



Supplement of

Environmental and habitat controls on non-marine ostracod distribution in Greenlandic Arctic lakes

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Table S1. Water composition and chemistry recorded in 24 study lakes, including variables removed due to statistically significant correlations

Lake ID	Electrical conductivity (mS cm ⁻¹)	Water temperature (°C)	SRP (µgL ⁻¹)	NO ₃ -N (µgL ⁻¹)	NO ₂ -N (µgL ⁻¹)	NH ₄ -N (µgL ⁻¹)	Silicate (mgL ⁻¹)	Chlorophyll-a (µgL ⁻¹)	Total alkalinity (meqL ⁻¹)	pH	% sat DO	Secchi depth (m)
1	0.4	10.5	5.73	BDL	0.49	0	0.4	0.31	3	8.5	99	5.15
2	0.16	10.5	3.34	BDL	0.49	0	0.38	1.01	1.2	8.6	100	11.8
3	0.87	10.4	49.66	7.75	1.97	43.6	8.36	1.27	4.15	8.1	86	1.4
4	1.19	10.4	24.59	3.88	1.97	0.87	4.53	1.27	5.15	8.6	101	1.7
5	0.68	10.3	0.95	2.58	0.49	7.85	0.41	0.22	4.6	8.6	108	8.1
6	3.00	10.3	4.26	2.58	0.99	5.23	0.62	0.34	15.6	8.4	108	5.8
7	4.09	10.2	14.19	BDL	1.97	14.83	1.08	0.09	20.9	9.1	103	6.6
8	0.99	10.2	0.93	3.82	0	2.28	0.18	0.29	5.05	9.2	99	4.9
9	0.32	10.1	1.87	1.27	0	0	0.47	0.38	2.45	8.8	107	5.2
10	0.71	10.1	2.8	1.27	0	0	0.91	0.77	5.2	8.2	109	2.3
11	0.15	10.0	0.93	2.55	0	0	0.32	0.37	1.1	9.3	101	1.5
12	0.07	10.0	14.43	12.27	0.5	0	1.76	0.37	0.55	8.8	96	0.7
13	0.17	9.9	6.77	3.51	0	0	0.55	2.65	1.15	7.7	106	2.8
14	0.19	9.8	3.16	BDL	0	0	0.4	0.18	1.7	8.2	103	10.7
15	0.01	9.8	4.96	1.75	0	0	0.55	0.34	0.2	8.3	109	0.13
16	0.11	9.8	0.9	BDL	0	0	0.19	0.11	1.05	8.2	115	13.2
17	0.7	9.7	3.61	1.75	0.5	0	0.65	0.51	5.4	8	117	3.9
18	0.47	9.7	6.31	1.75	0	0	0.6	0.24	4.25	9.3	109	2.4
19	0.54	9.6	2.71	3.51	0	1.84	0.6	0.75	4.75	9.7	98	3.3
20	0.07	9.6	1.96	2.59	0.99	1.7	0.32	0.21	0.5	8.1	97	8.5
21	0.1	9.6	2.45	2.59	1.98	0	0.64	0.23	0.8	8.0	105	8.55
22	0.09	9.5	2.45	2.59	1.49	0	0.14	0.59	0.8	8.4	114	3.3
23	0.51	9.5	2.43	4.24	1.49	2.56	0.86	2.36	3.7	8.9	114	1.55
24	0.16	9.5	1.94	2.12	1.98	1.81	1.22	0.89	1.1	8.8	105	3.4

