

## **Long-term spatiotemporal dynamics of cephalopod assemblages in the Mediterranean Sea**

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Supplementary material

Table S1. – Number of sampling stations by bioregion (Bioreg) sampled during the Mediterranean trawl surveys (MEDITS) carried out in the region between 1994 and 2015. B1, Iberian-Lions; B2, Tyrrhenian; B3, Ionian; B4, Adriatic; B5, Aegean; B6, Strait of Sicily.

Bioreg	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
B1	147	174	170	173	163	180	177	233	255	262	267	249	275	231	224	231	186	232	244	260	280	290	4903
B2	370	367	385	376	386	383	383	382	289	312	307	310	311	310	309	311	314	314	314	316	312	312	7371
B3	11	88	96	92	106	105	106	104	70	103	101	101	100	70	102	70	70	70	69	70	106	70	1880
B4	158	160	250	251	252	198	249	250	270	273	271	271	269	272	272	273	272	272	271	218	270	270	5512
B5	92	103	130	145	147	143	141	139		142	146	148	147		148					149			1920
B6	36	41	41	41	42	42	42	42	66	66	65	153	159	165	165	165	165	164	164	164	55	120	2163
Total	814	933	1072	1078	1096	1051	1098	1150	950	1158	1157	1232	1261	1048	1221	1048	1004	1052	1062	1026	1176	106223749	

Table S2. – Total number of taxa caught in the different bioregions and for the whole Mediterranean (all bioregions combined). Taxa are ordered according to their decreasing values of mean abundance ( $N \text{ km}^{-2}$ ). Asterisks show the taxa not taken into account when calculating the species richness. B1, Iberian-Lions; B2, Tyrrhenian; B3, Ionian; B4, Adriatic; B5, Aegean; B6, Strait of Sicily.

Iberian-Lions (B1)		Tyrrhenian Sea (B2)	
Taxon	Mean Ab.	Taxon	Mean Ab.
1 <i>Alloteuthis media</i>	747.9	1 <i>Alloteuthis</i> spp. *	788.4
2 <i>Alloteuthis</i> spp. *	556.5	2 <i>Alloteuthis media</i>	371.4
3 <i>Alloteuthis subulata</i>	259.6	3 <i>Sepiella oweniana</i>	318.4
4 <i>Sepiola</i> spp. *	231.4	4 <i>Loligo forbesii</i>	308.9
5 <i>Sepiella oweniana</i>	226.8	5 <i>Loligo vulgaris</i>	303.6
6 <i>Sepiola affinis</i>	215.2	6 <i>Sepiola</i> spp. *	297.4
7 <i>Brachiotheuthis riisei</i>	196.1	7 <i>Illex coindetii</i>	187.1
8 <i>Loligo forbesii</i>	189.9	8 <i>Rondeletiola minor</i>	183.8
9 <i>Abralia veranyi</i>	175.8	9 <i>Sepiola affinis</i>	182.3
10 <i>Illex coindetii</i>	167.6	10 <i>Alloteuthis subulata</i>	169.3
11 <i>Sepiola rondeletii</i>	156.5	11 <i>Sepia orbignyana</i>	133.3
12 <i>Loligo vulgaris</i>	154.2	12 <i>Sepiola rondeletii</i>	105.8
13 <i>Sepia orbignyana</i>	124.7	13 <i>Sepiella obscura</i>	101.6
14 <i>Eledone cirrhosa</i>	123.9	14 <i>Sepia officinalis</i>	92.2
15 <i>Rondeletiola minor</i>	112.7	15 <i>Sepiola ligulata</i>	90.0
16 <i>Octopus vulgaris</i>	91.2	16 <i>Sepia elegans</i>	85.4
17 <i>Sepiola intermedia</i>	81.5	17 <i>Eledone cirrhosa</i>	83.5
18 <i>Sepia officinalis</i>	76.1	18 <i>Todaropsis eblanae</i>	77.1
19 <i>Sepia elegans</i>	76.1	19 <i>Octopus vulgaris</i>	71.3
20 <i>Bathytopalus sponsalis</i>	69.2	20 <i>Sepiella neglecta</i>	60.7
21 <i>Sepiella neglecta</i>	63.2	21 <i>Sepiola robusta</i>	59.2
22 <i>Sepiola robusta</i>	62.9	22 <i>Sepiella</i> spp. *	53.6
23 <i>Sepiola ligulata</i>	57.4	23 <i>Bathytopalus sponsalis</i>	53.0
24 <i>Eledone moschata</i>	52.4	24 <i>Ancistroteuthis lichensteinii</i>	51.9
25 <i>Todarodes sagittatus</i>	48.6	25 <i>Abralia veranyi</i>	50.3
26 <i>Todaropsis eblanae</i>	45.7	26 <i>Eledone moschata</i>	43.9
27 <i>Rossia macrosoma</i>	40.9	27 <i>Sepiola intermedia</i>	41.3
28 <i>Scaeurgus unicirrhus</i>	35.2	28 <i>Rossia macrosoma</i>	38.8
29 <i>Sepiella</i> spp. *	34.3	29 <i>Todarodes sagittatus</i>	36.3
30 <i>Callistoctopus macropus</i>	33.5	30 <i>Scaeurgus unicirrhus</i>	34.3
31 <i>Ancistroteuthis lichensteinii</i>	33.3	31 <i>Chiroteuthis veranii</i>	33.4
32 <i>Octopus salutii</i>	32.1	32 <i>Opisthoteuthis calypso</i>	27.4
33 <i>Neorossia caroli</i>	30.9	33 <i>Neorossia caroli</i>	26.6
34 <i>Chiroteuthis veranii</i>	29.8	34 <i>Heteroteuthis dispar</i>	25.4
35 <i>Macrotritopus defilippi</i>	27.9	35 <i>Callistoctopus macropus</i>	25.4
36 <i>Pteroctopus tetricirrhus</i>	25.2	36 <i>Octopus salutii</i>	23.8
37 <i>Histioteuthis reversa</i>	23.7	37 <i>Histioteuthis reversa</i>	22.2
38 <i>Sepiella obscura</i>	23.3	38 <i>Macrotritopus defilippi</i>	22.1
39 <i>Ocythoe tuberculata</i>	19.8	39 <i>Pteroctopus tetricirrhus</i>	21.3
40 <i>Histioteuthis</i> spp. *	18.5	40 <i>Onychoteuthis banksii</i>	21.2
41 <i>Heteroteuthis dispar</i>	18.5	41 <i>Chenopteryx sicula</i>	19.4
42 <i>Histioteuthis bonnellii</i>	18.0	42 <i>Histioteuthis bonnellii</i>	16.5
43 <i>Onychoteuthis banksii</i>	15.8	43 <i>Stoloteuthis leucoptera</i>	12.1
44 <i>Opisthoteuthis calypso</i>	15.1	44 <i>Octopoteuthis sicula</i>	10.1
45 <i>Stoloteuthis leucoptera</i>	13.8	45 <i>Histioteuthis</i> spp. *	8.2
46 <i>Ctenopteryx sicula</i>	9.7		
Ionian Sea (B3)		Adriatic Sea (B4)	
Taxon	Mean Ab.	Taxon	Mean Ab.
1 <i>Alloteuthis media</i>	687.6	1 <i>Alloteuthis media</i>	754.3
2 <i>Loligo vulgaris</i>	527.1	2 <i>Illex coindetii</i>	384.8
3 <i>Todarodes sagittatus</i>	465.1	3 <i>Loligo vulgaris</i>	313.2
4 <i>Illex coindetii</i>	271.0	4 <i>Sepia elegans</i>	173.5
5 <i>Sepiola</i> spp. *	208.8	5 <i>Alloteuthis subulata</i>	187.1
6 <i>Loligo forbesii</i>	198.9	6 <i>Eledone moschata</i>	161.7
7 <i>Rondeletiola minor</i>	135.7	7 <i>Sepiola affinis</i>	161.0
		8 <i>Sepia officinalis</i>	157.7

Table S2 (Cont.). – Total number of taxa caught in the different bioregions and for the whole Mediterranean (all bioregions combined). Taxa are ordered according to their decreasing values of mean abundance ( $\bar{N} \text{ km}^{-2}$ ). Asterisks show the taxa not taken into account when calculating the species richness. B1, Iberian-Lions; B2, Tyrrhenian; B3, Ionian; B4, Adriatic; B5, Aegean; B6, Strait of Sicily.

