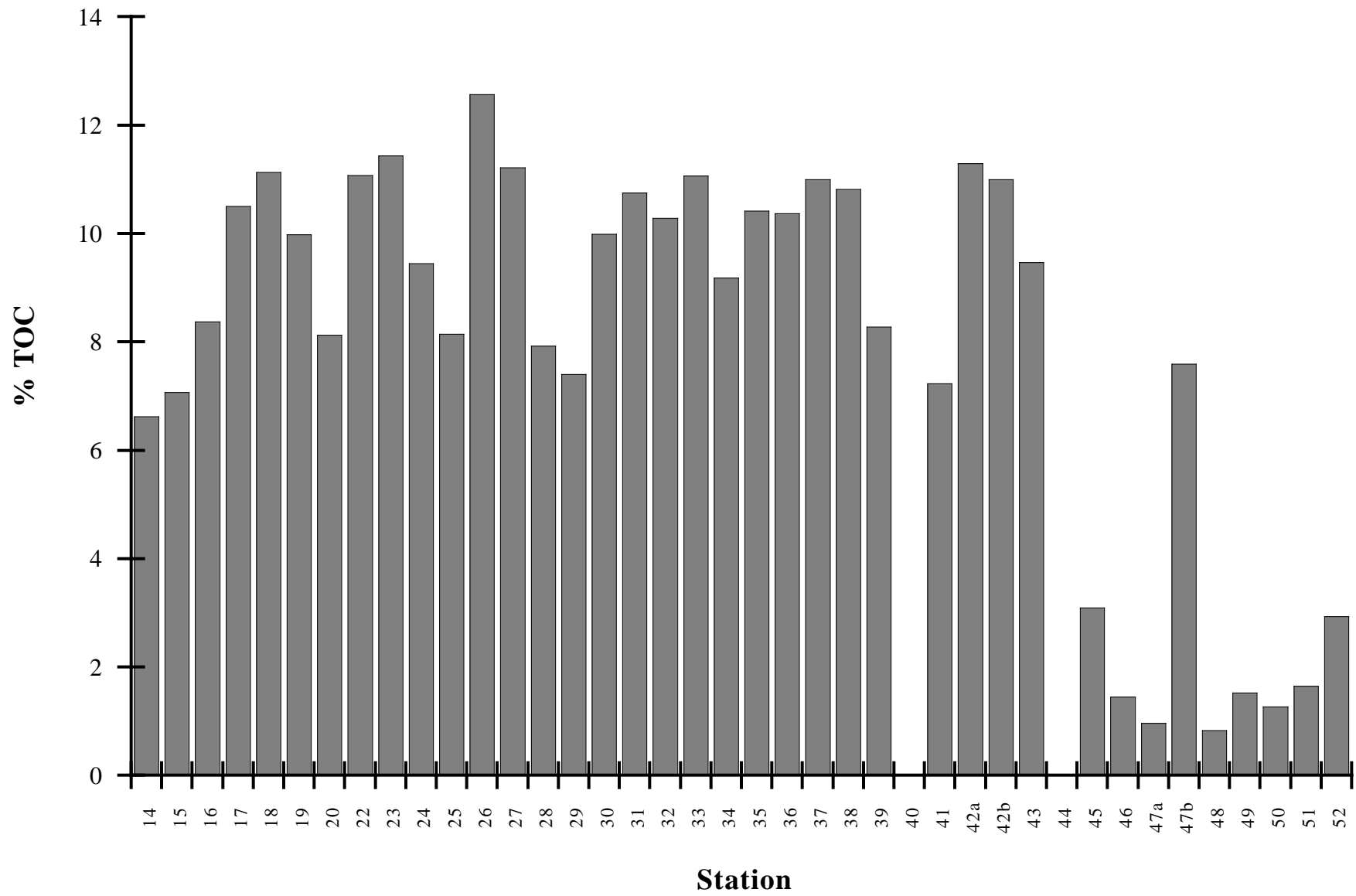


Table 2. Abundance and distribution of taxa for the Florida Bay and Adjacent Waters stations, August 1996.
Taxa above the shaded line of data were included in the classification analysis.

TAXON	Phylum	Class	No.Indivs.	% Total	Cumul.%	Station	Occurr.%	Station	Occurr.	Comments
<i>Leptochelia</i> (LPIL)	C	Mala	2730	6.21	6.21	29	80.6			mature male necessary for species ID
<i>Caecum pulchellum</i>	M	Gast	2648	6.02	12.23	32	88.9			
<i>Oligochaeta</i> (LPIL)	A	Olig	1417	3.22	15.46	33	91.7			marine and some estuarine specimens only ID'd to class.
<i>Chevalia carpenteri</i>	C	Mala	1307	2.97	18.43	8	22.2			
<i>Rhynchocoela</i> (LPIL)	R		932	2.12	20.55	36	100			no identifiable characters.
<i>Caecum imbricatum</i>	M	Gast	888	2.02	22.57	22	61.1			
<i>Fabricinuda trilobata</i>	A	Poly	858	1.95	24.52	32	88.9			
<i>Scoletoma verrilli</i>	A	Poly	827	1.88	26.4	27	75			
<i>Ervilia concentrica</i>	M	Biva	665	1.51	27.91	9	25			
<i>Exogone rolani</i>	A	Poly	650	1.48	29.39	31	86.1			
Cerithiidae (LPIL)	M	Gast	632	1.44	30.83	13	36.1			juvenile specimen
<i>Haplosyllis spongicola</i>	A	Poly	575	1.31	32.14	10	27.8			
<i>Goniadides caroliniae</i>	A	Poly	553	1.26	33.4	23	63.9			
<i>Mediomastus</i> (LPIL)	A	Poly	544	1.24	34.63	32	88.9			anterior portions only. Probably <i>M. californiensis</i> , pygidium needed for species ID.
<i>Tellina</i> (LPIL)	M	Biva	470	1.07	35.7	28	77.8			crushed, and/or juvenile specimens
<i>Ampelisca</i> (LPIL)	C	Mala	470	1.07	36.77	27	75			juvenile specimen or missing characters
Cirratulidae Genus A	A	Poly	455	1.03	37.81	9	25			
<i>Rutiderma darbyi</i>	C	Ostr	430	0.98	38.78	23	63.9			
<i>Monticellina dorsobranchialis</i>	A	Poly	418	0.95	39.73	23	63.9			
<i>Sipuncula</i> (LPIL)	S		406	0.92	40.66	29	80.6			juvenile specimen or missing characters
<i>Diplodonta</i> (LPIL)	M	Biva	373	0.85	41.51	22	61.1			immature specimen.
Maldanidae (LPIL)	A	Poly	369	0.84	42.35	32	88.9			fragmented portion, pygidium necessary for positive identification.
<i>Prionospio</i> (LPIL)	A	Poly	356	0.81	43.16	33	91.7			missing identification characters
Cirratulidae (LPIL)	A	Poly	344	0.78	43.94	30	83.3			anterior fragment, posterior needed for specis ID.
<i>Litocorsa antennata</i>	A	Poly	338	0.77	44.71	13	36.1			
<i>Galathowenia oculata</i>	A	Poly	337	0.77	45.47	18	50			
<i>Cirrophorus</i> (LPIL)	A	Poly	333	0.76	46.23	25	69.4			immature and/or fragmented portion only.
Aoridae (LPIL)	C	Mala	330	0.75	46.98	27	75			lacking appendages.
<i>Aricidea taylora</i>	A	Poly	320	0.73	47.71	28	77.8			
<i>Syllis cornuta</i>	A	Poly	300	0.68	48.39	28	77.8			
<i>Tubulanus</i> (LPIL)	R	Anop	299	0.68	49.07	29	80.6			genus is lowest identification level.
Ascidacea (LPIL)	Ch	Asci	287	0.65	49.72	13	36.1			class is lowest identification level.
Brachiopoda (LPIL)	B		277	0.63	50.35	15	41.7			phylum is lowest identification level.
<i>Prionospio cristata</i>	A	Poly	273	0.62	50.98	23	63.9			
<i>Eudevenopus honduranus</i>	C	Mala	269	0.61	51.59	14	38.9			
<i>Erichthonius brasiliensis</i>	C	Mala	265	0.6	52.19	20	55.6			
Serpulidae Genus C	A	Poly	264	0.6	52.79	1	2.8			
Nereidae (LPIL)	A	Poly	250	0.57	53.36	27	75			missing identification characters and/or immature.
Pelecyopoda (LPIL)	M	Biva	248	0.56	53.92	31	86.1			crushed and/or juvenile specimen.
<i>Sphaerosyllis piriferopsis</i>	A	Poly	245	0.56	54.48	24	66.7			
<i>Rutiderma mollitum</i>	C	Ostr	244	0.56	55.04	9	25			
<i>Eunice unifrons</i>	A	Poly	240	0.55	55.58	22	61.1			
<i>Exogone lourei</i>	A	Poly	240	0.55	56.13	22	61.1			
<i>Branchiomma nigromaculata</i>	A	Poly	221	0.5	56.63	13	36.1			
<i>Crassinella martinicensis</i>	M	Biva	214	0.49	57.12	19	52.8			
Ophiuroidea (LPIL)	E	Ophi	211	0.48	57.6	27	75			central disk missing characters.
<i>Aricidea suecica</i>	A	Poly	209	0.48	58.07	17	47.2			
<i>Syllis broomensis</i>	A	Poly	205	0.47	58.54	15	41.7			
<i>Aricidea</i> (LPIL)	A	Poly	204	0.46	59	26	72.2			missing identification characters
Capitellidae (LPIL)	A	Poly	202	0.46	59.46	32	88.9			immature and/or anterior portion only.
<i>Diplodonta semiaspera</i>	M	Biva	201	0.46	59.92	19	52.8			
<i>Branchiostoma</i> (LPIL)	Ch	Lept	201	0.46	60.38	14	38.9			genus is lowest identification level
<i>Nereis micromma</i>	A	Poly	195	0.44	60.82	12	33.3			
<i>Caecum johnsoni</i>	M	Gast	193	0.44	61.26	15	41.7			
<i>Acuminodeutopus naglei</i>	C	Mala	184	0.42	61.68	20	55.6			
<i>Owenia fusiformis</i>	A	Poly	181	0.41	62.09	21	58.3			
<i>Caecum nitidium</i>	M	Gast	181	0.41	62.5	18	50			
<i>Lembos</i> (LPIL)	C	Mala	176	0.4	62.9	24	66.7			need adult male with all appendages.
<i>Deutella incerta</i>	C	Mala	171	0.39	63.29	22	61.1			
Lumbrineridae (LPIL)	A	Poly	166	0.38	63.67	23	63.9			damaged and/or immature specimen.
<i>Ceratonereis versipedata</i>	A	Poly	161	0.37	64.03	6	16.7			
<i>Schistomeringos pectinata</i>	A	Poly	156	0.35	64.39	25	69.4			
<i>Aricidea philbinae</i>	A	Poly	150	0.34	64.73	15	41.7			
<i>Prionospio heterobranchia</i>	A	Poly	146	0.33	65.06	5	13.9			
<i>Elasmopus</i> (LPIL)	C	Mala	146	0.33	65.39	11	30.6			immature specimen.
Melitidae (LPIL)	C	Mala	143	0.33	65.72	22	61.1			specimen lacks third uropod.
<i>Acteocina canaliculata</i>	M	Gast	141	0.32	66.04	18	50			
<i>Cymadusa compta</i>	C	Mala	137	0.31	66.35	12	33.3			
<i>Aspidosiphon albus</i>	S		134	0.3	66.66	15	41.7			
<i>Nucula aegeensis</i>	M	Biva	132	0.3	66.96	22	61.1			
Gastropoda (LPIL)	M	Gast	127	0.29	67.25	29	80.6			crushed and/or immature specimen.
Aeginellidae (LPIL)	C	Mala	126	0.29	67.53	13	36.1			mature male necessary for further identification level.
<i>Anamaera</i> sp.A	C	Mala	124	0.28	67.81	21	58.3			
Amphiuridae (LPIL)	E	Ophi	122	0.28	68.09	26	72.2			immature specimen.
<i>Asteropterygion oculitristis</i>	C	Ostr	121	0.28	68.37	24	66.7			
<i>Dulichieilla</i> sp. B	C	Mala	120	0.27	68.64	14	38.9			
<i>Grandidierella bonnieroides</i>	C	Mala	120	0.27	68.91	14	38.9			
<i>Actinaria</i> (LPIL)	Cn	Anth	119	0.27	69.18	24	66.7			order is lowest identification level.

Table 2.continued	Phylum	Class	No.Indivs.	% Total	Cumul.Station	Occurr%	Station Occurr.	Comments
<i>Paramphinome</i> sp.B	A	Poly	118	0.27	69.45	13	36.1	
<i>Isolda pulchella</i>	A	Poly	116	0.26	69.72	21	58.3	
<i>Caulleriella</i> cf. <i>alata</i>	A	Poly	115	0.26	69.98	26	72.2	
<i>Phascolion</i> sp.B	S		114	0.26	70.24	15	41.7	
Spionidae (LPIL)	A	Poly	111	0.25	70.49	30	83.3	missing identificaton characters and/or immature
<i>Axiotrella mucosa</i>	A	Poly	109	0.25	70.74	22	61.1	
<i>Turbonilla</i> (LPIL)	M	Gast	108	0.25	70.98	26	72.2	immature specimen.
<i>Syllis</i> (LPIL)	A	Poly	107	0.24	71.23	21	58.3	incomplete specimen, posterior portion necessary for species identification.
Polychaetophora (LPIL)	M	Poly	105	0.24	71.47	20	55.6	immature specimen.
<i>Tellina sybaritica</i>	M	Biva	103	0.23	71.7	8	22.2	
<i>Aricidea</i> sp.U	A	Poly	102	0.23	71.93	2	5.6	
Terebellidae (LPIL)	A	Poly	102	0.23	72.16	22	61.1	immature and/or fragmented portion only.
<i>Ampelisca</i> sp.Y	C	Mala	101	0.23	72.39	15	41.7	
<i>Neomegamphopus</i> (LPIL)	C	Mala	101	0.23	72.62	6	16.7	immature specimen or missing gnathopods.
<i>Dentatisyllis carolinae</i>	A	Poly	97	0.22	72.84	16	44.4	
<i>Lembos unifasciatus reductus</i>	C	Mala	97	0.22	73.06	11	30.6	
<i>Eunice</i> (LPIL)	A	Poly	95	0.22	73.28	20	55.6	entire specimen necessary for most species identification.
Lucinidae (LPIL)	M	Biva	93	0.21	73.49	21	58.3	juvenile specimen.
<i>Photis</i> (LPIL)	C	Mala	93	0.21	73.7	17	47.2	immature specimen.
<i>Ehlersia ferrugina</i>	A	Poly	90	0.2	73.91	13	36.1	
<i>Phoronis</i> (LPIL)	Ph		89	0.2	74.11	10	27.8	genus is lowest identification level.
<i>Platynereis dumerilli</i>	A	Poly	88	0.2	74.31	11	30.6	
<i>Batea carinata</i>	C	Mala	88	0.2	74.51	18	50	
<i>Ampelisca abdita</i>	C	Mala	86	0.2	74.71	14	38.9	
<i>Kalliapseudes</i> sp.C	C	Mala	86	0.2	74.9	12	33.3	
<i>Phascolion strombi</i>	S		83	0.19	75.09	18	50	
<i>Tharyx kirkegaardi</i>	A	Poly	82	0.19	75.28	12	33.3	
<i>Armandia maculata</i>	A	Poly	81	0.18	75.46	16	44.4	
<i>Aspidosiphon</i> (LPIL)	S		80	0.18	75.64	13	36.1	
Eunicidae (LPIL)	A	Poly	79	0.18	75.82	21	58.3	
<i>Paraeupolymnia</i> sp.A	A	Poly	78	0.18	76	19	52.8	
<i>Lucina nassula</i>	M	Biva	78	0.18	76.18	14	38.9	
Decapoda reptantia (LPIL)	C	Mala	78	0.18	76.36	18	50	
Sabellidae (LPIL)	A	Poly	77	0.18	76.53	21	58.3	
<i>Microdeutopus myersi</i>	C	Mala	77	0.18	76.71	13	36.1	
Phyllodocidae (LPIL)	A	Poly	76	0.17	76.88	21	58.3	
<i>Eusarsiella radiicosta</i>	C	Ostr	75	0.17	77.05	20	55.6	
<i>Branchiosyllis oculata</i>	A	Poly	74	0.17	77.22	5	13.9	
<i>Nematoneis hebes</i>	A	Poly	74	0.17	77.39	19	52.8	
Ampithoidae (LPIL)	C	Mala	73	0.17	77.55	13	36.1	
<i>Carpis</i> (LPIL)	C	Mala	71	0.16	77.71	5	13.9	
<i>Metharpinia floridana</i>	C	Mala	71	0.16	77.88	9	25	
<i>Nereis acuminata</i>	A	Poly	70	0.16	78.03	3	8.3	
<i>Cumella garrityi</i>	C	Mala	68	0.15	78.19	17	47.2	
<i>Aricidea</i> sp.X	A	Poly	66	0.15	78.34	13	36.1	
Serpulidae (LPIL)	A	Poly	66	0.15	78.49	12	33.3	
<i>Amakusanthura magnifica</i>	C	Mala	66	0.15	78.64	20	55.6	
<i>Photis pugnator</i>	C	Mala	66	0.15	78.79	5	13.9	
<i>Paracerceis caudata</i>	C	Mala	64	0.15	78.94	16	44.4	
<i>Kalliapseudes</i> (LPIL)	C	Mala	64	0.15	79.08	14	38.9	
<i>Branchiosyllis exilis</i>	A	Poly	63	0.14	79.22	11	30.6	
<i>Taylorphloe hirsuta</i>	A	Poly	63	0.14	79.37	12	33.3	
<i>Vermiliopsis annulata</i>	A	Poly	63	0.14	79.51	6	16.7	
<i>Chaetozone</i> (LPIL)	A	Poly	62	0.14	79.65	13	36.1	
<i>Dipolydora socialis</i>	A	Poly	62	0.14	79.79	14	38.9	
<i>Exogone</i> (LPIL)	A	Poly	62	0.14	79.93	19	52.8	
<i>Leptochelia</i> sp.D	C	Mala	62	0.14	80.07	12	33.3	
Priapulida (LPIL)	Pr		59	0.13	80.21	4	11.1	
<i>Nereis</i> (LPIL)	A	Poly	58	0.13	80.34	18	50	
<i>Pseudophilomedes ambon</i>	C	Ostr	58	0.13	80.47	15	41.7	
<i>Cirrophorus lyra</i>	A	Poly	57	0.13	80.6	7	19.4	
<i>Harbansus paucichelatus</i>	C	Ostr	57	0.13	80.73	19	52.8	
<i>Kinbergonuphis</i> sp.C	A	Poly	56	0.13	80.86	13	36.1	
<i>Polygordius</i> (LPIL)	A	Poly	56	0.13	80.99	13	36.1	
<i>Crassinella</i> (LPIL)	M	Biva	56	0.13	81.11	9	25	
Amphipoda (LPIL)	C	Mala	56	0.13	81.24	16	44.4	
<i>Bhawania heteroseta</i>	A	Poly	55	0.13	81.37	9	25	
<i>Lysidice</i> sp.B	A	Poly	55	0.13	81.49	17	47.2	
<i>Fimbriosthenelais hobbsi</i>	A	Poly	54	0.12	81.61	15	41.7	
<i>Tellina iris</i>	M	Biva	54	0.12	81.74	4	11.1	
<i>Cyclaspis</i> sp.N	C	Mala	54	0.12	81.86	13	36.1	
<i>Calozodion wadei</i>	C	Mala	54	0.12	81.98	9	25	
<i>Scopolos rubra</i>	A	Poly	53	0.12	82.1	20	55.6	
Syllidae (LPIL)	A	Poly	53	0.12	82.22	18	50	
<i>Acteocina</i> (LPIL)	M	Gast	52	0.12	82.34	8	22.2	
<i>Asteropella monambon</i>	C	Ostr	52	0.12	82.46	17	47.2	
<i>Synasterope setisparsa</i>	C	Ostr	52	0.12	82.58	12	33.3	
Lineidae (LPIL)	R	Anop	50	0.11	82.69	16	44.4	
<i>Petalocochnus varians</i>	M	Gast	50	0.11	82.81	1	2.8	
<i>Scoletoma ernesti</i>	A	Poly	49	0.11	82.92	13	36.1	
Tellinidae (LPIL)	M	Biva	49	0.11	83.03	13	36.1	

