

Ecography

ECOG-00078

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Arctic arthropod assemblages in habitats of differing
shrub dominance. – *Ecography* 36: xxx–xxx.

Supplementary material

632 **Appendix 1**

633 **Table A1.** Mean relative abundance (percent cover) of plant species present in each site based
 634 on total cover (including bare area, mosses, and lichens) of each quadrat. + indicates percent
 635 cover was less than 1%.

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Plant Growth Form	Plant Species	TLFS		IMVT		SDOT	
		Shrub	Open	Shrub	Open	Shrub	Open
Graminoid	<i>Arctagrostis latifolia</i>					4.5	+
	<i>Carex aquatilis</i>			+			1.6
	<i>Carex bigelowii</i>	6.3	+	4.2	6.9	+	3.5
	<i>Eriophorum angustifolium</i>		+	3.5			3.0
	<i>Eriophorum vaginatum</i>	+	2.0	+	10.8		6.9
	Other grasses	1.8		1.0		+	+
	Deciduous Shrubs	<i>Arctuos alpina</i>	+	+			
<i>Betula nana</i>		13.9	11.8	10.2	7.7	24.2	12.1
<i>Dryas integrifolia</i>		+	+				
<i>Rosa acicularis</i>						+	
<i>Salix alaxensis</i>						1.8	
<i>Salix pulchra</i>		2.7	3.4	13.8	6.8	1.6	4.0
<i>Salix reticulata</i>		1.3	+	+			+
<i>Salix richardsonii</i>		+				+	+
<i>Salix</i> spp.		+	+			6.7	
<i>Vaccinium uliginosum</i>		12.9	5.2	+	+	5.5	10.1
Evergreen Shrubs	<i>Andromeda polifolia</i>				+		1.1
	<i>Cassiope tetragona</i>	1.6	+	+	7.5		+
	<i>Empetrum nigrum</i>	+	+		5.4	+	1.3
	<i>Rhododendron lapponicum</i>		+				+
	<i>Rhododendron tomentosum</i>	2.4	6.8	1.9	9.6	1.5	6.7
	<i>Vaccinium vitis-ideae</i>	4.3	6.3	7.5	11.9	1.0	+
Forbs	<i>Aconitum del</i>					+	
	<i>Anemone parviflora</i>	+				+	
	<i>Antennaria</i> sp.	+					

	<i>Arnica</i> sp.		+				
	<i>Chamaedaphne</i> sp.						+
	Dicots (unknown)	+	+		+	+	
	<i>Dodecatheon frigida</i>	+					
	<i>Equisetum</i> spp.	+		+		1.7	+
	<i>Galium</i> sp.					+	
	<i>Gentian</i> sp.			+			
	<i>Geum glacialis</i>	+					
	<i>Linnea borealis</i>					+	
	<i>Minuartia</i> sp.					+	
	<i>Pedicularis</i> spp.	+	+	+	+		+
	<i>Petasites frigidus</i>	1.0	1.8	1.1	+		+
	<i>Polygonum bistorta</i>	3.3	1.5	1.0	+	+	+
	<i>Polygonum viviparum</i>	+	+			+	+
	<i>Polemonium</i> sp.			+		+	
	<i>Pyrola grandifolia</i>	+	+	+	+	+	+
	<i>Pyrola secunda</i>	+	+			+	
	<i>Rubus chamaemorus</i>	+	+	8.0	+		+
	<i>Saussurea angustifolia</i>		+				
	<i>Saxifraga</i> spp.	+	+	+	+		
	<i>Senecio</i> sp.					+	
	<i>Stellaria edw</i>	+	+	+		+	+
	<i>Valerian</i> sp.					+	

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638 **Table A2.** Total number of arthropods caught in Summer 2011 in each taxonomic group for
 639 each vegetation type and site. Site abbreviations as in Fig. 1

Order or Phylum	Family or Group	TLFS		IMVT		SDOT		All Sites	
		Shrub	Open	Shrub	Open	Shrub	Open	Total	
Coleoptera	Carabidae	48	89	136	128	59	93	553	
	Staphylinidae	12	2	22	4	61	5	106	
	Circulionidae	0	3	0	0	4	8	15	
	Elateridae	3	28	1	2	2	24	60	
	Leiodidae	0	0	4	1	1	1	7	
	Chrysomelidae	0	0	2	5	0	6	13	
	Latridiidae	0	1	2	0	9	0	12	
	Cucujidae	1	0	3	4	7	2	17	
	Cantharidae	2	0	0	0	0	0	2	
	Tenebrionidae	0	0	10	0	0	0	10	
	Coleoptera Larvae	0	0	2	2	2	0	6	
	Unidentified Coleoptera	6	2	5	4	0	3	20	
	Hymenoptera	Apidae	28	23	17	25	21	28	142
		Formicidae	0	0	0	0	0	1	1
Ichneumonidae		8	20	13	16	18	6	81	
Braconidae		2	1	0	0	4	1	8	
Vespidae		0	0	0	0	1	0	1	
Sphecidae		0	3	1	2	0	1	7	
Pteromalidae		18	13	40	12	11	26	120	
Encyrtidae		0	0	0	0	1	0	1	
Mymaridae		3	1	0	5	19	3	31	
Diapriidae		8	11	5	5	30	12	71	
Figitidae		0	1	2	0	0	2	5	
Ceraphronidae		4	0	0	1	4	1	10	
Scelionidae		0	1	8	1	1	12	23	
Platygastridae		0	0	0	0	1	0	1	
Cimbicidae		0	1	0	0	0	0	1	
Proctotrupidae		8	0	50	1	0	4	63	
Megaspilidae		0	1	0	0	2	0	3	
Cynipidae		0	0	0	0	1	0	1	
Aphelinidae		1	1	10	0	5	8	25	