8	<i>Sepia elegans</i>	106.8	9	<i>Alloteuthis</i> spp. *
9	<i>Alloteuthis subulata</i>	91.4	10	<i>Sepiella oweniana</i>
10	<i>Sepiella oweniana</i>	89.3	11	<i>Todaropsis eblanae</i>
11	<i>Abrolia veranyi</i>	77.8	12	<i>Rondeletiola minor</i>
12	<i>Sepia orbignyana</i>	77.7	13	<i>Sepiola rondeletii</i>
13	<i>Sepiola rondeletii</i>	62.5	14	<i>Abrolia veranyi</i>
14	<i>Todaropsis eblanae</i>	61.7	15	<i>Sepiola</i> spp. *
15	<i>Sepiola intermedia</i>	56.0	16	<i>Eledone cirrhosa</i>
16	<i>Eledone cirrhosa</i>	55.8	17	<i>Todarodes sagittatus</i>
17	<i>Sepia officinalis</i>	47.8	18	<i>Callistoctopus macropus</i>
19	<i>Eledone moschata</i>	44.7	19	<i>Sepiola intermedia</i>
20	<i>Scaeurgus unicirrus</i>	43.6	20	<i>Sepiella neglecta</i>
21	<i>Rossia macrosoma</i>	42.8	21	<i>Sepiola robusta</i>
22	<i>Octopus vulgaris</i>	35.9	22	<i>Loligo forbesii</i>
23	<i>Sepiella neglecta</i>	33.0	23	<i>Scaeurgus unicirrus</i>
24	<i>Callistoctopus macropus</i>	32.0	24	<i>Sepiella obscura</i>
25	<i>Ancistroteuthis lichtensteinii</i>	25.6	25	<i>Onychoteuthis banksii</i>
26	<i>Histioteuthis reversa</i>	24.9	26	<i>Sepia orbignyana</i>
27	<i>Macrotritopus defilippi</i>	24.0	27	<i>Sepiola ligulata</i>
28	<i>Sepiella</i> spp. *	23.5	28	<i>Sepiella</i> spp. *
29	<i>Sepiola robusta</i>	22.1	29	<i>Octopus vulgaris</i>
30	<i>Octopus salutii</i>	22.0	30	<i>Macrotritopus defilippi</i>
31	<i>Sepiola affinis</i>	21.7	31	<i>Ancistroteuthis lichtensteinii</i>
32	<i>Heteroteuthis dispar</i>	20.7	32	<i>Octopus salutii</i>
33	<i>Neorossia caroli</i>	19.7	33	<i>Rossia macrosoma</i>
34	<i>Onychoteuthis banksii</i>	17.6	34	<i>Neorossia caroli</i>
35	<i>Histioteuthis bonnellii</i>	17.2	35	<i>Pteroctopus tetricirrus</i>
36	<i>Pteroctopus tetricirrus</i>	16.3	36	<i>Histioteuthis bonnellii</i>
37	<i>Bathypolypus sponsalis</i>	12.6	37	<i>Heteroteuthis dispar</i>
38	<i>Ctenopteryx sicula</i>	12.4	38	<i>Histioteuthis reversa</i>
39	<i>Brachiotheuthis riisei</i>	12.1	39	<i>Histioteuthis</i> spp. *
40	<i>Octopoteuthis sicula</i>	12.0		
41	<i>Ancistrocheirus lesueuri</i>	11.5		
42	<i>Abrolipisia morisi</i>	11.5		
43	<i>Histioteuthis</i> spp. *	11.1		
44	<i>Chiroteuthis veranii</i>	11.1		

	Aegean Sea (B5)	Mean Ab.		Strait of Sicily (B6)	Mean Ab.
1	<i>Loligo</i> spp. *	995.7	1	<i>Alloteuthis media</i>	1497.8
2	<i>Illex coindetii</i>	753.9	2	<i>Alloteuthis</i> spp. *	1298.1
3	<i>Alloteuthis</i> spp. *	706.6	3	<i>Alloteuthis subulata</i>	866.1
4	<i>Sepiolidae*</i>	495.0	4	<i>Sepiola</i> spp. *	270.4
5	<i>Alloteuthis subulata</i>	388.5	5	<i>Illex coindetii</i>	211.8
6	<i>Alloteuthis media</i>	376.2	6	<i>Sepiella oweniana</i>	177.0
7	<i>Loligo forbesii</i>	338.6	7	<i>Rondeletiola minor</i>	158.4
8	<i>Sepia orbignyana</i>	271.5	8	<i>Abrolia veranyi</i>	144.1
9	<i>Sepia elegans</i>	258.3	9	<i>Todaropsis eblanae</i>	134.4
10	<i>Loligo vulgaris</i>	225.7	10	<i>Loligo vulgaris</i>	113.2
11	<i>Abrolia veranyi</i>	202.4	11	<i>Sepia officinalis</i>	89.5
12	<i>Sepia officinalis</i>	190.6	12	<i>Macrotritopus defilippi</i>	69.9
13	<i>Onychoteuthis banksii</i>	176.2	13	<i>Sepiola affinis</i>	65.7
14	<i>Rondeletiola minor</i>	138.0	14	<i>Sepia elegans</i>	64.5
15	<i>Brachiotheuthis riisei</i>	120.0	15	<i>Sepiella</i> spp. *	59.1
16	<i>Todarodes sagittatus</i>	119.8	16	<i>Neorossia caroli</i>	56.5
17	<i>Sepiola rondeletii</i>	112.0	17	<i>Eledone moschata</i>	56.2
18	<i>Eledone cirrhosa</i>	104.0	18	<i>Sepia orbignyana</i>	54.0
19	<i>Sepiola</i> spp. *	103.1	19	<i>Sepiola intermedia</i>	51.0
20	<i>Sepiella oweniana</i>	81.6	20	<i>Octopus vulgaris</i>	48.7
21	<i>Eledone moschata</i>	80.2	21	<i>Rossia macrosoma</i>	47.3
22	<i>Sepiella</i> spp. *	76.1	22	<i>Sepiola rondeletii</i>	43.6
23	<i>Scaeurgus unicirrus</i>	71.0	23	<i>Heteroteuthis dispar</i>	42.4
24	<i>Todaropsis eblanae</i>	58.9	24	<i>Eledone cirrhosa</i>	41.4
25	<i>Neorossia caroli</i>	57.1	25	<i>Todarodes sagittatus</i>	37.1
26	<i>Octopus vulgaris</i>	54.1	26	<i>Scaeurgus unicirrus</i>	36.4
27	<i>Sepiola affinis</i>	52.6	27	<i>Loligo forbesii</i>	35.9
28	<i>Rossia macrosoma</i>	44.3	28	<i>Octopus salutii</i>	24.4
29	<i>Sepiola intermedia</i>	38.8	29	<i>Callistoctopus macropus</i>	23.4
30	<i>Ctenopteryx sicula</i>	32.9	30	<i>Histioteuthis</i> spp. *	20.1
31	<i>Histioteuthis bonnellii</i>	32.8	31	<i>Pteroctopus tetricirrus</i>	18.8
32	<i>Sepiola ligulata</i>	24.8	32	<i>Histioteuthis reversa</i>	15.0
33	<i>Octopus salutii</i>	23.1	33	<i>Bathypolypus sponsalis</i>	14.6
34	<i>Ancistroteuthis lichtensteinii</i>	22.6	34	<i>Histioteuthis bonnellii</i>	12.9
35	<i>Bathypolypus sponsalis</i>	20.3	35	<i>Ancistroteuthis lichtensteinii</i>	10.1
36	<i>Pteroctopus tetricirrus</i>	18.5	36	<i>Ommastrephes bartramii</i>	10.0
37	<i>Octopodidae*</i>	17.2	37	<i>Ancistrocheirus lesueuri</i>	9.9
38	<i>Heteroteuthis dispar</i>	16.3	38	<i>Onychoteuthis banksii</i>	9.7
39	<i>Octopoteuthis sicula</i>	14.2			
40	<i>Pyroteuthis margaritifera</i>	13.9			
41	<i>Histioteuthis reversa</i>	13.5			
42	<i>Chiroteuthis veranii</i>	11.5			