Table 2.continued	Phylum	Class	No.Indivs.	% Total	Cumul.Station	Occurr%	Station	Occurr.	Comments
<i>Axiothella</i> sp.A	A	Poly	47	0.11	83.14	8	22.2		
<i>Magelona pettiboneae</i>	A	Poly	47	0.11	83.24	11	30.6		
<i>Ampelisca</i> sp.C	C	Mala	47	0.11	83.35	10	27.8		
Diogenidae(LPIL)	C	Mala	46	0.1	83.45	13	36.1		
<i>Spirorbis spirillum</i>	A	Poly	45	0.1	83.56	3	8.3		
<i>Elasmopus</i> sp.C	C	Mala	45	0.1	83.66	3	8.3		
<i>Kalliapseudes bahamaensis</i>	C	Mala	45	0.1	83.76	11	30.6		
<i>Malmgreniella</i> sp.B	A	Poly	44	0.1	83.86	15	41.7		
<i>Anadara floridana</i>	M	Biva	44	0.1	83.96	7	19.4		
<i>Cirridactylus floridensis</i>	C	Mala	44	0.1	84.06	5	13.9		
<i>Pettiboneia duofurca</i>	A	Poly	43	0.1	84.16	15	41.7		
<i>Piromis roberti</i>	A	Poly	43	0.1	84.26	4	11.1		
<i>Ancistrosyllis hartmanae</i>	A	Poly	42	0.1	84.35	5	13.9		
<i>Protodorvillea kefersteini</i>	A	Poly	42	0.1	84.45	10	27.8		
Neomegamphopidae (LPIL)	C	Mala	42	0.1	84.54	3	8.3		
<i>Pagurapseudes largoensis</i>	C	Mala	42	0.1	84.64	3	8.3		
<i>Eusarsiella</i> (LPIL)	C	Ostr	42	0.1	84.74	18	50		
<i>Exogone atlantica</i>	A	Poly	41	0.09	84.83	14	38.9		
<i>Pettibonella multiuncinata</i>	A	Poly	41	0.09	84.92	7	19.4		
<i>Atys sandersoni</i>	M	Gast	41	0.09	85.02	12	33.3		
Aclididae Genus C	M	Gast	40	0.09	85.11	6	16.7		
<i>Bulla striata</i>	M	Gast	40	0.09	85.2	12	33.3		
<i>Xenanthura brevitelson</i>	C	Mala	40	0.09	85.29	16	44.4		
<i>Shoemakerella cubensis</i>	C	Mala	40	0.09	85.38	14	38.9		
<i>Poecilochaetus</i> (LPIL)	A	Poly	39	0.09	85.47	15	41.7		
<i>Lucina multilineata</i>	M	Biva	39	0.09	85.56	7	19.4		
<i>Caecum floridanum</i>	M	Gast	39	0.09	85.65	9	25		
<i>Zebina browniana</i>	M	Gast	39	0.09	85.73	12	33.3		
<i>Neomegamphopus hiatus</i>	C	Mala	39	0.09	85.82	6	16.7		
Ostracoda (LPIL)	C	Ostr	39	0.09	85.91	16	44.4		
<i>Golfingia</i> (LPIL)	S		38	0.09	86	11	30.6		
Decapoda natantia (LPIL)	C	Mala	38	0.09	86.08	18	50		
<i>Podocopa</i> Family B	C	Ostr	38	0.09	86.17	9	25		
<i>Fimbriosthenelais</i> (LPIL)	A	Poly	36	0.08	86.25	10	27.8		
<i>Leucothoe spinicarpa</i>	C	Mala	36	0.08	86.33	5	13.9		
<i>Cyclaspis</i> (LPIL)	C	Mala	36	0.08	86.42	14	38.9		
<i>Nereis grayi</i>	A	Poly	35	0.08	86.5	15	41.7		
<i>Polycirrus</i> (LPIL)	A	Poly	35	0.08	86.58	12	33.3		
<i>Spio pettiboneae</i>	A	Poly	35	0.08	86.66	9	25		
<i>Amakusanthura signata</i>	C	Mala	35	0.08	86.73	12	33.3		
<i>Questa caudicirra</i>	A	Poly	34	0.08	86.81	8	22.2		
Eulimidae (LPIL)	M	Gast	34	0.08	86.89	16	44.4		
<i>Cyclaspis pustulata</i>	C	Mala	34	0.08	86.97	12	33.3		
<i>Apsedes propinquus</i>	C	Mala	34	0.08	87.04	5	13.9		
<i>Ceratonereis mirabilis</i>	A	Poly	33	0.08	87.12	11	30.6		
<i>Nephtys picta</i>	A	Poly	33	0.08	87.19	10	27.8		
<i>Notomastus tenuis</i>	A	Poly	33	0.08	87.27	7	19.4		
<i>Lucina</i> (LPIL)	M	Biva	33	0.08	87.34	9	25		
<i>Loimia medusa</i>	A	Poly	32	0.07	87.42	11	30.6		
<i>Cerithium</i> (LPIL)	M	Gast	32	0.07	87.49	5	13.9		
<i>Strombiformis hemphilli</i>	M	Gast	32	0.07	87.56	7	19.4		
<i>Calyptraea centralis</i>	M	Gast	32	0.07	87.64	17	47.2		
<i>Listriella</i> sp.G	C	Mala	32	0.07	87.71	12	33.3		
<i>Asteropella pax</i>	C	Ostr	32	0.07	87.78	14	38.9		
<i>Streblosoma hartmanae</i>	A	Poly	31	0.07	87.85	9	25		
Xanthidae (LPIL)	C	Mala	31	0.07	87.92	16	44.4		
<i>Aricidea catherinae</i>	A	Poly	30	0.07	87.99	8	22.2		
<i>Chone</i> (LPIL)	A	Poly	30	0.07	88.06	14	38.9		
<i>Pagurus</i> (LPIL)	C	Mala	30	0.07	88.13	9	25		
<i>Apopriospio dayi</i>	A	Poly	29	0.07	88.19	4	11.1		
<i>Lumbrineris latreilli</i>	A	Poly	29	0.07	88.26	14	38.9		
<i>Parapriospio pinnata</i>	A	Poly	29	0.07	88.32	7	19.4		
<i>Syllis gracilis</i>	A	Poly	29	0.07	88.39	7	19.4		
<i>Crenella divaricata</i>	M	Biva	29	0.07	88.46	10	27.8		
Opisthobranchia (LPIL)	M	Gast	29	0.07	88.52	9	25		
<i>Sphaerosyllis taylori</i>	A	Poly	28	0.06	88.59	10	27.8		
Turridae (LPIL)	M	Gast	28	0.06	88.65	12	33.3		
Veneridae (LPIL)	M	Biva	27	0.06	88.71	12	33.3		
<i>Crepidula maculosa</i>	M	Gast	27	0.06	88.77	7	19.4		
Anthuridae (LPIL)	C	Mala	27	0.06	88.83	15	41.7		
Hippolytidae (LPIL)	C	Mala	27	0.06	88.9	11	30.6		
<i>Sabellaria vulgaris</i>	A	Poly	26	0.06	88.95	4	11.1		
<i>Solemya occidentalis</i>	M	Biva	26	0.06	89.01	7	19.4		
<i>Strombiformis bilineatus</i>	M	Gast	26	0.06	89.07	10	27.8		
<i>Ampelisca vadorum</i>	C	Mala	26	0.06	89.13	8	22.2		
<i>Elasmopus pocillimanus</i>	C	Mala	26	0.06	89.19	2	5.6		
<i>Gammaropsis</i> (LPIL)	C	Mala	26	0.06	89.25	4	11.1		
<i>Processa</i> (LPIL)	C	Mala	26	0.06	89.31	11	30.6		
<i>Ceratonereis</i> (LPIL)	A	Poly	25	0.06	89.37	10	27.8		
<i>Lumbrineris coccinea</i>	A	Poly	25	0.06	89.42	9	25		
<i>Crassinella lunulata</i>	M	Biva	25	0.06	89.48	5	13.9		

Table 2.continued	Phylum	Class	No.Indivs.	% Total	Cumul.Station	Occurr%	Station	Occurr.	Comments
<i>Actinoseta hummelincki</i>	C	Ostr	25	0.06	89.54	10		27.8	
<i>Aspidosiphon muelleri</i>	S		24	0.05	89.59	8		22.2	
<i>Fimbriosihenelais minor</i>	A	Poly	24	0.05	89.65	9		25	
Paraonidae (LPIL)	A	Poly	24	0.05	89.7	10		27.8	
<i>Prionospio lighti</i>	A	Poly	24	0.05	89.76	3		8.3	
<i>Caecum</i> (LPIL)	M	Gast	24	0.05	89.81	12		33.3	
<i>Marginella lavalleana</i>	M	Gast	24	0.05	89.86	9		25	
Sphaeromatidae (LPIL)	C	Mala	24	0.05	89.92	5		13.9	
<i>Colomastix</i> (LPIL)	C	Mala	24	0.05	89.97	4		11.1	
<i>Maera</i> (LPIL)	C	Mala	24	0.05	90.03	6		16.7	
<i>Echiura</i> (LPIL)	Ec		23	0.05	90.08	8		22.2	
<i>Acteocina lepta</i>	M	Gast	23	0.05	90.13	8		22.2	
<i>Cerithium eburneum</i>	M	Gast	23	0.05	90.19	4		11.1	
Naticidae (LPIL)	M	Gast	23	0.05	90.24	3		8.3	
<i>Cylindrobulla beauii</i>	M	Gast	23	0.05	90.29	6		16.7	
<i>Asteropella</i> (LPIL)	C	Ostr	23	0.05	90.34	9		25	
<i>Eusarsiella disparalis</i>	C	Ostr	23	0.05	90.39	12		33.3	
<i>Gouldia cerina</i>	M	Biva	22	0.05	90.44	5		13.9	
<i>Ampelisca</i> sp.A	C	Mala	22	0.05	90.49	5		13.9	
<i>Gibberosus myersi</i>	C	Mala	22	0.05	90.54	9		25	
<i>Photis</i> sp.D	C	Mala	22	0.05	90.59	4		11.1	
Mysidae (LPIL)	C	Mala	22	0.05	90.64	9		25	
<i>Aglaophamus verrilli</i>	A	Poly	21	0.05	90.69	7		19.4	
Ampharetidae (LPIL)	A	Poly	21	0.05	90.74	10		27.8	
<i>Lepidonotus variabilis</i>	A	Poly	21	0.05	90.79	6		16.7	
Sigalionidae (LPIL)	A	Poly	21	0.05	90.84	7		19.4	
<i>Terebellides parvus</i>	A	Poly	21	0.05	90.88	11		30.6	
<i>Tellina similis</i>	M	Biva	21	0.05	90.93	7		19.4	
<i>Alvania</i> (LPIL)	M	Gast	21	0.05	90.98	5		13.9	
<i>Diastoma varium</i>	M	Gast	21	0.05	91.03	3		8.3	
<i>Ischnochiton papillosus</i>	M	Poly	21	0.05	91.07	8		22.2	
Paratanaidae (LPIL)	C	Mala	21	0.05	91.12	7		19.4	
<i>Actinoseta</i> (LPIL)	C	Ostr	21	0.05	91.17	11		30.6	
<i>Dodecaceria</i> sp.A	A	Poly	20	0.05	91.22	8		22.2	
Hesionidae (LPIL)	A	Poly	20	0.05	91.26	9		25	
<i>Mooreonuphis pallidula</i>	A	Poly	20	0.05	91.31	7		19.4	
<i>Schistomeringos rudolphi</i>	A	Poly	20	0.05	91.35	7		19.4	
<i>Scoletoma</i> (LPIL)	A	Poly	20	0.05	91.4	8		22.2	
<i>Anadara</i> (LPIL)	M	Biva	20	0.05	91.44	3		8.3	
<i>Ampithoe</i> (LPIL)	C	Mala	20	0.05	91.49	6		16.7	
<i>Cerapus</i> sp.B	C	Mala	20	0.05	91.53	9		25	
<i>Mysidopsis furca</i>	C	Mala	20	0.05	91.58	6		16.7	
<i>Pinnixa</i> (LPIL)	C	Mala	20	0.05	91.63	14		38.9	
<i>Asteropella maclaughlinae</i>	C	Ostr	20	0.05	91.67	17		47.2	
<i>Dasybranchus lunulatus</i>	A	Poly	19	0.04	91.71	4		11.1	
<i>Pherusa inflata</i>	A	Poly	19	0.04	91.76	6		16.7	
<i>Chama congregata</i>	M	Biva	19	0.04	91.8	1		2.8	
Montacutidae (LPIL)	M	Biva	19	0.04	91.84	5		13.9	
<i>Arene tricarinata</i>	M	Gast	19	0.04	91.89	7		19.4	
<i>Marginella apicina</i>	M	Gast	19	0.04	91.93	8		22.2	
<i>Olivella dealbata</i>	M	Gast	19	0.04	91.97	7		19.4	
<i>Dentalium antillarum</i>	M	Scap	19	0.04	92.02	10		27.8	
<i>Acanthochitona pygmaea</i>	M	Poly	19	0.04	92.06	11		30.6	
<i>Eurydice personata</i>	C	Mala	19	0.04	92.1	4		11.1	
<i>Ampelisca cristata microdentata</i>	C	Mala	19	0.04	92.15	6		16.7	
Isaeidae (LPIL)	C	Mala	19	0.04	92.19	6		16.7	
<i>Apoprionospio pygmaea</i>	A	Poly	18	0.04	92.23	6		16.7	
<i>Aricidea wassi</i>	A	Poly	18	0.04	92.27	4		11.1	
<i>Ceratocephale oculata</i>	A	Poly	18	0.04	92.31	6		16.7	
<i>Nereis falsa</i>	A	Poly	18	0.04	92.35	6		16.7	
<i>Prionospio perkinsi</i>	A	Poly	18	0.04	92.39	3		8.3	
<i>Scyphoproctus</i> sp.A	A	Poly	18	0.04	92.43	3		8.3	
<i>Syllis sardai</i>	A	Poly	18	0.04	92.48	4		11.1	
<i>Linga amiantus</i>	M	Biva	18	0.04	92.52	9		25	
<i>Neaeromya floridana</i>	M	Biva	18	0.04	92.56	5		13.9	
<i>Natica canrena</i>	M	Gast	18	0.04	92.6	7		19.4	
<i>Crepidula</i> (LPIL)	M	Gast	18	0.04	92.64	5		13.9	
Amphilocheidae (LPIL)	C	Mala	18	0.04	92.68	9		25	
Processidae (LPIL)	C	Mala	18	0.04	92.72	9		25	
<i>Glycera</i> sp.E	A	Poly	17	0.04	92.76	6		16.7	
<i>Grubeosyllis clavata</i>	A	Poly	17	0.04	92.8	5		13.9	
<i>Lysilla</i> sp.B	A	Poly	17	0.04	92.84	4		11.1	
<i>Typosyllis</i> sp.B	A	Poly	17	0.04	92.88	6		16.7	
Cardiidae (LPIL)	M	Biva	17	0.04	92.91	8		22.2	
<i>Musculus lateralis</i>	M	Biva	17	0.04	92.95	8		22.2	
<i>Mysella planulata</i>	M	Biva	17	0.04	92.99	7		19.4	
<i>Pitar fulminatus</i>	M	Biva	17	0.04	93.03	6		16.7	
<i>Strombiformis</i> (LPIL)	M	Gast	17	0.04	93.07	12		33.3	
Vermetidae (LPIL)	M	Gast	17	0.04	93.11	1		2.8	
<i>Paracerceis</i> (LPIL)	C	Mala	17	0.04	93.15	1		2.8	
<i>Serolis mgrayi</i>	C	Mala	17	0.04	93.19	7		19.4	

