Supplement 1

Results of ANOVA tests performed to evaluate the differences in the long cell morphometry and wall thickness of *L. corallioides* collected in different sampling sites. Statistically significant p-values are given in bold. ANOVA test significance at α = 0.05; Tukey's test significant at p ≤ α. Any data transformation is indicated on the right side of the table

One-way ANOVA test (Cell length)				
Long cells				
	Df	Sum sq.	Mean sq.	F value	Pr(>F)
SITE	4	0.230	0.057	68.590	**5.05E-11**
Residuals	19	0.016	0.001		

Shapiro-Wilk normality test	P=0.109
Bartlett's K-squared	P=0.798

Tukey's test				
Multiple comparisons of means				

SITE	Mean difference SITE	95% confidence interval lower bound	upper bound	P. adjusted
Elba-Egadi	-0.025	-0.080	0.030	0.661
Morlaix-Egadi	0.158	0.103	0.213	**0.000**
Pontine-Egadi	-0.152	-0.211	-0.094	**0.000**
Santa Caterina-Egadi	-0.044	-0.099	0.011	0.159
Morlaix-Elba	0.183	0.128	0.238	**0.000**
Pontine-Elba	-0.128	-0.186	-0.069	**0.000**
Santa Caterina-Elba	-0.019	-0.074	0.036	0.833
Pontine-Morlaix	-0.311	-0.369	-0.252	**0.000**
Santa Caterina-Morlaix	-0.202	-0.257	-0.147	**0.000**
Santa Caterina-Pontine	0.109	0.050	0.167	**0.000**

One-way ANOVA test (Lumen length)				
Long cells				
	Df	Sum sq.	Mean sq.	F value	Pr(>F)

	Df	Sum sq.	Mean sq.	F value	Pr(>F)
SITE	4	0.312	0.078	78.110	**1.59E-11**
Residuals	19	0.019	0.001		

Shapiro-Wilk normality test	P=0.097
Bartlett's K-squared	P=0.846

Tukey's test
Multiple comparisons of means

SITE	Mean difference SITE	95% confidence interval lower bound	upper bound	P. adjusted
Elba-Egadi	-0.010	-0.070	0.050	0.985
Morlaix-Egadi	0.181	0.121	0.241	**0.000**
Pontine-Egadi	-0.191	-0.255	-0.127	**0.000**
Santa Caterina-Egadi	-0.021	-0.081	0.039	0.831
Morlaix-Elba	0.191	0.131	0.251	**0.000**
Pontine-Elba	-0.181	-0.245	-0.117	**0.000**
Santa Caterina-Elba	-0.011	-0.071	0.049	0.982
Pontine-Morlaix	-0.372	-0.435	-0.308	**0.000**
Santa Caterina-Morlaix	-0.202	-0.262	-0.142	**0.000**
Santa Caterina-Pontine	0.170	0.106	0.234	**0.000**

One-way ANOVA test (Cell sw)
Long cells

	Df	Sum sq.	Mean sq.	F value	Pr(>F)
SITE	4	1.790	0.447	7.207	**1.05E-03**
Residuals	19	1.180	0.062		

Shapiro-Wilk normality test	P=0.362
Bartlett's K-squared	P=0.068

Tukey's test
Multiple comparisons of means

SITE	Mean difference	95% confidence interval	P. adjusted

	SITE	lower bound	upper bound	
Elba-Egadi	0.347	-0.127	0.821	0.222
Morlaix-Egadi	-0.165	-0.639	0.309	0.830
Pontine-Egadi	0.487	-0.016	0.990	0.060
Santa Caterina-Egadi	0.517	0.043	0.991	**0.028**
Morlaix-Elba	-0.512	-0.986	-0.038	**0.030**
Pontine-Elba	0.140	-0.362	0.643	0.915
Santa Caterina-Elba	0.170	-0.304	0.644	0.814
Pontine-Morlaix	0.652	0.150	1.155	**0.008**
Santa Caterina-Morlaix	0.682	0.208	1.156	**0.003**
Santa Caterina-Pontine	0.030	-0.473	0.533	1.000

Results of ANOVA tests performed to evaluate the differences in the short cell morphometry and wall thickness of *L. corallioides* collected in different sampling sites. Statistically significant p-values are given in bold. ANOVA test significance at α = 0.05; Tukey's test significant at p ≤ α. Any data transformation is indicated on the right side of the table.

One-way ANOVA test (Lumen length)					
Short cells					
	Df	Sum sq.	Mean sq.	F value	Pr(>F)
SITE	4	145.453	36.363	30.573	**4.86E-08**
Residuals	19	22.598	1.189		

Shapiro-Wilk normality test	P=0.122
Bartlett's K-squared	P=0.118

Tukey's test				
Multiple comparisons of means				
SITE	Mean difference SITE	95% confidence interval lower bound	upper bound	P. adjusted
Elba-Egadi	3.122	1.048	5.196	**0.002**
Morlaix-Egadi	3.907	1.833	5.982	**0.000**
Pontine-Egadi	-3.281	-5.481	-1.081	**0.002**
Santa Caterina-Egadi	0.313	-1.761	2.387	0.991
Morlaix-Elba	0.785	-1.289	2.859	0.785
Pontine-Elba	-6.404	-8.604	-4.203	**0.000**
Santa Caterina-Elba	-2.809	-4.883	-0.735	**0.005**
Pontine-Morlaix	-7.189	-9.389	-4.989	**0.000**
Santa Caterina-Morlaix	-3.594	-5.668	-1.520	**0.000**
Santa Caterina-Pontine	3.595	1.394	5.795	**0.001**