Table S2 (Cont.). – Total number of taxa caught in the different bioregions and for the whole Mediterranean (all bioregions combined). Taxa are ordered according to their decreasing values of mean abundance ( $\bar{N} \text{ km}^{-2}$ ). Asterisks show the taxa not taken into account when calculating the species richness. B1, Iberian-Lions; B2, Tyrrhenian; B3, Ionian; B4, Adriatic; B5, Aegean; B6, Strait of Sicily.

Taxon	Mediterranean Sea (B1-B6)		Taxon	Mean Ab.
	Mean Ab.			
1 <i>Loligo</i> spp. *	995.7	45	<i>Ctenopteryx sicula</i>	18.8
2 <i>Alloteuthis</i> spp. *	734.1	46	<i>Chiroteuthis veranii</i>	18.0
3 <i>Alloteuthis media</i>	709.0	47	<i>Octopodidae*</i>	17.2
4 <i>Sepiolidae*</i>	495.0	48	<i>Histioteuthis</i> spp. *	15.1
5 <i>Illex coindetii</i>	329.4	49	<i>Pyroteuthis margaritifera</i>	13.9
6 <i>Alloteuthis subulata</i>	296.5	50	<i>Stoloteuthis leucoptera</i>	12.9
7 <i>Loligo vulgaris</i>	264.4	51	<i>Octopoteuthis sicula</i>	12.6
8 <i>Sepiola</i> spp. *	193.2	52	<i>Abraliopsis morisii</i>	11.5
9 <i>Loligo forbesii</i>	185.3	53	<i>Ancistrocheirus lesueuri</i>	10.7
10 <i>Sepiella oweniana</i>	161.7	54	<i>Ommastrephes bartramii</i>	10.0
11 <i>Rondeletiola minor</i>	134.8			
12 <i>Todarodes sagittatus</i>	131.6			
13 <i>Abralia veranyi</i>	121.5			
14 <i>Sepia orbignyana</i>	120.5			
15 <i>Sepia elegans</i>	115.1			
16 <i>Sepiola affinis</i>	109.1			
17 <i>Sepia officinalis</i>	109.0			
18 <i>Brachiotheuthis riisei</i>	108.1			
19 <i>Sepiola rondeletii</i>	97.6			
20 <i>Todaropsis eblanae</i>	79.4			
21 <i>Eledone cirrhosa</i>	79.1			
22 <i>Eledone moschata</i>	70.1			
23 <i>Sepiella obscura</i>	59.1			
24 <i>Sepiella</i> spp. *	56.3			
25 <i>Octopus vulgaris</i>	56.1			
26 <i>Sepiola ligulata</i>	52.3			
27 <i>Sepiola intermedia</i>	51.0			
28 <i>Onychoteuthis banksii</i>	49.9			
29 <i>Sepiella neglecta</i>	49.6			
30 <i>Scaeurgus unicirrhus</i>	43.2			
31 <i>Callistoctopus macropus</i>	42.2			
32 <i>Rossia macrosoma</i>	40.0			
33 <i>Bathypolypus sponsalis</i>	39.9			
34 <i>Sepiola robusta</i>	39.0			
35 <i>Neorossia caroli</i>	36.0			
36 <i>Macrotritopus defilippi</i>	34.9			
37 <i>Ancistroteuthis lichtensteinii</i>	32.3			
38 <i>Octopus salutii</i>	25.6			
39 <i>Heteroteuthis dispar</i>	24.7			
40 <i>Pteroctopus tetricirrhus</i>	20.1			
41 <i>Ocythoe tuberculata</i>	19.8			
42 <i>Histioteuthis reversa</i>	19.7			
43 <i>Histioteuthis bonnellii</i>	19.4			
44 <i>Opisthoteuthis calypso</i>	19.2			

Table S3. – Results of similarity percentage analysis (SIMPER) for the bathymetric cephalopod assemblages obtained by the cluster analysis shown in Figure 2 for the six Mediterranean bioregions analysed (B1-B6). Abu (average abundance); AvSim (average similarity); Con (percentage contribution); Cum (cumulative percentages).