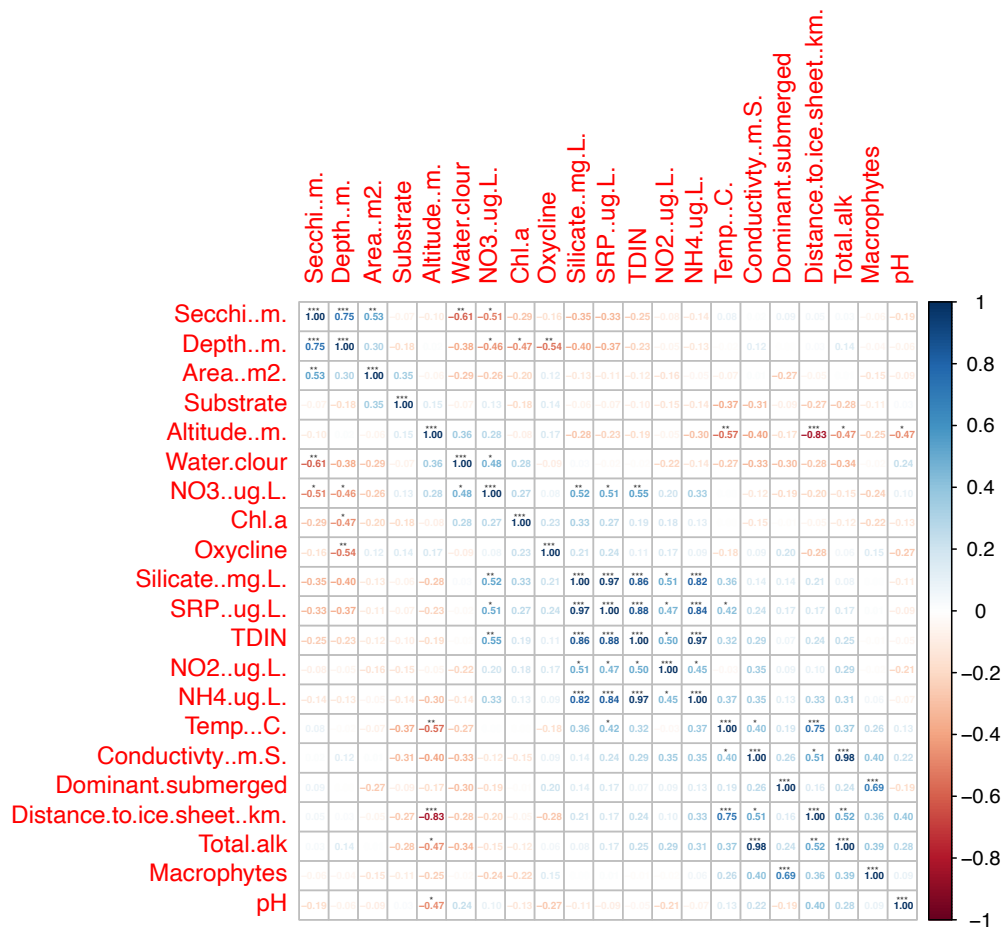


Figure S1. Correlation matrix of environmental variables

Table S2. Ostracod count data with information on numbers of carapaces and carapaces with soft parts.

Lake ID	<i>C. candida</i> valves	<i>C. candida</i> carapaces	<i>C. candida</i> soft parts	<i>C. candida</i> total	<i>C. candida</i> per gram	<i>Candona juv</i> valves	<i>Candona juv</i> carapaces	<i>Candona juv</i> soft parts	<i>Candona juv</i> total	<i>Candona juv</i> per gram
1	0	0	0	0	0.00	0	0	0	0	0.00
2	9	4	2	13	2.85	2	0	0	2	0.44
3	1	0	0	1	1.00	0	0	0	0	0.00
4	0	0	0	0	0.00	0	0	0	0	0.00
5	88	21	7	108	7.88	10	0	0	10	0.73
6	9	0	0	9	2.95	0	0	0	0	0.00
7	52	2	0	54	8.22	0	0	0	0	0.00
8	54	7	0	61	45.29	16	0	0	16	11.88
9	2	0	0	2	4.33	2	0	0	2	4.33
10	6	4	1	10	5.15	1	0	0	1	0.52
11	4	13	12	17	15.10	0	1	1	1	0.89
12	1	20	15	21	3.06	1	5	0	6	0.88
13	2	12	12	14	2.04	1	13	10	14	2.04
14	2	0	0	2	0.23	0	0	0	0	0.00
15	0	2	1	2	0.18	0	3	3	3	0.28
16	0	0	0	0	0.00	0	0	0	0	0.00
17	6	6	4	12	20.48	0	0	0	0	0.00
18	31	13	9	44	1.64	0	0	0	0	0.00
19	11	1	1	12	11.72	0	0	0	0	0.00
20	1	4	4	5	2.01	0	0	0	0	0.00
21	0	0	0	0	0.00	0	0	0	0	0.00
22	1	5	0	6	1.36	0	0	0	0	0.00
23	27	58	19	85	35.45	0	0	0	0	0.00
24	3	0	0	3	4.86	0	0	0	0	0.00

Table S2 continued.

