

## Mediterranean Marine Science

Vol 23, No 4 (2022)

VOL 23, No 4 (2022)



**Species characterization of soft bottom habitats by depth and sediment particle size on the Catalan coast (NW Mediterranean): unexpected species composition of the assemblages**

SUSANA PINEDO, ESTHER JORDANA, ENRIC BALLESTEROS

doi: [10.12681/mms.28127](https://doi.org/10.12681/mms.28127)

### To cite this article:

PINEDO, S., JORDANA, E., & BALLESTEROS, E. (2022). Species characterization of soft bottom habitats by depth and sediment particle size on the Catalan coast (NW Mediterranean): unexpected species composition of the assemblages. *Mediterranean Marine Science*, 23(4), 789–804. <https://doi.org/10.12681/mms.28127>

## Species characterization of soft bottom habitats by depth and sediment particle size on the Catalan coast (NW Mediterranean): unexpected species composition of the assemblages

Susana PINEDO, Esther JORDANA and Enric BALLESTEROS

*Mediterranean Marine Science*, 23 (3) 2022

**Table S1.** Results of dissimilarity analysis (SIMPER) between shallow and deep samples. The taxa contributing to 50 % of dissimilarity are included.

Taxa	Deep	Shallow	Contribution (%)	Cumulative contribution (%)
	Abundance (avg)	Abundance (avg)		
<i>Lucinella divaricata</i>	0.64	5.51	3.37	3.37
<i>Spisula subtruncata</i>	0.63	4.74	3.18	6.54
MACTRIDAE	0.10	3.24	2.10	8.64
<i>Paradoneis armata</i>	0.31	3.26	2.05	10.70
<i>Apseudopsis bacescui</i>	0.76	2.46	1.55	12.25
<i>Fabulina fabula</i>	0.06	2.23	1.46	13.71
<i>Spio decorata</i>	0.64	1.91	1.34	15.05
NEMATODA	0.55	1.86	1.33	16.38
<i>Centraloecetes dellavallei</i>	0.81	1.70	1.28	17.65
<i>Prionospio caspersi</i>	0.16	1.80	1.26	18.91
<i>Loripes orbiculatus</i>	0.36	1.82	1.23	20.14
<i>Thracia phaseolina</i>	0.45	1.92	1.22	21.36
<i>Mediomastus fragilis</i>	1.27	1.39	1.18	22.54
<i>Magelona johnstoni</i>	0.01	1.54	1.05	23.59
<i>Dosinia lupinus</i>	0.59	1.51	1.03	24.62
<i>Parvicardium cf pinnulatum</i>	0.05	1.52	1.02	25.64
<i>Ampelisca brevicornis</i>	0.05	1.33	0.95	26.59
<i>Peresiella clymenoides</i>	0.25	1.45	0.95	27.54
<i>Kirkegaardia heterochaeta</i>	1.32	0.08	0.93	28.47
<i>Urothoe intermedia</i>	0.18	1.30	0.91	29.39
<i>Lembos</i> sp1	0.00	1.28	0.90	30.28
<i>Bathyporeia guilliamsoniana</i>	0.07	1.28	0.88	31.16
<i>Chone dunerii</i>	0.77	1.05	0.88	32.04
<i>Perioculodes longimanus</i>	0.21	1.23	0.85	32.89
NEMERTEA	0.60	1.28	0.84	33.73
<i>Magelona minuta</i>	1.20	0.14	0.84	34.58
<i>Levinsenia gracilis</i>	1.22	0.08	0.84	35.42
<i>Lumbrineris</i> sp1	1.09	0.12	0.83	36.24
VENERIDAE	0.11	1.05	0.81	37.05
<i>Scoletoma laurentiana</i>	0.53	0.98	0.79	37.85
<i>Donax trunculus</i>	0.00	1.08	0.77	38.62
<i>Pseudocuma longicorne</i>	0.13	1.04	0.74	39.36
<i>Ditrupa arietina</i>	0.90	0.29	0.68	40.05

