

**Supplementary Table S1.** Mollusc species found in *Pinna nobilis* shells with relative trophic guilds, species frequency (Dajoz's index), mean abundance and classification of presence. Trophic guild include: Suspension Feeder= SF; Deposit Feeder= DF; Grazer= G; Scavenger= S; Predator= P; Parasite= PA. According to the Dajoz index molluscs were classified as Rare= R (less than 12%), Not Common= NC (13-24%), Common= C (25-49%), Very Common= VC (50-74%) and Constant= CO (75-100%).

Species	Trophic guild	Dajoz's index (%)	Mean abundance	Presence
<i>Rocellaria dubia</i>	SF	92.31	13.31	CO
<i>Hiatella arctica</i>	SF	84.62	5.31	CO
<i>Mimachlamys varia</i>	SF	84.62	3.00	CO
<i>Hexaplex trunculus</i>	S; P	76.92	1.23	CO
<i>Modiolula phaseolina</i>	SF	69.23	13.15	VC
<i>Musculus subpictus</i>	SF	69.23	3.85	VC
<i>Rhyssoplax olivacea</i>	G	69.23	2.00	VC
<i>Anomia ephippium</i>	SF	53.85	2.08	VC
<i>Arca noae</i>	SF	53.85	3.15	VC
<i>Bittium latreilli</i>	G	53.85	1.69	VC
<i>Bittium scabrum</i>	G	53.85	1.69	VC
<i>Diodora graeca</i>	DF; G	53.85	0.85	VC
<i>Odostomia turrita</i>	PA	53.85	0.92	VC
<i>Pusillina philippi</i>	G	53.85	1.23	VC
<i>Spiralina alpinoligustica</i>	PA	53.85	3.23	VC
<i>Tritia incrassata</i>	S	53.85	0.69	VC
<i>Jujubinus exasperatus</i>	DF; G; S	46.15	0.54	C
<i>Kurtiella bidentata</i>	SF; DF	46.15	0.85	C
<i>Costulopsis buzzurroi</i>	P	38.46	0.38	C
<i>Irus irus</i>	SF	38.46	1.00	C
<i>Megastomia conoidea</i>	PA	38.46	3.62	C
<i>Parthenina interstincta</i>	PA	38.46	2.08	C
<i>Auristomia erjaveciana</i>	PA	30.77	0.77	C
<i>Bittium reticulatum</i>	G	30.77	0.85	C
<i>Chama gryphoides</i>	SF	30.77	0.38	C
<i>Clanculus cruciatus</i>	DF; G	30.77	1.08	C
<i>Crisilla semistriata</i>	DF; G	30.77	1.46	C
<i>Loripinus fragilis</i>	SF	30.77	1.15	C
<i>Odostomia improbabilis</i>	PA	30.77	0.62	C
<i>Ostrea edulis</i>	SF	30.77	2.00	C
<i>Striarca lactea</i>	SF	30.77	0.85	C

