

**Table S1.** Analyzed meristic counts and morphological measurements of *C. myriaster* in this study.

Type of characteristics	Characteristic descriptions	Abbreviation
Morphological measurements	Total length	<i>TL</i>
	Body length	<i>BL</i>
	Tail length	<i>TAL</i>
	Length before anal fin	<i>AFL</i>
	Length before anal	<i>AL</i>
	Length before dorsal fin	<i>DL</i>
	Trunk length	<i>TRL</i>
	Head length	<i>HL</i>
	Head breadth	<i>HB</i>
	Snout length	<i>SL</i>
	Length of mouth crack	<i>ML</i>
	Eye diameter	<i>ED</i>
	Eye distance	<i>EI</i>
	Head length behind the eye	<i>HLE</i>
	Body depth	<i>BD</i>
	Body breadth	<i>BB</i>
	Length of pectoral fin	<i>PL</i>
Meristic counts	Number of total vertebrae	<i>TV</i>
	Number of vertebrae before the dorsal fin	<i>DV</i>
	Number of vertebrae before the anal	<i>AV</i>
	Number of vertebrae before the anal fin	<i>AFV</i>
	Number of vertebrae between dorsal fin-anal fin	<i>DAV</i>

**Table S2.** One-way analysis of variance (ANOVA) results of seven *C. myriaster* populations. (*DV/TV*, *AV/TV*, *AFV/TV* and *DAV/TV* are the ratios of meristic counts, respectively. The same superscripts mean nonsignificant difference ( $P>0.05$ ), while different superscripts mean significant difference ( $P<0.05$ ).