*Continued*

Table S1 continued

Taxa	Deep	Shallow	Contribution (%)	Cumulative contribution (%)
	Abundance (avg)	Abundance (avg)		
<i>Nucula hanleyi</i>	0.95	0.13	0.68	40.72
<i>Megaluropus massiliensis</i>	0.01	0.94	0.67	41.39
<i>Moerella distorta</i>	0.64	0.69	0.66	42.05
<i>Micronephthys longicornis</i>	0.51	0.85	0.65	42.70
<i>Aponuphis bilineata</i>	0.94	0.32	0.65	43.35
<i>Leucothoe incisa</i>	0.32	0.92	0.63	43.98
<i>Goniadella galaica</i>	0.74	0.41	0.63	44.61
<i>Perioculodes aequimanus</i>	0.14	0.81	0.63	45.24
<i>Chamelea gallina</i>	0.00	0.89	0.61	45.86
<i>Nephtys kersivalensis</i>	0.68	0.47	0.61	46.47
TUBULANIDAE	0.27	0.87	0.60	47.06
<i>Owenia fusiformis</i>	0.40	0.68	0.58	47.64
<i>Scolaricia typica</i>	0.23	0.75	0.56	48.20
<i>Aspidosiphon muelleri</i>	0.77	0.04	0.55	48.75
<i>Sigambra parva</i>	0.59	0.54	0.54	49.30
<i>Aricidea claudiae</i>	0.72	0.05	0.54	49.83
<i>Medicorophium runcicorne</i>	0.21	0.70	0.52	50.35

Table S2. Contribution and average abundance of taxa responsible for most of similarity (SIMPER analysis) for shallow samples. The taxa contributing to 50 % of the similarity are included.

Taxa	Abundance (avg)	Similarity (avg)	Contribution (%)	Cumulative contribution (%)
<i>Spisula subtruncata</i>	4.74	2.35	8.75	8.75
<i>Lucinella divaricata</i>	5.51	2.27	8.45	17.20
<i>Paradoneis armata</i>	3.26	1.75	6.52	23.72
MACTRIDAE	3.24	1.24	4.60	28.32
<i>Apseudopsis bacescui</i>	2.46	0.92	3.42	31.74
<i>Fabulina fabula</i>	2.23	0.89	3.31	35.04
<i>Spio decorata</i>	1.91	0.85	3.15	38.19
<i>Thracia phaseolina</i>	1.92	0.68	2.52	40.71
<i>Prionospio caspersi</i>	1.80	0.64	2.38	43.09
NEMERTEA	1.28	0.56	2.07	45.17
NEMATODA	1.86	0.54	2.03	47.20
<i>Centraloecetes dellavallei</i>	1.70	0.54	2.02	49.21
<i>Magelona johnstoni</i>	1.54	0.54	1.99	51.21

**Table S3.** Contribution and average abundance of taxa responsible for most of similarity (SIMPER analysis) for deep samples. The taxa contributing to 50 % of the similarity are included.

Taxa	Abundance (avg)	Similarity (avg)	Contribution (%)	Cumulative contribution (%)
<i>Kirkegaardia heterochaeta</i>	1.32	1.02	6.35	6.35
<i>Levinsenia gracilis</i>	1.22	0.93	5.84	12.19
<i>Aponuphis bilineata</i>	0.94	0.77	4.79	16.98
<i>Lumbrineris</i> sp1	1.09	0.77	4.79	21.77
<i>Nucula hanleyi</i>	0.95	0.76	4.73	26.50
<i>Magelona minuta</i>	1.20	0.67	4.20	30.71
<i>Mediomastus fragilis</i>	1.27	0.59	3.66	34.37
<i>Goniadella galaica</i>	0.74	0.54	3.35	37.72
<i>Apseudopsis bacescui</i>	0.76	0.50	3.15	40.87
<i>Nephtys kersivalensis</i>	0.68	0.42	2.61	43.49
<i>Cossura soyeri</i>	0.59	0.36	2.23	45.72
<i>Aspidosiphon muelleri</i>	0.77	0.33	2.06	47.78
<i>Aricidea claudiae</i>	0.72	0.32	1.98	49.77
<i>Sigambra parva</i>	0.59	0.28	1.75	51.52

**Table S4.** Results of PERMANOVA main test for environmental variables differences among the six soft bottom habitats identified.

Environmental variable	Source	df	SS	MS	Pseudo-F	p
MPD	Habitat	5	66.17	13.83	86.12	0.001
	Residual	415	66.66	0.16		
	Total	420	135.82			
SC	Habitat	5	194.08	38.82	42.20	0.001
	Residual	415	381.70	0.92		
	Total	420	575.78			
OM	Habitat	5	309.12	61.82	113.93	0.001
	Residual	415	225.19	0.54		
	Total	420	534.31			