

Chasing fish and catching data: recreational spearfishing videos as a tool for assessing the structure of fish assemblages on shallow rocky reefs

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Table S1. Spearman's rank correlation (r_s) between video length and MaxN (the maximum number of individuals of each species of fish seen together in any one time over the whole duration of the video)

Species	r_s	p
<i>Coris julis</i>	0.163	0.08
<i>Diplodus annularis</i>	0.124	0.19
<i>Diplodus sargus</i>	0.094	0.32
<i>Diplodus vulgaris</i>	0.040	0.67
<i>Oblada melanura</i>	-0.013	0.89
<i>Sarpa salpa</i>	0.135	0.15
<i>Serranus cabrilla</i>	0.118	0.21
<i>Serranus scriba</i>	0.094	0.32
<i>Symphodus ocellatus</i>	0.180	0.06
<i>Symphodus roissali</i>	0.129	0.17
<i>Symphodus tinca</i>	0.099	0.23

Table S2. Results of SIMPER analysis for species that contributed ~90% to cumulative measures of dissimilarity between UVC and video. The percent contribution and abundance in UVC and video is reported for each species

Species	Average abundance		Dissimilarity (% contribution)
	UVC	Video	
<i>Coris julis</i>	20.71	8.43	36.95
<i>Symphodus ocellatus</i>	3.66	1.95	11.15
<i>Sarpa salpa</i>	1.34	4.88	10.14
<i>Diplodus sargus</i>	1.50	1.45	5.58
<i>Diplodus vulgaris</i>	1.47	1.21	5.23
<i>Symphodus tinca</i>	1.34	1.14	4.94
<i>Oblada melanura</i>	1.55	0.76	4.81
<i>Diplodus annularis</i>	1.21	0.62	4.31
<i>Serranus cabrilla</i>	1.61	0.55	3.92
<i>Serranus scriba</i>	1.26	0.48	3.74

Table S3. List of species recorded by UVC and video for each study site. Values reported are mean density (number of individuals $\times \sim 100 \text{ m}^{-2}$) and standard error (SE) across sampling dates (Site 1: $n_{\text{UVC}} = 18$, $n_{\text{Video}} = 22$; Site 2: $n_{\text{UVC}} = 20$, $n_{\text{Video}} = 20$)

Species	Site 1				Site 2			
	UVC		Video		UVC		Video	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
<i>Apogon imberbis</i> ^a	0.06	0.06	-	-	-	-	-	-
<i>Boops boops</i> ^a	0.33	0.33	-	-	-	-	-	-
<i>Coris julis</i>	21.67	3.32	10.32	1.16	19.4	2.29	6.35	0.74
<i>Chromis chromis</i>	42.72	12.51	18.27	4.29	26.3	9.34	39.05	11.73
<i>Dentex dentex</i> ^b	-	-	0.18	0.14	-	-	-	-
<i>Diplodus puntazzo</i> ^b	-	-	0.14	0.14	-	-	-	-
<i>Diplodus annularis</i>	1.06	0.31	0.64	0.26	1.35	0.35	0.6	0.34
<i>Diplodus vulgaris</i>	1.61	0.42	1.05	0.25	1.35	0.39	1.4	0.37
<i>Diplodus sargus</i>	2.06	0.44	1.32	0.43	1	0.35	1.6	0.46
<i>Sparus aurata</i> ^b	-	-	0.05	0.05	-	-	-	-
<i>Labrus merula</i>	0.06	0.06	0.09	0.06	0.15	0.08	0.2	0.12
<i>Labrus viridis</i>	0.06	0.06	0.05	0.05	-	-	-	-
<i>Mullus surmuletus</i>	-	-	0.18	0.14	0.75	0.39	0.25	0.25
<i>Oblada melanura</i>	0.89	0.50	1.23	1.00	2.15	1.90	0.25	0.16
<i>Sarpa salpa</i>	1.56	1.02	6.59	4.20	1.15	0.86	3	2.75
<i>Sciaena umbra</i> ^a	0.06	0.06	-	-	-	-	-	-
<i>Serranus cabrilla</i>	1.50	0.31	0.68	0.17	1.7	0.27	0.4	0.11
<i>Serranus scriba</i>	1.44	0.28	0.50	0.14	1.1	0.28	0.45	0.18
<i>Spicara maena</i> ^a	-	-	-	-	0.05	0.05	-	-
<i>Spicara smaris</i> ^a	-	-	-	-	0.05	0.05	-	-
<i>Symphodus doderleini</i>	0.17	0.09	0.05	0.05	0.1	0.07	-	-
<i>Symphodus mediterraneus</i>	0.11	0.08	0.09	0.06	0.1	0.07	-	-
<i>Symphodus melanocercus</i>	0.11	0.08	0.05	0.05	0.05	0.05	0.05	0.05
<i>Symphodus ocellatus</i>	3.89	1.07	3.05	1.16	3.45	0.58	0.75	0.19
<i>Symphodus roissali</i>	0.94	0.21	0.64	0.15	0.35	0.15	0.3	0.11
<i>Symphodus rostratus</i>	0.28	0.11	0.05	0.05	0.15	0.11	0.1	0.10
<i>Symphodus tinca</i>	1.28	0.29	0.86	0.32	1.4	0.27	1.45	0.44
<i>Thalassoma pavo</i> ^b	-	-	0.09	0.06	-	-	-	-

^aspecies recorded exclusively by UVC

^bspecies recorded exclusively by video

Table S4. Permutational ANOVA comparing the total density of individuals and species richness between Techniques (UVC versus video), between sites and among dates, separately for each species; 999 permutations of the residuals were used for tests of significance. * $p < 0.05$; ** $p < 0.01$

Species	Source of variation				
	Site (S)	Technique (T)	S × T	Date (S × T)	Residual
<i>Coris julis</i>					
MS	215.510	2950.60	6.950	276.520	53.890
<i>F</i>	0.80	424.71*	0.03	5.13	
<i>Diplodus annularis</i>					
MS	0.182	7.834	1.459	3.983	1.728
<i>F</i>	0.05	5.37	0.37	2.30	
<i>Diplodus sargus</i>					
MS	3.281	0.239	7.442	4.621	3.464
<i>F</i>	0.72	0.03	1.62	1.33	
<i>Diplodus vulgaris</i>					
MS	0.005	1.519	1.079	2.750	2.538
<i>F</i>	0.00	1.41	0.39	1.08	
<i>Oblada melanura</i>					
MS	3.341	17.848	22.174	28.745	24.941
<i>F</i>	0.12	0.80	0.77	1.15	
<i>Sarpa salpa</i>					
MS	68.424	256.610	49.863	288.490	136.77
<i>F</i>	0.24	5.15	0.18	2.11*	
<i>Serranus cabrilla</i>					
MS	0.010	19.484	eliminated	2.306	0.826
<i>F</i>	0.04	8.66*		2.79	
<i>Serranus scriba</i>					
MS	0.658	12.500	eliminated	0.881	1.016
<i>F</i>	0.74	14.11**		0.87	
<i>Symphodus ocellatus</i>					
MS	38.984	62.334	19.074	34.451	12.350
<i>F</i>	1.15	3.27	0.56	2.79*	
<i>Symphodus tinca</i>					
MS	1.909	1.778	0.603	1.386	2.366
<i>F</i>	1.35	2.95	0.43	0.59	
Species richness					
MS	19.634	59.637	3.568	5.474	2.662
<i>F</i>	3.64	16.71	0.66	2.06*	