Traits	DL	WH	RS	QD	RZ	LYG	ZS	<i>P</i>	Total
	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE		Mean $\pm$ SE
<i>TV</i>	143.38 $\pm$ 0.466 <sup>bc</sup>	142.57 $\pm$ 1.027 <sup>c</sup>	141.83 $\pm$ 0.452 <sup>c</sup>	139.15 $\pm$ 0.735 <sup>d</sup>	142.56 $\pm$ 0.448 <sup>c</sup>	144.53 $\pm$ 0.359 <sup>ab</sup>	145.03 $\pm$ 0.499 <sup>a</sup>	0.000	142.60 $\pm$ 0.257
<i>DV</i>	13.38 $\pm$ 0.171 <sup>a</sup>	12.81 $\pm$ 0.245 <sup>bc</sup>	12.62 $\pm$ 0.283 <sup>c</sup>	11.80 $\pm$ 0.168 <sup>d</sup>	12.72 $\pm$ 0.255 <sup>c</sup>	12.91 $\pm$ 0.164 <sup>abc</sup>	13.27 $\pm$ 0.143 <sup>ab</sup>	0.000	12.77 $\pm$ 0.083
<i>AV</i>	39.53 $\pm$ 0.237 <sup>ab</sup>	39.52 $\pm$ 0.235 <sup>ab</sup>	39.52 $\pm$ 0.220 <sup>ab</sup>	38.07 $\pm$ 0.208 <sup>c</sup>	39.12 $\pm$ 0.240 <sup>b</sup>	39.16 $\pm$ 0.186 <sup>b</sup>	39.77 $\pm$ 0.141 <sup>a</sup>	0.000	39.18 $\pm$ 0.089
<i>AFV</i>	42.60 $\pm$ 0.253 <sup>bc</sup>	42.19 $\pm$ 0.214 <sup>c</sup>	42.31 $\pm$ 0.233 <sup>c</sup>	40.56 $\pm$ 0.210 <sup>d</sup>	42.24 $\pm$ 0.247 <sup>c</sup>	43.06 $\pm$ 0.185 <sup>ab</sup>	43.30 $\pm$ 0.180 <sup>a</sup>	0.000	42.26 $\pm$ 0.104
<i>DAV</i>	29.15 $\pm$ 0.236 <sup>b</sup>	29.38 $\pm$ 0.176 <sup>ab</sup>	29.69 $\pm$ 0.233 <sup>ab</sup>	29.10 $\pm$ 0.308 <sup>b</sup>	29.52 $\pm$ 0.265 <sup>ab</sup>	30.16 $\pm$ 0.201 <sup>a</sup>	30.03 $\pm$ 0.182 <sup>a</sup>	0.008	29.55 $\pm$ 0.097
<i>DV/TV</i>	0.09 $\pm$ 0.001 <sup>a</sup>	0.09 $\pm$ 0.002 <sup>ab</sup>	0.09 $\pm$ 0.002 <sup>b</sup>	0.08 $\pm$ 0.001 <sup>c</sup>	0.09 $\pm$ 0.002 <sup>b</sup>	0.09 $\pm$ 0.001 <sup>b</sup>	0.09 $\pm$ 0.001 <sup>ab</sup>	0.000	0.09 $\pm$ 0.001
<i>AV/TV</i>	0.28 $\pm$ 0.002 <sup>ab</sup>	0.28 $\pm$ 0.003 <sup>a</sup>	0.28 $\pm$ 0.002 <sup>a</sup>	0.27 $\pm$ 0.001 <sup>ab</sup>	0.27 $\pm$ 0.002 <sup>ab</sup>	0.27 $\pm$ 0.001 <sup>b</sup>	0.27 $\pm$ 0.001 <sup>ab</sup>	0.019	0.27 $\pm$ 0.001
<i>AFV/TV</i>	0.30 $\pm$ 0.002 <sup>a</sup>	0.30 $\pm$ 0.002 <sup>ab</sup>	0.30 $\pm$ 0.002 <sup>a</sup>	0.29 $\pm$ 0.001 <sup>b</sup>	0.30 $\pm$ 0.002 <sup>ab</sup>	0.30 $\pm$ 0.001 <sup>a</sup>	0.30 $\pm$ 0.002 <sup>a</sup>	0.018	0.30 $\pm$ 0.001
<i>DAV/TV</i>	0.20 $\pm$ 0.001 <sup>a</sup>	0.21 $\pm$ 0.002 <sup>a</sup>	0.21 $\pm$ 0.002 <sup>a</sup>	0.21 $\pm$ 0.002 <sup>a</sup>	0.21 $\pm$ 0.002 <sup>a</sup>	0.21 $\pm$ 0.001 <sup>a</sup>	0.21 $\pm$ 0.002 <sup>a</sup>	0.190	0.21 $\pm$ 0.001
<i>BL</i>	31.23 $\pm$ 0.105 <sup>a</sup>	31.22 $\pm$ 0.140 <sup>a</sup>	30.91 $\pm$ 0.268 <sup>a</sup>	31.46 $\pm$ 0.121 <sup>a</sup>	31.32 $\pm$ 0.103 <sup>a</sup>	31.07 $\pm$ 0.148 <sup>a</sup>	31.12 $\pm$ 0.184 <sup>a</sup>	0.232	31.20 $\pm$ 0.060
<i>TAL</i>	22.33 $\pm$ 0.163 <sup>a</sup>	21.48 $\pm$ 0.088 <sup>c</sup>	21.54 $\pm$ 0.313 <sup>bc</sup>	21.90 $\pm$ 0.095 <sup>abc</sup>	21.94 $\pm$ 0.085 <sup>ab</sup>	22.00 $\pm$ 0.070 <sup>a</sup>	22.17 $\pm$ 0.060 <sup>a</sup>	0.001	21.95 $\pm$ 0.060
<i>AFL</i>	126.27 $\pm$ 1.761 <sup>e</sup>	140.89 $\pm$ 1.157 <sup>a</sup>	136.47 $\pm$ 1.347 <sup>b</sup>	134.92 $\pm$ 0.705 <sup>bc</sup>	132.16 $\pm$ 1.232 <sup>cd</sup>	131.90 $\pm$ 0.973 <sup>cd</sup>	130.40 $\pm$ 0.901 <sup>d</sup>	0.000	132.73 $\pm$ 0.546
<i>AL</i>	133.03 $\pm$ 13.835 <sup>a</sup>	131.60 $\pm$ 1.008 <sup>a</sup>	128.12 $\pm$ 1.244 <sup>a</sup>	127.92 $\pm$ 0.625 <sup>a</sup>	123.57 $\pm$ 1.196 <sup>a</sup>	121.99 $\pm$ 0.859 <sup>a</sup>	120.67 $\pm$ 0.823 <sup>a</sup>	0.812	126.87 $\pm$ 2.549
<i>DL</i>	62.25 $\pm$ 0.667 <sup>b</sup>	64.75 $\pm$ 0.641 <sup>a</sup>	62.79 $\pm$ 0.498 <sup>b</sup>	62.31 $\pm$ 0.601 <sup>b</sup>	62.44 $\pm$ 0.617 <sup>b</sup>	60.44 $\pm$ 0.529 <sup>c</sup>	59.93 $\pm$ 0.396 <sup>c</sup>	0.000	62.01 $\pm$ 0.239
<i>TRL</i>	78.46 $\pm$ 0.609 <sup>d</sup>	85.75 $\pm$ 0.634 <sup>a</sup>	85.68 $\pm$ 0.651 <sup>a</sup>	84.31 $\pm$ 0.522 <sup>ab</sup>	83.44 $\pm$ 0.847 <sup>b</sup>	80.17 $\pm$ 0.519 <sup>c</sup>	80.22 $\pm$ 0.380 <sup>c</sup>	0.000	82.29 $\pm$ 0.291
<i>HL</i>	45.33 $\pm$ 0.445 <sup>ab</sup>	46.10 $\pm$ 0.497 <sup>a</sup>	44.01 $\pm$ 0.373 <sup>c</sup>	44.81 $\pm$ 0.311 <sup>bc</sup>	43.77 $\pm$ 0.514 <sup>c</sup>	44.56 $\pm$ 0.412 <sup>bc</sup>	43.94 $\pm$ 0.271 <sup>c</sup>	0.002	44.65 $\pm$ 0.158
<i>HB</i>	18.14 $\pm$ 0.201 <sup>a</sup>	15.54 $\pm$ 0.296 <sup>d</sup>	17.02 $\pm$ 0.273 <sup>c</sup>	17.41 $\pm$ 0.219 <sup>bc</sup>	17.31 $\pm$ 0.364 <sup>bc</sup>	17.74 $\pm$ 0.318 <sup>ab</sup>	17.88 $\pm$ 0.202 <sup>ab</sup>	0.000	17.41 $\pm$ 0.109
<i>SL</i>	12.60 $\pm$ 0.166 <sup>a</sup>	11.69 $\pm$ 0.153 <sup>bcd</sup>	11.37 $\pm$ 0.143 <sup>d</sup>	11.52 $\pm$ 0.230 <sup>cd</sup>	11.35 $\pm$ 0.244 <sup>d</sup>	11.93 $\pm$ 0.129 <sup>bc</sup>	12.01 $\pm$ 0.105 <sup>b</sup>	0.000	11.82 $\pm$ 0.074
<i>ML</i>	18.35 $\pm$ 0.179 <sup>a</sup>	16.94 $\pm$ 0.169 <sup>bc</sup>	16.05 $\pm$ 0.255 <sup>d</sup>	16.56 $\pm$ 0.243 <sup>cd</sup>	16.72 $\pm$ 0.385 <sup>c</sup>	17.43 $\pm$ 0.209 <sup>b</sup>	17.02 $\pm$ 0.138 <sup>bc</sup>	0.000	17.07 $\pm$ 0.100
<i>ED</i>	7.44 $\pm$ 0.087 <sup>a</sup>	6.60 $\pm$ 0.119 <sup>b</sup>	6.41 $\pm$ 0.127 <sup>b</sup>	6.65 $\pm$ 0.121 <sup>b</sup>	6.57 $\pm$ 0.274 <sup>b</sup>	7.18 $\pm$ 0.085 <sup>a</sup>	7.15 $\pm$ 0.079 <sup>a</sup>	0.000	6.90 $\pm$ 0.055
<i>EI</i>	12.38 $\pm$ 0.170 <sup>a</sup>	9.77 $\pm$ 0.267 <sup>d</sup>	10.33 $\pm$ 0.136 <sup>cd</sup>	11.23 $\pm$ 0.300 <sup>b</sup>	10.90 $\pm$ 0.232 <sup>bc</sup>	11.04 $\pm$ 0.210 <sup>b</sup>	11.84 $\pm$ 0.138 <sup>a</sup>	0.000	11.20 $\pm$ 0.099