Short cells					
	Df	Sum sq.	Mean sq.	F value	Pr(>F)
SITE	4	0.053	0.013	1.138	7.64E-02

	Df	Sum sq.	Mean sq.		
Residuals	19	0.222	0.012		

Shapiro-Wilk normality test	P=0.069
Bartlett's K-squared	P=0.589

One-way ANOVA test (Cell pw)					
Short cells					
	Df	Sum sq.	Mean sq.	F value	Pr(>F)
SITE	4	1.312	0.328	10.090	**1.82E-04**
Residuals	18	0.585	0.033		

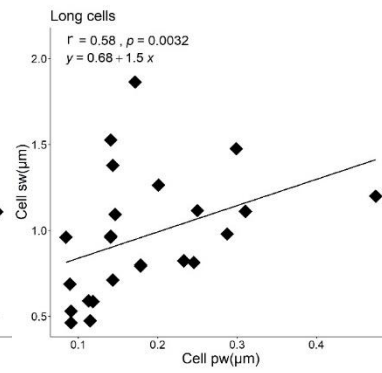
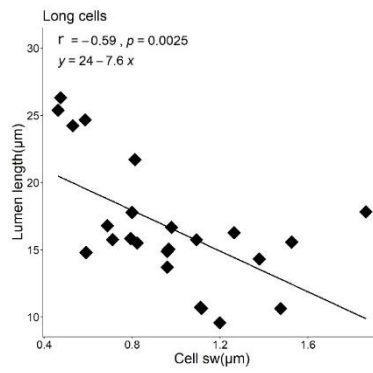
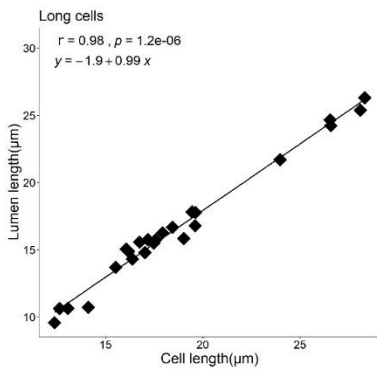
Shapiro-Wilk normality test	P=0.646
Bartlett's K-squared	P=0.208

Tukey's test				
Multiple comparisons of means				
SITE	Mean difference SITE	95% confidence interval lower bound	upper bound	P. adjusted
Elba-Egadi	-0.211	-0.556	0.133	0.375
Morlaix-Egadi	-0.245	-0.590	0.099	0.242
Pontine-Egadi	0.346	-0.020	0.712	0.069
Santa Caterina-Egadi	-0.373	-0.739	-0.008	**0.044**
Morlaix-Elba	-0.034	-0.379	0.311	0.998
Pontine-Elba	0.558	0.192	0.923	**0.002**
Santa Caterina-Elba	-0.162	-0.528	0.204	0.672
Pontine-Morlaix	0.592	0.226	0.957	**0.001**
Santa Caterina-Morlaix	-0.128	-0.494	0.238	0.825
Santa Caterina-Pontine	-0.719	-1.105	-0.334	**0.000**

Results of Kruskal-Wallis test performed to evaluate the differences in the cell length of *L. corallioides* collected in different sampling sites. Test significance at α = 0.05

Kruskal-Wallis test (Cell length)			
Short cells			
	Df	χ^2	P
SITE	4	16.468	**0.002**
Dunn's test			
Comparisons by SITE (Bonferroni)			
Z P. adjusted	Egadi	Elba	Morlaix	Pontine
Elba	0.537826 1			
Morlaix	-0.35855	-0.89638 1		
Pontine	3.063535 **0.0109**	2.556467 0.0529	3.40158 **0.0033**	
Santa Caterina	2.061669 0.1962	1.523842 0.6377	2.42022 0.0776	-1.11978 1

Statistical correlations were used to evaluate the relationship between each morphological and calcification parameter measured in the long cells of *L. corallioides*. Test significance at p<0.05.

correlation	Long cells		p-value
Spearman's	cell.length	lumen.length	**<0.05**
Spearman's	cell.sw	lumen.length	**<0.05**
Spearman's	cell.length	cell.diameter	>0.05
Spearman's	cell.length	cell.sw	**<0.05**
Spearman's	cell.pw	cell.sw	**<0.05**
Spearman's	lumen.diameter	lumen.length	**<0.05**
Pearson's	lumen.diameter	cell.diameter	**<0.05**
Pearson's	cell.sw	lumen.diameter	**<0.05**
Pearson's	cell.sw	cell.diameter	>0.05

Statistical correlations were used to evaluate the relationship between each morphological and calcification parameter measured in the long cells of *L. corallioides*. Test significance at p<0.05.

correlation	Short cells		p-value
Pearson's	cell.length	lumen.length	**<0.05**
Spearman's	cell.sw	lumen.length	>0.05
Pearson's	cell.length	cell.diameter	>0.05
Spearman's	cell.length	cell.sw	>0.05
Spearman's	cell.pw	cell.sw	>0.05
Pearson's	lumen.diameter	lumen.length	**<0.05**
Pearson's	lumen.diameter	cell.diameter	>0.05
Spearman's	cell.sw	lumen.diameter	>0.05
Spearman's	cell.sw	cell.diameter	>0.05