Appendix 1. Ordinary least squares (OLS) regression equations for the relationship between four cirral dimensions (ramus length, seta length, intersetal space and ramus diameter) and body mass for leg 6.

Species/Trait/Site		OLS Regression Equations				Body Size (prosomal wet mass, g)[1]		
	n	Slope (SE)	Intercept (SE)	r^2	*P* (slope)	Mean (SE)	Min	Max
Balanus glandula								
Ramus length								
Grappler Narrows	10	0.293 (0.017)	1.297 (0.037)	0.974	<0.0001	0.0133 (0.0035)	0.0006	0.0318
Grappler Mouth	10	0.247 (0.017)	1.189 (0.034)	0.964	<0.0001	0.0241 (0.0079)	0.0019	0.0758
Bamfield Inlet	10	0.337 (0.033)	1.292 (0.067)	0.929	<0.0001	0.0205 (0.0059)	0.0014	0.0544
Self Pt.	10	0.287 (0.021)	1.066 (0.043)	0.961	<0.0001	0.0161 (0.0048)	0.0011	0.0451
Kelp Bay	10	0.324 (0.038)	1.096 (0.077)	0.898	<0.0001	0.0175 (0.0044)	0.0016	0.0409
Seppings Is.	10	0.296 (0.028)	1.028 (0.060)	0.932	<0.0001	0.0165 (0.0047)	0.0012	0.0376
Bordelais Is.	10	0.215 (0.024)	0.861 (0.052)	0.910	<0.0001	0.0125 (0.0035)	0.0008	0.0324
Seta length								
Grappler Narrows	10	0.216 (0.015)	0.211 (0.033)	0.963	<0.0001	–	–	–
Grappler Mouth	10	0.189 (0.022)	0.145 (0.044)	0.901	<0.0001	–	–	–
Bamfield Inlet	10	0.225 (0.025)	0.137 (0.051)	0.911	<0.0001	–	–	–
Self Pt.	10	0.179 (0.023)	–0.034 (0.048)	0.886	<0.0001	–	–	–
Kelp Bay	10	0.233 (0.026)	0.005 (0.052)	0.904	<0.0001	–	–	–
Seppings Is.	10	0.231 (0.017)	0.049 (0.036)	0.958	<0.0001	–	–	–
Bordelais Is.	10	0.159 (0.026)	–0.099 (0.057)	0.820	0.0003	–	–	–
Intersetal space								
Grappler Narrows	10	0.206 (0.033)	–1.094 (0.073)	0.826	0.0003	–	–	–
Grappler Mouth	10	0.102 (0.030)	–1.414 (0.058)	0.599	0.0086	–	–	–
Bamfield Inlet	10	0.161 (0.033)	–1.314 (0.066)	0.755	0.0011	–	–	–
Self Pt.	10	0.187 (0.026)	–1.327 (0.055)	0.866	<0.0001	–	–	–
Kelp Bay	10	0.201 (0.041)	–1.317 (0.082)	0.749	0.0012	–	–	–
Seppings Is.	10	0.072 (0.024)	–1.558 (0.050)	0.536	0.0161	–	–	–
Bordelais Is.	10	0.090 (0.045)	–1.517 (0.097)	0.334	0.0802	–	–	–
Ramus diameter								