<i>HLE</i>	29.47±0.284 <sup>a</sup>	28.06±0.265 <sup>b</sup>	26.79±0.275 <sup>c</sup>	27.91±0.197 <sup>b</sup>	27.82±0.366 <sup>b</sup>	28.28±0.304 <sup>b</sup>	28.35±0.142 <sup>b</sup>	0.000	28.17±0.113
<i>BD</i>	18.87±0.234 <sup>a</sup>	17.77±0.435 <sup>b</sup>	16.77±0.290 <sup>c</sup>	18.07±0.300 <sup>ab</sup>	17.66±0.441 <sup>bc</sup>	18.02±0.330 <sup>ab</sup>	18.24±0.239 <sup>ab</sup>	0.000	17.98±0.125
<i>BB</i>	19.10±0.263 <sup>a</sup>	16.53±0.487 <sup>d</sup>	16.72±0.358 <sup>d</sup>	17.71±0.284 <sup>bc</sup>	17.33±0.329 <sup>cd</sup>	18.17±0.352 <sup>bc</sup>	18.32±0.265 <sup>ab</sup>	0.000	17.83±0.134
<i>PL</i>	21.54±0.248 <sup>b</sup>	19.26±0.327 <sup>c</sup>	19.39±0.226 <sup>c</sup>	20.10±0.253 <sup>c</sup>	19.73±0.265 <sup>c</sup>	23.23±0.581 <sup>a</sup>	21.17±0.189 <sup>b</sup>	0.000	20.75±0.150