Table 2.continued	Phylum	Class	No.Indivs.	% Total	% Cumul.	Station	Occurr%	Station	Occurr.	Comments
<i>Chevalia</i> (LPIL)	C	Mala	17	0.04	93.22	3		8.3		
<i>Sinelobus stanfordi</i>	C	Mala	17	0.04	93.26	3		8.3		
<i>Aricidea cerrutii</i>	A	Poly	16	0.04	93.3	6		16.7		
<i>Mooreonuphis</i> cf. <i>nebulosa</i>	A	Poly	16	0.04	93.34	9		25		
<i>Notomastus</i> (LPIL)	A	Poly	16	0.04	93.37	8		22.2		
<i>Terebellides</i> sp.A	A	Poly	16	0.04	93.41	1		2.8		
<i>Chione cancellata</i>	M	Biva	16	0.04	93.44	7		19.4		
<i>Jaspidella blanesi</i>	M	Gast	16	0.04	93.48	4		11.1		
<i>Ampithoe longimana</i>	C	Mala	16	0.04	93.52	4		11.1		
<i>Lembos smithi</i>	C	Mala	16	0.04	93.55	3		8.3		
<i>Cyclaspis unicornis</i>	C	Mala	16	0.04	93.59	13		36.1		
<i>Oxyurostylis smithi</i>	C	Mala	16	0.04	93.63	2		5.6		
<i>Alpheus</i> (LPIL)	C	Mala	16	0.04	93.66	7		19.4		
<i>Processa hemphilli</i>	C	Mala	16	0.04	93.7	2		5.6		
Pinnotheridae (LPIL)	C	Mala	16	0.04	93.74	11		30.6		
<i>Brania wellfleetensis</i>	A	Poly	15	0.03	93.77	5		13.9		
<i>Eunice imogena</i>	A	Poly	15	0.03	93.8	2		5.6		
<i>Mediomastus californiensis</i>	A	Poly	15	0.03	93.84	8		22.2		
<i>Phyllococe arenae</i>	A	Poly	15	0.03	93.87	12		33.3		
<i>Podarkeopsis levifuscina</i>	A	Poly	15	0.03	93.91	8		22.2		
<i>Tharyx acutus</i>	A	Poly	15	0.03	93.94	4		11.1		
<i>Typosyllis armillaris</i>	A	Poly	15	0.03	93.97	4		11.1		
<i>Gastrochaena hians</i>	M	Biva	15	0.03	94.01	6		16.7		
Phoxocephalidae (LPIL)	C	Mala	15	0.03	94.04	8		22.2		
<i>Euclymene</i> sp.B	A	Poly	14	0.03	94.07	3		8.3		
<i>Laonice cirrata</i>	A	Poly	14	0.03	94.11	6		16.7		
<i>Nereis riisei</i>	A	Poly	14	0.03	94.14	3		8.3		
<i>Pseudopolydora pulchra</i>	A	Poly	14	0.03	94.17	6		16.7		
<i>Scoletoma impatiens</i>	A	Poly	14	0.03	94.2	5		13.9		
Arcidae (LPIL)	M	Biva	14	0.03	94.23	6		16.7		
<i>Pitar</i> (LPIL)	M	Biva	14	0.03	94.27	9		25		
<i>Pleuromeris tridentata</i>	M	Biva	14	0.03	94.3	4		11.1		
Olividae (LPIL)	M	Gast	14	0.03	94.33	7		19.4		
Pyramidellidae (LPIL)	M	Gast	14	0.03	94.36	6		16.7		
Rissoiidae (LPIL)	M	Gast	14	0.03	94.39	7		19.4		
<i>Ampelisca bicarinata</i>	C	Mala	14	0.03	94.43	6		16.7		
<i>Batea catharinensis</i>	C	Mala	14	0.03	94.46	8		22.2		
<i>Podocerus kleidus</i>	C	Mala	14	0.03	94.49	6		16.7		
<i>Apseudes</i> (LPIL)	C	Mala	14	0.03	94.52	3		8.3		
<i>Actinoseta chelisparsa</i>	C	Ostr	14	0.03	94.55	7		19.4		
<i>Eusarsiella nodimarginus</i>	C	Ostr	14	0.03	94.58	5		13.9		
<i>Eusarsiella zostericola</i>	C	Ostr	14	0.03	94.62	4		11.1		
<i>Diopatra cuprea</i>	A	Poly	13	0.03	94.65	9		25		
<i>Leitoscoloplos robustus</i>	A	Poly	13	0.03	94.68	5		13.9		
<i>Sigambra tentaculata</i>	A	Poly	13	0.03	94.7	2		5.6		
<i>Corbula contracta</i>	M	Biva	13	0.03	94.73	8		22.2		
<i>Pitar simpsoni</i>	M	Biva	13	0.03	94.76	8		22.2		
<i>Gammaropsis</i> sp.C	C	Mala	13	0.03	94.79	2		5.6		
<i>Gitanopsis tortugae</i>	C	Mala	13	0.03	94.82	5		13.9		
<i>Lembos spinicarpus inermis</i>	C	Mala	13	0.03	94.85	4		11.1		
<i>Rildardanus laminosa</i>	C	Mala	13	0.03	94.88	5		13.9		
<i>Caulleriella</i> (LPIL)	A	Poly	12	0.03	94.91	6		16.7		
<i>Syllis prolifera</i>	A	Poly	12	0.03	94.94	2		5.6		
<i>Protohadzia schoenerae</i>	C	Mala	12	0.03	94.96	3		8.3		
<i>Vaunthompsonia</i> sp.B	C	Mala	12	0.03	94.99	8		22.2		
<i>Rutiderma licinum</i>	C	Ostr	12	0.03	95.02	3		8.3		
<i>Arandina agilis</i>	A	Poly	11	0.03	95.04	6		16.7		
<i>Cirrophorus furcatus</i>	A	Poly	11	0.03	95.07	2		5.6		
<i>Clymenella torquata</i>	A	Poly	11	0.03	95.09	3		8.3		
<i>Goniada teres</i>	A	Poly	11	0.03	95.12	9		25		
Goniadidae (LPIL)	A	Poly	11	0.03	95.14	7		19.4		
<i>Notomastus latericeus</i>	A	Poly	11	0.03	95.17	3		8.3		
<i>Podarke</i> sp.D	A	Poly	11	0.03	95.19	3		8.3		
<i>Scolelepis squamata</i>	A	Poly	11	0.03	95.22	5		13.9		
<i>Sigalion arenicola</i>	A	Poly	11	0.03	95.24	6		16.7		
<i>Lioberus castaneus</i>	M	Biva	11	0.03	95.27	4		11.1		
<i>Nassarius albus</i>	M	Gast	11	0.03	95.29	5		13.9		
Nudibranchia (LPIL)	M	Gast	11	0.03	95.32	6		16.7		
<i>Odostomia laevigata</i>	M	Gast	11	0.03	95.34	4		11.1		
<i>Harrieta faxoni</i>	C	Mala	11	0.03	95.37	2		5.6		
<i>Kupellonura</i> sp.A	C	Mala	11	0.03	95.39	5		13.9		
Lysianassidae (LPIL)	C	Mala	11	0.03	95.42	10		27.8		
<i>Monoculodes nyei</i>	C	Mala	11	0.03	95.44	2		5.6		
<i>Mesorhoea sexspinosa</i>	C	Mala	11	0.03	95.47	6		16.7		
<i>Upogebia</i> (LPIL)	C	Mala	11	0.03	95.49	4		11.1		
<i>Eusarsiella cornuta</i>	C	Ostr	11	0.03	95.52	4		11.1		
<i>Phascolion</i> (LPIL)	S		10	0.02	95.54	5		13.9		
<i>Ancistrosyllis</i> sp.C	A	Poly	10	0.02	95.56	6		16.7		
<i>Aphelochaeta</i> sp.A	A	Poly	10	0.02	95.59	4		11.1		
<i>Arabella mutans</i>	A	Poly	10	0.02	95.61	10		27.8		
<i>Bogoea enigmatica</i>	A	Poly	10	0.02	95.63	3		8.3		

Table 2.continued	Phylum	Class	No.Indivs.	% Total	Cumul.Station	Occurr%	Station Occurr.	Comments
<i>Leitoscoloplos</i> (LPIL)	A	Poly	10	0.02	95.66	8	22.2	
<i>Megalomma bioculatum</i>	A	Poly	10	0.02	95.68	6	16.7	
<i>Melinna maculata</i>	A	Poly	10	0.02	95.7	6	16.7	
<i>Nereiphylla fragilis</i>	A	Poly	10	0.02	95.72	5	13.9	
<i>Pectinaria gouldii</i>	A	Poly	10	0.02	95.75	5	13.9	
<i>Pionosyllis</i> (LPIL)	A	Poly	10	0.02	95.77	2	5.6	
<i>Scolecopsis texana</i>	A	Poly	10	0.02	95.79	5	13.9	
Ungulinidae (LPIL)	M	Biva	10	0.02	95.81	4	11.1	
Caecidae (LPIL)	M	Gast	10	0.02	95.84	4	11.1	
<i>Rissolina bryerea</i>	M	Gast	10	0.02	95.86	4	11.1	
<i>Turbonilla interrupta</i>	M	Gast	10	0.02	95.88	4	11.1	
<i>Erichsonella filiformis</i>	C	Mala	10	0.02	95.91	5	13.9	
<i>Cerapus</i> (LPIL)	C	Mala	10	0.02	95.93	4	11.1	
<i>Elasmopus rapax</i>	C	Mala	10	0.02	95.95	2	5.6	
<i>Synchelidium americanum</i>	C	Mala	10	0.02	95.97	4	11.1	
<i>Periclimenes americana</i>	C	Mala	10	0.02	96	3	8.3	
<i>Processa bermudensis</i>	C	Mala	10	0.02	96.02	8	22.2	
Majidae (LPIL)	C	Mala	10	0.02	96.04	10	27.8	
<i>Eusarsiella elofsoni</i>	C	Ostr	10	0.02	96.07	7	19.4	
<i>Aricidea</i> sp.Q	A	Poly	9	0.02	96.09	5	13.9	
<i>Dorvillea sociabilis</i>	A	Poly	9	0.02	96.11	2	5.6	
<i>Spirorbis</i> (LPIL)	A	Poly	9	0.02	96.13	2	5.6	
<i>Odostomia</i> (LPIL)	M	Gast	9	0.02	96.15	5	13.9	
Calyptraeidae (LPIL)	M	Gast	9	0.02	96.17	7	19.4	
<i>Edotia lyonsi</i>	C	Mala	9	0.02	96.19	6	16.7	
Janiridae (LPIL)	C	Mala	9	0.02	96.21	1	2.8	
<i>Stenetrium</i> (LPIL)	C	Mala	9	0.02	96.23	2	5.6	
<i>Anchialina typica</i>	C	Mala	9	0.02	96.25	5	13.9	
<i>Apsudes</i> sp.G	C	Mala	9	0.02	96.27	2	5.6	
<i>Calozodion</i> (LPIL)	C	Mala	9	0.02	96.29	1	2.8	
Paguridae (LPIL)	C	Mala	9	0.02	96.31	6	16.7	
<i>Ambloberis americana</i>	C	Ostr	9	0.02	96.33	8	22.2	
Cylindroleberididae (LPIL)	C	Ostr	9	0.02	96.35	7	19.4	
<i>Capitella jonesi</i>	A	Poly	8	0.02	96.37	4	11.1	
<i>Drilonereis longa</i>	A	Poly	8	0.02	96.39	4	11.1	
<i>Heteropodarke lyonsi</i>	A	Poly	8	0.02	96.41	4	11.1	
<i>Nereis panamensis</i>	A	Poly	8	0.02	96.42	4	11.1	
Polynoidae (LPIL)	A	Poly	8	0.02	96.44	5	13.9	
<i>Scoloplos</i> (LPIL)	A	Poly	8	0.02	96.46	6	16.7	
<i>Sphaerosyllis aciculata</i>	A	Poly	8	0.02	96.48	3	8.3	
<i>Modiolus modiolus squamosus</i>	M	Biva	8	0.02	96.5	2	5.6	
<i>Tegula lividomaculata</i>	M	Gast	8	0.02	96.52	4	11.1	
<i>Dentalium</i> (LPIL)	M	Scap	8	0.02	96.53	7	19.4	
<i>Acanthohaustorius uncinus</i>	C	Mala	8	0.02	96.55	1	2.8	
<i>Batea</i> (LPIL)	C	Mala	8	0.02	96.57	5	13.9	
<i>Dulichella</i> (LPIL)	C	Mala	8	0.02	96.59	4	11.1	
<i>Garosyrhoe bigarra</i>	C	Mala	8	0.02	96.61	6	16.7	
<i>Lembos unicornis</i>	C	Mala	8	0.02	96.62	3	8.3	
<i>Leptochelia forrestii</i>	C	Mala	8	0.02	96.64	3	8.3	
Leptochelidae (LPIL)	C	Mala	8	0.02	96.66	1	2.8	
<i>Lithadia cadaverosa</i>	C	Mala	8	0.02	96.68	6	16.7	
<i>Eusarsiella cressleyi</i>	C	Ostr	8	0.02	96.7	6	16.7	
Philomedidae (LPIL)	C	Ostr	8	0.02	96.72	3	8.3	
<i>Ophiopsis elegans</i>	E	Ophi	8	0.02	96.73	7	19.4	
<i>Ophiostigma isacanthum</i>	E	Ophi	8	0.02	96.75	5	13.9	
<i>Chaetozone</i> sp.A	A	Poly	7	0.02	96.77	2	5.6	
<i>Chaetozone</i> sp.B	A	Poly	7	0.02	96.78	3	8.3	
<i>Demonax</i> sp.C	A	Poly	7	0.02	96.8	1	2.8	
Dorvilleidae (LPIL)	A	Poly	7	0.02	96.82	6	16.7	
<i>Hesione picta</i>	A	Poly	7	0.02	96.83	5	13.9	
<i>Megalomma</i> (LPIL)	A	Poly	7	0.02	96.85	4	11.1	
<i>Nephtys squamosa</i>	A	Poly	7	0.02	96.86	6	16.7	
<i>Palaenotus</i> sp.A	A	Poly	7	0.02	96.88	4	11.1	
<i>Syllis</i> sp.A	A	Poly	7	0.02	96.9	2	5.6	
<i>Chione</i> (LPIL)	M	Biva	7	0.02	96.91	4	11.1	
Glycymerididae (LPIL)	M	Biva	7	0.02	96.93	2	5.6	
<i>Lima pellucida</i>	M	Biva	7	0.02	96.94	4	11.1	
Pteriidae (LPIL)	M	Biva	7	0.02	96.96	4	11.1	
<i>Solemya velum</i>	M	Biva	7	0.02	96.97	2	5.6	
<i>Haminoea succinea</i>	M	Gast	7	0.02	96.99	3	8.3	
<i>Marginella</i> (LPIL)	M	Gast	7	0.02	97.01	4	11.1	
<i>Turbonilla conradi</i>	M	Gast	7	0.02	97.02	3	8.3	
<i>Mexicope kensleyi</i>	C	Mala	7	0.02	97.04	3	8.3	
<i>Ampelisca schellenbergi</i>	C	Mala	7	0.02	97.05	5	13.9	
<i>Amphilocheus</i> (LPIL)	C	Mala	7	0.02	97.07	3	8.3	
<i>Metatiron triocellatus</i>	C	Mala	7	0.02	97.09	6	16.7	
<i>Paracaprella tenuis</i>	C	Mala	7	0.02	97.1	2	5.6	
<i>Campylaspis</i> sp.I	C	Mala	7	0.02	97.12	5	13.9	
<i>Oxyurostylis</i> (LPIL)	C	Mala	7	0.02	97.13	5	13.9	
<i>Automate evermanni</i>	C	Mala	7	0.02	97.15	2	5.6	
<i>Heterocrypta granulata</i>	C	Mala	7	0.02	97.17	5	13.9	

Table 2. continued	Phylum	Class	No. Indivs.	% Total	Cumul. Station Occurr.	% Station Occurr.	Comments
<i>Pinnixa floridana</i>	C	Mala	7	0.02	97.18	4	11.1
<i>Eusarsiella paniculata</i>	C	Ostr	7	0.02	97.2	4	11.1
<i>Rutiderma</i> (LPIL)	C	Ostr	7	0.02	97.21	6	16.7
<i>Ophiostigma</i> (LPIL)	E	Ophi	7	0.02	97.23	4	11.1
Hydrozoa (LPIL)	Cn	Hydr	6	0.01	97.24	4	11.1
<i>Sipunculus nudus</i>	S		6	0.01	97.26	4	11.1
<i>Asychis elongatus</i>	A	Poly	6	0.01	97.27	3	8.3
<i>Dasybranchus</i> (LPIL)	A	Poly	6	0.01	97.28	3	8.3
Eulepethidae (LPIL)	A	Poly	6	0.01	97.3	1	2.8
<i>Eurythoe</i> sp.B	A	Poly	6	0.01	97.31	2	5.6
<i>Exogone caribensis</i>	A	Poly	6	0.01	97.33	3	8.3
<i>Glycera americana</i>	A	Poly	6	0.01	97.34	2	5.6
<i>Linopherus</i> sp.A	A	Poly	6	0.01	97.35	1	2.8
Nephtyidae (LPIL)	A	Poly	6	0.01	97.37	5	13.9
<i>Polycirrus plumosus</i>	A	Poly	6	0.01	97.38	5	13.9
<i>Potamethus</i> (LPIL)	A	Poly	6	0.01	97.39	2	5.6
<i>Prionospio steenstrupi</i>	A	Poly	6	0.01	97.41	3	8.3
<i>Syllis alternata</i>	A	Poly	6	0.01	97.42	3	8.3
<i>Syllis ortizi</i>	A	Poly	6	0.01	97.43	2	5.6
<i>Anadara notabilis</i>	M	Biva	6	0.01	97.45	2	5.6
<i>Bushia</i> sp.A	M	Biva	6	0.01	97.46	2	5.6
Carditidae (LPIL)	M	Biva	6	0.01	97.48	2	5.6
Corbulidae (LPIL)	M	Biva	6	0.01	97.49	2	5.6
<i>Semele nuculoides</i>	M	Biva	6	0.01	97.5	4	11.1
<i>Semele purpurascens</i>	M	Biva	6	0.01	97.52	3	8.3
<i>Anachis</i> (LPIL)	M	Gast	6	0.01	97.53	2	5.6
Cerithiidae Genus A	M	Gast	6	0.01	97.54	1	2.8
<i>Granulina ovuliformis</i>	M	Gast	6	0.01	97.56	4	11.1
<i>Seila adamsi</i>	M	Gast	6	0.01	97.57	6	16.7
<i>Teinostoma biscaynense</i>	M	Gast	6	0.01	97.58	1	2.8
Trochidae (LPIL)	M	Gast	6	0.01	97.6	4	11.1
<i>Chiton</i> (LPIL)	M	Poly	6	0.01	97.61	2	5.6
Ampeliscidae (LPIL)	C	Mala	6	0.01	97.63	2	5.6
<i>Anamixis cavitura</i>	C	Mala	6	0.01	97.64	3	8.3
Ischyroceridae (LPIL)	C	Mala	6	0.01	97.65	4	11.1
<i>Metaprotella hummelincki</i>	C	Mala	6	0.01	97.67	1	2.8
<i>Tiron tropakis</i>	C	Mala	6	0.01	97.68	1	2.8
<i>Heteromysis</i> sp.A	C	Mala	6	0.01	97.69	3	8.3
<i>Latreutes fucorum</i>	C	Mala	6	0.01	97.71	6	16.7
Palaemonidae (LPIL)	C	Mala	6	0.01	97.72	5	13.9
<i>Euceramus praelongus</i>	C	Mala	6	0.01	97.73	4	11.1
Parthenopidae (LPIL)	C	Mala	6	0.01	97.75	4	11.1
Porifera (LPIL)	Po		5	0.01	97.76	5	13.9
<i>Armandia</i> (LPIL)	A	Poly	5	0.01	97.77	3	8.3
<i>Axiothella</i> (LPIL)	A	Poly	5	0.01	97.78	4	11.1
<i>Ceratonereis irritabilis</i>	A	Poly	5	0.01	97.79	2	5.6
<i>Dorvillea clavata</i>	A	Poly	5	0.01	97.81	2	5.6
<i>Eunice vittata</i>	A	Poly	5	0.01	97.82	1	2.8
<i>Glycinde solitaria</i>	A	Poly	5	0.01	97.83	2	5.6
<i>Lumbrineris</i> sp.D	A	Poly	5	0.01	97.84	3	8.3
<i>Magelona</i> (LPIL)	A	Poly	5	0.01	97.85	3	8.3
<i>Marphysa</i> sp.H	A	Poly	5	0.01	97.86	2	5.6
Onuphidae (LPIL)	A	Poly	5	0.01	97.87	5	13.9
<i>Pectinaria</i> (LPIL)	A	Poly	5	0.01	97.88	3	8.3
<i>Plakosyllis quadrioculata</i>	A	Poly	5	0.01	97.9	4	11.1
<i>Polycirrus</i> sp.B	A	Poly	5	0.01	97.91	5	13.9
<i>Tharyx</i> (LPIL)	A	Poly	5	0.01	97.92	4	11.1
<i>Chione grus</i>	M	Biva	5	0.01	97.93	2	5.6
<i>Tagelus divisus</i>	M	Biva	5	0.01	97.94	2	5.6
<i>Niso aeglees</i>	M	Gast	5	0.01	97.95	2	5.6
<i>Olivella</i> (LPIL)	M	Gast	5	0.01	97.96	3	8.3
Vitrinellidae (LPIL)	M	Gast	5	0.01	97.98	3	8.3
<i>Stenetrium stebbingi</i>	C	Mala	5	0.01	97.99	2	5.6
<i>Argissa hamatipes</i>	C	Mala	5	0.01	98	2	5.6
<i>Corophium</i> (LPIL)	C	Mala	5	0.01	98.01	5	13.9
<i>Rhepoxynius epistomus</i>	C	Mala	5	0.01	98.02	1	2.8
<i>Cumella</i> (LPIL)	C	Mala	5	0.01	98.03	4	11.1
<i>Oxyurostylis lecrovae</i>	C	Mala	5	0.01	98.04	4	11.1
Heteromysis (LPIL)	C	Mala	5	0.01	98.06	5	13.9
Apsedeutidae (LPIL)	C	Mala	5	0.01	98.07	3	8.3
<i>Alpheus</i> sp.E	C	Mala	5	0.01	98.08	4	11.1
<i>Megalobrachium soriatum</i>	C	Mala	5	0.01	98.09	1	2.8
<i>Pilumnus dasypodus</i>	C	Mala	5	0.01	98.1	3	8.3
<i>Eusarsiella childi</i>	C	Ostr	5	0.01	98.11	3	8.3
<i>Ophiostigma siva</i>	E	Ophi	5	0.01	98.12	3	8.3
Holothuroidea (LPIL)	E	Holo	5	0.01	98.13	5	13.9
Turbellaria (LPIL)	P	Turb	4	0.01	98.14	2	5.6
<i>Carazziella hobsonae</i>	A	Poly	4	0.01	98.15	1	2.8
<i>Cauleriella</i> sp.J	A	Poly	4	0.01	98.16	4	11.1
<i>Inermonephtys inermis</i>	A	Poly	4	0.01	98.17	1	2.8
<i>Magelona</i> sp.I	A	Poly	4	0.01	98.18	3	8.3
<i>Megalomma pigmentum</i>	A	Poly	4	0.01	98.19	3	8.3

