Supporting informations

Tab. 1. Used reagents for PCR1 and PCR2 and their respective quantity in µL for processing one sample.

Reagent	Quantity (µL)	
	PCR 1	PCR2
Q5 Buffer	10,0	10,0
dNTPs	1,00	1,00
803r-Br	2,50	-
347f-Br	2,50	-
Forward Primer (predetermined)	-	1,00
Reverse Primer (markers)	-	1,00
«High GC enhancer»	10,0	10,0
DNA	3,00	2,00
Q5 Polymerase (New England Biolabs)	1,00	1,00
Sterile water	20,0	24,0

Tab. 2. DNA amplification conditions for PCR1 and PCR2. The « Denaturation », « Hybridation » and « Elongation » steps were performed 35 times for PCR1 and 12 times for PCR2.

Step	Temperature (°C)	Duration
Initial Denaturation	98.0	2 min.
Denaturation	98.0	10 sec.
Hybridation	60.0	30 sec.
Elongation	72.0	30 sec.
Final Elongation	72.0	10 min.

Tab. 3. Alpha diversity indexes calculated using Shannon and Chao1 indexes for each environment.

Alpha diversity indexes			
Environment	**Shannon**	**Chao1**	**Pielou**
Hatchery water	3.56	401	0.613
Malbaie River	3.25	322	0.629
Rimouski River	4.23	430	0.646
Malbaie Captive	3.91	572	0.582
Rimouski Captive	4.03	109	0.369
Malbaie Wild	2.12	583	0.609
Rimouski Wild	1.17	69	0.219

Tab. 4 : Spearman correlation values of every samples interactions over 0.3.

Sample1	Sample2	Spearman correlation value	Sample1	Sample2	Spearman correlation value
MCP2	MCP1	0.776727915	RCP4	MCP7	0.579445541
MCP3	MCP1	0.736366868	RCP5	MCP7	0.381068438
MCP4	MCP1	0.775909662	RCP6	MCP7	0.426821709
MCP5	MCP1	0.704556167	RCP7	MCP7	0.354970843
MCP7	MCP1	0.431953102	RCP8	MCP7	0.353553265
MCP8	MCP1	0.388078451	RWP10	MCP7	0.301009506
MCP9	MCP1	0.651246965	MCP9	MCP8	0.67005378
RCP1	MCP1	0.657814682	RCP1	MCP8	0.321904868
RCP10	MCP1	0.713101864	RCP10	MCP8	0.355427682
RCP2	MCP1	0.52373004	RCP2	MCP8	0.325781703
RCP4	MCP1	0.587184966	RCP4	MCP8	0.494025916
RCP5	MCP1	0.694195151	RCP5	MCP8	0.342632771
RCP6	MCP1	0.715943098	RCP6	MCP8	0.365696877
RCP7	MCP1	0.545648456	RCP8	MCP8	0.310646147
RCP8	MCP1	0.688752949	RCP1	MCP9	0.582924426
MCP3	MCP2	0.825522363	RCP10	MCP9	0.629799366
MCP4	MCP2	0.849120796	RCP2	MCP9	0.48665604
MCP5	MCP2	0.788360953	RCP4	MCP9	0.650752306
MCP7	MCP2	0.438159555	RCP5	MCP9	0.612640858
MCP8	MCP2	0.379061043	RCP6	MCP9	0.648674071
MCP9	MCP2	0.729747891	RCP7	MCP9	0.4303042
RCP1	MCP2	0.684093237	RCP8	MCP9	0.619631648
RCP10	MCP2	0.774275661	MWP19	MWP13	0.462023258
RCP2	MCP2	0.556477547	MWP5	MWP13	0.410182089
RCP4	MCP2	0.596498847	MWP6	MWP13	0.443722099
RCP5	MCP2	0.73960495	MWP8	MWP13	0.374030918
RCP6	MCP2	0.796154201	MWP5	MWP18	0.406838357
RCP7	MCP2	0.537454367	MWP6	MWP18	0.372329593
RCP8	MCP2	0.748993635	MWP6	MWP5	0.804266512
MCP4	MCP3	0.86482209	MWP8	MWP5	0.416382849
MCP5	MCP3	0.763691425	MWP8	MWP6	0.463706166
MCP7	MCP3	0.425015688	RCP10	RCP1	0.739441514
MCP8	MCP3	0.373106271	RCP2	RCP1	0.610296488
MCP9	MCP3	0.702676535	RCP4	RCP1	0.627023101
RCP1	MCP3	0.726239443	RCP5	RCP1	0.690419495
RCP10	MCP3	0.794598341	RCP6	RCP1	0.715766132
RCP2	MCP3	0.543984294	RCP7	RCP1	0.459963441
RCP4	MCP3	0.600866735	RCP8	RCP1	0.714045584
RCP5	MCP3	0.734427035	RCP2	RCP10	0.561961114
RCP6	MCP3	0.765117586	RCP4	RCP10	0.612892985
RCP7	MCP3	0.495664239	RCP5	RCP10	0.731497705
RCP8	MCP3	0.751027405	RCP6	RCP10	0.798957586
MCP5	MCP4	0.761723578	RCP7	RCP10	0.515829563
MCP7	MCP4	0.436742604	RCP8	RCP10	0.782362044
MCP8	MCP4	0.417781413	RCP4	RCP2	0.539055586