Lake ID	<i>Heterocypris incongruens</i> valves	<i>Heterocypris incongruens</i> carapaces	<i>Heterocypris incongruens</i> soft parts	<i>Heterocypris incongruens</i> total	<i>Heterocypris incongruens</i> per gram	<i>Arctocypris</i> sp. valves	<i>Arctocypris</i> sp. carapaces	<i>Arctocypris</i> sp. soft parts	<i>Arctocypris</i> sp. total	<i>Arctocypris</i> sp. per gram
1	0	0	0	0	0.00	0	0	0	0	0.00
2	0	0	0	0	0.00	0	0	0	0	0.00
3	4	1	0	5	5.00	0	0	0	0	0.00
4	0	0	0	0	0.00	0	0	0	0	0.00
5	0	0	0	0	0.00	3	0	1	3	0.22
6	15	5	1	20	6.55	45	1	0	46	15.07
7	0	0	0	0	0.00	23	3	0	26	3.96
8	0	0	0	0	0.00	0	0	0	0	0.00
9	1	0	0	1	2.17	0	0	0	0	0.00
10	1	2	0	3	1.55	0	0	0	0	0.00
11	0	0	0	0	0.00	0	0	0	0	0.00
12	0	0	0	0	0.00	0	0	0	0	0.00
13	0	0	0	0	0.00	0	0	0	0	0.00
14	0	0	0	0	0.00	0	0	0	0	0.00
15	0	0	0	0	0.00	1	0	0	1	0.09
16	0	0	0	0	0.00	0	0	0	0	0.00
17	6	3	4	9	15.36	3	1	2	4	6.83
18	2	2	2	4	0.15	1	2	2	3	0.11
19	0	0	0	0	0.00	3	0	0	3	2.93
20	0	0	0	0	0.00	0	0	0	0	0.00
21	0	1	0	1	0.04	0	0	0	0	0.00
22	0	0	0	0	0.00	0	0	0	0	0.00
23	0	0	0	0	0.00	0	0	0	0	0.00
24	0	0	0	0	0.00	0	0	0	0	0.00

Table S2 continued

Lake ID	<i>P. parva</i> valves	<i>P. parva</i> carapaces	<i>P. parva</i> soft parts	<i>P. parva</i> total	<i>P. parva</i> per gram	<i>L.</i> <i>inopinata</i> valves	<i>L.</i> <i>inopinata</i> carapaces	<i>L.</i> <i>inopinata</i> soft parts	<i>L.</i> <i>inopinata</i> total	<i>L.</i> <i>inopinata</i> per gram
1	0.00	0	0	0	0.00	0	0	0	0	0.00
2	0.00	0	0	0	0.00	0	0	0	0	0.00
3	0.00	0	0	0	0.00	0	0	0	0	0.00
4	0.00	0	0	0	0.00	0	0	0	0	0.00
5	0.00	0	0	0	0.00	0	3	0	3	0.22
6	4.00	0	0	4	1.31	0	1	0	1	0.33
7	0.00	0	0	0	0.00	4	0	0	4	0.61
8	0.00	0	0	0	0.00	1	14	0	15	11.14
9	0.00	0	0	0	0.00	0	0	0	0	0.00
10	0.00	0	0	0	0.00	0	0	0	0	0.00
11	0.00	0	0	0	0.00	0	0	0	0	0.00
12	0.00	0	0	0	0.00	0	0	0	0	0.00
13	0.00	0	0	0	0.00	0	0	0	0	0.00
14	0.00	0	0	0	0.00	0	0	0	0	0.00
15	0.00	0	0	0	0.00	0	0	0	0	0.00
16	0.00	0	0	0	0.00	0	0	0	0	0.00
17	0.00	0	0	0	0.00	0	0	0	0	0.00
18	0.00	0	0	0	0.00	0	0	0	0	0.00
19	0.00	0	0	0	0.00	0	0	0	0	0.00
20	0.00	0	0	0	0.00	0	0	0	0	0.00
21	0.00	0	0	0	0.00	0	0	0	0	0.00
22	0.00	1	0	1	0.23	0	0	0	0	0.00
23	0.00	0	0	0	0.00	0	0	0	0	0.00
24	0.00	0	0	0	0.00	0	0	0	0	0.00

Table S2 continued.