Table 2.continued	Phylum	Class	No.Indivs.	% Total	% Cumul.	Station Occurr.	% Station Occurr.	Comments
<i>Notomastus daueri</i>	A	Poly	4	0.01	98.2	3	8.3	
<i>Notomastus hemipodus</i>	A	Poly	4	0.01	98.21	3	8.3	
<i>Paranaitis gardineri</i>	A	Poly	4	0.01	98.22	2	5.6	
<i>Parapionosyllis uebelackerae</i>	A	Poly	4	0.01	98.23	3	8.3	
<i>Pista palmata</i>	A	Poly	4	0.01	98.23	1	2.8	
<i>Polyodontes lupinus</i>	A	Poly	4	0.01	98.24	3	8.3	
<i>Prionospio cirrifera</i>	A	Poly	4	0.01	98.25	2	5.6	
<i>Scolecipis</i> (LPIL)	A	Poly	4	0.01	98.26	3	8.3	
<i>Sigalion</i> (LPIL)	A	Poly	4	0.01	98.27	1	2.8	
<i>Sphaerosyllis</i> (LPIL)	A	Poly	4	0.01	98.28	4	11.1	
<i>Trichobranchus glacialis</i>	A	Poly	4	0.01	98.29	4	11.1	
<i>Arcinella cornuta</i>	M	Biva	4	0.01	98.3	4	11.1	
<i>Diplodonta punctata</i>	M	Biva	4	0.01	98.31	3	8.3	
<i>Glycymeris</i> (LPIL)	M	Biva	4	0.01	98.32	3	8.3	
<i>Laevicardium mortoni</i>	M	Biva	4	0.01	98.33	2	5.6	
Myidae (LPIL)	M	Biva	4	0.01	98.34	2	5.6	
Mytilidae (LPIL)	M	Biva	4	0.01	98.34	4	11.1	
Semelidae (LPIL)	M	Biva	4	0.01	98.35	2	5.6	
<i>Solenya</i> (LPIL)	M	Biva	4	0.01	98.36	2	5.6	
Actiidae (LPIL)	M	Gast	4	0.01	98.37	1	2.8	
<i>Acteocina</i> sp.B	M	Gast	4	0.01	98.38	2	5.6	
<i>Murex</i> (LPIL)	M	Gast	4	0.01	98.39	3	8.3	
<i>Pyramidella crenulata</i>	M	Gast	4	0.01	98.4	4	11.1	
<i>Rictaxis punctostriatus</i>	M	Gast	4	0.01	98.41	3	8.3	
<i>Tectonatica pusilla</i>	M	Gast	4	0.01	98.42	3	8.3	
<i>Carpas algicola</i>	C	Mala	4	0.01	98.43	2	5.6	
<i>Cirolana parva</i>	C	Mala	4	0.01	98.44	2	5.6	
<i>Munna</i> (LPIL)	C	Mala	4	0.01	98.44	1	2.8	
Synopiidae (LPIL)	C	Mala	4	0.01	98.45	3	8.3	
<i>Latreutes parvulus</i>	C	Mala	4	0.01	98.46	3	8.3	
<i>Periclimenes</i> (LPIL)	C	Mala	4	0.01	98.47	4	11.1	
<i>Periclimenes longicaudatus</i>	C	Mala	4	0.01	98.48	2	5.6	
<i>Sicyonia laevigata</i>	C	Mala	4	0.01	98.49	3	8.3	
<i>Trachypenaeus</i> (LPIL)	C	Mala	4	0.01	98.5	4	11.1	
<i>Eusarsiella spinosa</i>	C	Ostr	4	0.01	98.51	3	8.3	
<i>Skogsbergia lernerii</i>	C	Ostr	4	0.01	98.52	2	5.6	
<i>Amphiodia planispina</i>	E	Ophi	4	0.01	98.53	2	5.6	
<i>Ophionereis reticulata</i>	E	Ophi	4	0.01	98.54	3	8.3	
<i>Ancistrosyllis</i> (LPIL)	A	Poly	3	0.01	98.54	3	8.3	
<i>Cirrophorus perkinsi</i>	A	Poly	3	0.01	98.55	1	2.8	
<i>Drilonereis</i> sp.E	A	Poly	3	0.01	98.56	1	2.8	
<i>Ehlersia</i> (LPIL)	A	Poly	3	0.01	98.56	2	5.6	
<i>Fimbriosthenelais</i> sp.A	A	Poly	3	0.01	98.57	1	2.8	
<i>Glycera</i> (LPIL)	A	Poly	3	0.01	98.58	1	2.8	
<i>Glycera dibranchiata</i>	A	Poly	3	0.01	98.58	2	5.6	
<i>Goniada littorea</i>	A	Poly	3	0.01	98.59	1	2.8	
<i>Grabeulepis</i> (LPIL)	A	Poly	3	0.01	98.6	1	2.8	
<i>Heteropodarke formalis</i>	A	Poly	3	0.01	98.6	1	2.8	
<i>Lumbrineris</i> (LPIL)	A	Poly	3	0.01	98.61	2	5.6	
<i>Lumbrineris</i> sp.C	A	Poly	3	0.01	98.62	1	2.8	
<i>Potamethus</i> sp.A	A	Poly	3	0.01	98.62	2	5.6	
<i>Pseudopolydora</i> (LPIL)	A	Poly	3	0.01	98.63	2	5.6	
<i>Spiochaetopterus oculatus</i>	A	Poly	3	0.01	98.64	3	8.3	
<i>Sthenelais boa</i>	A	Poly	3	0.01	98.64	1	2.8	
<i>Streptosyllis pettiboneae</i>	A	Poly	3	0.01	98.65	2	5.6	
<i>Typosyllis amica</i>	A	Poly	3	0.01	98.66	1	2.8	
<i>Codakia orbiculata</i>	M	Biva	3	0.01	98.66	2	5.6	
<i>Dosinia</i> (LPIL)	M	Biva	3	0.01	98.67	3	8.3	
<i>Glans domingensis</i>	M	Biva	3	0.01	98.68	2	5.6	
<i>Glycymeris decussata</i>	M	Biva	3	0.01	98.69	3	8.3	
<i>Lucina radians</i>	M	Biva	3	0.01	98.69	2	5.6	
<i>Lyonsia hyalina floridana</i>	M	Biva	3	0.01	98.7	2	5.6	
<i>Macoma brevifrons</i>	M	Biva	3	0.01	98.71	2	5.6	
<i>Periploma margaritaceum</i>	M	Biva	3	0.01	98.71	3	8.3	
<i>Alvania</i> sp.I	M	Gast	3	0.01	98.72	1	2.8	
<i>Athleenia burryi</i>	M	Gast	3	0.01	98.73	2	5.6	
<i>Caecum heladum</i>	M	Gast	3	0.01	98.73	1	2.8	
<i>Caecum plicatum</i>	M	Gast	3	0.01	98.74	2	5.6	
Columbellidae (LPIL)	M	Gast	3	0.01	98.75	3	8.3	
<i>Diodora cayenensis</i>	M	Gast	3	0.01	98.75	3	8.3	
Marginellidae (LPIL)	M	Gast	3	0.01	98.76	3	8.3	
<i>Nassarina monilifera</i>	M	Gast	3	0.01	98.77	2	5.6	
<i>Parviturboides interrupta</i>	M	Gast	3	0.01	98.77	1	2.8	
<i>Persicula fluctuata</i>	M	Gast	3	0.01	98.78	2	5.6	
<i>Philine</i> (LPIL)	M	Gast	3	0.01	98.79	2	5.6	
Scaphandridae (LPIL)	M	Gast	3	0.01	98.79	2	5.6	
<i>Terebra dislocata</i>	M	Gast	3	0.01	98.8	2	5.6	
<i>Turbonila</i> sp.aC	M	Gast	3	0.01	98.81	2	5.6	
<i>Volvarina avenacea</i>	M	Gast	3	0.01	98.81	2	5.6	
<i>Dentalium texasianum</i>	M	Scap	3	0.01	98.82	2	5.6	

Table 2.continued	Phylum	Class	No.Indivs.	% Total	% Cumul.	Station Occurr	% Station Occurr.	Comments
<i>Erato maugeriae</i>	M	Gast	3	0.01	98.83	2	5.6	
<i>Erichsonella attenuata</i>	C	Mala	3	0.01	98.84	2	5.6	
Hyssuridae (LPIL)	C	Mala	3	0.01	98.84	3	8.3	
<i>Curidia debrogania</i>	C	Mala	3	0.01	98.85	2	5.6	
Gibberosus (LPIL)	C	Mala	3	0.01	98.86	2	5.6	
<i>Melita</i> (LPIL)	C	Mala	3	0.01	98.86	1	2.8	
<i>Monoculodes</i> (LPIL)	C	Mala	3	0.01	98.87	3	8.3	
<i>Neomegamphopus kalanii</i>	C	Mala	3	0.01	98.88	2	5.6	
<i>Cyclaspis bacescui</i>	C	Mala	3	0.01	98.88	1	2.8	
Diastylidae (LPIL)	C	Mala	3	0.01	98.89	1	2.8	
Mysidacea (LPIL)	C	Mala	3	0.01	98.9	1	2.8	
Tanaidacea (LPIL)	C	Mala	3	0.01	98.9	3	8.3	
Alpheidae (LPIL)	C	Mala	3	0.01	98.91	3	8.3	
Penaeidae (LPIL)	C	Mala	3	0.01	98.92	2	5.6	
<i>Sicyonia</i> (LPIL)	C	Mala	3	0.01	98.92	3	8.3	
Callianassidae (LPIL)	C	Mala	3	0.01	98.93	3	8.3	
<i>Euryplax nitida</i>	C	Mala	3	0.01	98.94	3	8.3	
Goneplacidae (LPIL)	C	Mala	3	0.01	98.94	3	8.3	
<i>Petrolisthes galathinus</i>	C	Mala	3	0.01	98.95	1	2.8	
Porcellanidae (LPIL)	C	Mala	3	0.01	98.96	1	2.8	
<i>Eurypylus rousei</i>	C	Ostr	3	0.01	98.97	2	5.6	
<i>Eusarsiella pillipollicis</i>	C	Ostr	3	0.01	98.97	3	8.3	
<i>Paracypridina floridensis</i>	C	Ostr	3	0.01	98.98	2	5.6	
<i>Prionotoleberis salomani</i>	C	Ostr	3	0.01	98.99	3	8.3	
<i>Pseudophilomedes</i> (LPIL)	C	Ostr	3	0.01	98.99	2	5.6	
Sarsiellidae (LPIL)	C	Ostr	3	0.01	99	2	5.6	
<i>Ophiopsila riisei</i>	E	Ophi	3	0.01	99.01	2	5.6	
<i>Leptosynapta multigranula</i>	E	Holo	3	0.01	99.01	3	8.3	
<i>Thyone pawsoni</i>	E	Holo	3	0.01	99.02	2	5.6	
Echinoidea (LPIL)	E	Echi	3	0.01	99.03	3	8.3	
Cnidaria (LPIL)	Cn		2	0	99.03	2	5.6	
<i>Amphictene</i> sp.A	A	Poly	2	0	99.04	1	2.8	
<i>Aonides mayaguezensis</i>	A	Poly	2	0	99.04	1	2.8	
<i>Autolytus</i> (LPIL)	A	Poly	2	0	99.04	2	5.6	
<i>Cabira incerta</i>	A	Poly	2	0	99.05	2	5.6	
Chaetopteridae (LPIL)	A	Poly	2	0	99.05	1	2.8	
<i>Eumida sanguinea</i>	A	Poly	2	0	99.06	2	5.6	
<i>Euphrosine triloba</i>	A	Poly	2	0	99.06	2	5.6	
<i>Exogone naidina</i>	A	Poly	2	0	99.07	2	5.6	
<i>Goniada</i> (LPIL)	A	Poly	2	0	99.07	1	2.8	
<i>Grubeosyllis</i> (LPIL)	A	Poly	2	0	99.08	1	2.8	
<i>Hemipodus roseus</i>	A	Poly	2	0	99.08	1	2.8	
<i>Hyboscolex quadricincta</i>	A	Poly	2	0	99.09	2	5.6	
<i>Kinbergonuphis</i> (LPIL)	A	Poly	2	0	99.09	2	5.6	
<i>Lepidasthenia varius</i>	A	Poly	2	0	99.09	1	2.8	
<i>Lumbrinerides dayi</i>	A	Poly	2	0	99.1	2	5.6	
<i>Lumbrineris</i> sp.E	A	Poly	2	0	99.1	1	2.8	
<i>Lysidice</i> (LPIL)	A	Poly	2	0	99.11	2	5.6	
<i>Lysilla</i> (LPIL)	A	Poly	2	0	99.11	1	2.8	
<i>Marphysa</i> (LPIL)	A	Poly	2	0	99.12	2	5.6	
<i>Notaulax occidentalis</i>	A	Poly	2	0	99.12	1	2.8	
<i>Notomastus lineatus</i>	A	Poly	2	0	99.13	2	5.6	
<i>Odontosyllis enopla</i>	A	Poly	2	0	99.13	2	5.6	
Oweniidae (LPIL)	A	Poly	2	0	99.14	2	5.6	
Pectinariidae (LPIL)	A	Poly	2	0	99.14	2	5.6	
Pholoidae (LPIL)	A	Poly	2	0	99.14	2	5.6	
<i>Pista</i> (LPIL)	A	Poly	2	0	99.15	2	5.6	
<i>Psammolyce arenosa</i>	A	Poly	2	0	99.15	2	5.6	
<i>Sabellastarte</i> sp.A	A	Poly	2	0	99.16	2	5.6	
<i>Sabellastarte</i> sp.B	A	Poly	2	0	99.16	2	5.6	
<i>Spirorbis corrugatus</i>	A	Poly	2	0	99.17	1	2.8	
<i>Syllides bansei</i>	A	Poly	2	0	99.17	2	5.6	
<i>Trypanosyllis coeliaca</i>	A	Poly	2	0	99.18	2	5.6	
<i>Trypanosyllis</i> sp.C	A	Poly	2	0	99.18	1	2.8	
<i>Argopecten gibbus</i>	M	Biva	2	0	99.19	2	5.6	
<i>Asthenothaerus</i> (LPIL)	M	Biva	2	0	99.19	2	5.6	
<i>Chama</i> (LPIL)	M	Biva	2	0	99.19	2	5.6	
Chamidae (LPIL)	M	Biva	2	0	99.2	1	2.8	
Crassatellidae (LPIL)	M	Biva	2	0	99.2	2	5.6	
<i>Hiatella arctica</i>	M	Biva	2	0	99.21	2	5.6	
Hiatellidae (LPIL)	M	Biva	2	0	99.21	1	2.8	
<i>Isognomon radiatus</i>	M	Biva	2	0	99.22	1	2.8	
<i>Lucina sombrenensis</i>	M	Biva	2	0	99.22	1	2.8	
<i>Macrocallista maculata</i>	M	Biva	2	0	99.23	1	2.8	
Mesodesmatidae (LPIL)	M	Biva	2	0	99.23	2	5.6	
Nuculidae (LPIL)	M	Biva	2	0	99.24	1	2.8	
Ostreidae (LPIL)	M	Biva	2	0	99.24	2	5.6	
<i>Plicatula</i> (LPIL)	M	Biva	2	0	99.24	1	2.8	
<i>Tellina mera</i>	M	Biva	2	0	99.25	1	2.8	
<i>Tellina versicolor</i>	M	Biva	2	0	99.25	2	5.6	
<i>Trachycardium egmont</i>	M	Biva	2	0	99.26	1	2.8	
<i>Trachycardium muricatum</i>	M	Biva	2	0	99.26	2	5.6	

