

Supplementary Materials

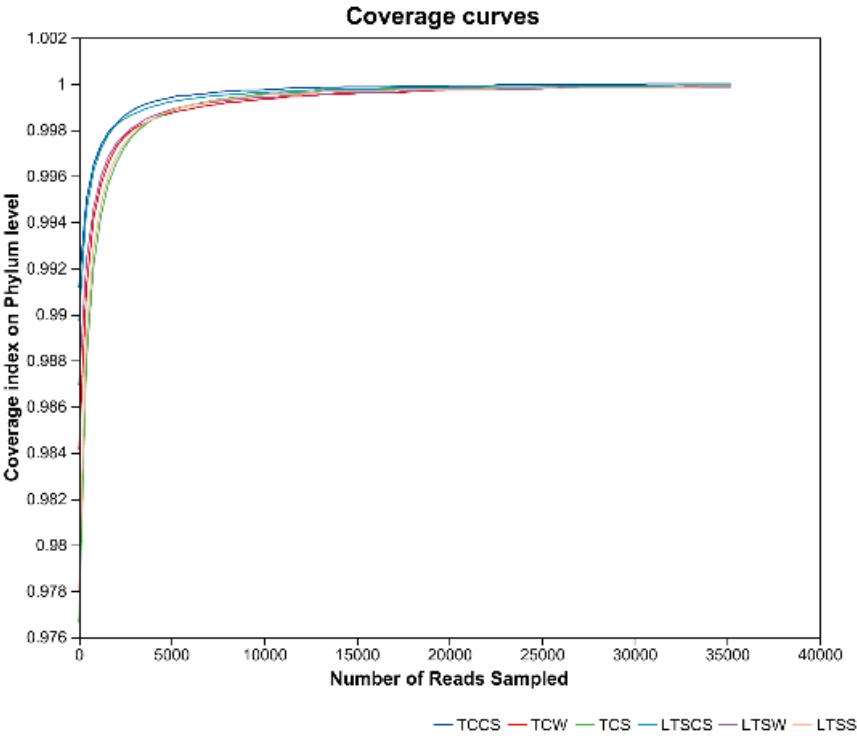


Figure S1. The rarefaction curves and rank abundance curve of different groups.

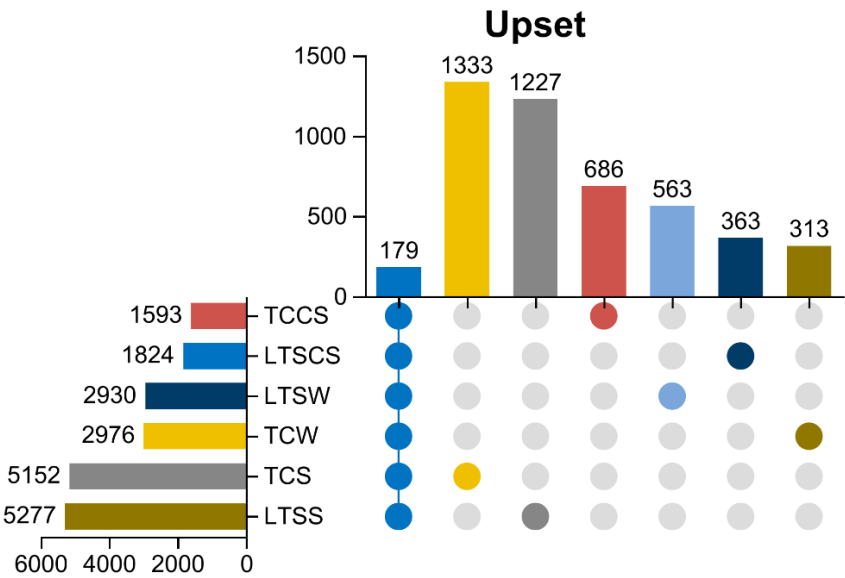


Figure S2. Upset analysis in different groups. The horizontal bar chart on the left represents the statistical values of elements in each sample group. In the middle matrix, a single dot indicates the elements unique to a certain sample group. The lines connecting dots represent the unique

intersections among different sample groups. The vertical bar chart shows the numerical values of the corresponding intersection elements respectively. TCCS, TCW, and TCS stand for oyster gills, seawater, and sediment on Techeng island respectively; LTSCS, LTSW, and LTSS stand for oyster gills, seawater, and sediment on Longtousha respectively.

