

Supplementary material

Table S1.- Constancy and fidelity indices.

Constancy index: $C_{ij} = (P_{ij}/P_j) * 100$

C_{ij} : Constancy index of a species i in a group of stations j

P_{ij} : number of stations in which the species is present

P_j : number of stations of this group

$C_{ij} < 12\%$ Strange species

$13\% < C_{ij} < 25\%$ Few common species

$26\% < C_{ij} < 50\%$ Common species

$51\% < C_{ij} < 75\%$ Very common species

$76\% < C_{ij} < 100\%$ Constant species

Fidelity index: $F_{ij} = (C_{ij}/C_i) * 100$

F_{ij} : Fidelity index of a species i in a group of stations j

C_{ij} : Constancy index

C_i : Sum of constancies of the species i in all the groups of stations

$F_{ij} < 10\%$ Accidental species

$11\% < F_{ij} < 33\%$ Occasional species

$34\% < F_{ij} < 50\%$ Accessory species

$51\% < F_{ij} < 66\%$ Preferential species

$67\% < F_{ij} < 90\%$ Elective species

$91\% < F_{ij} < 100\%$ Exclusive species

Table S2.- Depth, location, sedimentary type and sorting coefficient (S_0) of sampling stations in the ACS.

Depth (m)	Station	Date	Latitude (N)	Longitude (W)	Coarse sand	Fine sand	Mud	Q_{50} (mm)	Sedimentary type	S_0	TOM (%)
83	32	511	43°40.26'	006°01.15'	12.3	87.7	0.0	0.24	FS	Moderate	1.34
112	31	511	43°41.01'	006°04.41'	88.7	11.3	0.0	1.15	VCS	Moderate	2.17
142	VIII	410	43° 45.45'	05° 40.19'	20.6	72.8	6.6	0.29	MS	Poor	4.17
144	20	511	43°45.92'	005°44.72'	25.2	71.5	3.3	0.33	MS	Moderate	3.22
156	19	511	43°48.10'	005°47.96'	21.9	69.4	8.6	0.30	MS	Moderate	3.21
157	25	511	43°50.53'	005°26.91'	44.8	51.4	3.8	0.47	MS	Moderate	3.16
168	6	710	43°49.09'	005°54.13'	12.5	85.1	2.4	0.28	MS	Moderate	2.82
168	13	710	43°42.34'	006°10.82'	92.6	7.4	0.0	1.13	VCS	Moderate	2.81
170	23	511	43°50.15'	005°38.79'	9.0	83.5	7.6	0.23	FS	Moderate	3.75
195	10	710	43°42.16'	006°06.28'	52.7	46.2	1.1	0.54	CS	Moderate	2.33
200	5	710	43°49.03'	06°05.66'	8.1	88.0	3.9	0.23	FS	Moderate	1.95
208	8	710	43°47.44'	006°24.94'	76.4	23.3	0.3	0.88	CS	Moderate	2.52
230	I	410	43° 51.24'	06° 05.65'	6.4	89.5	4.0	0.22	FS	Moderate	3.12
232	XI	410	43° 45.17'	06° 16.39'	68.4	31.2	0.4	0.68	CS	Moderate	3.02
288	II	410	43° 49.11'	06° 10.90'	8.6	85.6	5.8	0.15	FS	Poor	2.20
356	35	511	43°50.35'	006°11.71'	1.4	87.9	10.7	0.15	FS	Moderate	2.72
389	1	710	43°50.76'	006°11.78'	0.7	90.4	8.9	0.14	FS	Moderate	2.89
428	X	410	43° 55.87'	05° 40.27'	5.3	78.7	16.0	0.16	FS	Poor	4.03
430	VII	410	43° 56.48'	05° 44.75'	5.4	84.7	9.9	0.14	FS	Poor	3.77
457	27	511	43°54.44'	005°24.99'	1.9	78.6	19.5	0.12	VFS	Moderate	1.22
458	7	710	43°53.49'	006°01.25'	2.8	91.7	5.6	0.17	FS	Moderate	3.48
462	12	710	43°44.35'	006°09.63'	12.1	73.4	14.5	0.23	FS	Moderate	5.00
464	XVI	410	43° 57.17'	06° 34.96'	12.4	81.4	6.1	0.25	FS	Poor	3.81
499	37	511	43°57.30'	005°45.46'	0.7	90.9	8.5	0.14	FS	Moderate	2.73
503	16	710	43°59.00'	005°40.80'	5.4	89.3	5.3	0.21	FS	Moderate	2.90
554	38	511	43°53.07'	006°08.71'	1.8	69.8	28.3	0.11	VFS	Moderate	4.17
564	III	410	43° 55.57'	05° 49.56'	7.3	74.7	17.9	0.12	VFS	Poor	2.83
603	4	710	43°50.71'	006°08.23'	3.2	68.1	28.7	0.11	VFS	Poor	6.60
612	15	710	43°57.97'	005°46.57'	2.2	81.7	16.1	0.13	FS	Moderate	3.11
637	2	710	43°53.26'	006°13.29'	1.5	62.9	35.6	0.09	VFS	Poor	4.90
657	21	511	43°58.55'	005°35.73'	2.8	86.7	10.5	0.17	FS	Moderate	2.87

