microorganisms

Supplementary Material

Table S1. Summary of differences in pathways between predicted metagenomes.

	Wild	Aquaculture	P value
Carbohydrate metabolism			
Starch and sucrose metabolism	0,48 ± 0,09	**0,71 ± 0,02**	0,0048
Fructose and mannose metabolism	0,57 ± 0,06	**1,09 ± 0,06**	< 0,0001
Galactose metabolism	0,38 ± 0,08	**0,86 ± 0,05**	< 0,0001
Amino sugar and nucleotide sugar metabolism	0,53 ± 0,04	**0,80 ± 0,04**	< 0,0001
Pentose phosphate pathway	0,92 ± 0,11	**1,11 ± 0,04**	< 0,0001
Lipid metabolism			
Linoleic acid metabolism	**0,28 ± 0,06**	0,14 ± 0,02	0,0051
Arachidonic acid metabolism	**0,10 ± 0,02**	0,07 ± 0,00	0,0469
Fatty acid metabolism	**0,49 ± 0,10**	0,33 ± 0,05	0,0255
Fatty acid biosynthesis	0,88 ± 0,11	**1,06 ± 0,07**	0,0290
Synthesis and degradation of ketone bodies	0,42 ± 0,09	**0,55 ± 0,05**	0,0413
Metabolism of cofactor and vitamins			
Riboflavin metabolism	**0,56 ± 0,04**	0,37 ± 0,03	0,0002
Nicotinate and nicotinamide metabolism	**0,62 ± 0,05**	0,43 ± 0,03	0,0004
Biotin metabolism	**0,57 ± 0,06**	0,26 ± 0,02	< 0,0001
One carbon pool by folate	**0,92 ± 0,06**	0,84 ± 0,03	0,0374
Retinol metabolism	0,08 ± 0,01	**0,12 ± 0,01**	0,0007
Metabolism of terpenoids and polyketides			
Carotenoid biosynthesis	0,02 ± 0,02	**0,15 ± 0,01**	< 0,0001
Tetracycline biosynthesis	0,42 ± 0,05	**0,54 ± 0,04**	0,0066
Xenobiotics biodegradation and metabolism			
Dioxin degradation	0,17 ± 0,07	**0,41 ± 0,04**	0,0008
Polycyclic aromatic hydrocarbon degradation	0,11 ± 0,06	**0,27 ± 0,03**	0,0014

bold: indicates the condition (wild or aquaculture) when the value is higher.

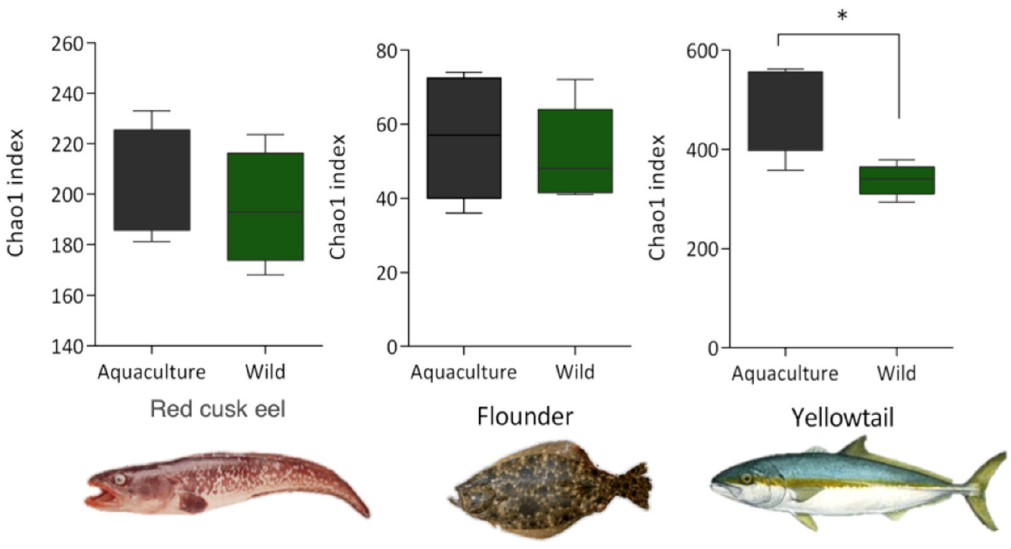


Figure S1. Alpha diversity comparison between wild and aquaculture in several Chilean fish. Diversity in the intestinal bacterial community was measured using Chao1 between wild (green) and aquaculture (gray).* indicates significant difference.

