

Supplementary Material

Effects of Nitrogen Addition and Plant Identity on Ground-dwelling Arthropod Community Structure in Green Roofs

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Table S1 PERMANOVA analysis of the effects of plant identity and N addition on arthropod community composition

	df	Sum of squares	R ²	F value	p value
N addition	1	0.249	0.077	1.839	0.056
Plant identity	3	0.768	0.237	2.076	0.006

Table S2 Abundance ranking and comparison of relative abundance among arthropod taxa

Taxon	Functional group	N0 relative abundance (%)	N3.5 relative abundance (%)	Significance
Proisotominae, <i>Cryptopygus</i>	Detritivore	15.90 ± 3.43	10.04 ± 2.74	ns
Entomobryidae, <i>Homidia</i>	Detritivore	9.88 ± 1.64	8.66 ± 1.66	ns
Entomobryidae, <i>Willowsia</i>	Detritivore	8.20 ± 0.79	14.44 ± 3.40	ns
Isotomidae, <i>Coloburella</i>	Detritivore	7.18 ± 1.66	6.06 ± 1.90	ns
Tetranychidae	Herbivorous	7.14 ± 1.87	12.32 ± 2.62	*
Epicriidae	Predatory	4.76 ± 1.05	10.46 ± 1.20	*
Entomobryidae, <i>Seira</i>	Detritivore	3.89 ± 1.45	5.24 ± 1.72	ns
Hypogastruridae, <i>Hypogastrura</i>	Detritivore	3.46 ± 1.15	1.99 ± 1.29	ns
Entomobryidae, <i>Lepidocyrtus</i>	Detritivore	1.97 ± 0.40	2.03 ± 0.82	ns
Aphididae	Herbivorous	1.58 ± 0.78	3.78 ± 1.20	ns
Entomobryidae, <i>Entomobrya</i>	Detritivore	1.51 ± 0.87	2.45 ± 1.40	ns
Thysanoptera, <i>Phlaeothripidae</i>	Herbivorous	1.21 ± 0.79	1.29 ± 0.76	ns
Sciaridae, <i>Sciara sp.</i>	Fungivorous	0.62 ± 0.34	1.27 ± 0.59	ns
Coleoptera, <i>Staphylinidae</i>	Predatory	0.45 ± 0.31	0.00 ± 0.00	ns
Sminthuridae, <i>Sphaeridia</i>	Detritivore	0.00 ± 0.00	0.21 ± 0.21	ns
Paronellidae, <i>Paronella</i>	Predatory	0.00 ± 0.00	0.18 ± 0.18	ns

Note: *p < 0.05; ns, not significant.

Table S3. Comparison of relative abundance of major arthropod taxa among different plant species

Taxon	Functional group	<i>Festuca elata</i> relative abundance (%)	<i>Duchesnea indica</i> relative abundance (%)	<i>Allium mongolicum</i> relative abundance (%)	<i>Sedum aizoon</i> relative abundance (%)	Significance
Proisotominae, <i>Cryptopygus</i>	Detritivore	14.14 ± 3.58	8.48 ± 2.06	17.16 ± 7.42	12.12 ± 3.40	ns
Entomobryidae, <i>Homidia</i>	Detritivore	7.19 ± 1.28b	5.70 ± 1.54b	13.61 ± 3.13a	10.60 ± 1.70a	*
Entomobryidae, <i>Willowsia</i>	Detritivore	12.11 ± 4.68	8.09 ± 1.36	11.60 ± 2.76	13.47 ± 5.19	ns
Isotomidae, <i>Coloburella</i>	Detritivore	9.61 ± 2.52a	9.18 ± 1.11a	4.81 ± 3.11b	2.88 ± 2.08b	*
Tetranychidae	Herbivorous	9.43 ± 2.06	13.24 ± 3.09	5.41 ± 2.32	10.82 ± 5.04	ns
Epicriidae	Predatory	7.64 ± 0.98	8.43 ± 2.17	7.47 ± 2.32	6.89 ± 2.52	ns
Entomobryidae, <i>Seira</i>	Detritivore	2.80 ± 1.31b	0.00 ± 0.00c	7.24 ± 1.60a	8.23 ± 3.06a	**
Hypogastruridae, <i>Hypogastrura</i>	Detritivore	2.68 ± 1.35b	7.75 ± 1.99a	0.48 ± 0.48c	0.00 ± 0.00c	**
Entomobryidae, <i>Lepidocyrtus</i>	Detritivore	1.91 ± 0.69	1.20 ± 0.58	1.55 ± 0.53	3.33 ± 1.43	ns
Aphididae	Herbivorous	2.53 ± 0.90	5.64 ± 2.26	1.55 ± 0.99	0.98 ± 0.68	ns
Entomobryidae, <i>Entomobrya</i>	Detritivore	0.00 ± 0.00c	0.00 ± 0.00c	1.68 ± 1.11b	6.23 ± 2.40a	*
Thysanoptera, <i>Phlaeothripidae</i>	Herbivorous	0.00 ± 0.00b	0.00 ± 0.00b	5.01 ± 1.23a	0.00 ± 0.00b	***
Sciaridae, <i>Sciara sp.</i>	Fungivorous	1.74 ± 0.93	1.35 ± 0.65	0.00 ± 0.00	0.69 ± 0.69	ns
Coleoptera, <i>Staphylinidae</i>	Predatory	0.00 ± 0.00	0.00 ± 0.00	0.51 ± 0.51	0.40 ± 0.40	ns
Sminthuridae, <i>Sphaeridia</i>	Detritivore	0.00 ± 0.00	0.00 ± 0.00	0.43 ± 0.43	0.00 ± 0.00	ns
Paronellidae, <i>Paronella</i>	Predatory	0.36 ± 0.36	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	ns

Note: Values are mean ± SE (n = 6 per plant species). Relative abundance was calculated as the percentage of individuals of each arthropod taxon relative to the total number of arthropod individuals in each sample. * indicates $p < 0.05$, ** indicates $p < 0.01$, *** indicates $p < 0.001$; ns indicates no significant difference.