Bioregion B1: Iberian-Lions										Bioregion B2: Tyrrhenian																													
Group A (14-175 m)					AvSim: 86.08					Group B (175-450 m)					AvSim: 84.11					Group C (450-750 m)					AvSim: 79.51					Group D (750-866 m)					AvSim: 69.57				
Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum												
<i>Alloteuthis</i> spp.	5.89	8.36	8.36	<i>S. oveniana</i>	4.89	7.48	7.48	<i>A. veranyi</i>	3.00	6.93	6.93	<i>B. sponsalis</i>	2.45	12.90	12.90	<i>A. veranyi</i>	2.79	12.86	25.76	<i>T. sagittatus</i>	2.30	12.03	37.79	<i>A. lichtensteini</i>	1.99	10.06	47.85												
<i>L. forbesii</i>	4.68	6.53	14.89	<i>Sepiolidae</i>	4.73	6.94	14.41	<i>Sepiolidae</i>	3.08	6.10	13.03	<i>A. veranyi</i>	2.79	12.86	25.76	<i>T. sagittatus</i>	5.88	18.91	<i>T. sagittatus</i>	<i>I. coindetii</i>	2.39	24.63	<i>A. lichtensteini</i>	1.99	10.06	47.85													
<i>I. coindetii</i>	4.33	6.02	20.91	<i>Alloeotheuthis</i> sp.	3.76	5.65	20.07	<i>T. sagittatus</i>	2.52	5.72	24.63	<i>A. lichtensteini</i>	1.99	10.06	47.85	<i>B. sponsalis</i>	2.39	5.72	24.63	<i>A. lichtensteini</i>	1.99	10.06	47.85	<i>I. coindetii</i>	2.56	30.19	<i>N. caroli</i>	1.79	9.64	57.50									
<i>L. vulgaris</i>	4.06	5.61	26.52	<i>A. veranyi</i>	3.78	5.60	25.67	<i>B. sponsalis</i>	3.56	5.40	31.06	<i>I. coindetii</i>	2.24	5.56	30.19	<i>N. caroli</i>	3.42	5.11	36.18	<i>H. reversa</i>	2.24	5.33	35.52	<i>T. ebiana</i>	1.82	9.50	67.00												
<i>E. cirrhosa</i>	3.85	5.50	32.02	<i>I. coindetii</i>	3.56	5.40	31.06	<i>I. coindetii</i>	2.56	5.56	30.19	<i>N. caroli</i>	1.79	9.64	57.50	<i>R. minor</i>	36.92	4.80	40.98	<i>R. macrosoma</i>	2.27	5.27	40.79	<i>Sepiolidae</i>	1.87	9.26	76.26												
<i>S. elegans</i>	3.45	4.90	41.82	<i>E. cirrhosa</i>	3.04	4.80	40.98	<i>T. ebiana</i>	4.66	4.66	45.64	<i>T. ebiana</i>	2.18	5.19	45.99	<i>H. reversa</i>	3.25	4.66	46.50	<i>S. orbignyana</i>	3.25	4.66	46.50	<i>O. vulgaris</i>	1.95	9.25	85.51												
<i>A. veranyi</i>	3.60	4.90	46.50	<i>S. orbignyana</i>	3.05	4.24	49.88	<i>H. bonnelli</i>	2.14	5.13	51.12	<i>H. dispar</i>	2.07	4.94	56.05	<i>I. coindetii</i>	3.42	4.23	54.11	<i>H. dispar</i>	2.07	4.94	56.05	<i>S. oveniana</i>	3.24	4.53	55.66												
<i>Sepiolidae</i>	3.21	4.68	51.13	<i>L. forbesii</i>	3.05	4.24	49.88	<i>H. bonnelli</i>	2.14	5.13	51.12	<i>R. macrosoma</i>	2.67	5.23	58.33	<i>N. caroli</i>	2.64	5.48	62.48	<i>A. lichtensteini</i>	1.96	4.84	65.73	<i>R. minor</i>	3.17	4.26	64.42												
<i>O. vulgaris</i>	3.44	4.63	55.66	<i>O. salutii</i>	2.63	4.23	54.11	<i>H. dispar</i>	2.07	4.94	56.05	<i>T. ebiana</i>	2.64	4.15	66.63	<i>S. oveniana</i>	2.57	3.66	70.29	<i>P. tetricirrus</i>	1.98	4.74	75.29	<i>S. orbignyana</i>	3.41	4.50	60.16												
<i>S. oveniana</i>	3.24	4.53	60.16	<i>R. macrosoma</i>	2.67	4.22	58.33	<i>N. caroli</i>	2.08	4.84	60.90	<i>E. cirrhosa</i>	2.64	4.15	66.63	<i>S. oveniana</i>	2.60	4.81	70.55	<i>E. elegans</i>	4.17	6.60	68.60																
<i>S. orbignyana</i>	3.17	4.26	64.42	<i>T. ebiana</i>	2.64	4.15	66.63	<i>S. oveniana</i>	2.57	3.66	70.29	<i>P. tetricirrus</i>	2.23	3.58	73.87	<i>E. cirrhosa</i>	2.24	4.64	79.93	<i>E. elegans</i>	72.69	76.56	76.56																
<i>R. minor</i>	3.17	4.26	64.42	<i>T. sagittatus</i>	2.62	4.15	66.63	<i>P. tetricirrus</i>	2.23	3.54	77.41	<i>O. salutii</i>	2.23	4.52	84.45	<i>S. unicolorhus</i>	2.28	3.36	80.77	<i>S. unicolorhus</i>	80.34	80.34	80.34																
Group A (10-200 m)										AvSim: 86.64					Group B (200-500 m)					Group C (500-700 m)					AvSim: 78.84					Group D (700-775 m)					AvSim: 41.07				
Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum												
<i>Alloteuthis</i> spp.	5.45	8.26	8.26	<i>S. oveniana</i>	4.92	7.81	7.81	<i>S. oveniana</i>	2.95	6.61	6.61	<i>H. reversa</i>	2.16	35.62	35.62	<i>T. sagittatus</i>	2.32	5.78	12.39	<i>T. sagittatus</i>	1.92	30.76	66.38	<i>I. coindetii</i>	2.43	5.74	18.13	<i>I. coindetii</i>	1.41	13.51	79.88								
<i>L. vulgaris</i>	5.10	7.61	15.87	<i>Sepiolidae</i>	4.86	7.54	15.34	<i>A. veranyi</i>	21.04	21.04	21.04	<i>I. coindetii</i>	2.30	5.71	23.84	<i>R. macrosoma</i>	2.30	5.71	23.84	<i>P. tetricirrus</i>	1.24	10.29	90.17	<i>I. coindetii</i>	3.79	5.69	29.53												
<i>L. forbesii</i>	4.75	6.87	22.74	<i>R. minor</i>	3.79	5.69	21.04	<i>I. coindetii</i>	2.44	5.24	26.28	<i>R. macrosoma</i>	2.16	5.16	31.44	<i>T. sagittatus</i>	2.20	5.20	35.16	<i>H. bonnelli</i>	5.01	5.09	5.09	<i>S. orbignyana</i>	3.35	5.01	5.01												
<i>I. coindetii</i>	4.39	6.00	28.74	<i>I. coindetii</i>	3.44	5.24	31.44	<i>T. sagittatus</i>	2.20	5.16	36.53	<i>H. bonnelli</i>	2.11	5.63	35.16	<i>E. cirrhosa</i>	3.22	5.08	41.61	<i>E. cirrhosa</i>	2.27	5.56	40.71	<i>E. elegans</i>	3.23	4.94	44.33												
<i>E. cirrhosa</i>	3.66	5.64	34.38	<i>Alloeotheuthis</i> spp.	3.50	5.16	31.44	<i>T. sagittatus</i>	2.20	5.16	36.53	<i>H. bonnelli</i>	2.11	5.63	35.16	<i>T. ebiana</i>	3.12	5.06	46.67	<i>H. reversa</i>	2.07	5.53	46.24	<i>S. orbignyana</i>	3.28	4.86	49.19												
<i>Sepiolidae</i>	3.35	5.01	39.39	<i>S. orbignyana</i>	3.09	5.09	31.44	<i>T. sagittatus</i>	2.20	5.09	36.53	<i>H. bonnelli</i>	2.11	5.63	35.16	<i>L. forbesii</i>	3.27	5.04	51.72	<i>N. caroli</i>	2.14	5.49	51.73	<i>S. oveniana</i>	3.13	4.79	53.98												
<i>S. elegans</i>	3.23	4.94	44.33	<i>T. ebiana</i>	3.12	5.06	46.67	<i>H. reversa</i>	2.14	5.49	51.73	<i>L. forbesii</i>	2.14	5.49	51.73	<i>R. minor</i>	4.60	4.97	56.39	<i>T. ebiana</i>	2.16	5.41	57.14	<i>T. ebiana</i>	3.28	4.60	58.58												
<i>S. orbignyana</i>	3.28	4.86	49.19	<i>E. cirrhosa</i>	3.12	5.06	46.67	<i>H. reversa</i>	2.14	5.49	51.73	<i>L. forbesii</i>	2.14	5.49	51.73	<i>R. minor</i>	4.50	4.97	56.39	<i>T. ebiana</i>	2.16	5.41	57.14	<i>E. cirrhosa</i>	3.28	4.60	58.58												
<i>S. oveniana</i>	3.13	4.79	53.98	<i>L. forbesii</i>	3.27	5.04	51.72	<i>N. caroli</i>	2.14	5.49	51.73	<i>T. sagittatus</i>	2.14	5.49	51.73	<i>T. ebiana</i>	4.50	4.97	56.39	<i>T. ebiana</i>	2.16	5.41	57.14	<i>T. ebiana</i>	3.04	4.50	53.98												
<i>R. minor</i>	3.28	4.60	63.08	<i>L. vulgaris</i>	3.37	4.37	60.76	<i>B. sponsalis</i>	2.18	5.41	62.55	<i>T. sagittatus</i>	2.18	5.41	62.55	<i>T. ebiana</i>	67.53	4.03	64.79	<i>P. tetricirrus</i>	2.02	5.27	67.81	<i>T. ebiana</i>	2.92	4.45	67.53												
<i>T. ebiana</i>	3.04	4.50	67.53	<i>T. sagittatus</i>	2.48	4.03	68.82	<i>H. dispar</i>	1.93	4.97	72.78	<i>R. macrosoma</i>	2.43	4.03	68.82	<i>H. dispar</i>	2.43	4.03	72.78	<i>A. lichtensteini</i>	1.90	4.90	77.68	<i>S. unicolorhus</i>	2.90	4.45	71.98												
<i>S. unicolorhus</i>	2.87	4.18	76.16	<i>S. elegans</i>	2.64	4.02	72.84	<i>A. lichtensteini</i>	1.90	4.90	77.68	<i>T. sagittatus</i>	2.40	4.82	82.50	<i>S. elegans</i>	2.62	4.07	80.23	<i>Sepiolidae</i>	2.40	4.82	82.50																