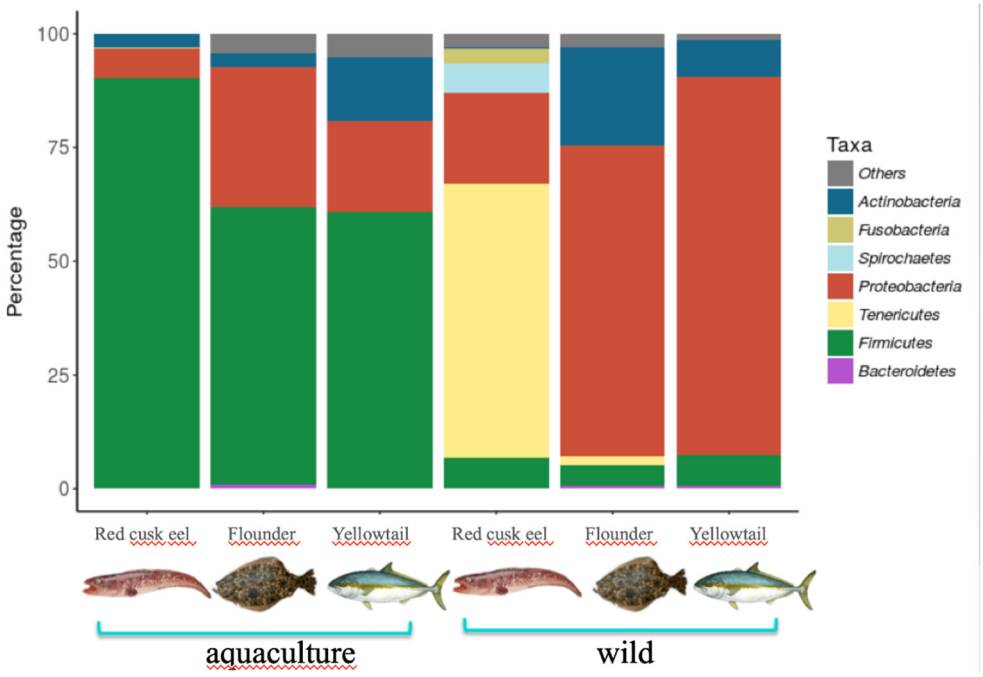


Figure S2. Comparison of microbiota composition between wild and aquaculture in several Chilean fish at phylum level. Average of relative abundance of each phylum was included for Red cusk eel, flounder and yellowtail, reared or captured in Chile.



Figure S3. Gastrointestinal tract of *Genypterus chilensis* and the preys found in the stomach of several wild individuals.

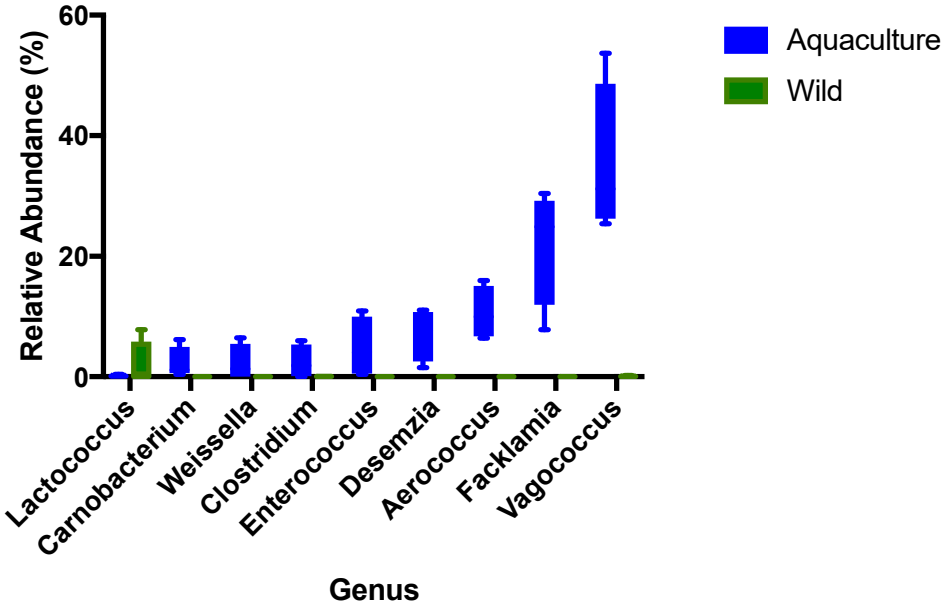


Figure S4. Relative abundance of genera belonging to *Firmicutes* found in intestinal contents of wild (green) or reared (blue) *Genypterus chilensis*.