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Specificity of grouping behavior: comparing colony
sizes for the same seabird species in distant populations.
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Supplementary material

Appendix 1

Colony size frequency distribution (CSFD) characteristics retrieved for each population (see Fig.1 for geographic area codes). Variables related to the shape of CSFDs were not calculated for populations with 25 or less colonies (because of low accuracy). Also, populations with less than ten nests were excluded from the dataset. Some of these variables were normalized before analyses (see text); here are displayed without normalization. Min and Max stand for minimum and maximum colony sizes, respectively. In Geographic area A (data from the Seabird 2000 project) the "sub-site" scale was used (see details in Mitchell et al. 2004). This way of defining colonies may differ from more biological considerations about colony definitions, and it should be taken into account when using this data.

Species	Geographic		Geometric					Kolmogorov-		95th		P.V.	
	area	#Colonies	#Nests	Min	Max	Mean	C.V.	Kurtosis	Skewness	Smirnov	Percentile		Median
<i>Alca torda</i>	A	870	144743	1	11384	28.2	0.560	-0.396	0.181	0.042	613.0	27	0.734
<i>Alca torda</i>	B	194	2837	1	241	5.9	0.700	0.002	0.550	0.092	65.4	5	0.624
<i>Alca torda</i>	C	79	22094	1	5820	41.2	0.563	-0.708	0.164	0.065	1359.1	35	0.766
<i>Alle alle</i>	B	9	1092	1	1000	10.7					1000.0	13	
<i>Alle alle</i>	D	3	31	1	25	5.0					25.0	5	
<i>Cepphus grylle</i>	A	1481	21731	1	323	7.0	0.641	-0.781	0.048	0.088	50.0	7	0.637
<i>Cepphus grylle</i>	B	690	20113	1	500	13.2	0.511	-0.449	-0.107	0.059	100.0	14	0.648
<i>Cepphus grylle</i>	C	99	11910	1	1107	49.0	0.380	0.232	-0.382	0.089	373.7	47	0.666
<i>Cepphus grylle</i>	D	12	347	1	200	6.0					183.6	6	
<i>Fratercula arctica</i>	A	490	600751	1	59471	40.3	0.633	0.380	0.664	0.063	3104.0	28.5	0.768
<i>Fratercula arctica</i>	B	49	801	1	195	4.5	0.984	-0.094	0.843	0.155	99.0	3	0.647
<i>Fratercula arctica</i>	C	18	18733	3	7889	63.4					6313.5	29.5	
<i>Fulmarus glacialis</i>	A	2976	537988	1	20424	32.1	0.530	-0.404	0.187	0.035	709.7	31	0.731
<i>Fulmarus glacialis</i>	B	27	95740	1	37500	169.8	0.606	-1.003	0.053	0.111	17210.1	110	0.841
<i>Fulmarus glacialis</i>	D	38	712101	1	250000	904.1	0.526	-1.173	-0.374	0.156	77770.7	1500	0.839
<i>Larus argentatus</i>	A	2845	148869	1	10129	10.2	0.723	-0.362	0.397	0.084	190.0	10	0.704
<i>Larus argentatus</i>	C	155	41758	1	4487	64.5	0.464	-0.339	-0.396	0.106	1030.7	93	0.731
<i>Larus argentatus</i>	D	30	784	1	143	8.2	0.794	-1.274	0.127	0.134	137.0	10.5	0.705
<i>Larus canus</i>	A	1554	49728	1	11219	6.5	0.747	0.520	0.623	0.090	79.8	6	0.654