Table S3 (Cont.). – Results of similarity percentage analysis (SIMPER) for the bathymetric cephalopod assemblages obtained by the cluster analysis shown in Figure 2 for the six Mediterranean bioregions analysed (B1-B6). Abu (average abundance); AvSim (average similarity); Con (percentage contribution); Cum (cumulative percentages).

Bioregion B3: Ionian							Bioregion B4: Adriatic							Group C						
Group A (11-200 m)			AvSim: 81.26			Group B (200-400 m)			AvSim: 80.88			AvSim: 73.23			Group D (650-800 m)			AvSim: 70.41		
Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	
<i>Alloteuthis</i> spp.	6.30	12.55	12.55	<i>I. coindetii</i>	4.35	8.45	8.45	<i>A. veranyi</i>	2.50	8.17	8.17	<i>H. reversa</i>	2.35	15.06	15.06	<i>I. coindetii</i>	2.56	14.45	29.51	
<i>I. coindetii</i>	4.67	8.88	21.42	<i>S. oveniana</i>	3.62	6.95	15.40	<i>I. coindetii</i>	2.56	16.09	16.09	<i>I. coindetii</i>	2.39	13.74	43.25	<i>A. veranyi</i>	2.39	13.07	56.32	
<i>S. elegans</i>	3.69	7.25	28.67	<i>R. minor</i>	3.61	6.89	22.29	<i>H. reversa</i>	2.24	7.32	23.41	<i>A. veranyi</i>	2.30	30.46	56.81	<i>A. lichensteinii</i>	1.98	12.49	68.81	
<i>S. orbignyana</i>	3.43	6.65	35.32	<i>A. veranyi</i>	3.10	5.99	28.29	<i>T. sagittatus</i>	2.16	7.05	30.46	<i>H. bonnelli</i>	1.98	12.49	68.81	<i>T. ebiana</i>	34.11	7.01	76.42	
<i>L. vulgaris</i>	4.39	6.01	41.33	<i>T. ebiana</i>	2.96	5.83	34.11	<i>T. ebiana</i>	2.30	7.01	37.46	<i>T. sagittatus</i>	1.99	6.59	44.06	<i>O. banksii</i>	1.57	7.61	83.94	
<i>T. ebiana</i>	3.18	5.98	47.30	<i>E. cirrhosa</i>	2.55	5.21	39.32	<i>H. bonnelli</i>	1.99	6.59	44.06	<i>O. banksii</i>	1.94	6.42	50.48	<i>O. banksii</i>	1.49	7.52	83.94	
<i>R. minor</i>	3.10	5.94	53.24	<i>S. elegans</i>	2.65	5.05	44.37	<i>N. caroli</i>	1.94	6.42	50.48	<i>S. oveniana</i>	2.08	5.23	55.71	<i>E. cirrhosa</i>	2.33	4.92	60.87	
<i>S. unicirrhus</i>	3.01	5.84	59.09	<i>S. unicirrhus</i>	2.41	4.77	54.06	<i>R. dispar</i>	1.84	5.16	58.62	<i>S. unicirrhus</i>	1.68	4.81	65.68	<i>S. oveniana</i>	2.41	4.56	70.33	
<i>E. cirrhosa</i>	3.00	5.70	64.79	<i>R. macrostoma</i>	3.12	4.56	58.62	<i>P. reticulirrus</i>	1.67	4.65	63.17	<i>O. salutii</i>	1.76	4.65	70.33	<i>T. orbignyana</i>	2.26	4.55	74.96	
<i>S. oveniana</i>	2.84	5.61	70.40	<i>Alloteuthis</i> spp.	3.12	4.56	67.48	<i>P. reticulirrus</i>	2.09	4.31	71.79	<i>L. forbesii</i>	2.11	3.72	78.68	<i>L. forbesii</i>	2.73	4.31	82.37	
<i>A. veranyi</i>	2.79	5.35	75.75	<i>S. orbignyana</i>	2.26	4.55	76.01	<i>R. macrostoma</i>	1.70	3.69	76.01	<i>R. macrostoma</i>	1.70	3.69	82.37	<i>O. salutii</i>	2.09	4.22	80.24	
Bioregion B4: Adriatic							Group C							Group D						
Group A (10-175 m)			AvSim: 85.21			Group B (175-350 m)			AvSim: 82.28			AvSim: 76.57			AvSim: 43.13			Group D (625-799 m)		
Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	
<i>Alloteuthis</i> spp.	5.89	10.16	10.16	<i>I. coindetii</i>	5.01	10.62	10.62	<i>I. coindetii</i>	2.78	9.24	9.24	<i>T. ebiana</i>	3.19	46.40	46.40	<i>L. vulgaris</i>	8.16	28.77	75.17	
<i>I. coindetii</i>	5.02	8.16	18.32	<i>T. ebiana</i>	3.56	7.78	18.40	<i>A. veranyi</i>	2.50	8.42	17.66	<i>H. reversa</i>	1.86	28.77	75.17	<i>R. minor</i>	7.68	8.75	83.94	
<i>L. vulgaris</i>	4.78	7.68	25.99	<i>R. minor</i>	3.43	7.17	25.57	<i>T. ebiana</i>	2.48	8.30	25.96	<i>R. macrostoma</i>	2.13	7.20	33.16	<i>S. oveniana</i>	3.17	5.49	33.16	
<i>S. oveniana</i>	3.17	5.49	31.48	<i>Sepiolidae</i>	3.43	6.87	32.44	<i>R. macrostoma</i>	2.13	7.20	33.16	<i>H. reversa</i>	2.07	7.11	40.27	<i>E. moschata</i>	3.37	5.37	40.27	
<i>E. moschata</i>	3.07	5.32	36.85	<i>Alloteuthis</i> spp.	3.68	6.74	39.18	<i>T. sagittatus</i>	2.07	7.08	47.35	<i>N. caroli</i>	2.16	6.89	54.24	<i>E. cirrhosa</i>	3.07	5.32	47.35	
<i>E. cirrhosa</i>	3.25	5.29	42.17	<i>S. oveniana</i>	3.18	6.46	45.64	<i>T. sagittatus</i>	2.07	7.08	47.35	<i>Sepiolidae</i>	2.84	6.15	6.89	<i>S. elegans</i>	2.91	5.13	6.89	
<i>S. elegans</i>	3.25	5.29	47.46	<i>E. cirrhosa</i>	2.84	6.15	51.79	<i>N. caroli</i>	2.16	6.89	54.24	<i>L. vulgaris</i>	3.07	5.84	6.89	<i>R. minor</i>	2.99	4.96	60.36	
<i>Sepiolidae</i>	2.91	5.13	52.59	<i>L. vulgaris</i>	2.68	5.38	57.63	<i>Sepiolidae</i>	2.13	6.12	60.36	<i>T. ebiana</i>	2.87	62.49	66.08	<i>T. ebiana</i>	4.95	6.47	66.08	
<i>R. minor</i>	2.99	4.96	57.54	<i>T. sagittatus</i>	2.38	5.25	68.26	<i>H. bonnelli</i>	1.88	5.72	66.08	<i>E. cirrhosa</i>	2.87	62.49	66.08	<i>S. orbignyana</i>	2.92	4.92	71.53	
<i>T. ebiana</i>	2.87	4.95	62.49	<i>O. salutii</i>	2.24	4.89	73.14	<i>O. salutii</i>	1.77	5.28	76.81	<i>O. salutii</i>	1.98	4.23	81.94	<i>T. sagittatus</i>	2.94	4.77	81.94	
<i>S. orbignyana</i>	2.92	4.92	67.41	<i>R. macrostoma</i>	2.06	4.56	77.70	<i>H. dispar</i>	1.68	5.14	81.94	<i>O. vulgaris</i>	2.63	4.47	81.07	<i>O. salutii</i>	2.48	4.42	81.07	