MCP9	MCP4	0.720632732	RCP5	RCP2	0.610953331
RCP1	MCP4	0.739521921	RCP6	RCP2	0.622983515
RCP10	MCP4	0.829283893	RCP7	RCP2	0.539431691
RCP2	MCP4	0.545181036	RCP8	RCP2	0.605473459
RCP4	MCP4	0.617342174	RCP5	RCP4	0.596200466
RCP5	MCP4	0.763753295	RCP6	RCP4	0.616751611
RCP6	MCP4	0.806639254	RCP7	RCP4	0.370275587
RCP7	MCP4	0.482407481	RCP8	RCP4	0.599891067
RCP8	MCP4	0.766966879	RCP6	RCP5	0.752898634
MCP7	MCP5	0.454329908	RCP7	RCP5	0.544891954
MCP8	MCP5	0.352232069	RCP8	RCP5	0.709425032
MCP9	MCP5	0.666088462	RCP7	RCP6	0.538466036
RCP1	MCP5	0.655108988	RCP8	RCP6	0.756495953
RCP10	MCP5	0.727000415	RCP8	RCP7	0.551578343
RCP2	MCP5	0.546182096	RWP15	RWP10	0.743631125
RCP4	MCP5	0.564081609	RWP17	RWP10	0.738391817
RCP5	MCP5	0.708690822	RWP6	RWP10	0.897734463
RCP6	MCP5	0.710317016	RWP9	RWP10	0.749299645
RCP7	MCP5	0.495533675	RWP17	RWP15	0.791844666
RCP8	MCP5	0.70558399	RWP6	RWP15	0.800657392
MCP8	MCP7	0.637044132	RWP9	RWP15	0.835136831
MCP9	MCP7	0.620754838	RWP6	RWP17	0.756336451
RCP10	MCP7	0.407645047	RWP9	RWP17	0.798399389
RCP2	MCP7	0.348198891	RWP9	RWP6	0.807845056
RCP1	MCP7	0.373283446			

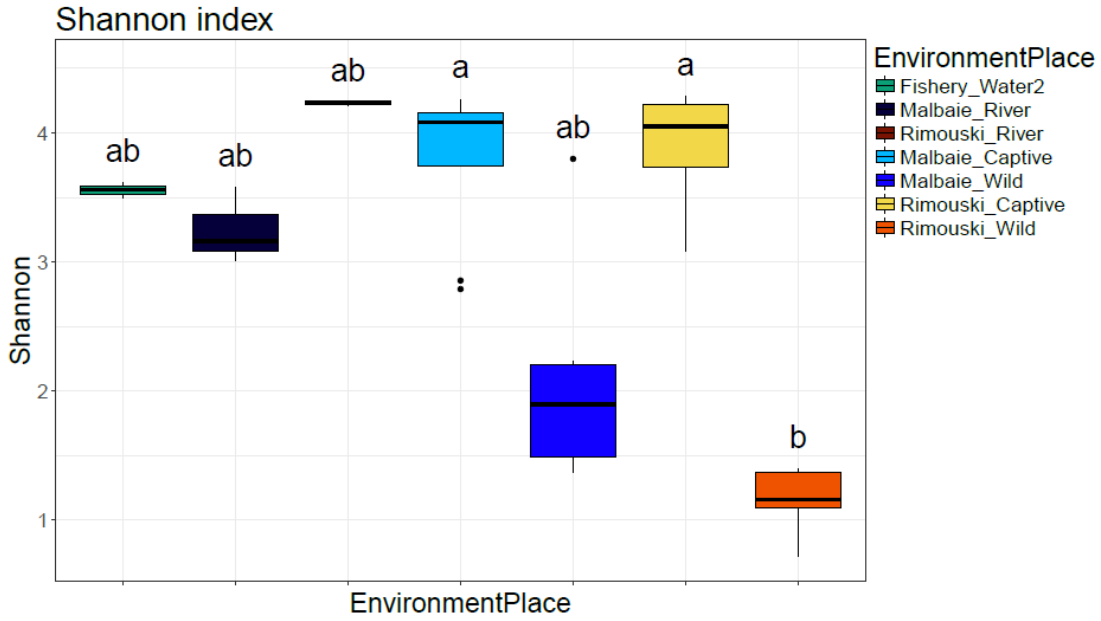

Fig. 1 Alpha diversity of environment water and gut microbiota represented with Shannon diversity index.

