

Supplement

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Avian abundance and communities in areas revegetated with exotic versus native plant species.

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It has been shown that more than one method of invertebrate sampling is needed to assess the effects of restoration on different invertebrate groups (Majer et al 2007; Davis & Ustrup 2010). Comparative invertebrate studies were carried out in a subset of five different survey areas in S-Iceland. Two methods were used: i) sweepnet for sampling foliar and flying invertebrates and ii) pitfall traps for sampling terrestrial invertebrates.

The pitfall traps were installed on 14 and 15 June and operated until 14 August 2011, during which they were emptied three times: June 29; July 20-22 and finally on August 14. The sweep-net sampling was conducted on each occasion. Two traps were installed in Nootka lupin and heathland habitats but four in barren land within each survey area. This was done as experience has shown that wind can be expected to blow the lids off traps on barren land. Two barren land traps, chosen at random, were used for analysis of invertebrate catch, when more existed. Therefore, the total number of pitfall trap samples per habitat should have been 30 samples. Samples from these traps were excluded from analysis, resulting in 21 pitfall trap samples from heathland and 28 pitfall trap samples in barren land. No traps were damaged in lupin.

The total catch by each method, from each study site was summed up (pitfall traps: sum of all traps per habitat per day, summed over all sampling periods; sweep net: sum of all invertebrates per sampling occasion, summed across all sampling occasions) to produce a total mean catch per habitat. Invertebrates smaller than 3 mm were excluded from analyses, as they were not considered to be important food source for birds. Also dipteran flies were excluded from analyses as the pitfall traps were aimed at earthbound invertebrates. Pearson correlation was used to compare the total invertebrate catch (all groups combined) between pitfall traps and sweepnet.

The total average daily catch of invertebrates, caught in pitfall traps (Table S1) and by sweepnets (Table S2) at the same locations was used to assess a connection between the two techniques (Figure S1). The results revealed a significant positive correlation between total invertebrate numbers caught by sweepnet and in pitfall traps ($r = 0.81$, $P < 0.001$; Figure S1), indicating that sweep-net catches are indicative of the overall above-ground invertebrate abundance across habitats.

REFERENCES

- Davis CA & Ustrup JS 2010.** Response of Terrestrial Invertebrates to High- and Low-Diversity Grassland Restorations in South-Central Nebraska. *Restoration Ecology* 18, 479-488.
- Majer JD, Brennan KEC & Moir ML 2007.** Invertebrates and the Restoration of a Forest Ecosystem: 30 Years of Research following Bauxite Mining in Western Australia. *Restoration Ecology* 15, 104–115.

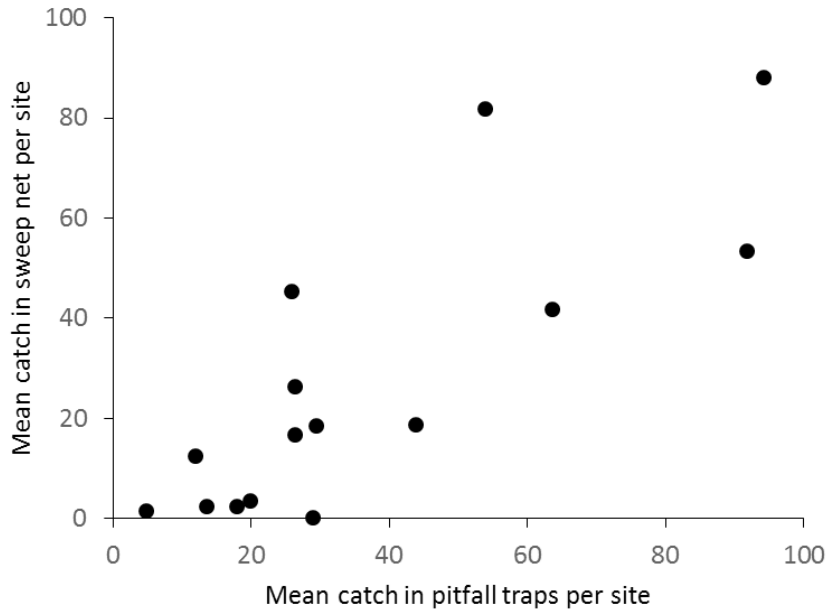


Figure S1. Relationship between the mean numbers of invertebrates caught in pitfall (Barber) traps per sampling period (see text for periods) and the mean number of invertebrates caught by sweep-net (Sweep) on the same study plots, during the same sampling events on barren land, heathland and in lupin stands (Pearson $r = 0.81$, $P < 0.001$).