Lake ID	<i>L. sanctipatricii</i> valves	<i>L. sanctipatricii</i> carapaces	<i>L. sanctipatricii</i> soft parts	<i>L. sanctipatricii</i> total	<i>L. sanctipatricii</i> per gram	<i>I. bradyi</i> valves	<i>I. bradyi</i> carapaces	<i>I. bradyi</i> soft parts	<i>I. bradyi</i> total	<i>I. bradyi</i> per gram
1	0	0	0	0	0.00	0	0	0	0	0.00
2	0	0	0	0	0.00	0	0	0	0	0.00
3	0	0	0	0	0.00	0	0	0	0	0.00
4	0	0	0	0	0.00	0	0	0	0	0.00
5	0	1	0	1	0.07	0	0	0	0	0.00
6	0	0	0	0	0.00	4	0	0	4	1.31
7	0	1	0	1	0.15	0	0	0	0	0.00
8	0	0	0	0	0.00	0	0	0	0	0.00
9	2	5	1	7	15.16	0	0	0	0	0.00
10	0	0	0	0	0.00	0	0	0	0	0.00
11	0	0	0	0	0.00	0	0	0	0	0.00
12	0	0	0	0	0.00	0	0	0	0	0.00
13	0	0	0	0	0.00	0	0	0	0	0.00
14	0	0	0	0	0.00	0	0	0	0	0.00
15	0	0	0	0	0.00	0	0	0	0	0.00
16	0	0	0	0	0.00	0	0	0	0	0.00
17	0	0	0	0	0.00	0	0	0	0	0.00
18	0	0	0	0	0.00	0	0	0	0	0.00
19	2	6	0	8	7.81	2	0	0	2	1.95
20	0	0	0	0	0.00	0	0	0	0	0.00
21	0	1	0	1	0.04	0	0	0	0	0.00
22	0	0	0	0	0.00	0	0	0	0	0.00
23	0	0	0	0	0.00	0	0	0	0	0.00
24	0	0	0	0	0.00	0	0	0	0	0.00

Table S2 continued.

Lake ID	<i>I. gibba</i> valves	<i>I. gibba</i> carapaces	<i>I. gibba</i> soft parts	<i>I. gibba</i> total	<i>I. gibba</i> per gram	<i>L. friabilis</i> valves	<i>L. friabilis</i> carapaces	<i>L. friabilis</i> soft parts	<i>L. friabilis</i> total	<i>L. friabilis</i> per gram
1	0	0	0	0	0.00	0	0	0	0	0.00
2	0	0	0	0	0.00	0	0	0	0	0.00
3	0	0	0	0	0.00	0	0	0	0	0.00
4	0	0	0	0	0.00	0	0	0	0	0.00
5	0	0	0	0	0.00	0	0	0	0	0.00
6	0	1	0	1	0.33	0	0	0	0	0.00
7	0	0	0	0	0.00	3	0	0	3	0.46
8	0	0	0	0	0.00	0	0	0	0	0.00
9	0	0	0	0	0.00	0	0	0	0	0.00
10	0	0	0	0	0.00	0	0	0	0	0.00
11	0	0	0	0	0.00	0	0	0	0	0.00
12	0	0	0	0	0.00	0	0	0	0	0.00
13	0	0	0	0	0.00	0	0	0	0	0.00
14	0	0	0	0	0.00	0	0	0	0	0.00
15	0	0	0	0	0.00	0	0	0	0	0.00
16	0	0	0	0	0.00	0	0	0	0	0.00
17	0	0	0	0	0.00	0	0	0	0	0.00
18	0	0	0	0	0.00	0	0	0	0	0.00
19	0	0	0	0	0.00	0	0	0	0	0.00
20	0	0	0	0	0.00	0	0	0	0	0.00
21	0	0	0	0	0.00	0	0	0	0	0.00
22	0	0	0	0	0.00	0	0	0	0	0.00
23	0	0	0	0	0.00	0	0	0	0	0.00
24	0	0	0	0	0.00	0	0	0	0	0.00

Table S2 continued.

