

Supplementary materials

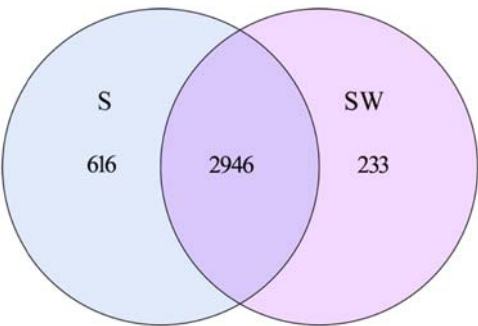


Figure S1: Venn diagram showing the distribution of OTUs in S and SW groups.

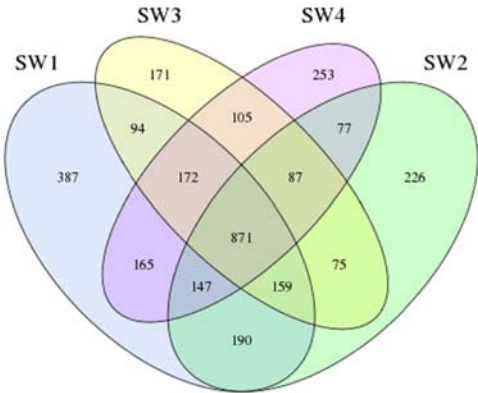


Figure S3: Venn diagram showing the distribution of OTUs in SW group across seasons. SW1, SW2, SW3 and SW4: Washed *C. lentillifera* samples collected in summer, autumn, winter and spring.



Figure S2: Venn diagram showing the distribution of OTUs in S group across seasons. S1, S2, S3 and S4: Control *C. lentillifera* samples collected in summer, autumn, winter and spring.