	Eulophidae	0	2	4	1	2	0	9
	Perilampidae	0	0	0	0	0	1	1
	Eurytomidae	0	0	0	0	0	2	2
	Tenthredinidae	0	0	2	0	0	0	2
	Tenthredinidae Larvae	2	0	0	0	0	0	2
	Other Hymenoptera Larvae	0	0	0	0	0	1	1
	Hymenoptera Pupa	3	0	2	1	3	0	9
Araneae	Lycosidae	146	287	239	368	221	423	1684
	Linyphiidae	14	18	12	19	56	16	135
	Thomisidae	12	10	14	21	3	10	70
	Gnaphosidae	4	6	5	7	4	21	47
	Araneidae	3	0	4	8	3	1	19
	Clubionidae	3	2	0	0	0	2	7
	Tetragnathidae	0	0	0	0	0	1	1
	Theridiidae	3	2	0	0	10	0	15
	Philodromidae	5	6	1	1	0	3	16
	Araneae Spiderlings	0	1	0	0	1	1	3
	Araneae Egg Sacs	63	105	120	121	116	55	580
	Unidentified Araneae	10	22	5	16	2	13	68
Diptera	Chironomidae	36	17	70	26	21	42	212
	Tipulidae	3	9	0	6	3	6	27
	Trichoceridae	16	23	10	7	18	25	99
	Sciaridae	94	55	107	24	165	96	541
	Empididae	1	0	7	1	6	2	17
	Cecidomyiidae	8	5	8	1	27	9	58
	Muscidae	3	2	1	2	14	6	28
	Ceratopogonidae	1	0	1	2	5	1	10
	Simuliidae	0	1	1	0	0	0	2
	Culicidae	6	0	4	1	3	2	16
	Anthomyiidae	9	9	11	10	8	24	71
	Scathophagidae	1	2	4	0	4	0	11
	Heleomyzidae	0	1	1	0	5	3	10
	Dolichopodidae	0	1	12	2	3	2	20
	Phoridae	50	25	69	25	184	36	389
	Chloropidae	6	7	6	3	8	9	39
	Agromyzidae	1	3	0	1	0	0	5

	Pipunculidae	0	0	0	0	0	2	2
	Carnidae	0	0	0	0	1	0	1
	Mycetophilidae	2	5	3	1	16	2	29
	Bombyliidae	0	0	0	2	0	0	2
	Sciomyzidae	2	0	1	0	5	0	8
	Unidentified Acalyptrate Flies	2	4	12	5	7	7	37
	Diptera Larvae	3	4	1	4	10	8	30
Hemiptera	Psyllidae	2	3	14	1	4	0	24
	Miridae	3	0	0	0	21	0	24
	Nabidae	0	0	0	0	4	3	7
	Tingidae	0	0	0	1	2	1	4
	Cicadellidae	26	18	69	38	174	60	385
	Aphididae	9	21	22	2	8	28	90
	Delphacidae	2	4	3	0	16	15	40
	Saldidae	0	0	2	0	0	0	2
	Rhopalidae	0	1	0	0	1	1	3
	Fulgoridae	0	0	0	0	1	0	1
	Alydidae	1	1	0	0	0	0	2
	Pseudococcidae	0	1	1	0	2	0	4
	Unidentified Coccoidea	1	1	0	0	3	0	5
	Unidentified Hemiptera	0	0	0	0	3	1	4
Orthoptera	Acrididae	10	38	0	0	2	8	58
Lithobio- morpha	Lithobiidae	5	2	1	4	1	3	16
Lepidoptera	Unidentified Lepidoptera	1	0	1	0	2	2	6
	Lepidoptera Larvae	3	8	9	8	3	3	34
Gastropoda		13	5	20	3	19	11	71
Thysanoptera	Thripidae	2	1	0	0	0	0	3
Psocoptera		0	0	1	0	1	0	2
Neuroptera	Hemerobiidae	0	0	1	0	1	0	2
Plecoptera	Nemouridae	1	0	0	0	0	0	1
Siphonaptera		0	0	0	0	8	0	8
Total		743	940	1214	961	1474	1215	6547

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642 **Table A3.** Component matrix produced from PCA of 22 arthropod families showing
 643 component loadings of each family on the first three principle components and the total amount
 644 of variance explained. Component loadings <0.4 are not shown.

Class	Order	Family	Component		
			1	2	3
Arachnida	Araneae	Gnaphosidae	-	0.441	-
		Linyphiidae	0.617	-	-
		Lycosidae	-	0.629	-
		Thomisidae	-	-	-
Insecta	Coleoptera	Carabidae	-	0.511	0.515
		Staphylinidae	0.543	-	-
		Diptera	Anthomyiidae	-	-
	Cecidomyiidae		0.553	-	-
	Chironomidae		-	-	-
	Empididae		-	-	0.547
	Phoridae		0.634	-	-
	Sciaridae		0.657	-	-
	Tipulidae		-	-	-
	Trichoceridae	-	-	-	
	Hemiptera	Aphididae	-	-	-
		Cicadellidae	0.450	-	0.520
		Delphacidae	0.419	0.609	-
		Miridae	0.503	-0.409	-
	Hymenoptera	Apidae	-	-	-
Diapriidae		0.590	-	-	
Ichneumonidae		-	-	-	
Pteromalidae		-	-	-	
		% of Variance Explained	14.34	10.13	7.88
	Cumulative %	14.34	24.47	32.35	

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