**Table S3.** The variation coefficient (*C.D*) values for each trait of pairwise populations of *C. myriaster*.

Traits	DL/ WH	DL/ RS	DL/ QD	DL/ RZ	DL/ LYG	DL/ ZS	WH/ RS	WH/ QD	WH/ RZ	WH/ LYG	RS/ QD	RS/ RZ	RS/ LYG	RS/ ZS	QD/ RZ	QD/ LYG	QD/ ZS	RZ/ LYG	RZ/ ZS	LYG/ ZS
<i>TV</i>	0.105	0.287	0.552	0.157	0.232	0.292	0.104	0.364	0.002	0.291	0.376	0.157	0.605	0.620	0.492	0.799	0.791	0.462	0.497	0.105
<i>DV</i>	0.257	0.290	0.728	0.278	0.234	0.058	0.071	0.456	0.037	0.047	0.314	0.036	0.117	0.280	0.389	0.549	0.785	0.084	0.265	0.210
<i>AV</i>	0.000	0.003	0.513	0.150	0.144	0.106	0.003	0.602	0.177	0.173	0.574	0.167	0.162	0.127	0.413	0.455	0.805	0.016	0.327	0.335
<i>AFV</i>	0.159	0.101	0.693	0.127	0.175	0.271	0.054	0.701	0.022	0.430	0.673	0.028	0.327	0.441	0.652	1.048	1.175	0.361	0.477	0.117
<i>DAV</i>	0.100	0.196	0.015	0.131	0.382	0.354	0.150	0.102	0.065	0.399	0.183	0.066	0.195	0.152	0.128	0.340	0.315	0.258	0.221	0.058
<i>DV/TV</i>	0.232	0.236	0.587	0.251	0.283	0.139	0.045	0.361	0.038	0.037	0.247	0.011	0.018	0.162	0.291	0.349	0.572	0.007	0.169	0.194
<i>AV/TV</i>	0.085	0.166	0.110	0.074	0.293	0.082	0.060	0.190	0.159	0.364	0.296	0.264	0.521	0.279	0.043	0.185	0.038	0.240	0.007	0.242
<i>AFV/TV</i>	0.046	0.060	0.290	0.046	0.044	0.075	0.106	0.229	0.005	0.101	0.368	0.113	0.033	0.011	0.261	0.430	0.405	0.108	0.132	0.050
<i>DAV/TV</i>	0.156	0.309	0.242	0.192	0.319	0.218	0.145	0.113	0.034	0.125	0.004	0.111	0.046	0.118	0.086	0.031	0.088	0.086	0.005	0.090
<i>BL</i>	0.004	0.150	0.162	0.075	0.109	0.065	0.149	0.169	0.082	0.106	0.248	0.207	0.068	0.085	0.112	0.246	0.192	0.187	0.130	0.030
<i>TAL</i>	0.595	0.292	0.265	0.264	0.230	0.113	0.029	0.416	0.565	0.656	0.157	0.194	0.223	0.317	0.048	0.105	0.299	0.068	0.305	0.241
<i>AFL</i>	0.890	0.555	0.553	0.340	0.339	0.257	0.352	0.608	0.762	0.832	0.132	0.322	0.358	0.498	0.259	0.301	0.478	0.022	0.158	0.144
<i>AL</i>	0.016	0.052	0.056	0.101	0.120	0.134	0.307	0.426	0.758	1.013	0.018	0.359	0.530	0.664	0.436	0.669	0.852	0.145	0.276	0.141
<i>DL</i>	0.349	0.079	0.008	0.026	0.250	0.363	0.348	0.359	0.383	0.726	0.073	0.061	0.414	0.590	0.018	0.274	0.396	0.329	0.478	0.099
<i>TRL</i>	1.079	0.982	0.813	0.615	0.252	0.296	0.011	0.231	0.324	0.956	0.201	0.290	0.856	0.977	0.115	0.659	0.753	0.455	0.509	0.010
<i>HL</i>	0.152	0.275	0.109	0.290	0.149	0.323	0.490	0.303	0.481	0.334	0.201	0.051	0.129	0.018	0.227	0.056	0.249	0.162	0.042	0.163
<i>HB</i>	0.987	0.406	0.272	0.267	0.130	0.106	0.525	0.677	0.556	0.695	0.134	0.087	0.218	0.333	0.031	0.103	0.189	0.118	0.196	0.050