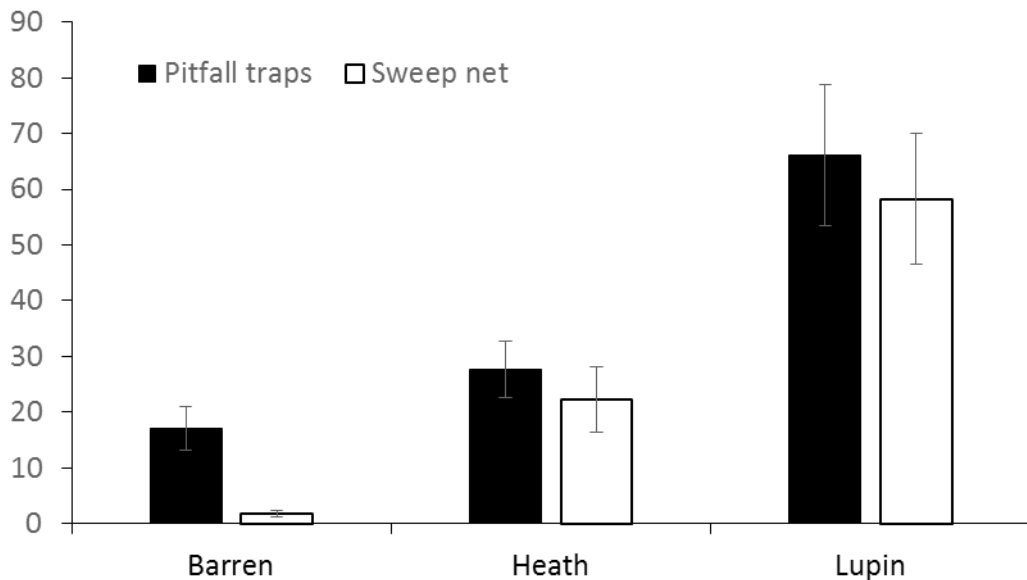


Figure S2. The mean total number of invertebrates (\pm SE) caught in pitfall traps and in sweep nets in different habitats. The bars show the overall mean of catch in all traps, during all periods.

Supplement Table S1. Catches in pit fall traps: raw data. Empty cells show periods where traps were not functional. Legends-Site: B = Bolholt; D = Dimon; GS = Geitasandur; Gb = Gilsbakki; M = Markarfljótsaurar. Legends-Habitat: Bl = Barren land; H = Heathland; L = Lupin. Legends-Groups: Ar&Op = Aranea & Opiliones; Col = Coleoptera; Hemi = Hemiptera; Lepi = Lepidoptera; Oligo = Oligochaeta; Gastr = Gastropoda.