Table S3 (Cont.). – Results of similarity percentage analysis (SIMPER) for the bathymetric cephalopod assemblages obtained by the cluster analysis shown in Figure 2 for the six Mediterranean bioregions analysed (B1-B6). Abu (average abundance); AvSim (average similarity); Con (percentage contribution); Cum (cumulative percentages).

Group A (19-225 m)				AvSim: 83.40				Group B (225-425 m)				AvSim: 85.03				Group C (425-550 m)				AvSim: 71.17				Group D (550-791 m)				AvSim: 61.71											
Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum								
<i>Alloleuthis</i> spp.	5.85	10.15	10.15	<i>I. coindetii</i>	6.04	9.02	9.02	<i>9.02I. coindetii</i>	3.56	10.44	10.44	<i>10.44I. coindetii</i>	3.15	14.48	14.48	<i>19.05T. sagittatus</i>	2.66	11.32	11.32	<i>27.51R. macrostoma</i>	2.45	10.11	10.11	<i>34.63A. lichtensteini</i>	2.22	9.64	9.64	<i>41.74H. reversa</i>	2.03	9.52	9.52	<i>55.06</i>							
<i>I. coindetii</i>	5.47	8.88	19.03	<i>S. orbignyana</i>	4.43	7.16	16.18A. veranyi		3.20	8.61	8.61	<i>19.05T. sagittatus</i>				<i>22.92T. sagittatus</i>	2.93	8.47	8.47	<i>27.51R. macrostoma</i>				<i>35.91L. ichtensteini</i>				<i>45.54</i>											
<i>S. elegans</i>	4.30	7.40	26.43	<i>S. elegans</i>	4.23	6.74	22.92T. sagittatus									<i>29.12N. caroli</i>	2.40	7.12	7.12	<i>34.63A. lichtensteini</i>				<i>41.74H. reversa</i>				<i>55.06</i>											
<i>L. vulgaris</i>	4.71	7.31	33.74	<i>Alloteuthis</i> spp.	4.13	6.20	29.12N. caroli									<i>35.15T. ebiana</i>	2.40	7.11	7.11	<i>41.74H. reversa</i>				<i>55.06</i>															
<i>L. forbesii</i>	4.73	6.97	40.71	<i>L. forbesii</i>	4.11	6.03																																	
<i>E. cirrhosa</i>	3.91	6.61	47.31	<i>Sepiolidae</i>	3.44	5.29	<i>40.45Alloteuthis</i> spp.																																
<i>S. orbignyana</i>	4.02	5.98	53.29	<i>T. ebiana</i>	3.08	4.92	<i>45.36E. cirrhosa</i>																																
<i>E. moschata</i>	3.41	5.31	58.60	<i>E. cirrhosa</i>	3.03	4.85	<i>50.21H. bonelli</i>																																
<i>Sepiolidae</i>	3.09	5.07	63.67	<i>T. sagittatus</i>	3.10	4.84	<i>55.06B. sponsalis</i>																																
<i>S. unicirrhus</i>	3.16	4.94	68.61	<i>A. veranyi</i>	3.39	4.73	<i>59.79P. tetricirrhus</i>																																
<i>R. minor</i>	3.28	4.81	73.42	<i>R. minor</i>	3.16	4.57	<i>64.36R. macrostoma</i>																																
<i>S. oveniana</i>	3.01	4.68	78.10	<i>S. oveniana</i>	2.90	4.30	<i>68.66Sepiolidae</i>																																
<i>O. vulgaris</i>	2.67	4.34	82.45	<i>R. macrostoma</i>	2.60	4.12	72.77																																
				<i>S. unicirrhus</i>	2.78	4.11	76.88																																
				<i>N. caroli</i>	2.83	3.58	80.47																																
Group A (17-200 m)				AvSim: 80.00				Group B (200-400 m)				AvSim: 83.52				Group C (400-500 m)				AvSim: 78.32				Group D (500-793 m)				AvSim: 72.14											
Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum	Species	Abu	Con	Cum								
<i>Alloleuthis</i> spp.	7.14	13.34	13.34	<i>13.34Sepiolidae</i>	5.57	10.09	10.09A. veranyi																																
<i>I. coindetii</i>	4.46	8.37	21.71	<i>S. oveniana</i>	4.41	8.41	<i>18.50T. ebiana</i>																																
<i>S. elegans</i>	3.50	7.18	28.90	<i>Alloteuthis</i> spp.	5.15	8.27	<i>26.77R. macrostoma</i>																																
<i>T. ebiana</i>	3.49	7.04	35.93	<i>T. ebiana</i>	4.02	7.84	<i>34.61I. coindetii</i>																																
<i>R. minor</i>	3.71	6.93	42.87	<i>A. veranyi</i>	3.89	7.38	<i>41.99S. oveniana</i>																																
<i>S. oveniana</i>	3.53	6.80	49.67	<i>R. minor</i>	6.65	9.07	<i>48.65L. forbesii</i>																																
<i>L. vulgaris</i>	3.46	6.69	56.36	<i>I. coindetii</i>	3.46	6.23	<i>54.88N. caroli</i>																																
<i>Sepiolidae</i>	3.28	6.18	62.54	<i>E. cirrhosa</i>	2.71	5.24	<i>60.12E. cirrhosa</i>																																
<i>E. moschata</i>	3.05	6.05	68.59	<i>S. orbignyana</i>	2.71	4.71	<i>64.83O. salutii</i>																																
<i>S. unicirrhus</i>	2.80	5.70	74.29	<i>S. elegans</i>	2.54	4.67	<i>69.51P. tetricirrhus</i>																																
<i>E. cirrhosa</i>	2.78	5.55	79.84	<i>L. forbesii</i>	2.35	4.40	<i>73.91S. unicirrhus</i>																																
<i>S. orbignyana</i>	2.81	5.38	85.21	<i>S. unicirrhus</i>	2.47	4.40	<i>78.31</i>																																
				<i>R. macrostoma</i>	2.40	4.33	82.64																																