722	IV	410	43° 55.18'	05° 54.33'	3.2	71.2	25.6	0.11	VFS	Poor	7.62
740	9	710	43° 50.20'	006° 21.06'	3.1	58.9	37.9	0.09	VFS	Poor	7.33
780	24	511	43° 58.83'	005° 46.11'	1.7	58.8	39.5	0.08	VFS	Poor	4.32
791	XIII	410	43° 53.09'	06° 26.64'	3.6	61.2	35.3	0.10	VFS	Poor	6.53
836	V	410	43° 53.69'	05° 46.58'	7.5	81.5	11.0	0.17	FS	Moderate	2.83
848	VI	410	43° 55.78'	05° 46.73'	14.1	86.0	0.0	0.20	FS	Poor	2.60
942	26	511	43° 58.32'	005° 28.18'	2.0	74.7	23.3	0.12	VFS	Moderate	1.84
964	14	710	43° 55.74'	005° 53.75'	3.1	73.7	23.2	0.12	VFS	Poor	6.98
1004	11	710	43° 49.16'	006° 16.89'	1.6	51.0	47.4	0.06	VFS	Poor	10.80
1017	34	511	43° 46.21'	006° 09.07'	0.8	76.7	22.5	0.12	VFS	Moderate	3.54
1033	3	710	43° 55.05'	006° 14.63'	1.8	56.4	41.8	0.08	VFS	Poor	6.32
1065	XV	410	44° 01.66'	05° 37.72'	13.8	26.8	59.5	0.03	Mud	Bad	7.58
1106	IX	410	43° 57.56'	05° 48.40'	4.3	95.7	0.0	0.20	FS	Moderate well sorted	4.09
1130	17	710	43° 57.51'	005° 51.39'	0.6	64.5	34.8	0.09	VFS	Poor	7.88
1173	18	710	44° 02.58'	005° 42.08'	2.0	91.4	2.0	0.16	FS	Moderate	3.89
1183	33	511	43° 46.06'	006° 12.12'	21.4	63.2	15.4	0.22	FS	Poor	1.79
1184	22	511	44° 01.03'	005° 30.52'	3.8	79.1	17.1	0.15	FS	Moderate	2.79
1206	30	511	43° 57.42'	006° 02.13'	0.0	37.2	62.8	0.04	Mud	Poor	8.25
1281	XII	410	43° 47.25'	06° 13.51'	37.8	60.8	1.4	0.42	MS	Moderate	2.20
1318	28	511	43° 55.92'	005° 51.80'	0.1	76.9	22.9	0.12	VFS	Moderate	4.17
1445	XVII	410	44° 01.07'	06° 36.81'	14.6	29.7	55.8	0.05	Mud	Bad	9.43
1470	36	511	43° 58.41'	006° 28.85'	6.1	68.9	25.0	0.17	FS	Poor	4.67
1475	XIV	410	43° 55.92'	06° 08.18'	2.3	48.6	49.2	0.06	VFS	Bad	11.51
1501	XVIII	410	44° 02.54'	05° 27.98'	1.3	52.7	46.0	0.07	VFS	Bad	7.78
1730	XIX	410	44° 04.41	05° 52.77'	6.3	53.3	40.4	0.10	VFS	Bad	5.22
1881	29	511	43° 59.09'	005° 53.40'	3.4	59.1	37.5	0.11	VFS	Poor	5.34

Notes:

Date code example: 0410: April 2010. Roman numerals mark the stations where only sediment was collected.

