

Supplementary material

Comparison of ichthyological acoustic communities based on ichthyological communities: a case study from protected and non-protected marine areas of Moorea Island (French Polynesia)

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Appendix 1. **Sampling Site Locations:** MPA = Marine Protected Area, nMPA = Non-Protected Marine Area, E2B = "Entre deux baies."

Name		Site	GPS		Date
Protection	Coast		latitude	longitude	2021
MPA	West	Tetaiuo	-17.5052	-149.9275	31/01
nMPA	West	Gendron	-17.4995	-149.9276	27/01
MPA	North-West	Tiahura	-17.4830	-149.8998	01/02
nMPA	North-West	Papetoai	-17.4829	-149.8861	28/01
MPA	North	Pihaena	-17.4765	-149.8291	04/02
nMPA	North	E2B	-17.4751	-149.8372	09/02
MPA	East	Nuarei	-17.5006	-149.7546	04/02
nMPA	East	Temae	-17.5067	-149.7600	04/02

Appendix 2. Details on the categories used for benthic cover according to Lison de Lima (2008).

Coral	Live coral. Broken but living fragments larger than 15 cm were also considered.
Dead coral	Only recently dead coral (less than one year), still standing or recently broken, was considered. The trace of the polyp must be visible, and algal cover should be minimal.
Macroalgae	Only large, non-calcareous algae were considered.
Pavement	Hard, compact substrate, even when covered with a thin algal turf (not exceeding 5 mm) or encrusting algae. Additionally, coral dead for more than a year was included.
Rubble	Small fragments of biogenic calcium between 0.2 and 15 cm.
Sand	Fine sediments with particles <0.2 cm that do not remain suspended during disturbances (unlike mud).

Appendix 3. Table of the percentage of benthic cover components at each site (mean $\pm$ standard deviation, in percentage).

Site	Coral	Algae	Pavement	Rubble	Sand
nMPA _{North}	13.33 $\pm$ 4.16	6.67 $\pm$ 9.87	72 $\pm$ 11.14	3.33 $\pm$ 1.15	4.67 $\pm$ 8.08
nMPA _{West}	9.33 $\pm$ 7.57	7.33 $\pm$ 5.03	68.67 $\pm$ 5.03	10.67 $\pm$ 4.16	5.33 $\pm$ 1.15
MPA _{East}	32 $\pm$ 4	2 $\pm$ 2	54 $\pm$ 5.29	12 $\pm$ 5.29	0 $\pm$ 0
MPA _{North}	27.33 $\pm$ 11.02	5.33 $\pm$ 7.57	60.67 $\pm$ 13.32	6 $\pm$ 6	0.67 $\pm$ 1.15
nMPA _{East}	22 $\pm$ 10.58	3.33 $\pm$ 4.16	40.67 $\pm$ 5.03	32.67 $\pm$ 5.77	1.33 $\pm$ 1.15
MPA _{West}	16 $\pm$ 5.29	5.33 $\pm$ 1.15	68 $\pm$ 4	5.33 $\pm$ 5.03	5.33 $\pm$ 3.05
North coast	20.33 $\pm$ 10.69	6 $\pm$ 7.89	66.33 $\pm$ 12.61	4.67 $\pm$ 4.13	2.67 $\pm$ 5.61
East coast	27 $\pm$ 9.01	2.67 $\pm$ 3.01	47.33 $\pm$ 8.64	22.33 $\pm$ 12.36	0.67 $\pm$ 1.03
West coast	12.67 $\pm$ 6.89	6.33 $\pm$ 3.44	68.33 $\pm$ 4.08	8 $\pm$ 5.06	5.33 $\pm$ 2.07