Table 2.continued	Phylum	Class	No.Indivs.	% Total	Cumul.Station	Occurr%	StationOccurr.	Comments
<i>Transemella simpsoni</i>	M	Biva	2	0	99.27	1	2.8	
<i>Anachis avara</i>	M	Gast	2	0	99.27	1	2.8	
<i>Anachis pulchella</i>	M	Gast	2	0	99.28	2	5.6	
<i>Cerodrillia</i> (LPIL)	M	Gast	2	0	99.28	2	5.6	
<i>Conus</i> (LPIL)	M	Gast	2	0	99.29	2	5.6	
<i>Conus floridanus</i>	M	Gast	2	0	99.29	2	5.6	
<i>Conus jaspideus</i>	M	Gast	2	0	99.29	2	5.6	
<i>Crassispira leucocyma</i>	M	Gast	2	0	99.3	2	5.6	
<i>Cyclostremiscus beaulti</i>	M	Gast	2	0	99.3	1	2.8	
<i>Epitonium</i> (LPIL)	M	Gast	2	0	99.31	2	5.6	
<i>Ithycthyra lanceolata</i>	M	Gast	2	0	99.31	2	5.6	
<i>Jaspidella</i> (LPIL)	M	Gast	2	0	99.32	2	5.6	
<i>Mangelia bandella</i>	M	Gast	2	0	99.32	2	5.6	
<i>Mangelia biconica</i>	M	Gast	2	0	99.33	2	5.6	
<i>Marginella aureocincta</i>	M	Gast	2	0	99.33	2	5.6	
<i>Melanella</i> (LPIL)	M	Gast	2	0	99.34	2	5.6	
Muricidae (LPIL)	M	Gast	2	0	99.34	2	5.6	
<i>Oliva</i> (LPIL)	M	Gast	2	0	99.34	2	5.6	
<i>Olivella nivea</i>	M	Gast	2	0	99.35	1	2.8	
<i>Truncatella</i> (LPIL)	M	Gast	2	0	99.35	1	2.8	
<i>Volvarina</i> (LPIL)	M	Gast	2	0	99.36	2	5.6	
<i>Volvulella persimilis</i>	M	Gast	2	0	99.36	2	5.6	
<i>Pleurobranchia</i> (LPIL)	M	Gast	2	0	99.37	1	2.8	
<i>Acanthochitona spiculosa</i>	M	Poly	2	0	99.37	2	5.6	
<i>Acuminodeutopus</i> (LPIL)	C	Mala	2	0	99.38	1	2.8	
<i>Amphilochus</i> sp.F	C	Mala	2	0	99.38	1	2.8	
<i>Erichthonius</i> (LPIL)	C	Mala	2	0	99.39	1	2.8	
<i>Leucothoe</i> (LPIL)	C	Mala	2	0	99.39	2	5.6	
Leucothoidae (LPIL)	C	Mala	2	0	99.4	1	2.8	
Liljeborgiidae (LPIL)	C	Mala	2	0	99.4	2	5.6	
<i>Paracaprella</i> (LPIL)	C	Mala	2	0	99.4	2	5.6	
<i>Stenothoe gallensis</i>	C	Mala	2	0	99.41	1	2.8	
Stenothoidae (LPIL)	C	Mala	2	0	99.41	1	2.8	
Bodotriidae (LPIL)	C	Mala	2	0	99.42	2	5.6	
Cumacea (LPIL)	C	Mala	2	0	99.42	1	2.8	
<i>Heteromysis noveli</i>	C	Mala	2	0	99.43	2	5.6	
<i>Apseudes</i> sp.A	C	Mala	2	0	99.43	1	2.8	
<i>Leptocheilia</i> sp.F	C	Mala	2	0	99.44	1	2.8	
<i>Leptocheila serratorbita</i>	C	Mala	2	0	99.44	2	5.6	
<i>Lucifer faxoni</i>	C	Mala	2	0	99.45	2	5.6	
<i>Sicyonia typica</i>	C	Mala	2	0	99.45	2	5.6	
<i>Trachypenaeus constrictus</i>	C	Mala	2	0	99.45	2	5.6	
<i>Eucratopsis crassimanus</i>	C	Mala	2	0	99.46	1	2.8	
<i>Neopanope packardii</i>	C	Mala	2	0	99.46	1	2.8	
<i>Paguristes</i> (LPIL)	C	Mala	2	0	99.47	1	2.8	
<i>Panopeus simpsoni</i>	C	Mala	2	0	99.47	2	5.6	
<i>Pilumnus sayi</i>	C	Mala	2	0	99.48	2	5.6	
<i>Pinnixa retinens</i>	C	Mala	2	0	99.48	2	5.6	
<i>Eusarsiella culteri</i>	C	Ostr	2	0	99.49	1	2.8	
<i>Parasterope pollex</i>	C	Ostr	2	0	99.49	1	2.8	
<i>Podocopa</i> (LPIL)	C	Ostr	2	0	99.5	2	5.6	
Rutidermatidae (LPIL)	C	Ostr	2	0	99.5	2	5.6	
<i>Paranebalia belizensis</i>	C	Mala	2	0	99.5	1	2.8	
<i>Amphioplus</i> (LPIL)	E	Ophi	2	0	99.51	1	2.8	
<i>Ophioderma cinereum</i>	E	Ophi	2	0	99.51	1	2.8	
<i>Ophioneis</i> (LPIL)	E	Ophi	2	0	99.52	2	5.6	
<i>Ophiophragmus</i> (LPIL)	E	Ophi	2	0	99.52	2	5.6	
<i>Ophiopsila</i> (LPIL)	E	Ophi	2	0	99.53	1	2.8	
<i>Holothuria</i> (LPIL)	E	Holo	2	0	99.53	1	2.8	
Synaptidae (LPIL)	E	Holo	2	0	99.54	2	5.6	
Asteroidea (LPIL)	E	Aste	2	0	99.54	2	5.6	
<i>Echinaster sentus</i>	E	Aste	2	0	99.55	2	5.6	
<i>Philine</i> sp.A	M	Gast	2	0.01	99.55	2	5.6	
Bryozoa (LPIL)	Br		1	0	99.55	1	2.8	
<i>Aspidosiphon gosnoldi</i>	S		1	0	99.55	1	2.8	
Acrocirridae (LPIL)	A	Poly	1	0	99.56	1	2.8	
<i>Amaeana</i> sp.B	A	Poly	1	0	99.56	1	2.8	
<i>Americanuphis magna</i>	A	Poly	1	0	99.56	1	2.8	
<i>Ampharete</i> (LPIL)	A	Poly	1	0	99.56	1	2.8	
<i>Ampharete parvidentata</i>	A	Poly	1	0	99.57	1	2.8	
<i>Ampharete</i> sp.A	A	Poly	1	0	99.57	1	2.8	
<i>Ampharete</i> sp.B	A	Poly	1	0	99.57	1	2.8	
Amphinomidae (LPIL)	A	Poly	1	0	99.57	1	2.8	
<i>Apoprionospio</i> (LPIL)	A	Poly	1	0	99.58	1	2.8	
<i>Arabella</i> (LPIL)	A	Poly	1	0	99.58	1	2.8	
<i>Archannelida</i> (LPIL)	A	Poly	1	0	99.58	1	2.8	
<i>Aricidea</i> sp.V	A	Poly	1	0	99.58	1	2.8	
<i>Autolytus</i> sp.B	A	Poly	1	0	99.58	1	2.8	
<i>Boguella</i> sp.A	A	Poly	1	0	99.59	1	2.8	
<i>Branchiosyllis</i> (LPIL)	A	Poly	1	0	99.59	1	2.8	
Capitellidae Genus FF	A	Poly	1	0	99.59	1	2.8	

Table 2.continued	Phylum	Class	No.Indivs.	% Total	% Cumul.	Station Occurr.	% Station Occurr.	Comments
<i>Demonax microphthalmus</i>	A	Poly	1	0	99.59	1	2.8	
<i>Dipolydora</i> (LPIL)	A	Poly	1	0	99.6	1	2.8	
<i>Dipolydora</i> sp.C	A	Poly	1	0	99.6	1	2.8	
<i>Dispio uncinata</i>	A	Poly	1	0	99.6	1	2.8	
<i>Eunice filamentosa</i>	A	Poly	1	0	99.6	1	2.8	
<i>Euniphysa</i> (LPIL)	A	Poly	1	0	99.6	1	2.8	
<i>Euniphysa</i> sp.A	A	Poly	1	0	99.61	1	2.8	
Flabelligeridae (LPIL)	A	Poly	1	0	99.61	1	2.8	
Glyceridae (LPIL)	A	Poly	1	0	99.61	1	2.8	
<i>Grubeosyllis rugulosa</i>	A	Poly	1	0	99.61	1	2.8	
<i>Grubeulepis mexicana</i>	A	Poly	1	0	99.62	1	2.8	
<i>Harmothoe imbricata</i>	A	Poly	1	0	99.62	1	2.8	
<i>Hesionura</i> (LPIL)	A	Poly	1	0	99.62	1	2.8	
<i>Hesiosyllis</i> sp.A	A	Poly	1	0	99.62	1	2.8	
<i>Lumbrineris inflata</i>	A	Poly	1	0	99.63	1	2.8	
<i>Macrochaeta</i> sp.A	A	Poly	1	0	99.63	1	2.8	
<i>Malmgreniella</i> (LPIL)	A	Poly	1	0	99.63	1	2.8	
<i>Malmgreniella</i> sp.C	A	Poly	1	0	99.63	1	2.8	
<i>Mexiolelepis weberi</i>	A	Poly	1	0	99.63	1	2.8	
<i>Mooreonuphis</i> (LPIL)	A	Poly	1	0	99.64	1	2.8	
<i>Notomastus americanus</i>	A	Poly	1	0	99.64	1	2.8	
<i>Odontosyllis</i> (LPIL)	A	Poly	1	0	99.64	1	2.8	
<i>Onuphis eremita oculata</i>	A	Poly	1	0	99.64	1	2.8	
Orbiniidae (LPIL)	A	Poly	1	0	99.65	1	2.8	
<i>Paramarphysa longula</i>	A	Poly	1	0	99.65	1	2.8	
<i>Petaloproctus</i> (LPIL)	A	Poly	1	0	99.65	1	2.8	
Pilargidae (LPIL)	A	Poly	1	0	99.65	1	2.8	
<i>Pilargis berkeleyae</i>	A	Poly	1	0	99.65	1	2.8	
<i>Psammolyce ctenidophora</i>	A	Poly	1	0	99.66	1	2.8	
<i>Pseudovermilia occidentalis</i>	A	Poly	1	0	99.66	1	2.8	
<i>Sabellaria</i> sp.A	A	Poly	1	0	99.66	1	2.8	
<i>Scoletoma candida</i>	A	Poly	1	0	99.66	1	2.8	
<i>Scoletoma</i> sp.L	A	Poly	1	0	99.67	1	2.8	
<i>Sigambra</i> (LPIL)	A	Poly	1	0	99.67	1	2.8	
<i>Sphaerosyllis glandulata</i>	A	Poly	1	0	99.67	1	2.8	
<i>Streptosyllis</i> (LPIL)	A	Poly	1	0	99.67	1	2.8	
Syllidae Genus A	A	Poly	1	0	99.68	1	2.8	
<i>Syllides</i> (LPIL)	A	Poly	1	0	99.68	1	2.8	
<i>Syllides fulvus</i>	A	Poly	1	0	99.68	1	2.8	
<i>Synelmis ewingi</i>	A	Poly	1	0	99.68	1	2.8	
<i>Thalenessa</i> sp.C	A	Poly	1	0	99.68	1	2.8	
Trichobranchidae (LPIL)	A	Poly	1	0	99.69	1	2.8	
<i>Trypanosyllis prampramensis</i>	A	Poly	1	0	99.69	1	2.8	
<i>Typosyllis</i> (LPIL)	A	Poly	1	0	99.69	1	2.8	
<i>Westheideia minutimala</i>	A	Poly	1	0	99.69	1	2.8	
<i>Argopecten irradians concentricus</i>	M	Biva	1	0	99.7	1	2.8	
<i>Asthenothaerus hemphilli</i>	M	Biva	1	0	99.7	1	2.8	
<i>Corbula</i> (LPIL)	M	Biva	1	0	99.7	1	2.8	
<i>Crenella</i> (LPIL)	M	Biva	1	0	99.7	1	2.8	
<i>Cumingia coarctata</i>	M	Biva	1	0	99.7	1	2.8	
<i>Cyclinella tenuis</i>	M	Biva	1	0	99.71	1	2.8	
<i>Dosinia discus</i>	M	Biva	1	0	99.71	1	2.8	
<i>Glycymeris americana</i>	M	Biva	1	0	99.71	1	2.8	
<i>Glycymeris pectinata</i>	M	Biva	1	0	99.71	1	2.8	
<i>Laevicardium laevigatum</i>	M	Biva	1	0	99.72	1	2.8	
<i>Macoma</i> (LPIL)	M	Biva	1	0	99.72	1	2.8	
<i>Macrocallista nimbosa</i>	M	Biva	1	0	99.72	1	2.8	
Macluridae (LPIL)	M	Biva	1	0	99.72	1	2.8	
<i>Nuculana acuta</i>	M	Biva	1	0	99.73	1	2.8	
Periplomatidae (LPIL)	M	Biva	1	0	99.73	1	2.8	
<i>Petricola lapicida</i>	M	Biva	1	0	99.73	1	2.8	
<i>Semele bellastriata</i>	M	Biva	1	0	99.73	1	2.8	
<i>Tellidora cristata</i>	M	Biva	1	0	99.73	1	2.8	
<i>Tellina aequistriata</i>	M	Biva	1	0	99.74	1	2.8	
<i>Acteocina bidentata</i>	M	Gast	1	0	99.74	1	2.8	
<i>Alvania auberiana</i>	M	Gast	1	0	99.74	1	2.8	
<i>Anachis semiplicata</i>	M	Gast	1	0	99.74	1	2.8	
<i>Atys</i> (LPIL)	M	Gast	1	0	99.75	1	2.8	
<i>Bermudaclis tampaensis</i>	M	Gast	1	0	99.75	1	2.8	
Bullidae (LPIL)	M	Gast	1	0	99.75	1	2.8	
<i>Caecum nebulosum</i>	M	Gast	1	0	99.75	1	2.8	
<i>Cerithium atratum</i>	M	Gast	1	0	99.75	1	2.8	
<i>Cerodrillia splendida</i>	M	Gast	1	0	99.76	1	2.8	
<i>Crassispira</i> (LPIL)	M	Gast	1	0	99.76	1	2.8	
<i>Crassispira tampaensis</i>	M	Gast	1	0	99.76	1	2.8	
Epitoniidae (LPIL)	M	Gast	1	0	99.76	1	2.8	
Fascioliariidae (LPIL)	M	Gast	1	0	99.77	1	2.8	
Hamineidae (LPIL)	M	Gast	1	0	99.77	1	2.8	
<i>Kurtziella atrostyla</i>	M	Gast	1	0	99.77	1	2.8	
<i>Mangelia</i> (LPIL)	M	Gast	1	0	99.77	1	2.8	
<i>Mangelia quadrilineata</i>	M	Gast	1	0	99.78	1	2.8	

Table 2.continued	Phylum	Class	No.Indivs.	% Total	% Cumul.	Station Occurr.	% Station Occurr.	Comments
<i>Marginella eburneola</i>	M	Gast	1	0	99.78	1	2.8	
<i>Natica</i> (LPIL)	M	Gast	1	0	99.78	1	2.8	
<i>Neodrillia cydia</i>	M	Gast	1	0	99.78	1	2.8	
<i>Odostomia impressa</i>	M	Gast	1	0	99.78	1	2.8	
<i>Rissoina decussata</i>	M	Gast	1	0	99.79	1	2.8	
<i>Strombus</i> (LPIL)	M	Gast	1	0	99.79	1	2.8	
<i>Strombus alatus</i>	M	Gast	1	0	99.79	1	2.8	
<i>Tegula</i> (LPIL)	M	Gast	1	0	99.79	1	2.8	
<i>Tegula fasciata</i>	M	Gast	1	0	99.8	1	2.8	
<i>Turritella</i> (LPIL)	M	Gast	1	0	99.8	1	2.8	
Turritellidae (LPIL)	M	Gast	1	0	99.8	1	2.8	
Dentaliidae (LPIL)	M	Scap	1	0	99.8	1	2.8	
<i>Dentalium laqueatum</i>	M	Scap	1	0	99.8	1	2.8	
<i>Acanthochitona</i> (LPIL)	M	Poly	1	0	99.81	1	2.8	
<i>Ischnochiton</i> (LPIL)	M	Poly	1	0	99.81	1	2.8	
<i>Octopus joubini</i>	M	Ceph	1	0	99.81	1	2.8	
<i>Crepidula aculeata</i>	M	Gast	1	0	99.81	1	2.8	
<i>Tricolia thalassicola</i>	M	Gast	1	0	99.82	1	2.8	
<i>Apanthura harringtoniensis</i>	C	Mala	1	0	99.82	1	2.8	
<i>Erichsonella</i> (LPIL)	C	Mala	1	0	99.82	1	2.8	
<i>Eurydice</i> (LPIL)	C	Mala	1	0	99.82	1	2.8	
<i>Isopoda</i> (LPIL)	C	Mala	1	0	99.83	1	2.8	
Limnoriidae (LPIL)	C	Mala	1	0	99.83	1	2.8	
<i>Mesanthura</i> (LPIL)	C	Mala	1	0	99.83	1	2.8	
<i>Mesanthura floridensis</i>	C	Mala	1	0	99.83	1	2.8	
<i>Acanthohaustorius</i> (LPIL)	C	Mala	1	0	99.83	1	2.8	
<i>Ampelisca agassizi</i>	C	Mala	1	0	99.84	1	2.8	
<i>Ampelisca</i> sp.T	C	Mala	1	0	99.84	1	2.8	
Colomastigidae (LPIL)	C	Mala	1	0	99.84	1	2.8	
Corophiidae (LPIL)	C	Mala	1	0	99.84	1	2.8	
Gammaridae (LPIL)	C	Mala	1	0	99.85	1	2.8	
<i>Lembos ovalipes</i>	C	Mala	1	0	99.85	1	2.8	
<i>Lembos rectangularis</i>	C	Mala	1	0	99.85	1	2.8	
<i>Liljeborgia</i> (LPIL)	C	Mala	1	0	99.85	1	2.8	
<i>Listriella</i> (LPIL)	C	Mala	1	0	99.85	1	2.8	
<i>Melita</i> sp.C	C	Mala	1	0	99.86	1	2.8	
<i>Monoculodes</i> sp.D	C	Mala	1	0	99.86	1	2.8	
<i>Photis melanicus</i>	C	Mala	1	0	99.86	1	2.8	
Podoceridae (LPIL)	C	Mala	1	0	99.86	1	2.8	
<i>Synopia ultramarina</i>	C	Mala	1	0	99.87	1	2.8	
<i>Unciola</i> (LPIL)	C	Mala	1	0	99.87	1	2.8	
<i>Campylaspis</i> (LPIL)	C	Mala	1	0	99.87	1	2.8	
<i>Cubanocuma</i> sp.A	C	Mala	1	0	99.87	1	2.8	
Nannastacidae (LPIL)	C	Mala	1	0	99.88	1	2.8	
<i>Heteromysis bermudensis</i>	C	Mala	1	0	99.88	1	2.8	
Kalliapseudidae (LPIL)	C	Mala	1	0	99.88	1	2.8	
<i>Alpheus bouvieri</i>	C	Mala	1	0	99.88	1	2.8	
<i>Automate</i> (LPIL)	C	Mala	1	0	99.88	1	2.8	
<i>Hippolyte zostericola</i>	C	Mala	1	0	99.89	1	2.8	
<i>Leptocheila</i> (LPIL)	C	Mala	1	0	99.89	1	2.8	
<i>Lucifer</i> (LPIL)	C	Mala	1	0	99.89	1	2.8	
<i>Penaeus</i> (LPIL)	C	Mala	1	0	99.89	1	2.8	
<i>Processa vicina</i>	C	Mala	1	0	99.9	1	2.8	
<i>Synalpheus</i> (LPIL)	C	Mala	1	0	99.9	1	2.8	
<i>Synalpheus mcclendoni</i>	C	Mala	1	0	99.9	1	2.8	
<i>Thor manningi</i>	C	Mala	1	0	99.9	1	2.8	
Calappidae (LPIL)	C	Mala	1	0	99.9	1	2.8	
<i>Dissodactylus crinitichelis</i>	C	Mala	1	0	99.91	1	2.8	
<i>Fabia tellinae</i>	C	Mala	1	0	99.91	1	2.8	
<i>Goneplax sigsbei</i>	C	Mala	1	0	99.91	1	2.8	
<i>Hepatus epheliticus</i>	C	Mala	1	0	99.91	1	2.8	
<i>Hypoconcha arcuata</i>	C	Mala	1	0	99.92	1	2.8	
<i>Panopeus occidentalis</i>	C	Mala	1	0	99.92	1	2.8	
<i>Parthenope granulata</i>	C	Mala	1	0	99.92	1	2.8	
<i>Pelia mutica</i>	C	Mala	1	0	99.92	1	2.8	
<i>Petrolisthes armatus</i>	C	Mala	1	0	99.93	1	2.8	
<i>Pilumnus spinosissimus</i>	C	Mala	1	0	99.93	1	2.8	
<i>Pinnixa</i> sp.H	C	Mala	1	0	99.93	1	2.8	
<i>Pitho quadridentata</i>	C	Mala	1	0	99.93	1	2.8	
Portunidae (LPIL)	C	Mala	1	0	99.93	1	2.8	
<i>Portunus gibbesii</i>	C	Mala	1	0	99.94	1	2.8	
<i>Portunus spinicarpus</i>	C	Mala	1	0	99.94	1	2.8	
<i>Raninoides loevis</i>	C	Mala	1	0	99.94	1	2.8	
<i>Rochinia</i> (LPIL)	C	Mala	1	0	99.94	1	2.8	
<i>Speocarcinus lobatus</i>	C	Mala	1	0	99.95	1	2.8	
<i>Upogebia affinis</i>	C	Mala	1	0	99.95	1	2.8	
Cypridinidae (LPIL)	C	Ostr	1	0	99.95	1	2.8	
<i>Eusarsiella ozotothrix</i>	C	Ostr	1	0	99.95	1	2.8	
<i>Eusarsiella</i> sp.T	C	Ostr	1	0	99.96	1	2.8	
<i>Eusarsiella texana</i>	C	Ostr	1	0	99.96	1	2.8	
<i>Parasterope</i> (LPIL)	C	Ostr	1	0	99.96	1	2.8	

