The following supplement accompanies the article

Acoustic fish communities: sound diversity of rocky habitats reflects fish species diversity

Elena Desiderà, Paolo Guidetti, Pieraugusto Panzalis, Augusto Navone, Cathy-Anna Valentini-Poirrier, Pierre Boissery, Cédric Gervaise, Lucia Di Iorio

*Corresponding author: lucia.diiorio@chorusacoustics.com

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Table S1. Years and months of UVC fish sampling of the three study sites. At each site 16 transects were conducted per year, corresponding to 8 samples collected per site and month.

Year	Sampling months
2012	June, August
2013	May, August
2014	May, August
2016	August, November

Table S2. Acoustic recording dates and sites in September 2015. The depth at which hydrophones were deployed and the corresponding MPA zones are indicated.

	Recording sessions			
Site	**14-15/09**	**15-16/09**	**Depth (m)**	**Zone**
Molarotto			23	A
Molara			23	B
Coda Cavallo			19.5	C

Figures S1 & S2. Power spectra and long-term spectrograms of the three sites

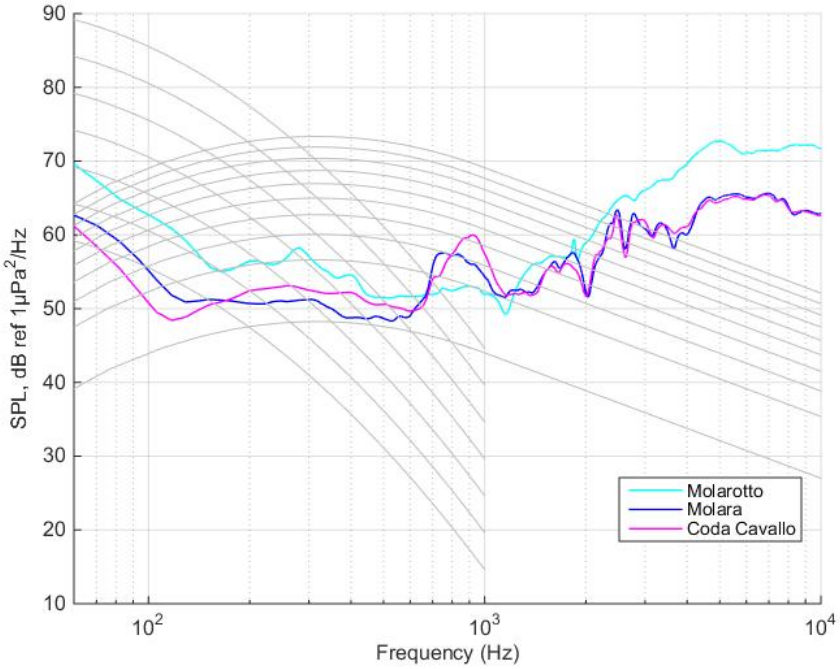


Figure S1. Median acoustic spectra for the recordings at the three sites (cyan, blue, magenta) and Wenz curves of the ambient noise spectra for different levels of shipping traffic, and sea state conditions (grey). The spectra of the three sites clearly show very light shipping traffic and sea states.