Appendix 4. Table of fish species abbreviations

Scientific name	Abbreviation
<i>Acanthurus achilles</i>	A.a
<i>Acanthurus nigricans</i>	A.n
<i>Acanthurus nigricauda</i>	A.ni
<i>Acanthurus nigrofuscus</i>	A.nig
<i>Acanthurus nigroris</i>	A.nigr
<i>Acanthurus olivaceus</i>	A.o
<i>Acanthurus pyroferus</i>	A.p
<i>Acanthurus thompsoni</i>	A.t
<i>Amanes scopas</i>	Am.s
<i>Anampses caeruleopunctatus</i>	An.c
<i>Anampses twistii</i>	An.t
<i>Aphareus furca</i>	Ap.f
<i>Aulostomus chinensis</i>	Aus.c
<i>Balistapus undulatus</i>	B.u
<i>Calotomus carolinus</i>	C.c
<i>Cantherhines pardalis</i>	Ca.p
<i>Canthigaster solandri</i>	Cant.s
<i>Caracanthus maculatus</i>	Car.m
<i>Caracanthus unipinna</i>	Car.u
<i>Caranx melampygus</i>	Cara.m
<i>Centropyge bispinosa</i>	Ce.b
<i>Centropyge flavissima</i>	Ce.f
<i>Centropyge heraldi</i>	Ce.h
<i>Centropyge loriculus</i>	Ce.l
<i>Cephalopholis argus</i>	Cep.a
<i>Cephalopholis urodeta</i>	Cep.u
<i>Chaetodon ephippium</i>	Ch.e
<i>Chaetodon lunula</i>	Ch.l
<i>Chaetodon ornatissimus</i>	Ch.o
<i>Chaetodon pelewensis</i>	Ch.p
<i>Chaetodon quadrimaculatus</i>	Ch.q
<i>Chaetodon reticulatus</i>	Ch.r
<i>Chaetodon trifascialis</i>	Ch.t
<i>Chaetodon unimaculatus</i>	Ch.u
<i>Cheilinus oxycephalus</i>	Che.o
<i>Cheilinus trilobatus</i>	Che.t
<i>Chlorurus microrhinos</i>	Chl.m
<i>Chlorurus sordidus</i>	Chl.s
<i>Pycnochromis acares</i> (Previously <i>Chromis acares</i>)	Chr.a