Table S4. – SIMPER analyses of the dissimilarity between the old (1994–2004) and recent (2005–2015) time series by bathymetric strata and bio-region for those stratum-bioregion settings showing significant differences from a previous PERMANOVA (see Table 2). Av.Abu (average abundance); Contrib% (percentage contribution); Cum% (cumulative percentages).

Stratum: Continental shelf

Bio-region: Iberian-Lions

Time series old and recent

Average dissimilarity = 28.97

Species	Old Av.Abund	Recent Av.Abund	Contrib%	Cum.%
<i>L. forbesii</i>	5.9	25.38	14.49	14.49
<i>Alloteuthis</i> spp.	39.51	32.22	8.29	22.78
<i>L. vulgaris</i>	10.24	19.28	7.9	30.68
<i>I. coindetii</i>	19.22	18.21	7.13	37.81
<i>A. veranyi</i>	7.19	13.21	6.12	43.93
<i>B. sponsalis</i>	2.7	7.57	4.74	48.67
<i>O. vulgaris</i>	9.61	13.54	4.7	53.37
<i>S. orbignyana</i>	9.12	11.56	4.56	57.92
<i>R. minor</i>	8.75	8.74	4.48	62.41
<i>S. elegans</i>	12.68	12.92	3.62	66.03
<i>S. oweniana</i>	9.1	11.23	3.23	69.26
<i>T. eblanae</i>	8.43	7.7	3.03	72.29
<i>S. officinalis</i>	5.55	6.05	3.02	75.31
<i>E. moschata</i>	9.47	9.55	2.97	78.28
<i>R. macrosoma</i>	4.93	7.59	2.59	80.87
<i>E. cirrhosa</i>	14.28	14.88	2.49	83.35
<i>A. lichtensteinii</i>	2.6	3.86	2.46	85.82
<i>Sepiolidae</i>	11.27	8.51	2.46	88.28
<i>P. tetricirrus</i>	3.85	2.88	2.1	90.38

Stratum: Upper slope

Bio-region: Iberian-Lions

Time series old and recent

Average dissimilarity = 35.97

Species	Old Av.Abund	Recent Av.Abund	Contrib%	Cum.%
<i>S. oweniana</i>	16.78	28.52	10.88	10.88
<i>Sepiolidae</i>	22.57	14.73	9.9	20.78
<i>Alloteuthis</i> spp.	15.11	5.95	7.87	28.65
<i>L. forbesii</i>	3.71	10.85	6.11	34.76
<i>R. minor</i>	12.47	8.25	5.5	40.26
<i>A. veranyi</i>	11.99	14.53	5.31	45.57
<i>B. riisei</i>	1.64	6.35	4.85	50.42
<i>S. orbignyana</i>	6.58	10.13	4.82	55.24
<i>I. coindetii</i>	9.39	14.46	4.71	59.96
<i>L. vulgaris</i>	4.61	3.65	4.1	64.06
<i>S. elegans</i>	5.34	4.85	4.01	68.07
<i>N. caroli</i>	5.71	4.13	3.46	71.53
<i>A. lichtensteinii</i>	4.07	2.77	2.85	74.38
<i>O. vulgaris</i>	4.2	3.72	2.3	76.68
<i>T. eblanae</i>	6.19	6.23	2.24	78.92
<i>S. unicirrus</i>	4.99	4.45	2.23	81.15
<i>R. macrosoma</i>	7.21	6.79	2.12	83.27
<i>E. moschata</i>	3	2.4	2.06	85.34
<i>H. reversa</i>	2.2	2.54	2.04	87.38
<i>B. sponsalis</i>	4.3	5.05	1.94	89.32
<i>H. bonnellii</i>	1.24	1.94	1.62	90.94

Bio-region: Strait of Sicily

Time series old and recent

Average dissimilarity = 41.18

Species	Old Av.Abund	Recent Av.Abund	Contrib%	Cum.%
<i>Alloteuthis</i> spp.	43.88	49.07	20.98	20.98
<i>R. minor</i>	1.44	13.96	8.98	29.95
<i>S. oweniana</i>	0.59	12.62	8.56	38.51
<i>I. coindetii</i>	15.66	19.77	7.95	46.46
<i>L. vulgaris</i>	10.64	11.43	6.23	52.68
<i>Sepiolidae</i>	13	8.04	5.06	57.74
<i>A. veranyi</i>	3.87	7.58	4.82	62.56
<i>S. elegans</i>	12.69	10.05	4.81	67.37
<i>E. moschata</i>	6.44	7.95	4.04	71.41
<i>S. officinalis</i>	2.89	6.37	4.01	75.42
<i>O. vulgaris</i>	3.9	6.34	3.75	79.18
<i>S. unicirrus</i>	8.42	7.83	3.58	82.76
<i>S. orbignyana</i>	7.42	6.52	3.5	86.26
<i>T. eblanae</i>	12.1	13	2.84	89.1
<i>R. macrosoma</i>	0	3.25	2.49	91.59

Bio-region: Ionian

Time series old and recent

Average dissimilarity = 39.80

Species	Old Av.Abund	Recent Av.Abund	Contrib%	Cum.%
<i>I. coindetii</i>	9.45	24.92	14.58	14.58
<i>Alloteuthis</i> spp.	14.41	6.04	10.25	24.83
<i>Sepiolidae</i>	12.15	5.16	10.15	34.97
<i>L. forbesii</i>	6.86	7.87	7	41.97
<i>S. oweniana</i>	12.57	12.45	6.93	48.9
<i>R. minor</i>	12.27	12.9	5.94	54.83
<i>A. veranyi</i>	12.29	7.32	5.05	59.89
<i>S. elegans</i>	6.78	6.54	4.07	63.95
<i>L. vulgaris</i>	3.82	1.89	3.32	67.28
<i>T. eblanae</i>	8.31	9.08	3.12	70.4
<i>H. dispar</i>	4.93	2.65	3.06	73.46
<i>R. macrosoma</i>	4.43	5.75	2.82	76.28
<i>N. caroli</i>	3.32	1.99	2.55	78.84
<i>O. salutii</i>	3.66	2.94	2.54	81.37
<i>E. moschata</i>	1.66	2.63	2.49	83.86
<i>S. orbignyana</i>	4.98	3.46	2.28	86.14
<i>H. bonnellii</i>	2.76	1.99	2.11	88.25
<i>P. tetricirrus</i>	3.75	2.31	1.97	90.22