Species	Trophic guild	Dajoz's index (%)	Mean abundance	Classification
<i>Caecum trachea</i>	DF	23.08	0.38	NC
<i>Cerithidium submammillatum</i>	G	23.08	0.38	NC
<i>Gouldia minima</i>	SF	23.08	0.31	NC
<i>Mangelia costata</i>	P	23.08	0.54	NC
<i>Muricopsis cristata</i>	P	23.08	0.31	NC
<i>Mytilus galloprovincialis</i>	SF	23.08	0.46	NC
<i>Nucula nucleus</i>	DF	23.08	0.77	NC
<i>Odostomia unidentata</i>	PA	23.08	1.46	NC
<i>Rhyssoplax corallina</i>	G	23.08	0.54	NC
<i>Steromphala albida</i>	DF; G	23.08	1.31	NC
<i>Tritia varicosa</i>	DF; S	23.08	0.38	NC
<i>Abra alba</i>	SF; DF	15.38	0.23	NC
<i>Alvania cimex</i>	DF	15.38	0.15	NC
<i>Alvania geryonia</i>	DF	15.38	0.15	NC
<i>Barbatia barbata</i>	SF	15.38	0.23	NC
<i>Bolinus brandaris</i>	DF	15.38	0.31	NC
<i>Calliostoma zizyphinum</i>	DF	15.38	0.15	NC
<i>Chamelea gallina</i>	SF	15.38	0.15	NC
<i>Parthenina suturalis</i>	PA	15.38	0.15	NC
<i>Clanculus corallinus</i>	DF; G	15.38	0.38	NC
<i>Crepidula unguiformis</i>	SF; DF	15.38	0.15	NC
<i>Flexopecten glaber</i>	SF	15.38	0.15	NC
<i>Gastrana fragilis</i>	SF; DF	15.38	0.15	NC
<i>Hiatella rugosa</i>	SF	15.38	0.38	NC
<i>Lithophaga lithophaga</i>	SF	15.38	0.23	NC
<i>Loripes orbiculatus</i>	SF	15.38	0.23	NC
<i>Manzonina crassa</i>	DF; G	15.38	1.23	NC
<i>Modiolus barbatus</i>	SF	15.38	0.15	NC
<i>Moerella donacina</i>	SF; DF	15.38	0.15	NC
<i>Ocenebra erinaceus</i>	P	15.38	0.15	NC
<i>Pseudofusus rostratus</i>	P	15.38	0.15	NC
<i>Acanthochitona crinita</i>	DF; G	7.69	0.08	R
<i>Bittium sp.</i>	G	7.69	0.08	R
<i>Bolma rugosa</i>	DF; G	7.69	0.08	R
<i>Calyptraea chinensis</i>	SF	7.69	0.08	R
<i>Cerithiopsis sp.</i>	P	7.69	0.08	R

<b>Species</b>	<b>Trophic guild</b>	<b>Dajoz's index (%)</b>	<b>Mean abundance</b>	<b>Classification</b>
<i>Columbella rustica</i>	G; P	7.69	0.08	R
<i>Dosinia lupinus</i>	SF	7.69	0.15	R
<i>Euthria cornea</i>	P	7.69	0.08	R
<i>Haliotis tuberculata</i>	G	7.69	0.08	R
<i>Hyala vitrea</i>	DF; G	7.69	0.08	R
<i>Ischnochiton rissoi</i>	G	7.69	0.08	R
<i>Limaria hians</i>	SF	7.69	0.08	R
<i>Limaria tuberculata</i>	SF	7.69	0.08	R
<i>Liostomia clavula</i>	PA	7.69	0.08	R
<i>Lucinella divaricata</i>	DF	7.69	0.08	R
<i>Mangelia costulata</i>	P	7.69	0.08	R
<i>Mangelia taeniata</i>	P	7.69	0.08	R
<i>Mangelia unifasciata</i>	P	7.69	0.15	R
<i>Monophorus thiriotae</i>	P	7.69	0.08	R
<i>Ocenebra edwardsii</i>	P	7.69	0.23	R
<i>Odostomia lukisii</i>	PA	7.69	0.08	R
<i>Papillicardium papillosum</i>	SF	7.69	0.08	R
<i>Parthenina emaciata</i>	PA	7.69	0.08	R
<i>Peronaea planata</i>	DF	7.69	0.08	R
<i>Pitar rudis</i>	SF	7.69	0.08	R
<i>Polititapes aureus</i>	SF	7.69	0.15	R
<i>Pusillina inconspicua</i>	DF; G	7.69	0.08	R
<i>Rissoa splendida</i>	DF; G	7.69	0.08	R
<i>Steromphala adansonii</i>	DF; G	7.69	0.08	R
<i>Timoclea ovata</i>	SF	7.69	0.08	R
<i>Tricolia tenuis</i>	G	7.69	0.08	R
<i>Tritia mutabilis</i>	DF; G	7.69	0.08	R
<i>Tritia sp.</i>	DF; G	7.69	0.08	R
<i>Varicorbula gibba</i>	SF	7.69	0.08	R
<i>Venus casina</i>	SF	7.69	0.08	R
<i>Venus verrucosa</i>	SF	7.69	0.08	R
<i>Vitreolina curva</i>	PA	7.69	0.08	R

**Supplementary Table S2.** Mollusc abundances per traits matrix of the thirteen dead specimens of *Pinna nobilis* collected at the four sites in the Gulf of Trieste: M(Miramare), S (S.Pietro), P (Panzano) and B (Barcola).