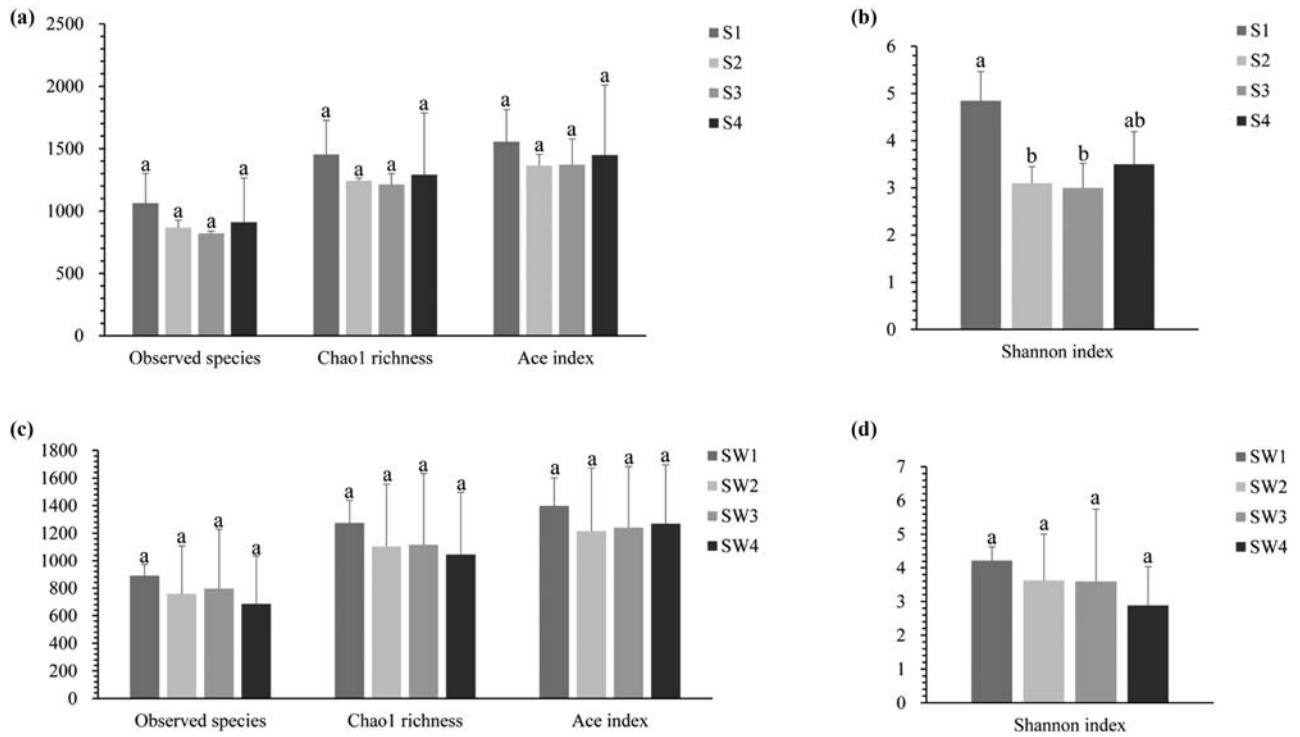


Figure S4: Alpha-diversity of bacterial communities. Observed species, chao 1 richness, ace index (a) and shannon index (b) alpha diversity measures in S group, and observed species, chao 1 richness, ace index (c) and shannon index (d) alpha diversity measures in SW group. S1, S2, S3 and S4: control *C. lentillifera* samples collected in summer, autumn, winter and spring; and SW1, SW2, SW3 and SW4: washed *C. lentillifera* samples collected in summer, autumn, winter and spring. Different letters indicate that there are significant differences among different groups (seasons) ($p < 0.05$).