Grappler Narrows	10	0.194 (0.017)	–0.381 (0.038)	0.940	<0.0001	–	–	–
Grappler Mouth	10	0.241 (0.023)	–0.284 (0.045)	0.935	<0.0001	–	–	–
Bamfield Inlet	10	0.243 (0.025)	–0.267 (0.051)	0.923	<0.0001	–	–	–
Self Pt.	10	0.207 (0.029)	–0.228 (0.060)	0.867	<0.0001	–	–	–
Kelp Bay	10	0.265 (0.024)	–0.157 (0.047)	0.940	<0.0001	–	–	–
Seppings Is.	10	0.248 (0.031)	–0.155 (0.065)	0.889	<0.0001	–	–	–
Bordelais Is.	10	0.226 (0.017)	–0.184 (0.037)	0.957	<0.0001	–	–	–
Chthamalus dalli								
Ramus length								
Grappler Mouth	10	0.265 (0.071)	1.139 (0.200)	0.636	0.0057	0.0017 (0.0003)	0.0008	0.0030
Bamfield Inlet	10	0.253 (0.057)	0.983 (0.163)	0.709	0.0023	0.0017 (0.0003)	0.0007	0.0031
Self Pt.	10	0.350 (0.121)	1.068 (0.340)	0.511	0.0202	0.0018 (0.0003)	0.0008	0.0039
Kelp Bay	10	0.220 (0.058)	0.729 (0.156)	0.644	0.0052	0.0023 (0.0004)	0.0013	0.0054
Seppings Is.	10	0.256 (0.040)	0.893 (0.111)	0.834	0.0002	0.0021 (0.0004)	0.0009	0.0044
Bordelais Is.	10	0.221 (0.052)	0.714 (0.134)	0.690	0.0029	0.0031 (0.0005)	0.0014	0.0059
Seta length								
Grappler Mouth	10	0.145 (0.034)	–0.145 (0.095)	0.699	0.0026	–	–	–
Bamfield Inlet	10	0.206 (0.055)	–0.066 (0.158)	0.634	0.0059	–	–	–
Self Pt.	10	0.217 (0.112)	–0.146 (0.313)	0.322	0.0873	–	–	–
Kelp Bay	10	0.166 (0.068)	–0.268 (0.185)	0.424	0.0413	–	–	–
Seppings Is.	10	0.161 (0.051)	–0.250 (0.141)	0.555	0.0134	–	–	–
Bordelais Is.	10	0.261 (0.071)	–0.046 (0.183)	0.628	0.0062	–	–	–
Intersetal space								
Grappler Mouth	10	0.277 (0.096)	–0.979 (0.270)	0.512	0.0199	–	–	–
Bamfield Inlet	10	0.314 (0.075)	–0.919 (0.212)	0.689	0.0030	–	–	–
Self Pt.	10	0.100 (0.159)	–1.572 (0.448)	0.047	0.5480	–	–	–
Kelp Bay	10	0.147 (0.070)	–1.400 (0.189)	0.354	0.0694	–	–	–
Seppings Is.	10	0.050 (0.066)	–1.597 (0.182)	0.066	0.4721	–	–	–
Bordelais Is.	10	0.182 (0.128)	–1.301 (0.328)	0.203	0.1913	–	–	–
Ramus diameter								
Grappler Mouth	10	0.149 (0.056)	–0.546 (0.158)	0.469	0.0288	–	–	–
Bamfield Inlet	10	0.104 (0.027)	–0.708 (0.077)	0.650	0.0048	–	–	–