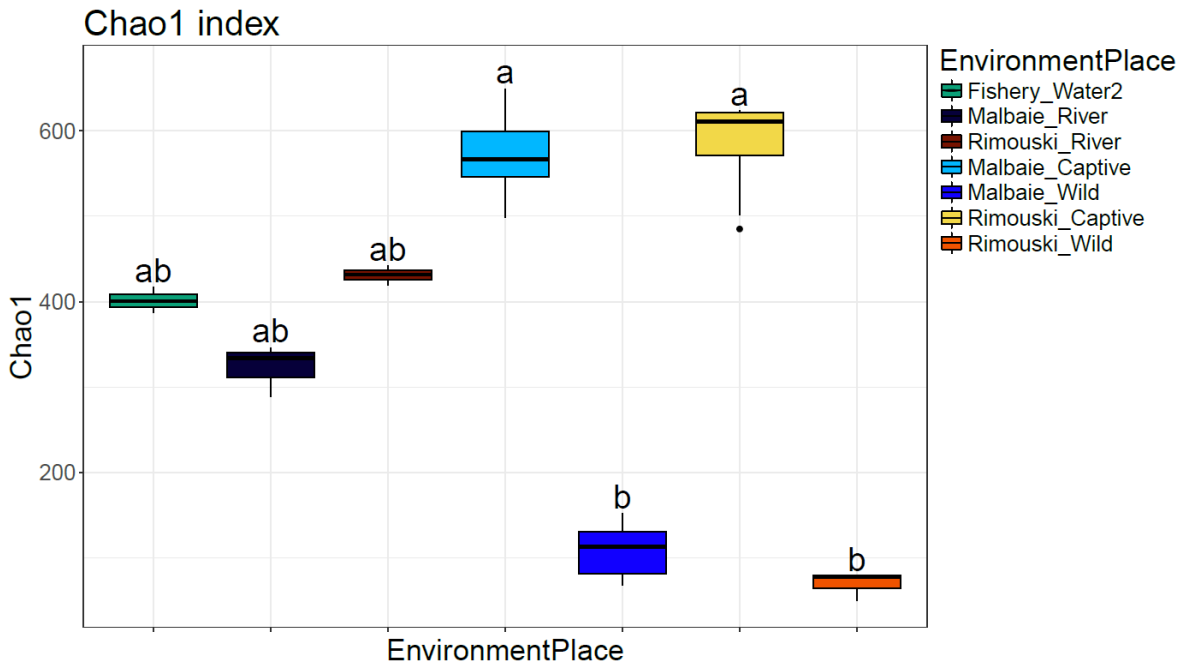

Fig. 2 Alpha diversity of environment water and gut microbiota represented with Chao1 diversity index.