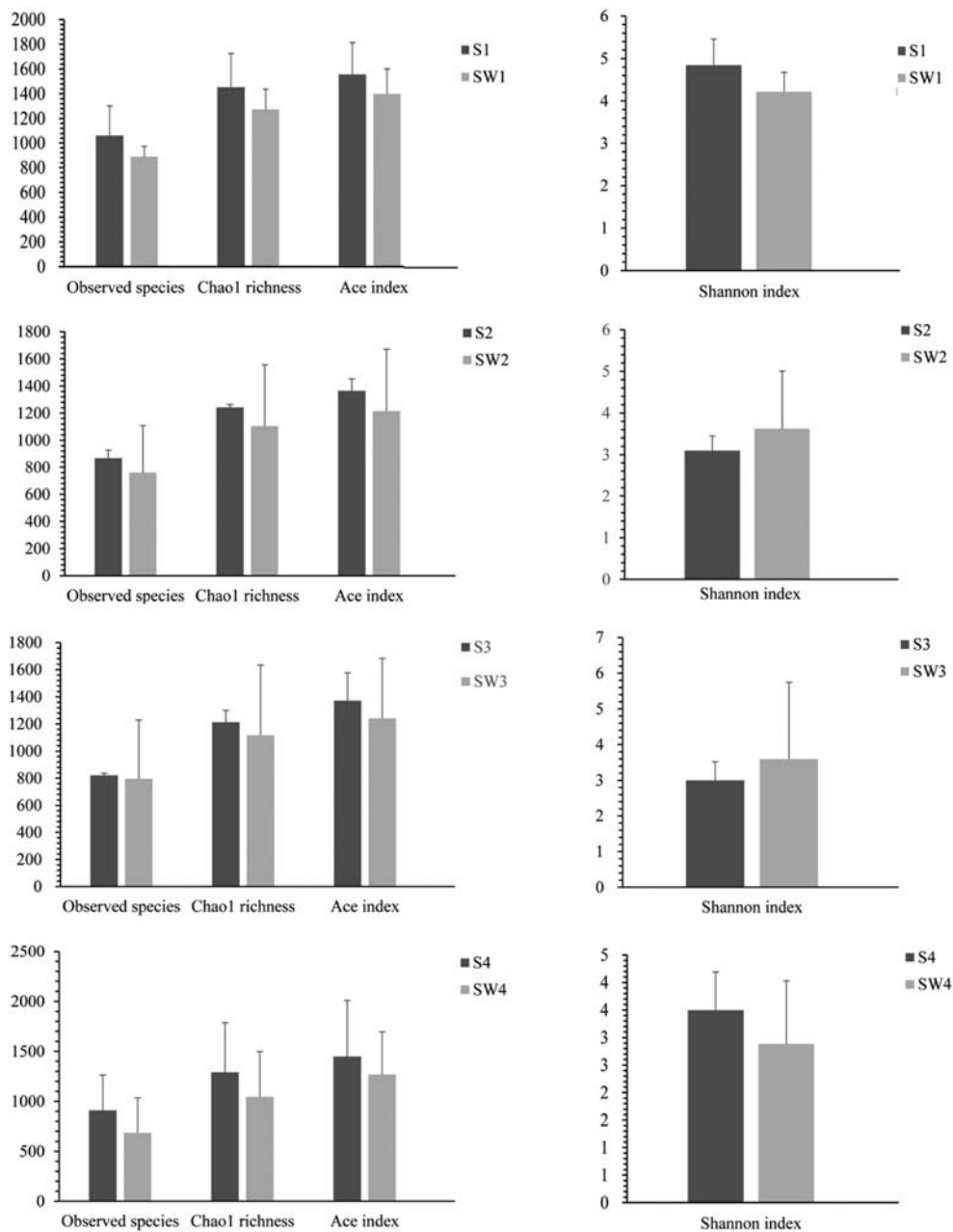


Figure S5: Differences in the alpha-diversity of bacterial communities between S and SW groups across seasons. S1, S2, S3 and S4: control *C. lentillifera* samples collected in summer, autumn, winter and spring; and SW1, SW2, SW3 and SW4: washed *C. lentillifera* samples collected in summer, autumn, winter and spring.

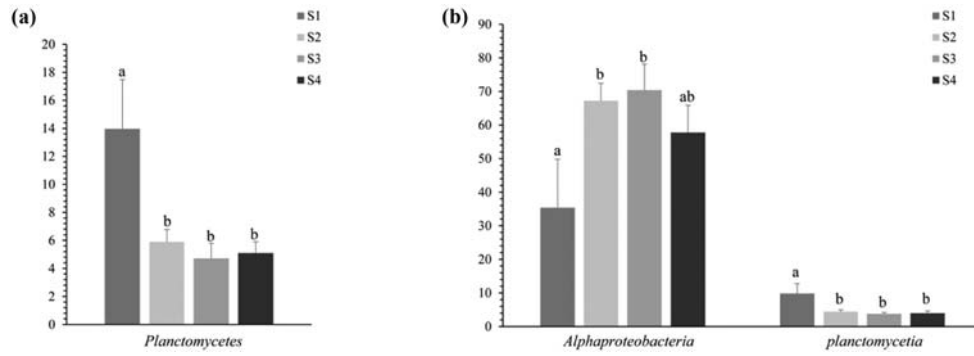


Figure S6: The differences in the abundance of main abundant bacteria in different seasons at the phylum level (a) and class level (b) in S group. S1, S2, S3 and S4: control *C. lentillifera* samples collected in summer, autumn, winter and spring. Different letters indicate that there are significant differences among different groups (seasons) ($p < 0.05$).