Table S1. Sample information sheet

Sample\Info	Seq_num	Base_num	Mean_length	Min_length	Max_length
LTSCS1	50,918	21,467,611	421.611434	374	437
LTSCS2	44,634	19,011,059	425.932227	334	438
LTSCS3	53,718	21,958,136	408.766819	387	437
LTSCS4	55,795	23,119,039	414.356824	386	507
LTSCS5	50,398	21,603,678	428.661415	261	437
LTSCS6	88,980	37,505,771	421.507878	262	507
LTSS1	58,595	24,591,469	419.685451	269	482
LTSS2	62,612	26,273,298	419.620808	247	481
LTSS3	62,693	26,289,594	419.338586	250	527
LTSS4	64,779	27,215,491	420.128298	229	509
LTSS5	63,835	26,824,141	420.210558	250	481
LTSS6	63,574	26,612,932	418.613458	213	519
LTSW1	59,018	24,497,016	415.077027	262	432
LTSW2	72,966	30,243,561	414.488406	247	498
LTSW3	64,077	26,561,201	414.520046	205	538
LTSW4	61,608	25,492,992	413.793533	262	503
LTSW5	60,444	25,220,750	417.258123	262	433
LTSW6	62,385	26,022,809	417.132468	212	510
TCCS1	50,292	21,194,803	421.43488	259	450
TCCS2	56,868	24,126,688	424.25772	401	437
TCCS3	51,234	21,716,866	423.876059	387	437
TCCS4	51,289	21,961,889	428.198815	261	437
TCCS5	50,081	21,206,022	423.434476	261	437
TCCS6	48,943	20,719,632	423.342092	293	439
TCS1	58,808	24,659,088	419.315195	269	515
TCS2	47,547	19,899,179	418.515974	262	529
TCS3	49,481	20,784,478	420.049676	365	486
TCS4	45,372	19,035,762	419.548664	374	480
TCS5	52,920	22,235,934	420.180159	318	525
TCS6	57,521	24,190,496	420.550686	232	481
TCW1	60,151	25,153,578	418.173896	232	540
TCW2	56,993	23,828,415	418.093713	271	455
TCW3	59,317	24,836,953	418.715596	305	474
TCW4	46,060	19,292,550	418.856926	262	523
TCW5	52,668	22,026,563	418.215292	235	440
TCW6	54,039	22,606,301	418.333074	263	468

Table S2. Richness and diversity indexes relative to each sample (OUT cutoff of 0.03)

Sample groups	Read numbers	Coverage	Number of OTUs	Alpha diversity			
				ACE	Chao	Shannon	Simpson
TC-CS	51,451.17 ± 2,790.25	0.99	403.33 ± 301.62	428.58 ± 303.64	428.93 ± 306.54	2.64 ± 1.12	0.29 ± 0.19
TC-W	54,871.33 ± 5,202.45	0.99	1,432.17 ± 108.73	2,106.30 ± 116.00	1,970.30 ± 92.53	4.58 ± 0.33	0.04 ± 0.02
TC-S	51,941.50 ± 5,436.20	0.98	2,787.83 ± 114.71	3,321.30 ± 181.22	3,284.90 ± 166.12	6.52 ± 0.08	0.0004 ± 0.0004
LTS-CS	57,407.17 ± 15,921.33	0.99	644.17 ± 187.52	756.33 ± 232.27	751.65 ± 218.18	2.99 ± 0.87	0.23 ± 0.16
LTS -W	63,416.33 ± 4,982.90	0.99	1,284.50 ± 187.09	1,966.30 ± 230.42	1,787.40 ± 199.73	4.15 ± 0.54	0.07 ± 0.05
LTS -S	62,681.33 ± 2,155.51	0.97	2,879.50 ± 76.04	3,614.1 ± 61.57	3,497.40 ± 59.12	6.40 ± 0.05	0.0066 ± 0.0012

Notes: OUTs were defined at the 97% similarity level (Threshold is 0.03).

TC-CS, TC-W, and TC-S stand for oyster gills, seawater, and sediment on Techeng island respectively; LTS-CS, LTS-W, and LTS-S stand for oyster gills, seawater, and sediment on Longtousha respectively.