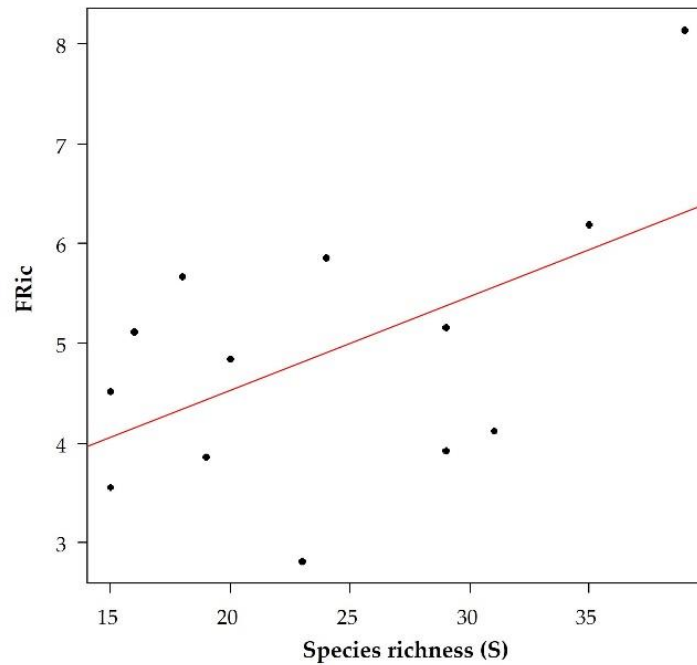
Trait	Category	Labels	Sample												
			M1	M2	M3	S1	S2	S3	S4	P1	P2	P3	B1	B2	B3
Adult maximum size	Very small (< 5 mm)	< 5 mm	0	10	7	0	2	18	8	5	23	29	32	46	82
	Small (5-30 mm)	5-30 mm	77	36	95	19	12	52	35	24	48	77	55	81	114
	Medium (30-80 mm)	30-80 mm	12	12	22	9	13	10	5	8	10	3	15	21	16
	Large (> 80 mm)	> 80 mm	17	7	15	3	6	3	3	0	2	1	3	4	3
Adult longevity	Very short (< 1 yr)	< 1 yr	0	0	0	0	0	0	0	0	0	0	0	0	0
	Short (1-3 yr)	1-3 yr	1	1	3	0	1	4	1	0	3	13	12	20	22
	Intermediate (3-6 yr)	3-6 yr	78	42	90	20	19	43	37	22	42	33	51	53	57
	Long (6-10 yr)	6-10 yr	80	43	98	17	14	39	30	22	53	75	57	92	103
Mobility	Sessile	Ses	69	36	87	8	6	30	14	19	48	68	37	83	84
	Semi-motile	Se-mot	7	6	21	9	10	15	17	12	9	10	18	12	15
	Motile	Mot	27	23	27	10	12	34	17	7	25	33	44	53	110
Feeding habit	Suspension feeder	SF	75	40	103	12	14	44	27	29	54	77	47	89	91
	Surface deposit feeder	SDF	72	29	54	11	9	19	21	5	26	10	22	29	40
	Sub surface deposit feeder	SSDF	48	16	40	7	3	5	9	4	24	8	12	14	9
	Grazer	G	18	15	17	3	5	29	9	5	6	5	16	23	60
	Scavenger	SC	3	3	4	3	5	2	4	1	2	1	4	4	3
	Predator	PR	8	0	7	8	7	3	3	1	3	2	11	5	6
	Parasite	PA	0	8	4	1	1	1	0	3	18	27	24	33	53
Living habit	Free living	Fre-liv	32	26	35	11	20	44	20	17	28	38	49	46	109
	Burrow dwelling	Bur-dwe	1	1	7	8	4	12	15	5	2	8	14	8	9
	Crevices/hole/under stones	Cre-hol-uns	52	24	57	8	7	22	14	14	33	29	34	50	48
	Epi-endobiotic/Attached to substratum	Epi-end-Att	76	43	101	11	15	36	18	28	55	70	49	93	96

**Supplementary Table S3.** Mollusc biomasses (g SFWW) per traits matrix of the thirteen dead specimens of *Pinna nobilis* collected at the four sites in the Gulf of Trieste: M(Miramare), S (S.Pietro), P (Panzano) and B (Barcola).