Appendix 1. continued.

Species/Trait/Site		OLS Regression Equations				Body Size (prosomal wet mass, g)[1]		
	n	Slope (SE)	Intercept (SE)	r^2	*P* (slope)	Mean (SE)	Min	Max
Self Pt.	10	0.302 (0.095)	–0.118 (0.266)	0.560	0.0127	–	–	–
Kelp Bay	10	0.178 (0.073)	–0.455 (0.197)	0.426	0.0408	–	–	–
Seppings Is.	10	0.186 (0.039)	–0.365 (0.107)	0.743	0.0013	–	–	–
Bordelais Is.	10	0.142 (0.051)	–0.475 (0.130)	0.495	0.0233	–	–	–
Semibalanus cariosus								
Ramus length								
Grappler Narrows	10	0.180 (0.035)	1.045 (0.039)	0.764	0.0009	0.1556 (0.0457)	0.0186	0.4137
Bamfield Inlet	10	0.204 (0.061)	1.101 (0.073)	0.585	0.0100	0.1152 (0.0315)	0.0141	0.3134
Self Pt.	10	0.243 (0.036)	1.025 (0.040)	0.850	0.0001	0.1169 (0.0217)	0.0134	0.2361
Kelp Bay	10	0.283 (0.026)	1.092 (0.031)	0.934	<0.0001	0.1504 (0.0485)	0.0123	0.4269
Seppings Is.	10	0.203 (0.027)	0.958 (0.030)	0.877	<0.0001	0.1558 (0.0418)	0.0117	0.4027
Bordelais Is.	10	0.277 (0.051)	1.017 (0.064)	0.788	0.0006	0.0908 (0.0244)	0.0135	0.2308
Seta length								
Grappler Narrows	10	0.139 (0.032)	–0.005 (0.035)	0.707	0.0023	–	–	–
Bamfield Inlet	10	0.124 (0.042)	–0.018 (0.050)	0.518	0.0190	–	–	–
Self Pt.	10	0.166 (0.033)	–0.061 (0.036)	0.757	0.0011	–	–	–
Kelp Bay	10	0.142 (0.027)	–0.100 (0.031)	0.777	0.0007	–	–	–
Seppings Is.	10	0.135 (0.023)	–0.115 (0.026)	0.807	0.0004	–	–	–
Bordelais Is.	10	0.185 (0.031)	–0.100 (0.039)	0.816	0.0003	–	–	–
Intersetal space								
Grappler Narrows	10	0.118 (0.044)	–1.329 (0.049)	0.474	0.0277	–	–	–
Bamfield Inlet	10	0.046 (0.039)	–1.461 (0.046)	0.152	0.2656	–	–	–
Self Pt.	10	0.218 (0.038)	–1.282 (0.042)	0.801	0.0005	–	–	–
Kelp Bay	10	0.057 (0.049)	–1.497 (0.057)	0.144	0.2791	–	–	–
Seppings Is.	10	0.016 (0.031)	–1.480 (0.034)	0.034	0.6095	–	–	–
Bordelais Is.	10	0.021 (0.045)	–1.645 (0.056)	0.026	0.6558	–	–	–
Ramus diameter								
Grappler Narrows	10	0.255 (0.056)	–0.242 (0.062)	0.720	0.0019	–	–	–
Bamfield Inlet	10	0.211 (0.039)	–0.305 (0.047)	0.786	0.0006	–	–	–
Self Pt.	10	0.254 (–0.211)	–0.211 (0.022)	0.951	<0.0001	–	–	–
Kelp Bay	10	0.250 (0.013)	–0.154 (0.015)	0.980	<0.0001	–	–	–
Seppings Is.	10	0.210 (0.029)	–0.211 (0.032)	0.871	<0.0001	–	–	–
Bordelais Is.	10	0.226 (0.042)	–0.173 (0.052)	0.786	0.0006	–	–	–
Pollicipes polymerus								
Ramus length								
Self Pt.	10	0.251 (0.026)	1.206 (0.018)	0.919	<0.0001	0.3197 (0.0660)	0.0676	0.6139
Kelp Bay	10	0.258 (0.018)	1.208 (0.014)	0.961	<0.0001	0.3566 (0.0886)	0.0401	0.8923
Seppings Is.	10	0.259 (0.023)	1.169 (0.018)	0.939	<0.0001	0.2847 (0.0675)	0.0381	0.6150
Bordelais Is.	10	0.290 (0.018)	1.183 (0.014)	0.970	<0.0001	0.3197 (0.0742)	0.0551	0.6988
Seta length								
Self Pt.	10	0.172 (0.022)	0.219 (0.015)	0.888	<0.0001	–	–	–
Kelp Bay	10	0.170 (0.017)	0.209 (0.012)	0.927	<0.0001	–	–	–
Seppings Is.	10	0.131 (0.024)	0.162 (0.018)	0.791	0.0006	–	–	–
Bordelais Is.	10	0.160 (0.040)	0.152 (0.031)	0.663	0.0041	–	–	–
Intersetal space								
Self Pt.	10	0.211 (0.036)	–0.962 (0.024)	0.813	0.0004	–	–	–
Kelp Bay	10	0.183 (0.021)	–0.981 (0.016)	0.901	<0.0001	–	–	–
Seppings Is.	10	0.167 (0.031)	–0.963 (0.024)	0.781	0.0007	–	–	–
Bordelais Is.	10	0.177 (0.025)	–0.947 (0.019)	0.861	0.0001	–	–	–
Ramus diameter								
Self Pt.	10	0.317 (0.030)	0.084 (0.020)	0.935	<0.0001	–	–	–
Kelp Bay	10	0.277 (0.025)	0.058 (0.019)	0.938	<0.0001	–	–	–
Seppings Is.	10	0.291 (0.018)	0.104 (0.014)	0.970	<0.0001	–	–	–
Bordelais Is.	10	0.312 (0.026)	0.093 (0.020)	0.947	<0.0001	–	–	–

[1] Mean prosomal wet mass was the same for all traits within a species.

Appendix 2a. Ordinary least squares (OLS) regression equations of the relationship of log (ramus length) to water velocity for legs 4, 5, and 6 (see Fig. 3).