Q₅₀-median grain size; S₀-sort coefficient; TOM-total organic matter; VCS-very coarse sand; CS-coarse sand; MS-medium sand; FS-fine sand; VFS-very fine sand.

Table S3. Results of the ANOSIM test.

Groups	R Statistic	Significance Level %
A, B	1	33,3
A, C	0,935	2,2
A, D1	1	1,5
A, D2	0,988	1,8
B, C	1	2,2
B, D1	1	1,5
B, D2	0,622	1,8
C, D1	0,701	0,1
C, D2	0,944	0,1
D1, D2	0,567	0,1

R values greater than 0.75 indicate good separation of groups, R values greater than 0.5 suggest overlapping but clearly different groups.

Table S4. Constancy and Fidelity indices of the more abundant species of each group of stations.

Species Group A	Constancy	Fidelity
Aoridae indet.	50	47
<i>Caulleriella bioculata</i>	100	100
<i>Goniadella</i> sp.	100	100
<i>Limatula</i> sp.	100	90
<i>Pisone</i> sp.	100	100
<i>Sphaerosyllis bulbosa</i>	100	100
<i>Spisula</i> sp.	100	100

Species Group B	Constancy	Fidelity
<i>Antalis agilis</i>	50	41
Anthuridae sp.	100	82
<i>Aurospio dibranchiata</i>	100	60
Caprellidae indet.	50	53
<i>Levinsenia</i> sp. 1	100	76
<i>Nothria</i> sp.	100	100
<i>Notoproctus</i> sp.	100	70

Species Group C	Constancy	Fidelity
<i>Aonides paucibranchiata</i>	88	69
<i>Aponuphis bilineata</i>	63	100
<i>Aricidea (Aricidea) wassi</i>	88	52
Bivalvia indet.	100	39
Decapoda indet.	63	68
Echinoidea indet.	75	44
<i>Euchone incolor</i>	88	37
<i>Galathowenia oculata</i>	63	46
Nemertea indet.	100	36
<i>Pista</i> sp.	63	68
<i>Spiochaetopterus</i> sp. 1	63	86
<i>Timoclea ovata</i>	100	91

Species Group D1	Constancy	Fidelity
Bivalvia indet.	90	57
<i>Kelliella</i> sp.	60	57
<i>Levinsenia flava</i>	100	53
<i>Magelona filiformis</i>	40	100
Maldanidae gen. sp. 2	70	68
<i>Ophelina abranchiata</i>	90	67
<i>Prionospio cirrifera</i>	90	80
<i>Pterolysippe vanelli</i>	90	100
<i>Spiophanes wigleyi</i>	70	86

Species Group D2	Constancy	Fidelity
<i>Aurospio dibranchiata</i>	56	100
<i>Axinulus croulinensis</i>	56	100
<i>Axinulus eumyarius</i>	56	100
Caudofoveata indet.	100	100
<i>Levinsenia flava</i>	89	100
<i>Metaphoxus simplex</i>	78	100
Nemertea indet.	89	100
<i>Onchnesoma steenstrupii steenstrupii</i>	89	100
<i>Paradiopatra</i> sp. 2	67	100