Table 2. continued	Phylum	Class	No. Indivs.	% Total	% Cumul.	Station Occurr.	% Station Occurr.	Comments
<i>Pseudophilomedes polyancistrus</i>	C	Ostr	1	0	99.96	1	2.8	
<i>Pterocypridina sex</i>	C	Ostr	1	0	99.96	1	2.8	
<i>Vargula bullae</i>	C	Ostr	1	0	99.97	1	2.8	
<i>Paranebalia longipes</i>	C	Mala	1	0	99.97	1	2.8	
Ophiactidae (LPIL)	E	Ophi	1	0	99.97	1	2.8	
<i>Ophiactis savignyi</i>	E	Ophi	1	0	99.97	1	2.8	
<i>Ophiocnida</i> (LPIL)	E	Ophi	1	0	99.98	1	2.8	
<i>Ophioderma</i> (LPIL)	E	Ophi	1	0	99.98	1	2.8	
Ophiodermatidae (LPIL)	E	Ophi	1	0	99.98	1	2.8	
<i>Ophiolepis</i> (LPIL)	E	Ophi	1	0	99.98	1	2.8	
<i>Ophionereis olivacea</i>	E	Ophi	1	0	99.98	1	2.8	
<i>Ophiophragmus pulcher</i>	E	Ophi	1	0	99.99	1	2.8	
<i>Ophiothrix angulata</i>	E	Ophi	1	0	99.99	1	2.8	
Ophiotrichidae (LPIL)	E	Ophi	1	0	99.99	1	2.8	
Ophiuridae (LPIL)	E	Ophi	1	0	99.99	1	2.8	
<i>Brissoopsis elongata elongata</i>	E	Echi	1	0	100	1	2.8	
<i>Lytechinus variegatus</i>	E	Echi	1	0	100	1	2.8	
<i>Balanoglossus</i> (LPIL)	He	Ente	1	0	100	1	2.8	

TAXA KEY

Phylum

Class/Order

A=Annelida

Olig=Oligochaeta

Poly=Polychaeta

B=Brachiopoda

Br=Bryozoa

C=Arthropoda (Crustacea)

Mala=Malacostraca

Ostr=Ostracoda

Ch=Chordata

Asci=Asciacea

Lept=Leptocardia

Cn=Cnidaria

Anth=Anthozoa

Hydr=Hydrozoa

E=Echinodermata

Aste=Asteroidea

Echi=Echinoidea

Holo=Holothuroidea

Ophi=Ophiuroidea

Ec=Echiura

He=Hemichordata

Ente=Enteropneusta

M=Mollusca

Ceph=Cephalopoda

Gast=Gastropoda

Polyp=Polyplacophora

Scap=Scaphopoda

Biva=Bivalvia

P=Platyhelminthes

Turb=Turbellaria

Ph=Phoronida

Po=Porifera

Pr=Priapulida

R=Rhynchozoela

Anop=Anopla

S=Sipuncula

Table 3. Summary of abundance of major taxonomic groups for the Florida Bay and Adjacent Waters stations, August 1996.

Taxa	Total No. Individuals	% Total	Total No. Taxa	% Total
Annelida				
Polychaeta	16929	38.5	345	34.9
Oligochaeta	1417	3.2	1	0.1
Mollusca				
Gastropoda	6104	13.9	137	13.9
Bivalvia	3486	7.9	108	10.9
Other Mollusca	219	0.5	15	1.5
Arthropoda (Crustacea)				
Malacostraca				
Amphipoda	5954	13.5	111	11.2
Tanaidacea	3260	7.4	21	2.1
Other Malacostraca	1402	3.2	138	14.0
Other Crustacea	1525	3.5	52	5.3
Other Taxa	3668	8.3	61	6.2
Totals	43964		989	

respectively (Table 2). Rhynchocoela (LPIL) was the only taxon found at 100% of the stations (Table 2). The distribution of dominant taxa representing >10% of the total assemblage at each station is given in Table 4.

Station mean density and mean number of taxa data are given in Table 1 and Figures 6 and 7. Mean densities ranged from 1,992 organisms·m⁻² at Station 50 to 30,633 organisms·m⁻² at Station 44 (Table 1; Figure 6). The mean number of taxa per replicate ranged from 17.7 at Station 50 to 133.0 at Station 26 (Table 1; Figure 7).

There was a significant positive correlation between station mean density data and total taxa per replicate, sediment TOC and bottom DO (Table 5; Figures 8, 9 10). The number of taxa per replicate was positively correlated with sediment TOC and bottom DO (Table 5; Figures 11, 12). There were additional significant correlations between various physical and chemical parameters: % gravel + sand was inversely correlated with % silt + clay and bottom salinity; % silt + clay was positively correlated with bottom salinity; and sediment TOC was positively correlated with bottom DO and bottom salinity (Table 5).

Taxa diversity and evenness are given in Table 1 and Figure 13. Taxa diversity (H') was uniformly high with all stations but one (50) having diversity values > 3.0; values ranged from 2.44 at Station 22 to 4.55 at Station 22. Taxa evenness (J) was also high with 33 of 36 stations having evenness values > 0.7; values ranged from 0.65 at Station 44 to 0.88 at Station 49 (Table 1; Figure 13).

Numerical Classification Analysis

Normal (stations) and inverse (species) classification analyses were performed on the Florida Bay and Adjacent Waters data set and displayed as dendrograms (Figures 14 and 15). Selection of the species included in the analyses was based on a minimum representation of 0.33% of total individuals. Count data for the 64 taxa selected were included in a matrix of station and

Figure 5. Percent abundance of major taxa for the Florida Bay and Adjacent Waters, August 1996.

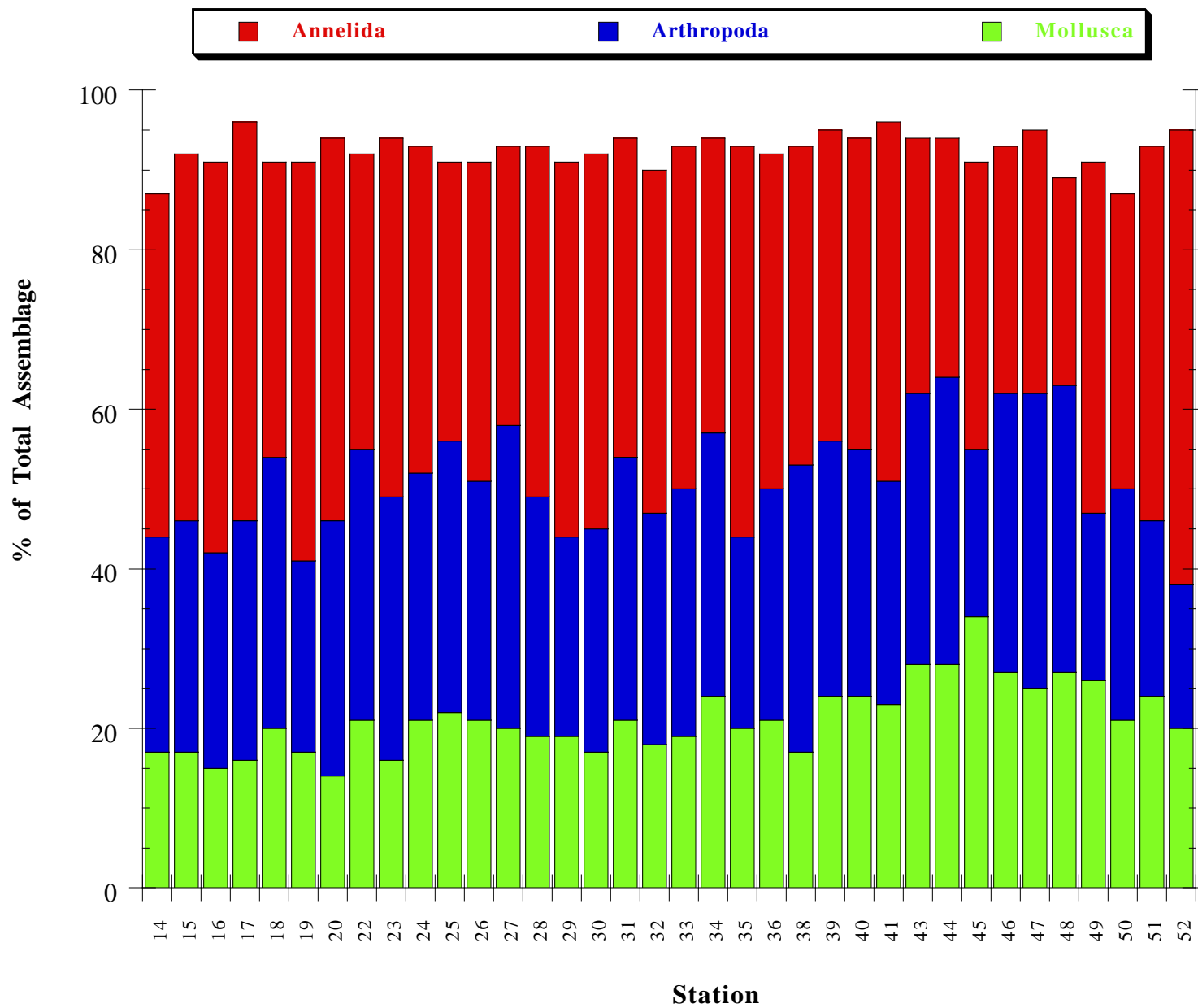


Table 4. Percentage abundance of dominant taxa (> 10% of the total) for the Florida Bay and Adjacent Waters stations, August 1996.

Taxa	14	15	16	17	18	19	20	22	23	24	25	26	27	28	29	30	31	32	33
Chordata																			
Ascidacea (LPIL)												11.2							
Branchiostoma (LPIL)																			
Polychaeta																			
Branchiomma nigromaculata					15.9														
Chevalia carpenteri																			27.2
Cirratulidae genus A	18.5																		
Exogone rolani				16.0															
Fabricinuda trilobata			11.5			11.4													
Filogranula sp. A																			
Haplosyllis spongicola																			22.4
Mediomastus (LPIL)																			
Monticellina dorsobranchialis			10.3																
Nereis micromma							10.8												
Scoletoma verrilli																			
Oligochaeta (LPIL)							15.5												
Mollusca																			
Caecum imbricatum																			
Caecum pulchellum															12.9				11.1
Cerithiidae (LPIL)																			
Ervillea concentrica																			
Tellina (LPIL)											10.3								
Tellina sybaritica																			
Arthropoda																			
Cymadusa compta		10.0																	
Elasmopus (LPIL)		10.7																	
Eudevenopus honduranus																			
Leptocheila (LPIL)					10.5					22.4					36.6				13.5
Rutiderma darvii																			

Taxa	34	35	36	38	39	40	41	43	44	45	46	47	48	49	50	51	52
Chordata																	
Ascidacea (LPIL)																	
Branchiostoma (LPIL)															35.1		
Polychaeta																	
Branchiomma nigromaculata																	
Chevalia carpenteri																	
Cirratulidae genus A																	
Exogone rolani																	
Fabricinuda trilobata																	
Filogranula sp. A				16.8													
Haplosyllis spongicola						15.9											
Mediomastus (LPIL)															12.9	13.2	
Monticellina dorsobranchialis																	
Nereis micromma																	
Scoletoma verrilli																	21.2
Oligochaeta (LPIL)																	
Mollusca																	
Caecum imbricatum																	
Caecum pulchellum		19.9			21.5		18.1	13.1	19.6								
Cerithiidae (LPIL)								16.9									
Ervillea concentrica									11.5								
Tellina (LPIL)															12.6		
Tellina sybaritica											11.4						
Arthropoda																	
Cymadusa compta																	
Elasmopus (LPIL)																	
Eudevenopus honduranus															16.3		
Leptocheila (LPIL)						13.3											
Rutiderma darvii													15.5				

Figure 6. Mean macroinfaunal densities for the Florida Bay and Adjacent Waters stations, August 1996.

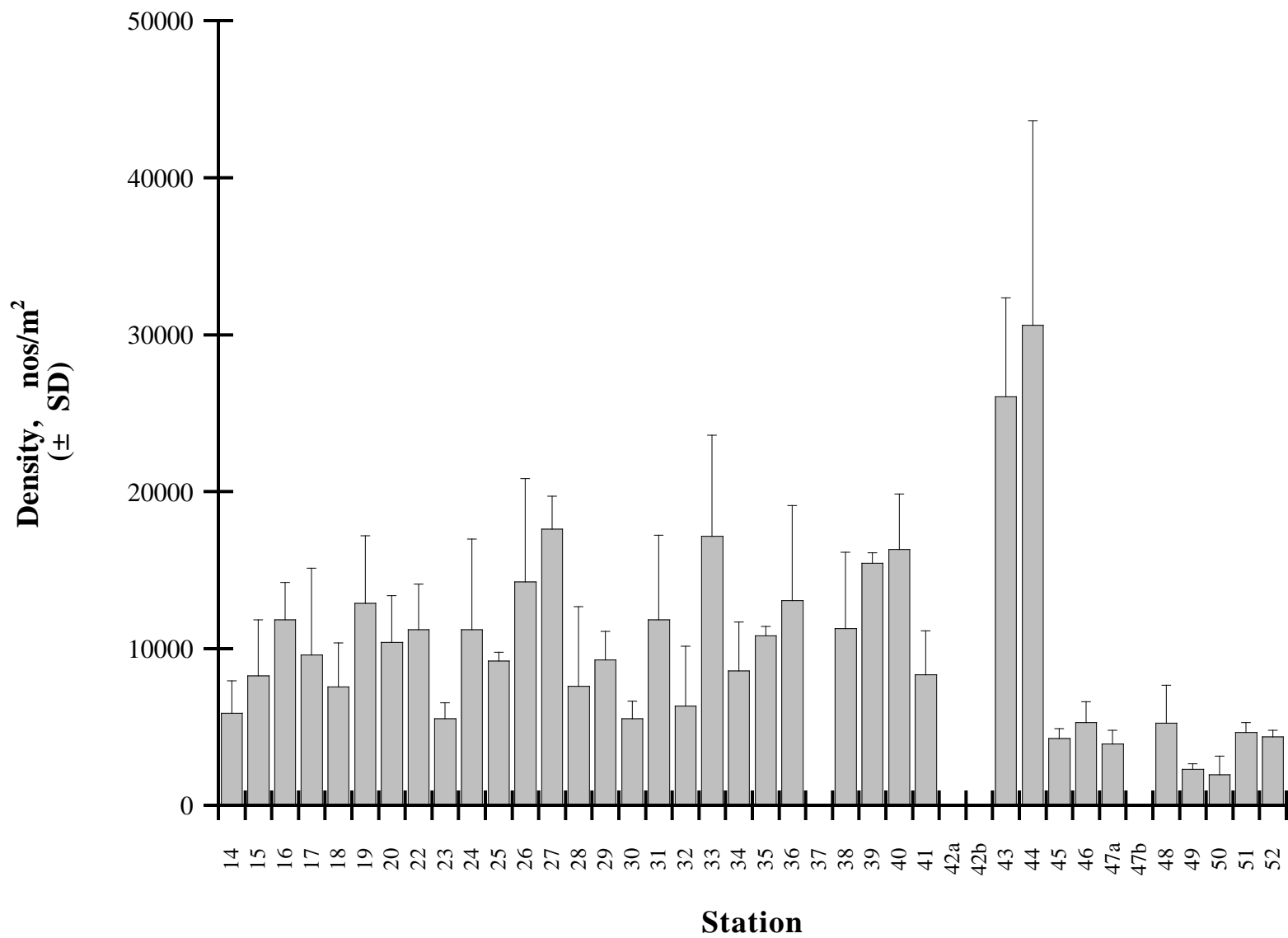


Figure 7. Mean number of macroinvertebrate taxa per replicate for the Florida Bay and Adjacent Waters stations, August 1996.

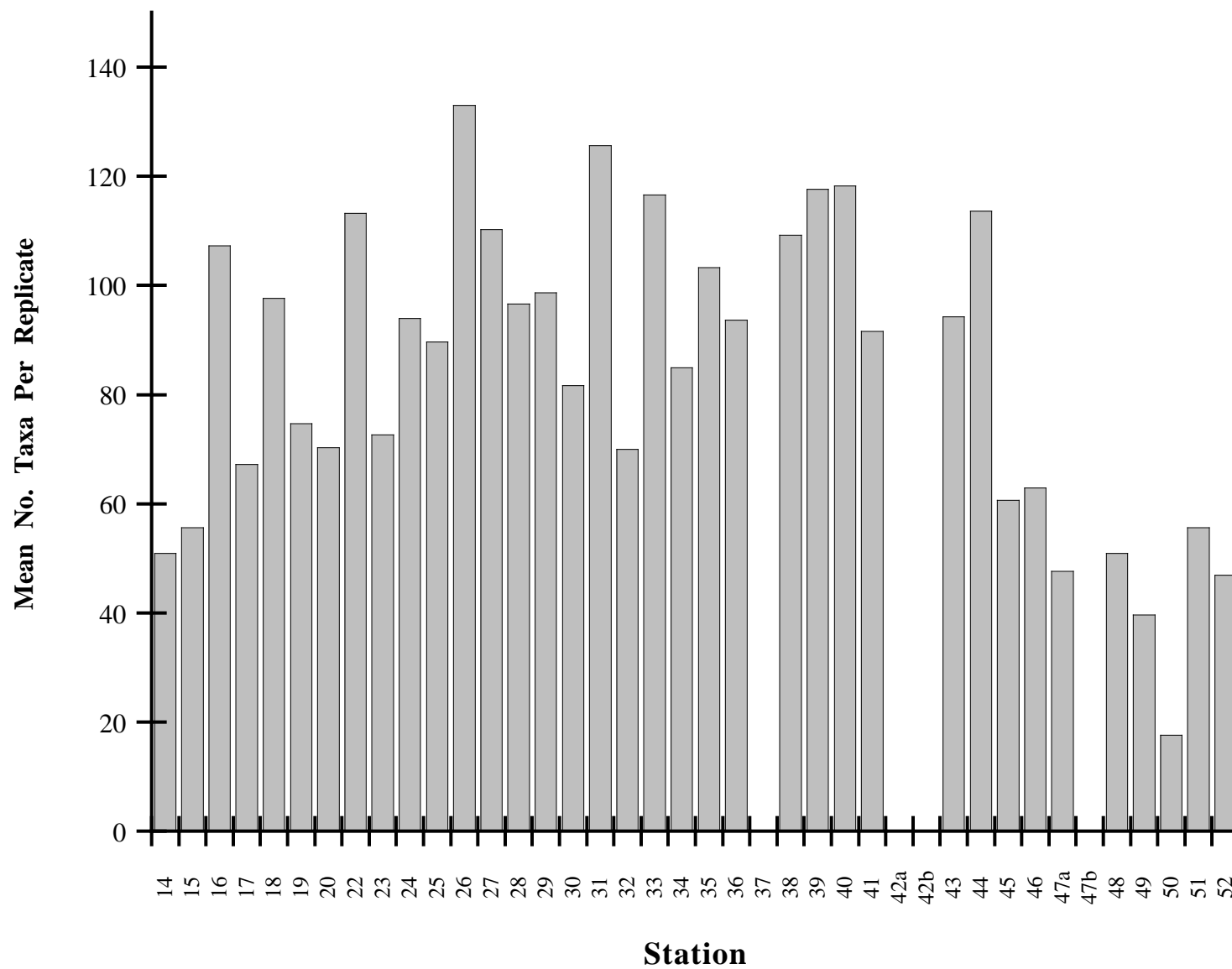


Table 5. Correlation coefficients for the Florida Bay and Adjacent Waters data, August 1996.