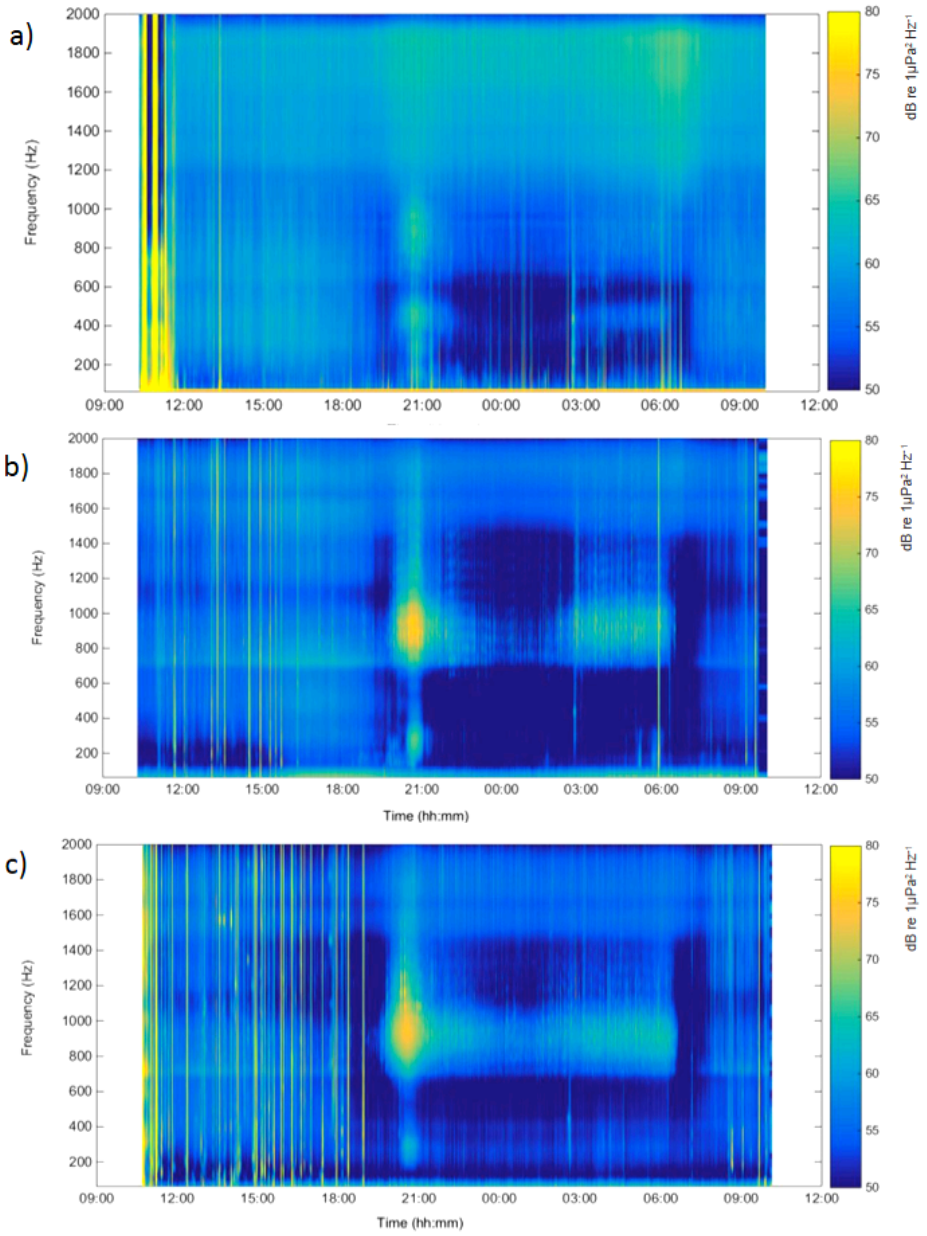
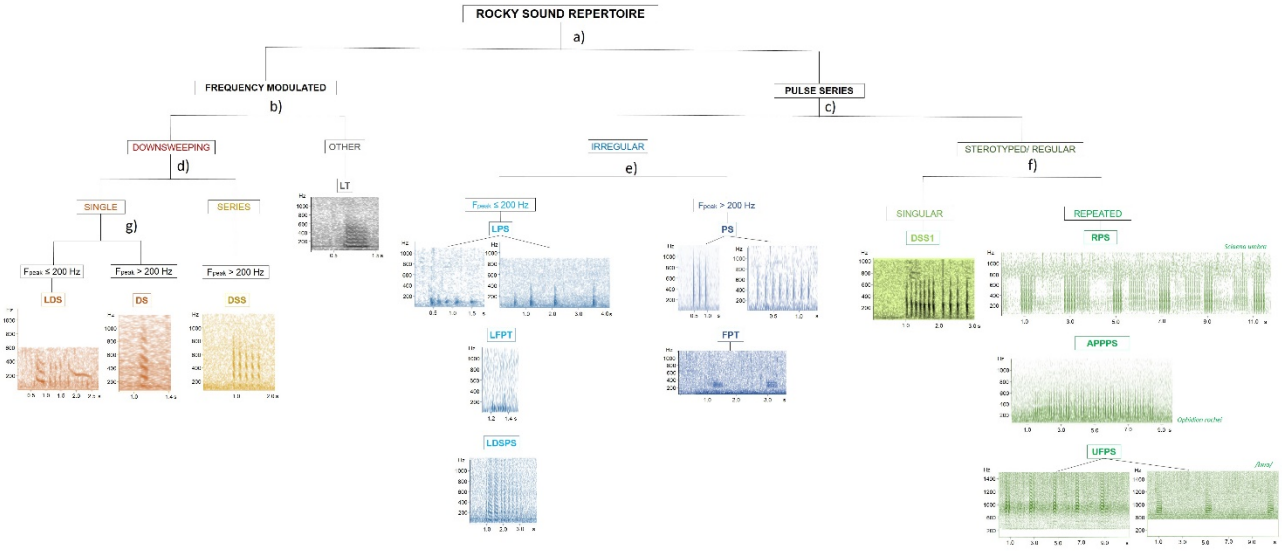


Figure S2. Long-term spectrograms of the three sites showing the low anthropogenic noise regime during night-time hours and the strong contribution of biogenic sounds (energetic patches, clouds, low-frequency lines). Boat passages almost exclusively occur during daytime hours (energetic vertical lines covering the entire frequency spectrum). a) Molarotto, b) Molara, c) Coda Cavallo.