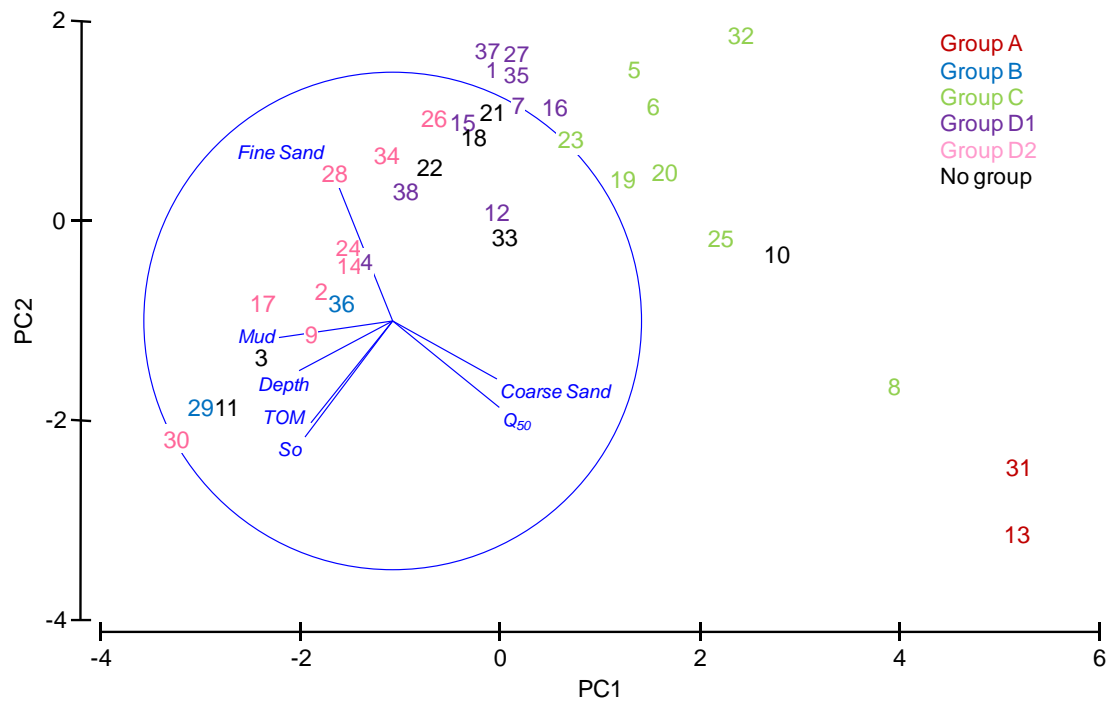
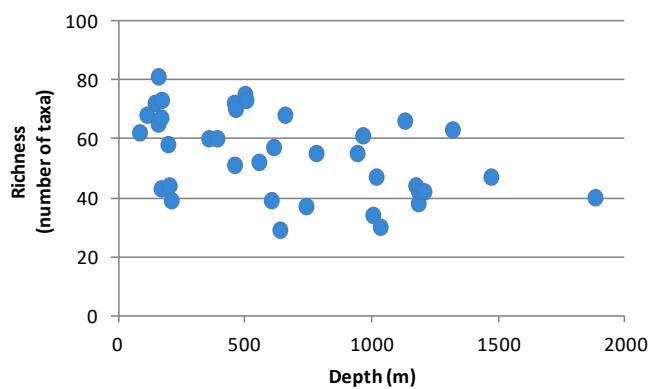
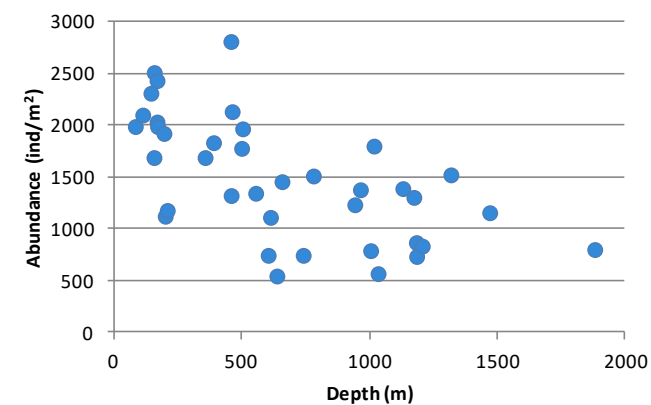


Figure S1. Principal component analysis (PCA) showing sampling sites and the environmental variables for the ACS (Q_{50} : median grain size; S_o : sorting coefficient; TOM: total organic matter content).



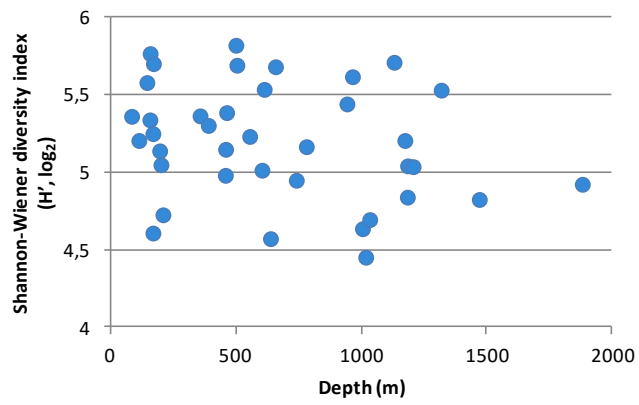


Figure S2. Density (ind/m²), richness (number of taxa) and Shannon index (H' , \log_2) of macroinfauna vs. depth.