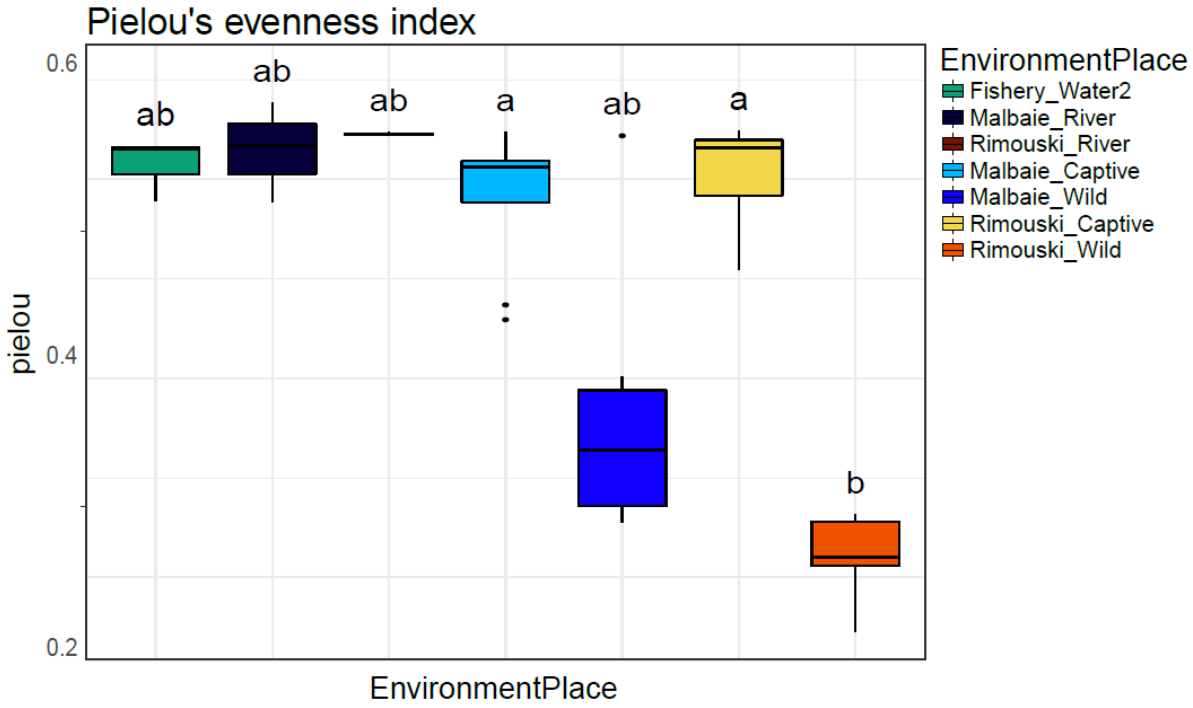

Fig. 4 Alpha diversity of environment water and gut microbiota represented with Pielou's evenness index.

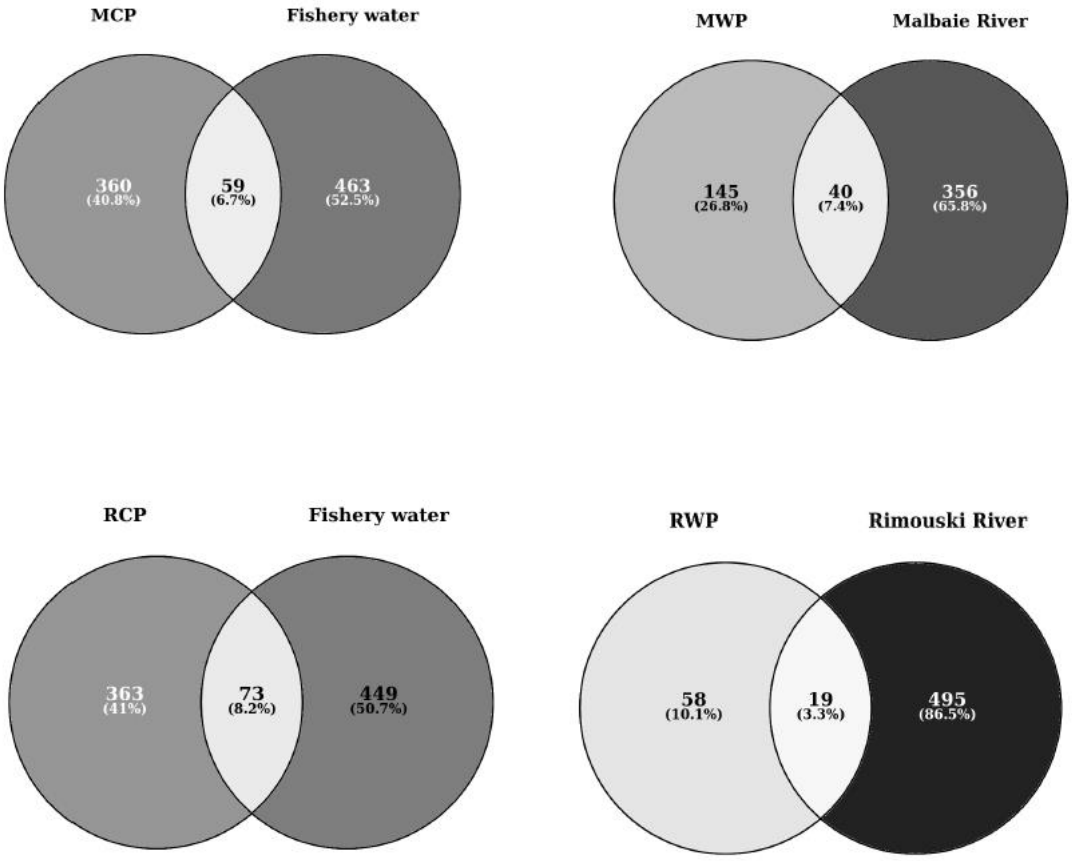

Fig. 4 Venn diagram showing the percentage of shared OTUs between gut and environmental microbial communities. MCP; Malbaie captive parrs, MWP; Malbaie wild parrs, RCP; Rimouski captive parrs, RWP; Rimouski wild parrs.