Figure S3. Explanation of the branches of the dichotomic tree of fish sounds (Fig. 2).



a) Is the call frequency-modulated or a series of pulses?
b) Is the call down-sweeping or following a different frequency modulation?
c) Is the pulse series constituting the call irregular or rather regular /stereotyped (e.g., with a stereotyped inter-pulse-interval pattern or a characteristic amplitude modulation,…)?
d) Is the down-sweep produced as a single call or in series?
e) Is the peak frequency of the irregular pulse series below or above 200Hz?
f) Is the regular pulse series emitted as a singular call or repeated in a sequence?

Figures S4 & S5, Table S3: Sound type richness and diversity of the three sites including the two recording nights at Molara.

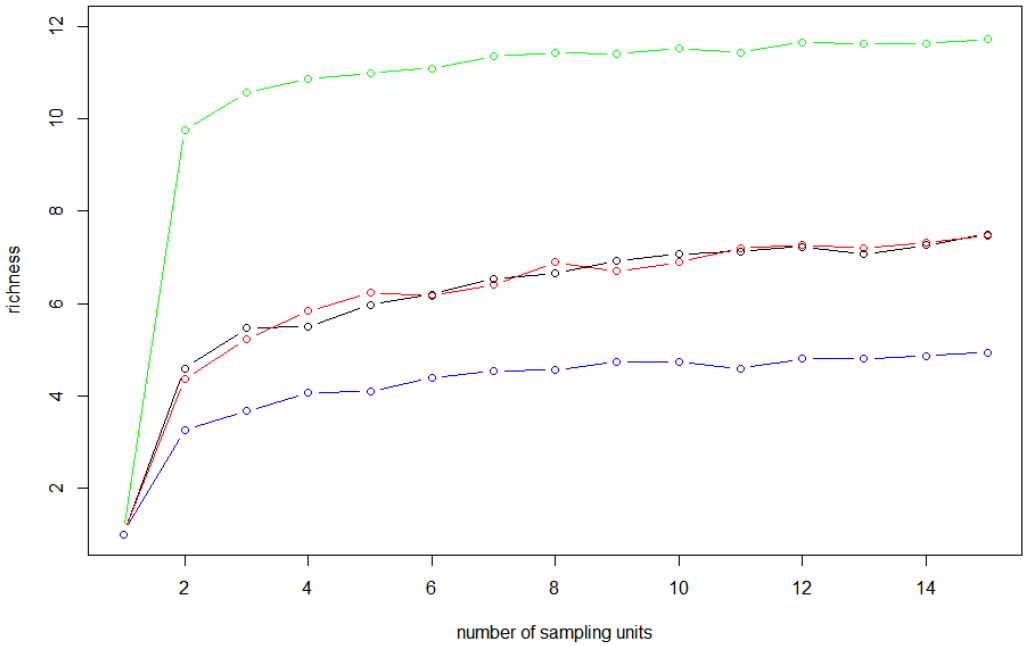


Figure S4. Sample-based accumulation curves for sound types. Green: Molarotto; black: Molara night 1; red: Molara night 2; blue: Coda Cavallo. Sampling units refer to the 15 clock hours used for statistical analysis.

Table S3. Bootstrap pairwise sound type richness comparisons based on presence/absence data including both nights at Molara.

	Sound Type Richness	
Comparison	*difference*	*mean*
Molarotto-Molara1	5*	4.89**
Molarotto-Molara2	4*	4.89**
Molarotto-Coda Cavallo	7*	5.6**
Molara1-Coda Cavallo	2*	0.71*
Molara2-Coda Cavallo	3*	0.8*