Lake ID	<i>C. pubera</i>	<i>C. pubera</i>	<i>C. pubera</i>	<i>C. pubera</i>	<i>C. pubera</i>	<i>Cypridopsis sp.</i>	<i>Cypridopsis sp.</i>	<i>Cypridopsis sp.</i>	<i>Cypridopsis sp.</i>	<i>Cypridopsis sp.</i>
	valves	carapaces	soft parts	total	per gram	valves	carapaces	soft parts	total	per gram
1	0	0	0	0	0.00	0	0	0	0	0.00
2	0	0	0	0	0.00	1	0	0	1	0.22
3	68	7	5	75	75.00	0	0	0	0	0.00
4	0	0	0	0	0.00	0	0	0	0	0.00
5	0	0	0	0	0.00	0	0	0	0	0.00
6	3	0	0	3	0.98	0	0	0	0	0.00
7	0	0	0	0	0.00	0	0	0	0	0.00
8	1	0	0	1	0.74	0	0	0	0	0.00
9	0	0	0	0	0.00	0	0	0	0	0.00
10	68	6	3	74	38.12	0	0	0	0	0.00
11	0	0	0	0	0.00	1	0	1	1	0.89
12	3	7	5	10	1.46	0	0	0	0	0.00
13	0	0	0	0	0.00	0	0	0	0	0.00
14	0	0	0	0	0.00	0	0	0	0	0.00
15	0	0	0	0	0.00	0	0	0	0	0.00
16	0	0	0	0	0.00	0	0	0	0	0.00
17	48	3	1	51	87.03	0	0	0	0	0.00
18	6	0	0	6	0.22	0	0	0	0	0.00
19	67	2	2	69	67.39	0	0	0	0	0.00
20	0	0	0	0	0.00	0	0	0	0	0.00
21	0	0	0	0	0.00	0	0	0	0	0.00
22	0	0	0	0	0.00	0	0	0	0	0.00
23	49	21	10	70	29.19	0	0	0	0	0.00
24	0	0	0	0	0.00	0	0	0	0	0.00

Table S2 continued.

Lake ID	<i>S. aculeata</i> valves	<i>S. aculeata</i> carapaces	<i>S. aculeata</i> soft parts	<i>S. aculeata</i> total	<i>S. aculeata</i> per gram
1	0	0	0	0	0.00
2	0	0	0	0	0.00
3	0	0	0	0	0.00
4	0	0	0	0	0.00
5	0	0	0	0	0.00
6	0	0	0	0	0.00
7	0	0	0	0	0.00
8	0	0	0	0	0.00
9	0	0	0	0	0.00
10	0	0	0	0	0.00
11	1	1	0	2	1.78
12	0	0	0	0	0.00
13	0	0	0	0	0.00
14	0	0	0	0	0.00
15	0	0	0	0	0.00
16	0	0	0	0	0.00
17	0	0	0	0	0.00
18	1	11	4	12	0.45
19	0	0	0	0	0.00
20	0	0	0	0	0.00
21	0	0	0	0	0.00
22	0	0	0	0	0.00
23	0	0	0	0	0.00
24	0	0	0	0	0.00

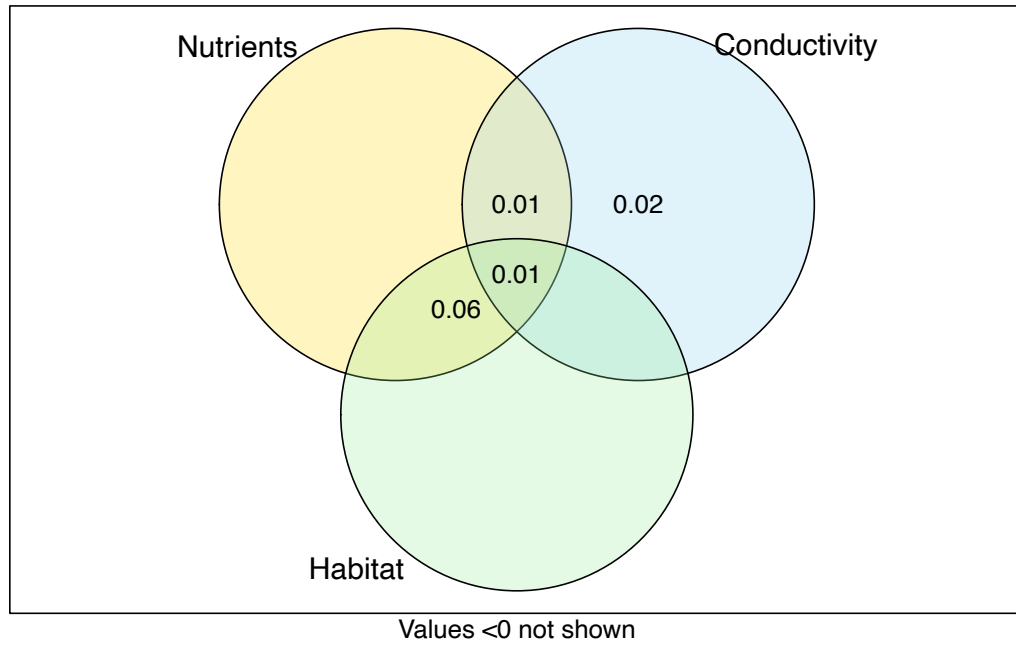


Figure S2. Variance partitioning analysis of ostracod species and selected environmental variables for the 24 study lakes