<i>Larus canus</i>	D	66	7162	1	1900	19.7	0.592	0.134	0.497	0.128	600.0	13.5	0.694
<i>Larus fuscus</i>	A	995	116640	1	19487	8.5	0.868	0.576	0.834	0.125	233.6	6	0.705
<i>Larus fuscus</i>	B	11	23	1	5	1.8					4.9	2	
<i>Larus fuscus</i>	C	159	8262	1	562	15.0	0.622	-1.049	0.181	0.078	203.2	12	0.714
<i>Larus hyperboreus</i>	B	600	15098	1	1000	6.9	0.807	-0.644	0.375	0.142	100.0	7	0.678
<i>Larus hyperboreus</i>	D	133	4905	1	619	10.3	0.646	-0.092	0.412	0.072	145.0	10	0.678
<i>Larus marinus</i>	A	2073	19616	1	983	3.0	1.142	0.767	1.143	0.213	37.0	2	0.565
<i>Larus marinus</i>	B	151	981	1	50	2.9	1.117	-0.788	0.693	0.278	29.7	2	0.562
<i>Larus ridibundus</i>	A	677	141871	1	14575	19.3	0.691	-0.170	0.515	0.074	800.0	16	0.746
<i>Larus ridibundus</i>	B	4	17	2	10	3.3					10.0	2.5	
<i>Morus bassanus</i>	A	22	259311	3	61340	2731.5					50329.2	2526	
<i>Morus bassanus</i>	C	3	77317	221	53635	6527.2					53635.0	23461	
<i>Oceanodroma leucorhoa</i>	A	16	48357	5	27704	220.8					21604.3	211	
<i>Oceanodroma leucorhoa</i>	C	1	359	359	359	359.0					359.0	359	
<i>Oceanodroma leucorhoa</i>	D	63	1775672	20	850000	1333.2	0.317	0.385	0.747	0.108	139356.2	1000	0.763
<i>Phalacrocorax auritus</i>	C	73	23969	2	1806	136.4	0.327	0.198	-0.727	0.090	1271.0	170	0.690
<i>Phalacrocorax auritus</i>	D	95	3037	1	385	11.0	0.589	-0.025	0.320	0.058	126.5	10	0.661
<i>Phalacrocorax carbo</i>	A	267	13628	1	675	19.7	0.511	-0.448	-0.325	0.083	200.0	25	0.679
<i>Phalacrocorax carbo</i>	B	146	2304	1	180	7.1	0.670	-0.780	-0.010	0.124	54.2	8	0.646
<i>Phalacrocorax carbo</i>	C	19	1424	1	360	21.0					321.0	34	
<i>Rissa tridactyla</i>	A	679	415994	1	17546	145.1	0.368	-0.178	-0.184	0.030	2756.1	154	0.727
<i>Rissa tridactyla</i>	B	178	99131	1	12500	71.0	0.500	0.020	-0.075	0.079	2705.0	66	0.746
<i>Rissa tridactyla</i>	C	59	61621	1	18550	120.2	0.430	0.239	0.238	0.089	4972.6	121	0.748
<i>Rissa tridactyla</i>	D	346	688102	1	61960	279.7	0.383	-0.244	-0.090	0.029	8772.8	254	0.763
<i>Somateria mollissima</i>	B	212	8777	1	1293	8.7	0.758	-0.182	0.498	0.095	149.6	9.5	0.694
<i>Somateria mollissima</i>	D	120	4923	1	900	9.1	0.707	0.175	0.687	0.084	182.2	8	0.681
<i>Stercorarius parasiticus</i>	A	650	2136	1	107	1.7	1.577	3.169	1.795	0.352	12.0	1	0.399
<i>Stercorarius parasiticus</i>	B	17	191	1	100	3.0					75.6	2	
<i>Sterna paradisaea</i>	A	928	48469	1	4000	13.9	0.590	-0.227	0.213	0.062	166.0	14	0.688

<i>Sterna paradisaea</i>	B	174	19904	1	3750	21.5	0.621	-0.550	0.010	0.090	500.0	25	0.733
<i>Sterna paradisaea</i>	D	175	5526	1	500	11.5	0.595	-0.567	0.075	0.066	100.0	12	0.676
<i>Uria aalge</i>	A	681	1044856	1	75493	194.2	0.430	-0.426	-0.123	0.027	7344.3	205	0.776
<i>Uria aalge</i>	B	8	299	1	275	3.4					275.0	1	
<i>Uria aalge</i>	C	21	84916	2	45579	111.9					35027.7	50	
<i>Uria aalge</i>	D	124	774898	1	100957	618.6	0.400	-0.675	-0.172	0.060	38744.9	750	0.805
<i>Uria lomvia</i>	B	31	157947	1	76552	251.8	0.594	-1.023	-0.288	0.157	23689.7	625	0.829
<i>Uria lomvia</i>	C	1	580	580	580	580.0					580.0	580	
<i>Uria lomvia</i>	D	68	956105	1	549300	753.9	0.362	0.331	0.167	0.056	40126.9	690	0.784

Appendix 2

Figure A1. Species repeatability estimates (error lines show 95% CI) on different features of colony size frequency distributions. White dots show raw repeatability estimates; black dots locality-adjusted estimates. For each variable, estimates are ordered from left to right at increasing data constrains (see text for details). Fig. 3 in the main text shows only the most right-hand black dots in this plot.