Variable	by Variable	Correlation (Spearman's Rho)	Significance Probability
density	taxa	0.8399	<0.0001
	% gravel & sand	-0.0875	0.6225
	% silt & clay	0.0638	0.7202
	TOC	0.6758	<0.0001
	bottom DO	0.658	<0.0001
	bottom salinity	0.2651	0.1238
taxa	% gravel & sand	0.0199	0.9112
	% silt & clay	-0.0539	0.7623
	TOC	0.7382	<0.0001
	bottom DO	0.5568	0.0005
	bottom salinity	0.2185	0.2072
% gravel & sand	% silt & clay	-0.9188	<0.0001
	TOC	-0.1441	0.4162
	bottom DO	0.2911	0.1003
	bottom salinity	-0.4255	0.0136
% silt & clay	TOC	0.1125	0.5265
	bottom DO	-0.2831	0.1104
	bottom salinity	0.4717	0.0056
TOC	bottom DO	0.5582	0.0007
	bottom salinity	0.4327	0.0119
bottom DO	bottom salinity	0.1230	0.4815

Figure 8. Mean macroinvertebrate densities versus the mean number of macroinvertebrate taxa per replicate for the Florida Bay and Adjacent Waters stations, August 1996.

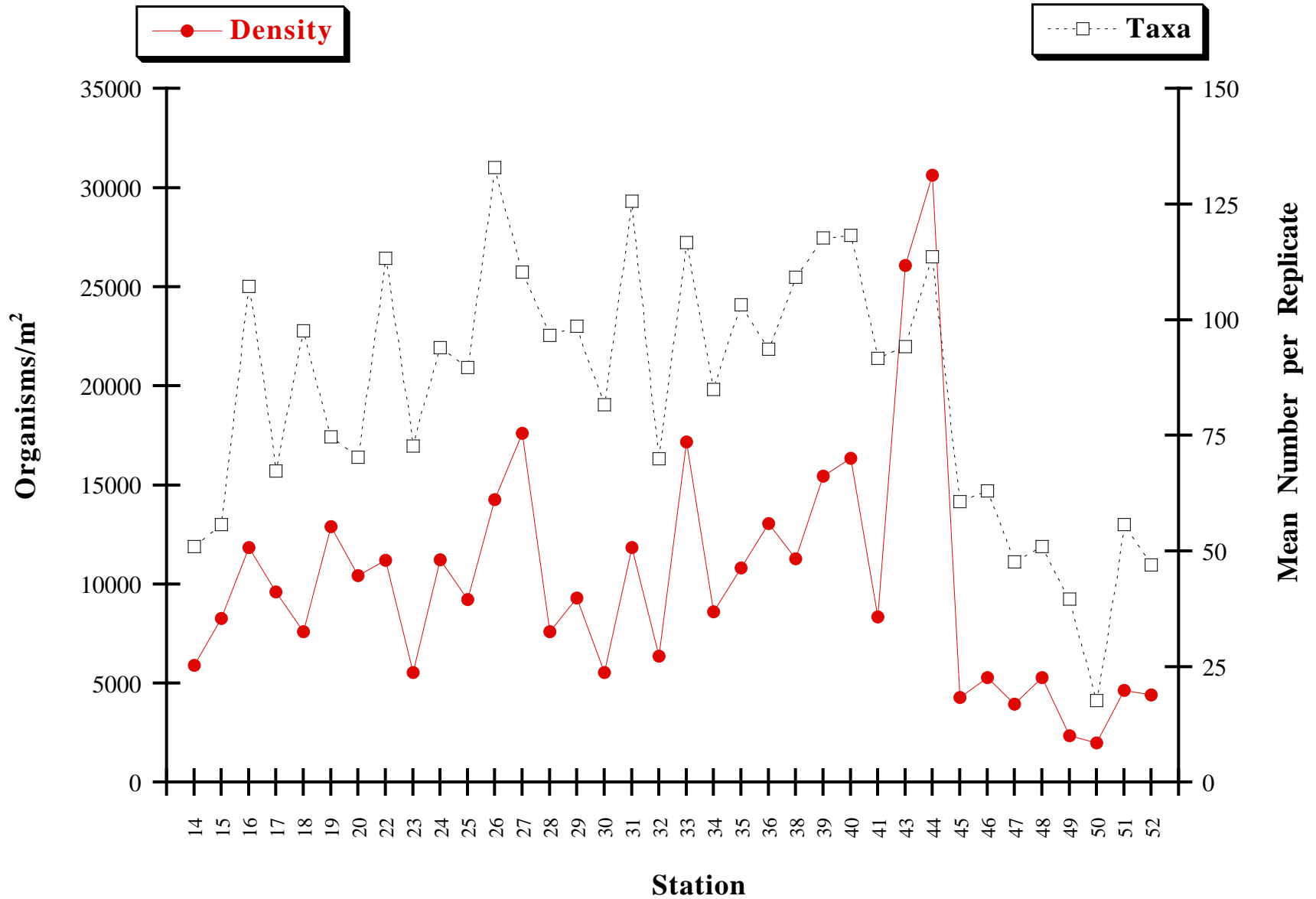


Figure 9. Mean macroinvertebrate densities versus percent sediment total organic carbon (TOC) for the Florida Bay and Adjacent Waters stations, August 1996.

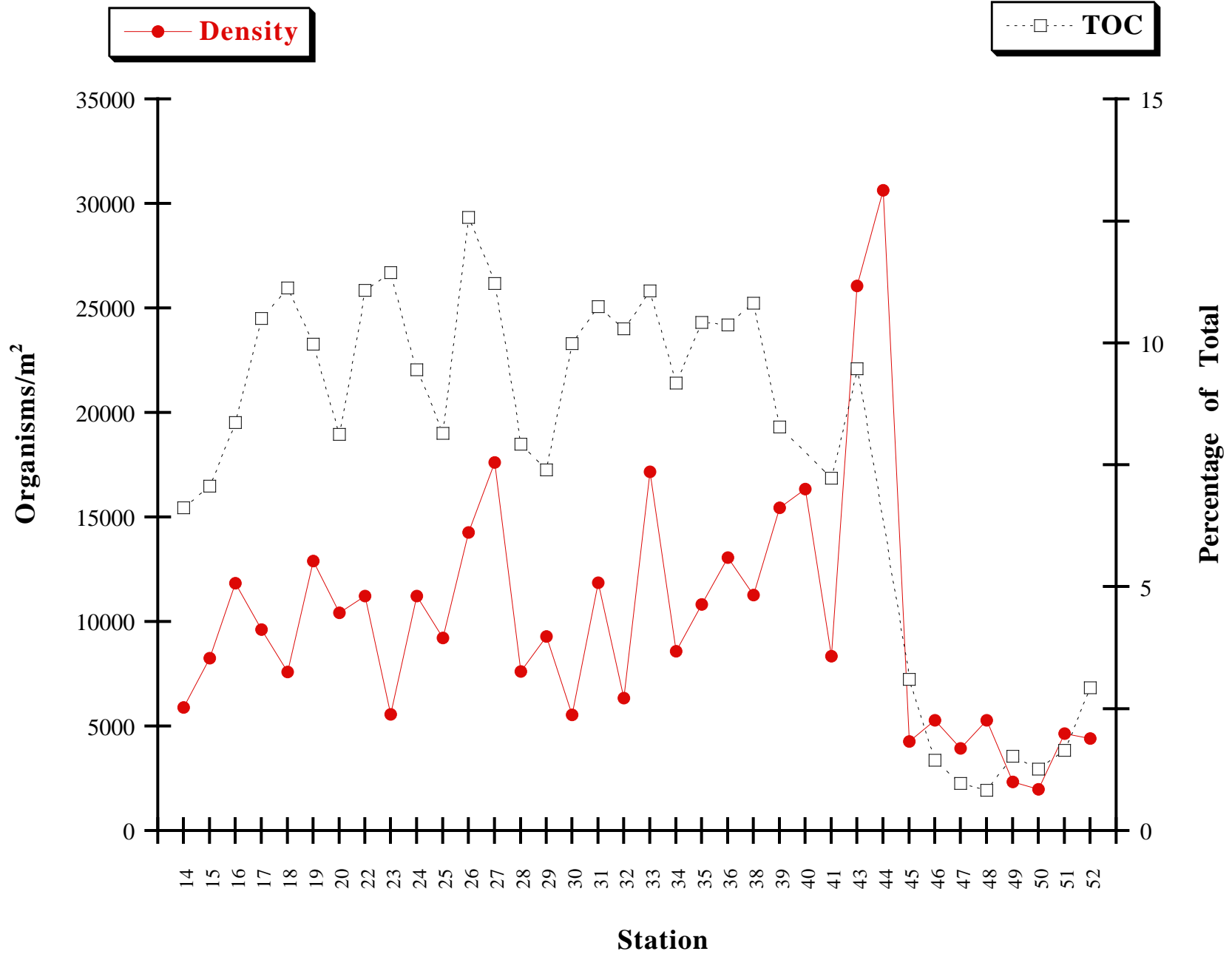


Figure 10. Mean macroinvertebrate densities versus bottom dissolved oxygen concentration for the Florida Bay and Adjacent Waters stations, August 1996.

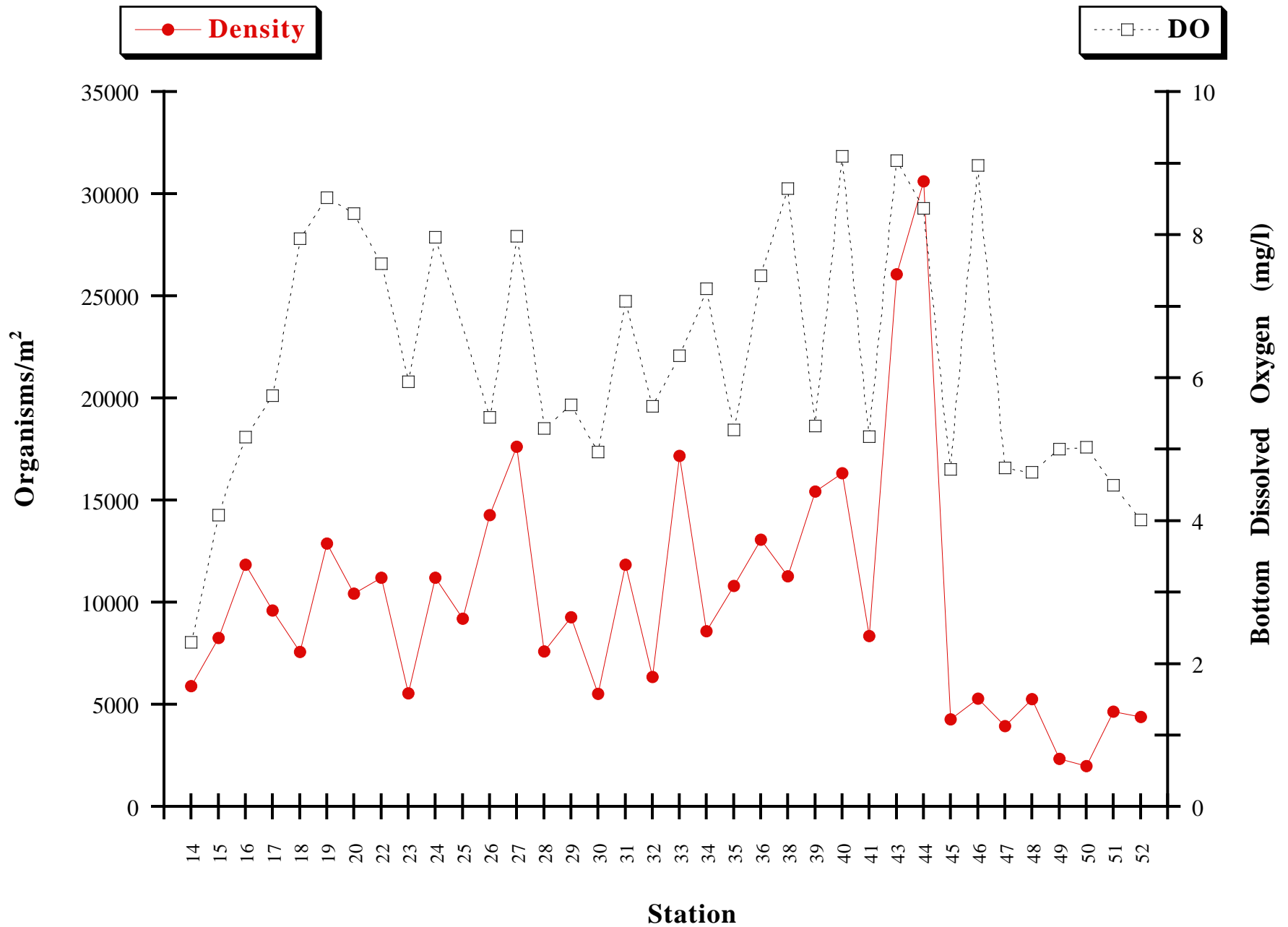


Figure 11. Mean number of macroinvertebrate taxa per replicate versus bottom dissolved oxygen concentration for the Florida Bay and Adjacent Waters stations, August 1996.

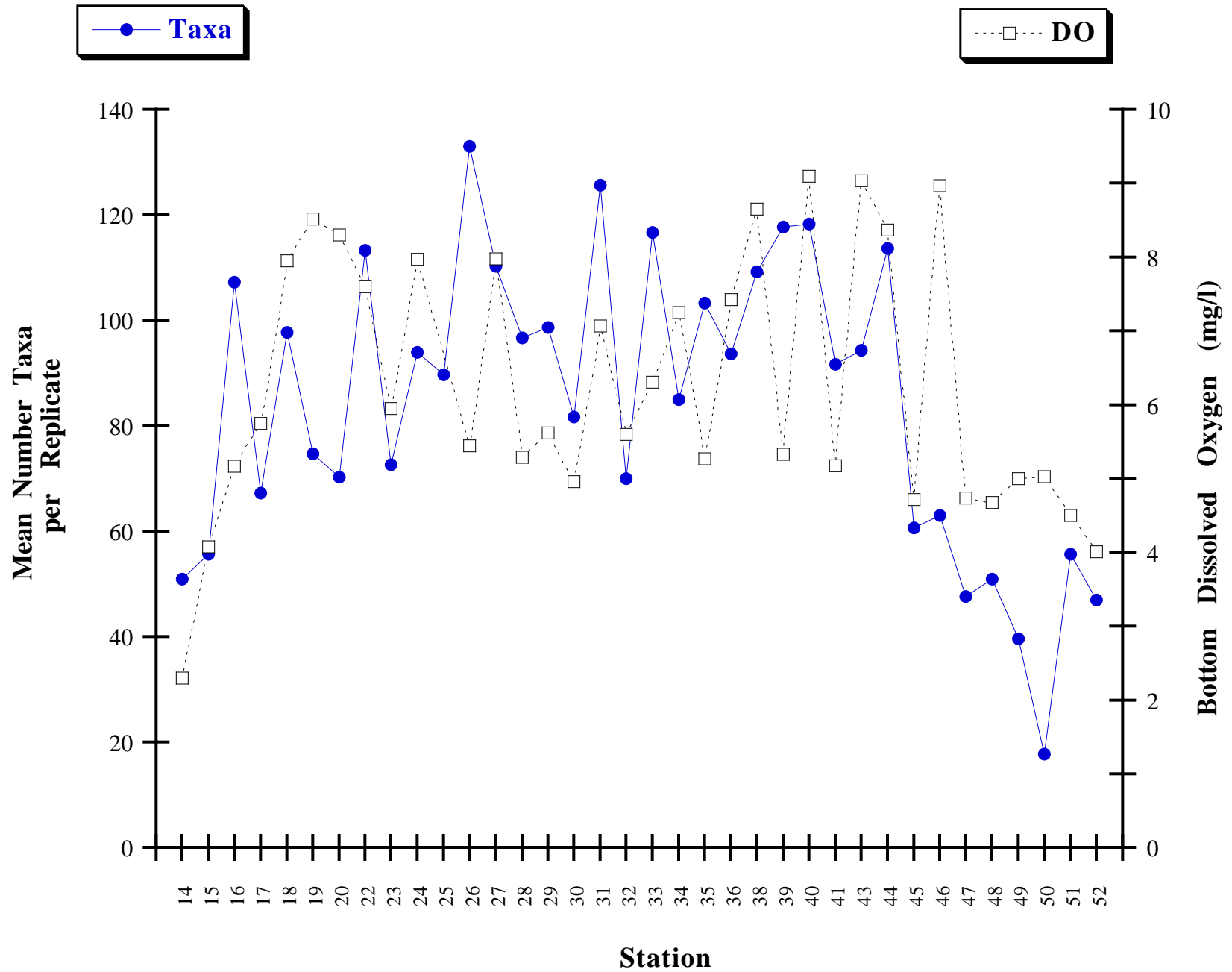


Figure 12. Mean number of macroinvertebrate taxa per replicate versus percent sediment total organic carbon (TOC) for the Florida Bay and Adjacent Waters stations, August 1996.