Bio-region: Strait of Sicily

Time series old and recent

Average dissimilarity = 50.37

Species	Old Av.Abund	Recent Av.Abund	Contrib%	Cum.%
<i>Alloteuthis</i> spp.	21.5	36.1	19.83	19.83
<i>Sepiolidae</i>	27.63	2.53	16.48	36.31
<i>S. oweniana</i>	0	18.22	12.24	48.55
<i>R. minor</i>	0.4	11.98	7.77	56.32
<i>A. veranyi</i>	12.15	14.37	5.31	61.63
<i>I. coindetii</i>	7.46	14.18	4.91	66.54
<i>N. caroli</i>	3.25	2.62	3.66	70.19
<i>S. orbignyana</i>	5.77	8.21	3.25	73.45
<i>S. elegans</i>	2.97	6.86	3.22	76.66
<i>T. eblanae</i>	14.55	16.58	3.06	79.72
<i>R. macrosoma</i>	4.99	5.08	3.04	82.76
<i>L. forbesii</i>	1.75	5.29	2.65	85.41
<i>L. vulgaris</i>	0.7	4.49	2.64	88.05
<i>S. unicirrus</i>	4.67	7.08	2.22	90.27

Table S4 (Cont.). – SIMPER analyses of the dissimilarity between the old (1994–2004) and recent (2005–2015) time series by bathymetric strata and bio-region for those stratum-bioregion settings showing significant differences from a previous PERMANOVA (see Table 2). Av.Abu (average abundance); Contrib% (percentage contribution); Cum% (cumulative percentages).

Stratum: Middle slope

Bio-region: Iberian-Lions

Time series old and recent

Average dissimilarity = 35.95

Species	Old Av.Abund	Recent Av.Abund	Contrib%	Cum.%
Sepiolidae	8.81	6.51	11.53	11.53
<i>S. oweniana</i>	4.96	7.51	9.2	20.74
<i>I. coindetii</i>	4.29	8.27	7.1	27.84
<i>Alloteuthis</i> spp.	4.08	2.09	6.62	34.46
<i>A. veranyi</i>	8.83	7.98	5.67	40.13
<i>L. forbesii</i>	0	3.33	5.08	45.21
<i>O. salutii</i>	5.23	4.63	4.57	49.78
<i>E. cirrhosa</i>	5.53	5.04	4.33	54.11
<i>R. macrosoma</i>	4.44	3.62	4.27	58.38
<i>S. orbignyana</i>	1.6	1.84	3.59	61.97
<i>H. dispar</i>	3.26	3.51	3.35	65.31
<i>R. minor</i>	2.27	1.38	3.31	68.62
<i>T. sagittatus</i>	5.43	6.77	3.29	71.91
<i>B. riisei</i>	1.97	2.18	3.17	75.08
<i>P. tetricirrus</i>	3.15	3.27	2.86	77.94
<i>N. caroli</i>	3.96	3.51	2.73	80.67
<i>S. leucoptera</i>	0.76	1.78	2.67	83.34
<i>H. bonnellii</i>	3.69	4.19	2.59	85.93
<i>T. eblanae</i>	4.92	4.51	2.57	88.5
<i>O. vulgaris</i>	1.75	0	2.47	90.97

Bio-region: Strait of Sicily

Time series old and recent

Average dissimilarity = 39.63

Species	Old Av.Abund	Recent Av.Abund	Contrib%	Cum.%
<i>S. oweniana</i>	0	7.54	12.84	12.84
Sepiolidae	5.9	0	10.01	22.85
<i>L. forbesii</i>	2.26	7.48	9.17	32.01
<i>A. veranyi</i>	6.58	10.83	8.9	40.91
<i>L. vulgaris</i>	0	5.38	8.28	49.19
<i>N. caroli</i>	1.21	4.86	6.82	56.02
<i>I. coindetii</i>	7.2	6.12	5.01	61.03
<i>T. sagittatus</i>	1.82	4.16	4.71	65.74
<i>T. eblanae</i>	8.19	7.98	4.04	69.77
<i>R. minor</i>	0	2.34	3.78	73.55
<i>R. macrosoma</i>	8.27	6.67	3.77	77.32
<i>S. orbignyana</i>	0.79	2.52	3.77	81.09
<i>Alloteuthis</i> spp.	0.79	1.65	3.21	84.3
<i>S. elegans</i>	1.11	1.49	2.92	87.22
<i>H. dispar</i>	0	1.25	2.31	89.53
<i>E. moschata</i>	0	1.26	1.99	91.53

Stratum: Lower slope

Bio-region: Ionian

Time series old and recent

Average dissimilarity = 63.68

Species	Old Av.Abund	Recent Av.Abund	Contrib%	Cum.%
<i>I. coindetii</i>	1.54	9.95	23.19	23.19
<i>A. veranyi</i>	2.84	3.14	10.73	33.91
<i>H. reversa</i>	4.63	4.85	9.82	43.73
<i>N. caroli</i>	1	2.8	7.5	51.23
<i>A. lichtensteinii</i>	3.46	1.51	7.22	58.45
<i>T. eblanae</i>	0.94	2.68	6.31	64.76
<i>H. bonnellii</i>	2.59	2.62	6.17	70.93
<i>T. sagittatus</i>	3.73	3.21	5.52	76.45
<i>H. dispar</i>	1.34	1.18	4.5	80.95
<i>O. banksii</i>	1.52	0.94	3.95	84.9
<i>S. elegans</i>	0	1.76	3.35	88.25
<i>B. sponsalis</i>	0	1.01	3.09	91.34

Bio-region: Strait of Sicily

Time series old and recent

Average dissimilarity = 50.39

Species	Old Av.Abund	Recent Av.Abund	Contrib%	Cum.%
<i>I. coindetii</i>	2.17	6.51	12.57	12.57
<i>N. caroli</i>	1.94	3.68	8.96	21.53
<i>A. veranyi</i>	3.84	3.27	7.98	29.51
<i>H. reversa</i>	1.53	3.96	7.64	37.15
<i>T. eblanae</i>	4.12	4.17	7.27	44.42
<i>R. macrosoma</i>	4.45	2.63	7	51.43
<i>Histioteuthis</i> spp.	2.28	0	5.24	56.67
<i>H. bonnellii</i>	4.51	3.91	4.58	61.25
<i>S. oweniana</i>	0	2.03	4.41	65.66
<i>L. forbesii</i>	0.35	2.05	4.34	70
<i>B. sponsalis</i>	1.57	1.08	4.33	74.33
Sepiolidae	1.79	0.28	4.27	78.6
<i>O. salutii</i>	1.8	1.15	3.98	82.58
<i>P. tetricirrus</i>	2.86	3.1	3.62	86.2
<i>T. sagittatus</i>	4.95	6.09	3.56	89.75
<i>S. unicirrus</i>	0.85	0.85	2.98	92.73