<i>SL</i>	0.516	0.673	0.429	0.550	0.372	0.359	0.219	0.082	0.181	0.168	0.063	0.013	0.375	0.477	0.062	0.190	0.244	0.301	0.372	0.061
<i>ML</i>	0.737	0.914	0.663	0.530	0.395	0.701	0.411	0.161	0.080	0.251	0.174	0.203	0.539	0.455	0.046	0.317	0.199	0.228	0.112	0.211
<i>ED</i>	0.763	0.835	0.590	0.448	0.243	0.294	0.159	0.040	0.014	0.569	0.170	0.082	0.669	0.664	0.037	0.423	0.409	0.330	0.318	0.042
<i>EI</i>	1.139	1.138	0.383	0.664	0.591	0.293	0.287	0.466	0.474	0.529	0.342	0.301	0.373	1.020	0.109	0.061	0.229	0.062	0.494	0.412
<i>HLE</i>	0.469	0.816	0.511	0.454	0.338	0.433	0.470	0.062	0.077	0.076	0.405	0.311	0.465	0.690	0.026	0.126	0.220	0.129	0.203	0.029
<i>BD</i>	0.318	0.693	0.236	0.329	0.254	0.227	0.282	0.077	0.026	0.066	0.375	0.237	0.367	0.513	0.100	0.013	0.052	0.089	0.164	0.068
<i>BB</i>	0.658	0.661	0.396	0.534	0.252	0.250	0.046	0.292	0.205	0.389	0.265	0.169	0.370	0.472	0.112	0.121	0.184	0.233	0.320	0.042
<i>PL</i>	0.746	0.772	0.454	0.626	0.346	0.142	0.05	0.269	0.168	0.83	0.248	0.133	0.851	0.791	0.124	0.638	0.406	0.757	0.610	0.475

**Table S4.** Euclidean distances of seven *C. myriaster* populations.

Population	QD	RZ	RS	WH	ZS	LYG	DL
QD	0						
RZ	6.760	0					
RS	4.974	6.992	0				
WH	9.203	12.759	6.836	0			
ZS	12.139	6.496	12.565	17.710	0		
LYG	10.740	6.131	11.295	16.010	3.261	0	
DL	13.274	13.100	14.892	17.604	13.759	13.139	0

**Table S5.** The accuracy of discriminant function analyses in each population.

Population		QD	RZ	RS	WH	ZS	LYG	DL	Total
Quantity		41	25	29	21	30	32	40	218
Accuracy (%)		68.29	36.00	48.28	61.91	60.00	59.38	72.50	59.63
Predictive classification results	QD	28	7	3	2	0	1	0	41
	RZ	2	9	4	5	1	0	4	25
	RS	2	7	14	6	0	0	0	29
	WH	2	2	4	13	0	0	0	21
	ZS	1	1	0	0	18	6	4	30
	LYG	0	0	0	0	11	19	2	32
	DL	1	2	0	0	7	1	29	40