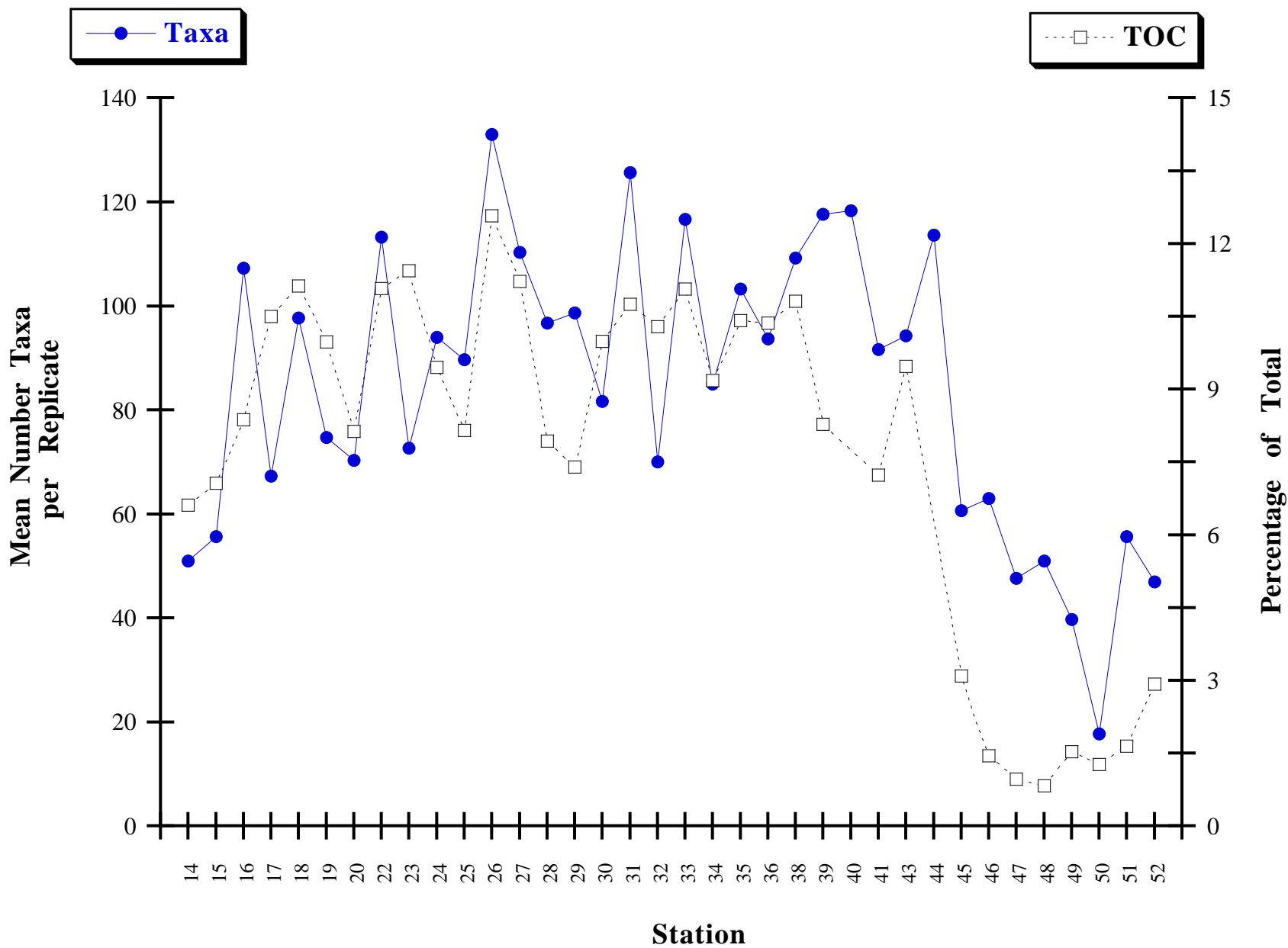
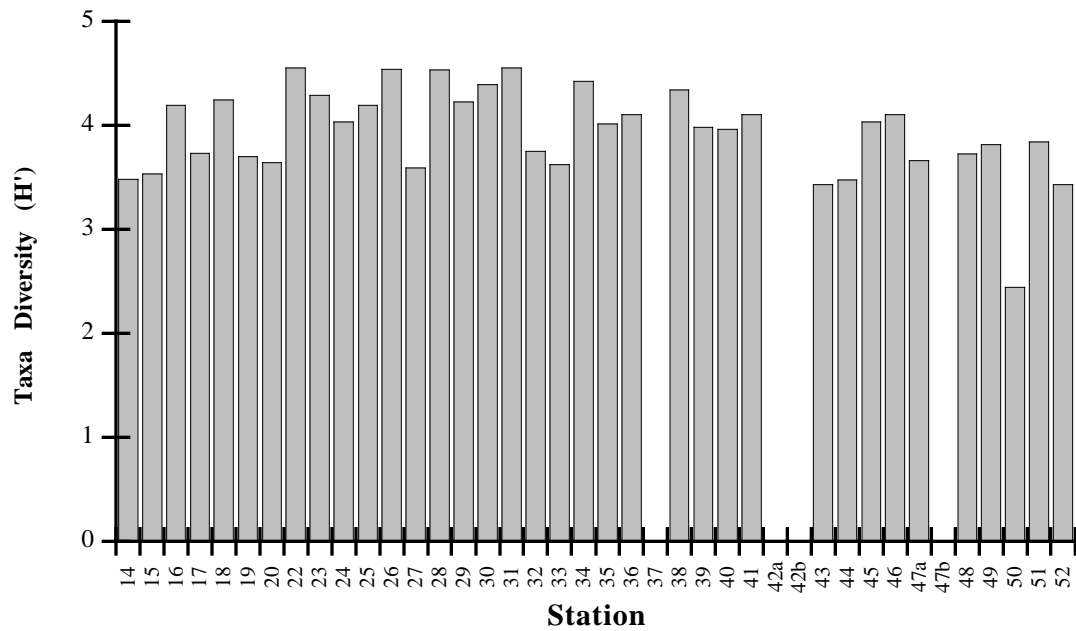
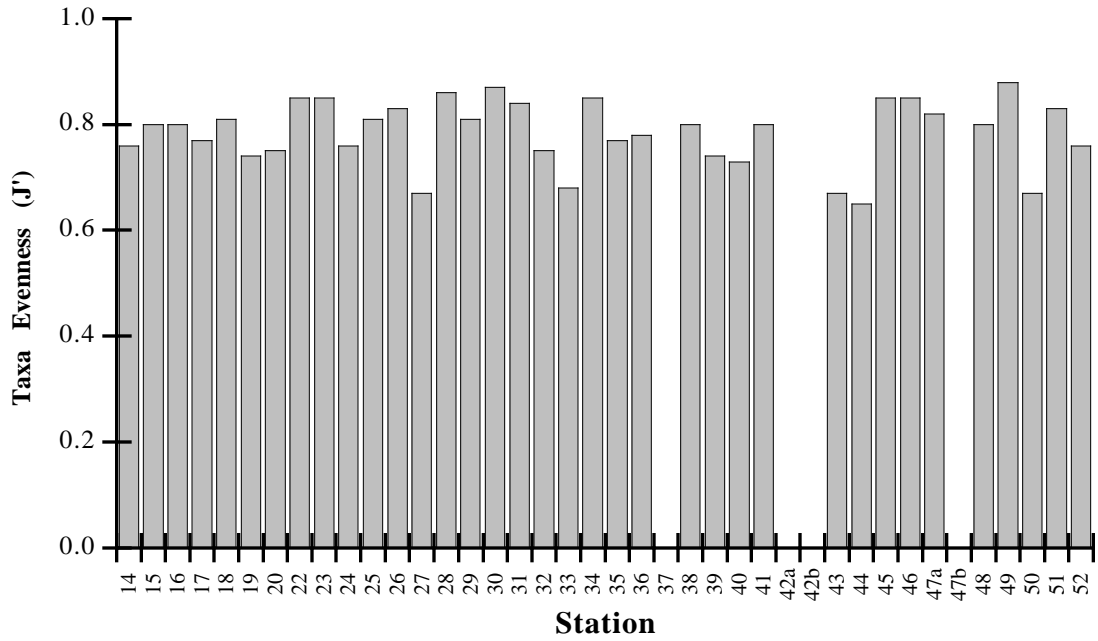


Figure 13. Taxa diversity (H') and taxa evenness (J') for the Florida Bay and Adjacent Waters stations, August 1996.



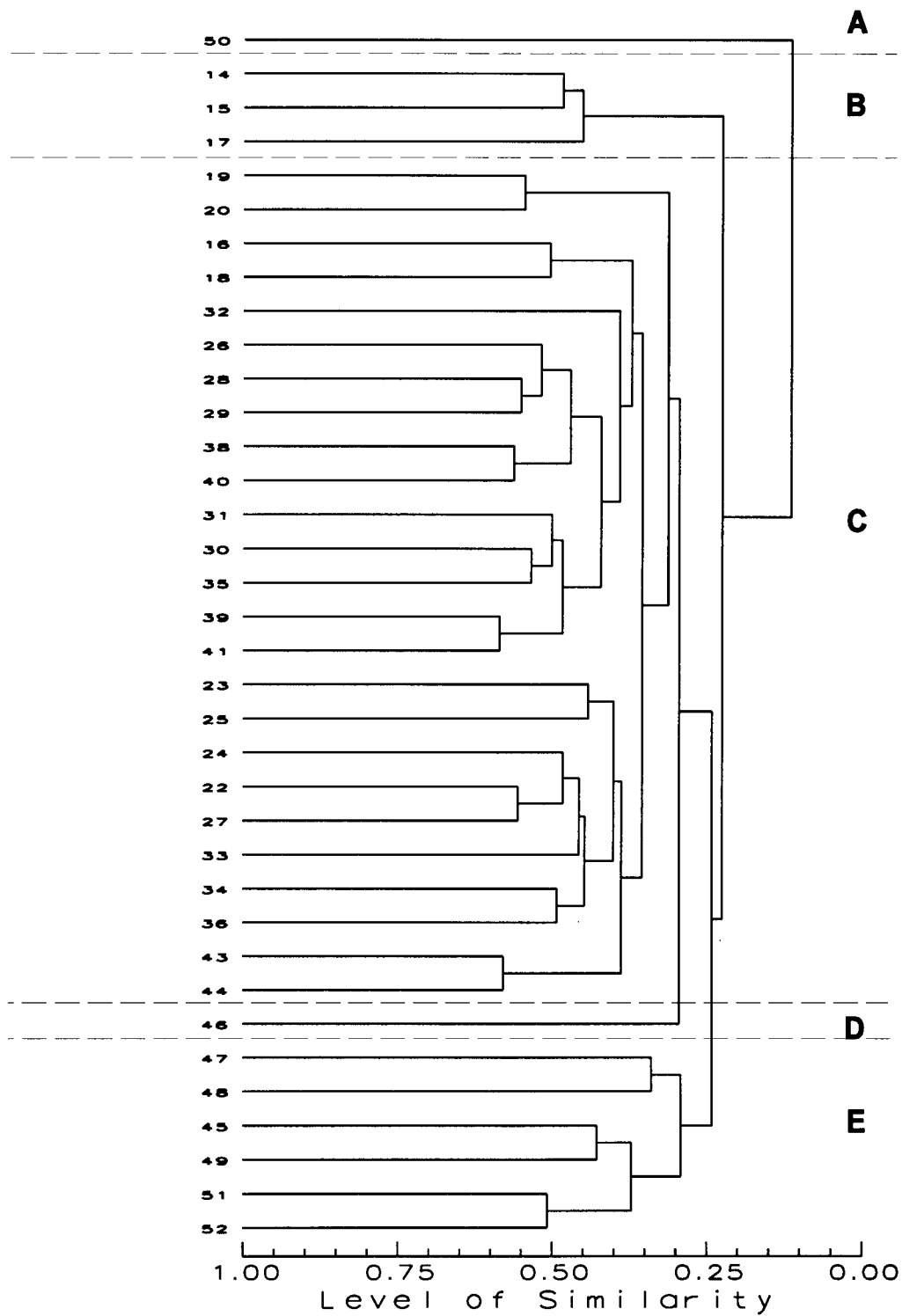


Figure 14. Normal (station) classification analysis for the Florida Bay and Adjacent Waters stations, August 1996.

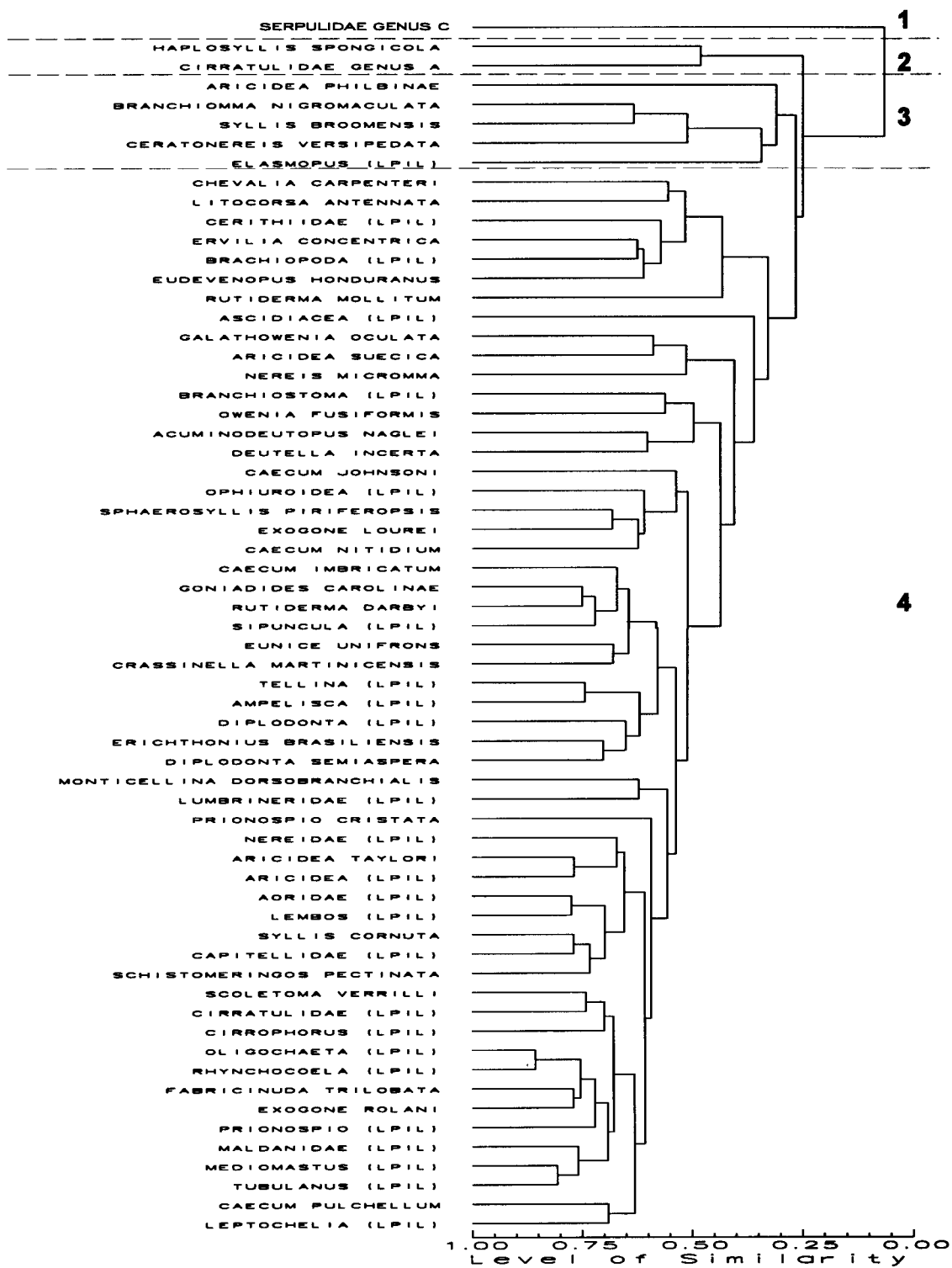


Figure 15. Inverse (taxa) classification analysis for the Florida Bay and Adjacent Waters stations, August 1996.

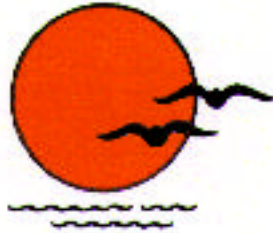
species groups (Table 6). These taxa accounted for 65.4% of the macroinfaunal assemblage collected.

Numerical classification of the 36 stations can be interpreted at a five-group level (15–30% level of similarity). Group 1 contained only Station 50 with a macroinfaunal assemblage dominated by three taxa, *Eudevenopus honduranus*, *Branchiostoma* (LPIL) and *Tellina* (LPIL); Station 50 also had the lowest density, fewest taxa and lowest diversity of the 36 stations (Table 6; Figure 14). Group 2 contained Stations 14, 15 and 17; Group 3 was the largest and contained 25 stations (Table 6; Figure 14). Group 4 contained only Station 46 and Group 5 contained Stations 45, 47, 48, 49, 51 and 52 (Table 6; Figure 14). Classification of the 64 taxa at the 36 stations was interpreted at a four–group level (10 – 30% similarity; Table 6 and Figure 15). Group 1 included the taxon Serpulidae Genus C, found only at Station 36. Group 2 included *Haplosyllis spongicola* and Cirratulidae Genus A collected at high densities at Station 40. Group 3 included five taxa found at Stations 14 through 20 and taxa group 4 contained a diverse array of taxa collected across the 36 stations (Table 6; Figure 15).

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APPENDIX



BARRY A. VITTOR & ASSOCIATES, INC.

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QUALITY ASSURANCE STATEMENT

Client/Project NOAA

Work Assignment Title Florida Bay and Adjacent Waters 1996

Work Assignment Number FE - 96 - 12 - FB

Task Number 4

Description of Data Set or Deliverable: 108 Benthic macroinvertebrate samples collected in August and September of 1996; Young Dredge grabs.

Description of audit and review activities: Judged accuracy rates were well above standard levels for sorting and taxonomy. Laboratory QC reports were completed. Copies of reports and QC results follow (see attachment.) All taxonomic data were entered into computer and printed. This list was checked for accuracy against original taxonomic data sheets.

Description of outstanding issues or deficiencies which may affect data quality: None

Carl M. Day 6/3/97
Signature of QA Officer or Reviewer Date

Barry A. Vittor 6-3-97
Signature of Project Manager Date



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QUALITY CONTROL REWORKS

Client/Project **NOAA**

Work Assignment Title **Florida Bay and Adjacent Waters 1996**

Work Assignment Number **FE - 96 - 12 - FB**

Task Number **4**


Sorting Results:

Sample #	% Accuracy
49-2	100%
14-1	99.46%
20-1	99.76%
47-2	100%
17-2	100%
17-3	100%
29-1	100%
31-1	100%
48-1	100%

Taxonomy Results:

Sample #	Taxa	% Accuracy
50-3	Crust./Moll.	100%
14-2	Crust./Moll.	95.8%
29-3	Crust./Moll.	96.6%
38-3	Crust./Moll.	96.5%
20-2	Crust./Moll.	95.3%
22-1	Crust./Moll.	95%
43-3	Crust./Moll.	99%
34-3	Crust./Moll.	95.3%
24-2	Crust./Moll.	95.3%
52-1	Crust./Moll.	96.9%
38-1	Crust./Moll.	97%
33-3	Poly./Misc.	98.2%
16-1	Poly./Misc.	99.4%
48-1	Poly./Misc.	100%
17-1	Poly./Misc.	99.6%
50-1	Poly./Misc.	100%
41-3	Poly./Misc.	98%
30-1	Poly./Misc.	98%
27-1	Poly./Misc.	98%
50-2	Poly./Misc.	96%
32-1	Poly./Misc.	97.6%
46-2	Poly./Misc.	99%

Description of outstanding issues or deficiencies which may affect data quality: **None**



6/3/97

Signature of QA Officer or Reviewer

Date