Trait	Category	Labels	Sample												
			M1	M2	M3	S1	S2	S3	S4	P1	P2	P3	B1	B2	B3
Adult maximum size	Very small (< 5 mm)	< 5 mm	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.02	0.04
	Small (5-30 mm)	5-30 mm	2.22	1.20	4.26	0.45	0.08	0.58	0.23	0.40	1.11	0.43	1.03	0.91	1.00
	Medium (30-80 mm)	30-80 mm	3.19	2.34	12.43	5.65	16.28	5.75	8.21	5.06	4.96	4.32	1.65	0.82	8.98
	Large (> 80 mm)	> 80 mm	4.88	5.30	3.94	3.01	4.30	1.01	6.27	0.00	0.97	3.32	0.06	0.04	0.03
Adult longevity	Very short (< 1 yr)	< 1 yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Short (1-3 yr)	1-3 yr	0.00	0.01	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.01	0.03	0.08	0.01
	Intermediate (3-6 yr)	3-6 yr	9.70	8.26	12.91	2.53	8.00	6.76	2.27	5.14	4.84	1.30	1.97	1.15	9.44
	Long (6-10 yr)	6-10 yr	7.48	6.61	7.63	2.33	1.03	2.11	0.24	0.17	0.87	0.37	1.02	1.20	9.41
Mobility	Sessile	Ses	7.17	6.56	7.57	0.22	0.03	2.09	0.16	0.16	0.87	0.36	0.36	1.19	9.36
	Semi-motile	Se-mot	2.35	1.76	9.51	0.25	7.87	5.14	2.10	5.22	4.24	1.08	2.07	0.44	0.49
	Motile	Mot	0.62	0.52	0.87	5.54	9.34	0.11	6.23	0.09	0.97	3.33	0.29	0.15	0.16
Feeding habit	Suspension feeder	SF	9.50	8.26	16.69	0.48	7.90	7.26	2.25	5.15	4.87	1.36	2.24	1.35	9.48
	Surface deposit feeder	SDF	2.20	1.08	1.61	0.28	5.95	0.07	0.19	0.15	0.84	0.28	0.57	0.58	0.43
	Sub surface deposit feeder	SSDF	1.68	0.56	1.34	0.08	0.00	0.04	0.17	0.14	0.84	0.28	0.32	0.46	0.32
	Grazer	G	0.45	0.54	0.64	0.10	4.96	0.02	0.01	0.31	0.24	0.08	0.35	0.39	0.50
	Scavenger	SC	0.07	0.05	0.60	3.04	3.41	0.06	6.23	0.01	0.97	3.32	0.09	0.04	0.02
	Predator	PR	0.27	0.00	0.59	5.48	4.38	0.07	6.21	0.08	0.97	3.32	0.19	0.04	0.03
	Parasite	PA	0.00	0.00	0.00	0.13	0.08	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02
Living habit	Free living	Fre-liv	0.62	0.52	0.87	5.54	9.33	0.60	6.23	0.09	0.98	3.33	0.30	0.16	0.18
	Burrow dwelling	Bur-dwe	0.00	0.00	0.08	0.17	0.01	0.01	0.10	0.01	0.01	0.00	0.78	0.16	0.13
	Crevices/hole/under stones	Cre-hol-uns	1.73	1.15	2.10	0.23	0.11	0.08	0.16	0.38	1.09	0.38	0.64	1.43	9.65
	Epi-endobiotic/Attached to substratum	Epi-end-Att	9.64	8.33	17.00	0.44	7.99	7.23	2.16	5.38	5.10	1.44	1.65	1.48	9.76

**Table S4.** Linear and Logarithmic regression models used to describe the relationships between species richness and functional richness (FRic).

Model	F	df	P value	r <sup>2</sup>
Functional richness linear	4.528	1,11	0.0567	0.2272
Functional richness logarithmic	1.596	1,11	0.2326	0.0472



**Figure S1.** Linear regression between functional richness (FRic) and species richness (S) of mollusc assemblage on *P.nobilis* shells in the Gulf of Trieste