Species	Leg	OLS Regression Equations				
		n	Slope (SE)	Intercept (SE)	r^2	*P* (slope)
Balanus glandula	Leg 6	7	–0.058 (0.008)	0.663 (0.021)	0.921	0.0006
	Leg 5	7	–0.055 (0.010)	0.635 (0.027)	0.866	0.0023
	Leg 4	7	–0.055 (0.008)	0.559 (0.023)	0.903	0.0010
Chthamalus dalli	Leg 6	6	–0.051 (0.018)	0.329 (0.055)	0.665	0.0480
	Leg 5	6	–0.045 (0.016)	0.301 (0.049)	0.655	0.0509
	Leg 4	6	–0.038 (0.014)	0.226 (0.043)	0.640	0.0560
Semibalanus cariosus	Leg 6	6	–0.031 (0.005)	0.866 (0.015)	0.913	0.0029
	Leg 5	6	–0.029 (0.005)	0.846 (0.015)	0.895	0.0043
	Leg 4	6	–0.025 (0.004)	0.754 (0.013)	0.893	0.0045
Pollicipes polymerus	Leg 6	4	–0.029 (0.006)	1.127 (0.022)	0.921	0.0402
	Leg 5	4	–0.022 (0.008)	1.089 (0.031)	0.770	0.1221
	Leg 4	4	–0.016 (0.007)	1.025 (0.027)	0.694	0.1670

Appendix 2b. OLS regression equations for the log-linear relationship of cirral dimensions of leg 6 to water velocity (see Fig. 4)

Cirral trait	Species	n	Slope (SE)	Intercept (SE)	r^2	*P* (slope)
Log (ramus length)	*Balanus glandula*	7	–0.058 (0.008)	0.663 (0.021)	0.921	0.0006
	Chthamalus dalli	6	–0.051 (0.018)	0.329 (0.055)	0.665	0.0480
	Semibalanus cariosus	6	–0.031 (0.005)	0.866 (0.015)	0.913	0.0029
	Pollicipes polymerus	4	–0.029 (0.006)	1.127 (0.022)	0.921	0.0402
Log(seta length)	*Balanus glandula*	7	–0.040 (0.009)	–0.267 (0.024)	0.816	0.0053
	Chthamalus dalli	6	–0.034 (0.012)	–0.599 (0.036)	0.665	0.0480
	Semibalanus cariosus	6	–0.030 (0.004)	–0.154 (0.011)	0.940	0.0014
	Pollicipes polymerus	4	–0.027 (0.011)	0.183 (0.042)	0.736	0.1423
Log(intersetal space)	*Balanus glandula*	7	–0.019 (0.004)	–1.631 (0.012)	0.802	0.0064
	Chthamalus dalli	6	–0.002 (0.010)	–1.782 (0.030)	0.006	0.8832
	Semibalanus cariosus	6	–0.022 (0.014)	–1.478 (0.043)	0.381	0.1920
	Pollicipes polymerus	4	0.021 (0.006)	–1.155 (0.023)	0.853	0.0765
Log(ramus diameter)	*Balanus glandula*	7	0.028 (0.005)	–0.761 (0.013)	0.880	0.0018
	Chthamalus dalli	6	0.020 (0.006)	–0.979 (0.019)	0.718	0.0333
	Semibalanus cariosus	6	0.023 (0.005)	–0.523 (0.014)	0.855	0.0083
	Pollicipes polymerus	4	0.016 (0.008)	–0.164 (0.031)	0.645	0.1968

Appendix 3. Results from ANCOVA testing for differences in trait means and equality of slopes (prosomal wet mass = covariate) of four cirral traits among populations of *Balanus glandula, Chthamalus dalli*, *Semibalanus carious* and *Pollicipes polymerus*. Populations of each species were from habitats differing in wave exposure. Cirral traits and prosomal wet mass were log–transformed.