<i>Pycnochromis agilis</i> (Previously <i>Chromis agilis</i>)	Chr.ag
<i>Pycnochromis iomelas</i> (Previously <i>Chromis iomelas</i>)	Chr.i
<i>Pycnochromis margaritifer</i> (Previously <i>Chromis margaritifer</i>)	Chr.m
<i>Pycnochromis vanderbilti</i> (Previously <i>Chromis vanderbilti</i>)	Chr.v
<i>Chromis xanthura</i>	Chr.x
<i>Cirrhilabrus exquisitus</i>	Ci.e
<i>Cirrhilabrus scottorum</i>	Ci.s
<i>Cirripectes variolosus</i>	Cir.v
<i>Coris gaimard</i>	Co.g
<i>Ctenochaetus binotatus</i>	Ct.b
<i>Ctenochaetus flavicauda</i>	Ct.f
<i>Ctenochaetus striatus</i>	Ct.s
<i>Dascyllus flavicaudus</i>	D.f
<i>Diodon hystrix</i>	Di.h
<i>Epibulus insidiator</i>	Ep.i
<i>Epinephelus fasciatus</i>	Epi.f
<i>Exallias brevis</i>	Ex.b
<i>Forcipiger flavissimus</i>	Fo.f
<i>Forcipiger longirostris</i>	Fo.l
<i>Gomphosus varius</i>	G.v
<i>Gymnothorax flavimarginatus</i>	Gy.f
<i>Gymnothorax javanicus</i>	Gy.j
<i>Gymnothorax meleagris</i>	Gy.m
<i>Halichoeres claudia</i>	H.c
<i>Halichoeres hortulanus</i>	H.h
<i>Hemigymnus fasciatus</i>	He.f
<i>Heniochus chrysostomus</i>	Hen.c
<i>Hologymnosus annulatus</i>	Ho.a
<i>Labroides bicolor</i>	L.b
<i>Labroides dimidiatus</i>	L.d
<i>Labroides rubrolabiatus</i>	L.r
<i>Lepidozygus tapeinosoma</i>	Le.t
<i>Lethrinus xanthochilus</i>	Let.x
<i>Lutjanus fulvus</i>	Lu.f
<i>Macropharyngodon meleagris</i>	M.m
<i>Melichthys niger</i>	Me.n
<i>Melichthys vidua</i>	Me.v
<i>Monotaxis grandoculis</i>	Mo.g
<i>Myripristis berndti</i>	My.b
<i>Myripristis kuntzei</i>	My.k
<i>Naso lituratus</i>	N.l
<i>Nemateleotris magnifica</i>	Nem.m
<i>Neocirrhites armatus</i>	Neo.a
<i>Neoniphon sammara</i>	Neon.s
<i>Novaculichthys taeniourus</i>	No.t
<i>Odonus niger</i>	O.n
<i>Ostorhinchus angustatus</i>	Os.a
<i>Ostracion meleagris</i>	Ost.m
<i>Oxycheilinus unifasciatus</i>	Ox.u
<i>Paracirrhites arcatus</i>	P.a
<i>Paracirrhites forsteri</i>	P.f
<i>Paracirrhites hemistictus</i>	P.h
<i>Parupeneus cyclostomus</i>	Pa.c
<i>Parupeneus insularis</i>	Pa.i
<i>Parupeneus multifasciatus</i>	Pa.m
<i>Plagiotremus tapeinosoma</i>	Pl.t
<i>Plectroglyphidodon dickii</i>	Ple.d
<i>Plectroglyphidodon johnstonianus</i>	Ple.j

<i>Stegastes lacrymatus</i> (Previously <i>Plectroglyphidodon lacrymatus</i>)	Ple.l
<i>Pomachromis fuscidorsalis</i>	Po.f
<i>Pseudanthias mooreanus</i>	Ps.m
<i>Pseudanthias olivaceus</i>	Ps.o
<i>Mirolabrichthys pascalus</i> (Previously <i>Pseudanthias pascalus</i>)	Ps.p
<i>Pseudobalistes flavimarginatus</i>	Pse.f
<i>Pseudocheilinus hexataenia</i>	Pseu.h
<i>Pseudocheilinus octotaenia</i>	Pseu.o
<i>Pseudocheilinus tetrataenia</i>	Pseu.t
<i>Pseudodax moluccanus</i>	Pseud.m
<i>Pseudojuloides atavai</i>	Pseudo.a
<i>Sargocentron caudimaculatum</i>	S.c
<i>Sargocentron microstoma</i>	S.m
<i>Sargocentron tiere</i>	S.t
<i>Scarus forsteni</i>	Sc.f
<i>Scarus frenatus</i>	Sc.fr
<i>Scarus ghobban</i>	Sc.g
<i>Scarus globiceps</i>	Sc.gl
<i>Scarus oviceps</i>	Sc.o
<i>Scarus psittacus</i>	Sc.p
<i>Scarus rubroviolaceus</i>	Sc.r
<i>Scomberoides lysan</i>	Sco.l
<i>Sebastapistes tinkhami</i>	Se.t
<i>Plectroglyphidodon fasciolatus</i> (Previously <i>Stegastes fasciolatus</i>)	St.f
<i>Stethojulis bandanensis</i>	Ste.b
<i>Sufflamen bursa</i>	Su.b
<i>Thalassoma hardwicke</i>	T.h
<i>Thalassoma lutescens</i>	T.l
<i>Thalassoma quinquevittatum</i>	T.q
<i>Zanclus cornutus</i>	Z.c
<i>Zebrasoma scopas</i>	Ze.s
<i>Zebrasoma velifer</i>	Ze.v