* $p < 0.05$, ** $p < 0.005$

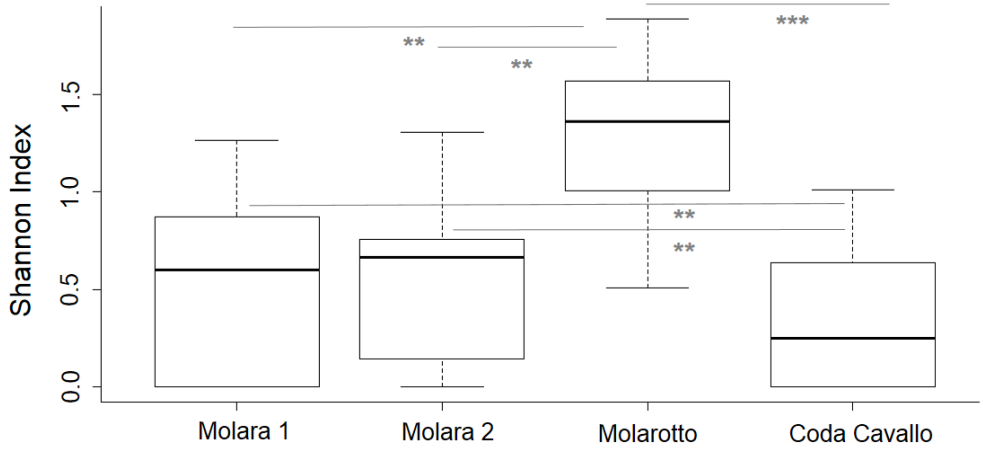


Figure S5. Boxplots representing sound type differences across sites and between recording nights (Molara 1 and Molara 2).

Table S4. Alphabetical list of the 53 infralittoral fish taxa censused during the UVC campaigns at the rocky sites acoustically surveyed in 2015. Species names are in italic. Soniferous species documented in the literature are in bold. Species found exclusively at Molarotto are in orange, at Molara in light blue and Coda Cavallo in violet. *Ophidion rochei*, was a main acoustic contributor, but was not visually censused.

Fish family names and *species* censused through UVC		
Apogonidae	*Labrus viridis*	*Scorpaena porcus*
Apogon imberbis	*Symphodus cinereus*	*Scorpaena scrofa*
Blenniidae	*Symphodus doderleini*	Serranidae
Parablennius gattorugine	*Symphodus mediterraneus*	*Serranus cabrilla*
Parablennius rouxi	*Symphodus melanocercus*	*Serranus scriba*
Carangidae	*Symphodus ocellatus*	Sparidae
Seriola dumerili	*Symphodus roissali*	*Boops boops*
Centracanthidae	*Symphodus rostratus*	*Dentex dentex*
Spicara maena	*Symphodus tinca*	*Diplodus annularis*
Spicara smaris	*Thalassoma pavo*	*Diplodus puntazzo*
Dasyatidae	Moronidae	*Diplodus sargus*
Dasyatis pastinaca	*Dicentrarchus labrax*	*Diplodus vulgaris*
Epinephelidae	Mugilidae	*Lithognathus mormyrus*
Epinephelus costae	Mullidae	*Oblada melanura*
Epinephelus marginatus	*Mullus surmuletus*	*Sarpa salpa*
Mycteroperca rubra	Muraenidae	*Sparus aurata*
Gobiidae	*Muraena helena*	*Spondyliosoma cantharus*
Gobius bucchichi	Pomacentridae	Sphyraenidae
Gobius cruentatus	***Chromis chromis***	*Sphyraena viridensis*
Gobius geniporus	Sciaenidae	Tripterygiidae
Gobius vittatus	***Sciaena umbra***	*Tripterygion delaisi*
Labridae	Scorpaenidae	*Tripterygion minor*
Coris julis	*Scorpaena maderensis*	*Tripterygion tripteronotum*
Labrus merula	*Scorpaena notata*	

Table S5. Summary table of the sound types recorded at each site. 'x' indicates the presence of a sound type.

ZONE	SITE	*S. umbra*	*/kwa/*	*O. rochei*	LPS	PS	DS	DSS	LDSPS	LDS	FPT	LFPT	LT	N° SOUND TYPES
A	**M**	x	x	x	x	x	x	x	x	x	x	x	x	12
B	**ML**		x	x	x	x	x	x	x	x	x			9
C	**CC**		x	x	x	x					x			5

M = Molarotto, ML = Molara, CC = Coda Cavallo

Table S6: ANOVA table indicating adjusted p-values for pairwise comparisons and Tukey's HSD tests

	Taxon		**Sound Type**	
	Simpson	*Shannon*	*Simpson*	*Shannon*
	F = 6.70	F = 4.64	F = 11.04	F = 19.35
Molrotto-Molara	**0.0300**	0.174	0.24	**0.011**
Molarotto-Coda Cavallo	**0.0060**	**0.041**	**0.0001**	**0.0000006**
Molara-Coda Cavallo	0.7640	0.79	**0.011**	**0.007**