Table S1: Bacterial distribution among the different groups that evaluated at the phylum, class and the genus taxonomical level

Taxon	S	SW	Total
Phylum			
<i>Proteobacteria</i>	69.126	68.800	68.963
<i>Bacteroidetes</i>	10.512	7.885	9.198
<i>Planctomycetes</i>	7.430	8.830	8.130
<i>Cyanobacteria</i>	4.900	6.247	5.573
<i>Actinobacteria</i>	2.360	3.079	2.719
<i>Chloroflexi</i>	1.774	2.303	2.038
<i>Acidobacteria</i>	0.854	0.612	0.733
<i>Verrucomicrobia</i>	0.700	0.474	0.587
Unclassified	0.715	0.452	0.584
<i>Gemmatimonadetes</i>	0.368	0.337	0.352
<i>Caldithrix</i>	0.317	0.307	0.312
<i>TM7</i>	0.176	0.160	0.168
<i>SBR1093</i>	0.091	0.111	0.101
<i>GN02</i>	0.139	0.028	0.084
<i>Nitrospirae</i>	0.041	0.085	0.063
<i>WS3</i>	0.077	0.045	0.061
<i>Thermi</i>	0.056	0.056	0.056
<i>OD1</i>	0.080	0.029	0.055
<i>Firmicutes</i>	0.045	0.023	0.034
<i>NKB19</i>	0.042	0.021	0.032
<i>Chlorobi</i>	0.038	0.012	0.025
<i>OP3</i>	0.021	0.025	0.023
<i>Chlamydiae</i>	0.029	0.014	0.022
<i>WPS-2</i>	0.025	0.007	0.016
<i>BRC1</i>	0.013	0.008	0.011
<i>Armatimonadetes</i>	0.010	0.011	0.010
<i>Fusobacteria</i>	0.008	0.011	0.010
<i>PAUC34f</i>	0.011	0.003	0.007
<i>TM6</i>	0.010	0.004	0.007
<i>Spirochaetes</i>	0.009	0.004	0.006
<i>Lentisphaerae</i>	0.002	0.006	0.004
<i>BHI80-139</i>	0.005	0.001	0.003
<i>SR1</i>	0.005	0.000	0.003
<i>OP1</i>	0.001	0.003	0.002
<i>Elusimicrobia</i>	0.001	0.003	0.002
<i>Fibrobacteres</i>	0.002	0.001	0.001
<i>Tenericutes</i>	0.001	0.001	0.001
<i>OP8</i>	0.001	0.000	0.001
<i>WS2</i>	0.001	0.000	0.000
<i>SAR406</i>	0.000	0.001	0.000

Table S1: Continued

Taxon	S	SW	Total
<i>WWE1</i>	0.000	0.000	0.000
<i>KSB3</i>	0.000	0.000	0.000
<i>Thermotogae</i>	0.000	0.000	0.000
<i>ZB3</i>	0.000	0.000	0.000
Class			
<i>Alphaproteobacteria</i>	57.344	58.435	57.889
<i>Gammaproteobacteria</i>	8.968	8.184	8.576
<i>Planctomycetia</i>	5.507	7.413	6.460
Others	4.721	3.722	4.222
<i>Synechococcophycideae</i>	2.432	5.267	3.849
<i>Saprospirae</i>	3.837	2.977	3.407
<i>Acidimicrobiia</i>	2.315	3.032	2.674
<i>Flavobacteriia</i>	3.551	1.711	2.631
<i>Anaerolineae</i>	1.766	2.300	2.033
Unclassified	1.738	1.896	1.817
<i>Deltaproteobacteria</i>	1.839	1.300	1.570
<i>BME43</i>	1.647	1.236	1.441
<i>Oscillatoriophyycideae</i>	1.905	0.295	1.100
<i>Rhodothermi</i>	0.923	1.015	0.969
<i>OM190</i>	0.940	0.634	0.787
<i>Betaproteobacteria</i>	0.565	0.583	0.574
Genus			
Unclassified	87.151	83.904	85.527
Others	8.216	5.566	6.891
<i>Labrenzia</i>	0.161	8.107	4.134
<i>Planctomyces</i>	1.268	1.725	1.497
<i>Nautella</i>	1.003	0.592	0.797
<i>Lyngbya</i>	1.253	0.018	0.636
<i>Ascidianibacter</i>	0.948	0.089	0.519