Species + Leg	Source of variation	Mean Square				
		df[1]	Ramus length	Setae length	Intersetal space	Ramus diameter
Balanus glandula						
Leg 6	Population (POP)	6	0.149 ***	0.081 ***	0.019 ***	0.036 ***
	Log[wet mass] (WM)	1	1.584 ***	0.802 ***	0.407 ***	1.025 ***
	Error	62	0.002	0.001	0.004	0.002
	Equality of slopes[2]	6	0.005 *[3]	0.002	0.009 *[3]	0.002
Leg 5	POP	6	0.142 ***	0.088 ***	0.023 ***	0.045 ***
	WM	1	1.664 ***	0.796 ***	0.384 ***	1.059 ***
	Error	62	0.003	0.001	0.003	0.003
	Equality of slopes[2]	6	0.006	0.003 *[3]	0.006 *[3]	0.004

Appendix 3. continued.

Species + Leg	Source of variation	Mean Square				
		df[1]	Ramus length	Setae length	Intersetal space	Ramus diameter
Leg 4	POP	6	0.138 ***	0.103 ***	0.007	0.028 ***
	WM	1	1.780 ***	0.989 ***	0.409 ***	0.997 ***
	Error	62	0.002	0.002	0.003	0.002
	Equality of slopes[2]	6	0.022 *[3]	0.004 *[3]	0.010 *[3]	0.001
Chthamalus dalli						
Leg 6	(POP)	5	0.147 ***	0.063 ***	0.016 *	0.020 ***
	(WM)	1	0.192 ***	0.105 ***	0.093 ***	0.085 ***
	Error	53	0.002	0.002	0.005	0.002
	Equality of slopes[2]	5	0.001	0.001	0.005	0.002
Leg 5	POP	5	0.113 ***	0.058 ***	0.025 ***	0.017 ***
	WM	1	0.176 ***	0.104 ***	0.033 **	0.106 ***
	Error	53	0.002	0.001	0.003	0.001
	Equality of slopes[2]	5	0.001	0.001	0.002	0.002
Leg 4	POP	5	0.083 ***	0.040 ***	0.012 *	0.015 ***
	WM	1	0.198 ***	0.104 ***	0.037 **	0.123 ***
	Error	53	0.001	0.002	0.004	0.001
	Equality of slopes[2]	5	0.001	0.001	0.002	0.002
Semibalanus cariosus						
Leg 6	POP	5	0.042 ***	0.038 ***	0.050 ***	0.024 ***
	WM	1	0.597 ***	0.238 ***	0.057 ***	0.616 ***
	Error	53	0.003	0.002	0.004	0.002
	Equality of slopes[2]	5	0.004	0.001	0.009 *[3]	0.001
Leg 5	POP	5	0.036 ***	0.042 ***	0.036 ***	0.031 ***
	WM	1	0.683 ***	0.288 ***	0.124 ***	0.755 ***
	Error	53	0.003	0.002	0.004	0.002
	Equality of slopes[2]	5	0.003	0.001	0.007	0.0005
Leg 4	POP	5	0.028 ***	0.032 ***	0.035 ***	0.030 ***
	WM	1	0.813 ***	0.512 ***	0.114 ***	0.727 ***
	Error	53	0.002	0.002	0.002	0.002
	Equality of slopes[2]	5	0.002	0.004	0.001	0.002
Pollicipes polymerus						
Leg 6	POP	3	0.006 ***	0.007 **	0.004	0.003
	WM	1	0.400 ***	0.142 ***	0.190 ***	0.501 ***
	Error	35	0.001	0.001	0.001	0.001
	Equality of slopes[2]	3	0.0004	0.0005	0.0004	0.001
Leg 5	POP	3	0.005 **	0.006 **	0.003	0.005
	WM	1	0.442 ***	0.146 ***	0.231 ***	0.520 ***
	Error	35	0.001	0.001	0.002	0.001
	Equality of slopes[2]	3	0.001	0.0002	0.0004	0.001
Leg 4	POP	3	0.003 *	0.006 **	0.007 *	0.004 *
	WM	1	0.479 ***	0.192 ***	0.294 ***	0.531 ***
	Error	35	0.001	0.001	0.002	0.0005
	Equality of slopes[2]	3	0.0004	0.0001	0.002	0.001

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.
[1] Main effects and error df and MS exclude non-significant interaction terms.
[2] When testing for equality of slopes, the error degrees of freedom were 56 for *B. glandula*, 48 for *C. dalli* and *S. cariosus*, and 32 for *P. polymerus*.
[3] Interaction became non-significant after Sequential Bonferroni Correction (three legs = three tests for each species) and original main effects and error df and MS are used in full analysis.