Table S1. Percentage of sea stars with supernumerary arms (i.e., more than 5) for 9 species at 16 sites in Barkley Sound, BC, Canada. Sample sizes are given next to percentages for each species by site combination and means ± standard deviations are given for each species and each site.

Site	*Patiria miniata*	*Dermasterias imbricata*	*Pisaster ochraceus*	*Orthasterias koehleri*	*Henricia sp.*	*Evasterias troschelii*	*Mediaster aequalis*	*Stylasterias forreri*	*Pisaster brevispinus*	Site mean ± sd
Aguilar	8.57 (70)	0 (96)	0 (57)	0 (65)	0 (20)	0 (5)	0 (2)	NA	NA	1.22 ± 3.24
BMSC Dock	20 (5)	0 (67)	0 (9)	0 (17)	0 (3)	0 (18)	0 (1)	NA	NA	2.86 ± 7.56
Cia	5.71 (35)	2.5 (80)	0 (9)	0 (51)	0 (27)	0 (17)	NA	NA	NA	1.37 ± 2.35
Dixon Inside	8.87 (124)	0 (56)	0 (1)	0 (28)	0 (8)	0 (15)	NA	NA	NA	1.48 ± 3.62
Dodger Channel	3.64 (55)	0 (28)	0 (22)	0 (17)	0 (12)	0 (5)	NA	8.33 (12)	NA	1.71 ± 3.22
Ellis Island	4.68 (342)	0 (9)	NA	0 (8)	NA	0 (13)	NA	NA	NA	1.17 ± 2.34
Goby Town	1.82 (55)	0 (24)	0 (5)	0 (11)	0 (4)	0 (7)	NA	NA	NA	0.3 ± 0.74
Ohiat	20.41 (49)	2.08 (48)	2.04 (49)	0 (57)	0 (1)	0 (1)	NA	NA	NA	4.09 ± 8.06
Ross Main	10.17 (59)	0 (7)	0 (1)	0 (20)	NA	0 (2)	0 (1)	NA	0 (1)	1.45 ± 3.84
Ross North	24.3 (107)	0 (38)	0 (1)	0 (33)	NA	0 (4)	0 (1)	NA	NA	4.05 ± 9.92
Ross Slug	14.29 (28)	0 (22)	NA	0 (11)	0 (1)	0 (7)	NA	NA	NA	2.86 ± 6.39
Ross South	10.45 (67)	0 (15)	0 (1)	0 (26)	0 (2)	NA	NA	NA	NA	2.09 ± 4.67
Scott's Outside	16 (25)	0 (13)	NA	0 (1)	0 (8)	0 (5)	NA	NA	0 (1)	2.67 ± 6.53
Scotts Inside	10.2 (49)	0 (20)	0 (17)	NA	NA	0 (5)	NA	NA	NA	2.55 ± 5.1
Wizard North	5.56 (36)	0 (25)	0 (1)	0 (46)	0 (15)	0 (1)	NA	0 (1)	NA	0.79 ± 2.1
Wizard South	0 (10)	5 (60)	0 (2)	0 (83)	0 (32)	0 (1)	0 (4)	0 (4)	NA	0.62 ± 1.77
Species mean ± sd	10.29 ± 7.04	0.6 ± 1.41	0.16 ± 0.57	0 ± 0	0 ± 0	0 ± 0	0 ± 0	2.78 ± 4.81	0 ± 0	

Table S2. Result of a linear mixed-effects model examining the effect of arm number category (i.e. five or supernumerary), length of the longest arm (centred), and the interaction between the two, on bat star oral surface area. The model included site as a random effect

Variable	Estimate	SE	z-value	p-value
Intercept	85.60	2.20	38.93	< 0.001
Arm number category	5.00	2.18	2.29	0.02
Arm length	16.73	0.96	17.47	< 0.001
Arm number category: arm length	2.42	1.29	1.88	0.06

Table S3. Result of a generalized linear mixed-effects model examining the effect of arm number category (i.e. five or supernumerary), substrate type, depth (centred), and the interaction between the former two variables, on the probability that bat star were found feeding or had recently fed. The model included site as a random effect. The "control" substrate type is sand

Variable	Estimate	SE	z-value	p-value
Intercept	-0.39	0.45	- 0.87	0.38
Arm number category	0.67	0.69	0.98	0.33
Cobble substrate	1.33	0.52	2.54	0.01
Rock substrate	1.25	0.46	2.69	0.007
Depth	-0.16	0.05	- 2.99	0.003
Arm number category:Cobble	-0.69	0.88	- 0.79	0.43
Arm number category:Rock	-0.47	0.75	- 0.63	0.53

Table S4. Result of a linear mixed-effects model examining the effect of arm number category (i.e. five or supernumerary), length of the longest arm, and the interaction between the two, on bat star righting time. The model included site as a random effect

Variable	Estimate	SE	z-value	p-value
Intercept	5.49	0.06	97.94	< 0.001
Arm number category	0.05	0.08	0.64	0.52
Arm length	0.06	0.04	1.40	0.16
Arm number category: arm length	0.01	0.06	0.16	0.87