Sampl. date	Sampl. period	Sampl. days	Site	Habitat	Trap	Groups						
						Ar&Op	Col	Oligo	Gastr	Acari	Hemi	Lepi
29. júní 2011	14/6-29/6	15	B	Bl	a	5	5	0	0	2	0	0
29. júní 2011	14/6-29/6	15	B	Bl	b	2	7	0	0	4	0	3
29. júní 2011	14/6-29/6	15	B	H	a	9	7	0	0	42	0	0
29. júní 2011	14/6-29/6	15	B	H	b	14	2	0	0	33	0	0
29. júní 2011	14/6-29/6	15	B	L	a	7	12	0	0	0	0	1
29. júní 2011	14/6-29/6	15	B	L	b	18	1	0	0	1	0	1
29. júní 2011	14/6-29/6	15	D	Bl	a	2	0	0	0	1	0	2
29. júní 2011	14/6-29/6	15	D	Bl	b	2	1	0	0	4	0	2
29. júní 2011	14/6-29/6	15	D	H	a	3	3	0	0	3	0	0
29. júní 2011	14/6-29/6	15	D	H	b	5	1	1	0	11	0	0
29. júní 2011	14/6-29/6	15	D	L	a	0	53	1	7	0	0	0
29. júní 2011	14/6-29/6	15	D	L	b	7	16	4	5	0	0	0
29. júní 2011	14/6-29/6	15	Gs	Bl	a							
29. júní 2011	14/6-29/6	15	Gs	Bl	b							
29. júní 2011	14/6-29/6	15	Gs	H	a	13	23	0	0	0	0	0
29. júní 2011	14/6-29/6	15	Gs	H	b	12	5	0	0	0	0	0
29. júní 2011	14/6-29/6	15	Gs	L	a	9	3	1	0	0	0	0
29. júní 2011	14/6-29/6	15	Gs	L	b	2	14	0	0	0	6	0
29. júní 2011	14/6-29/6	15	Gb	Bl	b	10	0	0	0	0	0	1
29. júní 2011	14/6-29/6	15	Gb	Bl	a	0	7	0	0	0	0	0
29. júní 2011	14/6-29/6	15	Gb	H	a	3	0	0	0	0	0	0
29. júní 2011	14/6-29/6	15	Gb	H	b	20	6	0	0	0	0	0
29. júní 2011	14/6-29/6	15	Gb	L	b	3	4	0	0	3	0	0
29. júní 2011	14/6-29/6	15	Gb	L	a	17	8	0	0	8	0	0
29. júní 2011	14/6-29/6	15	M	B	a	0	0	0	0	0	0	0
29. júní 2011	14/6-29/6	15	M	B	b	0	0	0	0	0	0	0
29. júní 2011	14/6-29/6	15	M	H	a	8	0	0	2	3	0	0
29. júní 2011	14/6-29/6	15	M	H	b	3	4	0	5	27	0	0
29. júní 2011	14/6-29/6	15	M	L	a	0	16	1	0	0	0	0
29. júní 2011	14/6-29/6	15	M	L	b	1	16	2	0	1	0	0
19. júlí 2011	29/6-19/7	20	B	Bl	a	4	22	0	0	5	0	0

19. júlí 2011	29/6-19/7	20 B	Bl	b	3	15	0	0	4	0	2
19. júlí 2011	29/6-19/7	20 B	H	a	3	2	0	0	33	0	0
19. júlí 2011	29/6-19/7	20 B	H	b	14	1	0	0	62	0	0
19. júlí 2011	29/6-19/7	20 B	L	a	26	30	0	35	0	0	0
19. júlí 2011	29/6-19/7	20 B	L	b	21	13	0	46	0	0	0
20. júlí 2011	29/6-20/7	21 D	Bl	a	3	0	0	0	3	0	0
20. júlí 2011	29/6-20/7	21 D	Bl	b	3	5	0	0	9	1	3
20. júlí 2011	29/6-20/7	21 D	H	a	12	3	0	0	77	0	5
20. júlí 2011	29/6-20/7	0 D	H	b							
20. júlí 2011	29/6-20/7	21 D	L	a	8	20	4	16	0	1	0
20. júlí 2011	29/6-20/7	21 D	L	b	23	34	10	34	0	0	0
19. júlí 2011	29/6-19/7	20 Gs	Bl	a	23	4	0	0	1	0	1
19. júlí 2011	29/6-19/7	20 Gs	Bl	b	19	11	0	0	0	0	0
19. júlí 2011	29/6-19/7	0 Gs	H	a							
19. júlí 2011	29/6-19/7	0 Gs	H	b							
19. júlí 2011	29/6-19/7	20 Gs	L	a	5	12	0	0	2	0	0
19. júlí 2011	29/6-19/7	20 Gs	L	b	4	13	0	0	0	14	0
22. júlí 2011	29/6-22/7	23 Gb	Bl	a	6	14	0	0	0	0	0
22. júlí 2011	29/6-22/7	23 Gb	Bl	b	7	15	0	0	0	0	0
22. júlí 2011	29/6-22/7	23 Gb	H	a	9	2	0	0	0	0	0
22. júlí 2011	29/6-22/7	23 Gb	H	b	16	4	0	0	0	0	0
22. júlí 2011	29/6-22/7	23 Gb	L	a	13	9	0	85	12	0	0
22. júlí 2011	29/6-22/7	23 Gb	L	b	7	10	0	79	0	0	0
20. júlí 2011	29/6-20/7	21 M	Bl	a	3	9	0	0	0	0	1
20. júlí 2011	29/6-20/7	21 M	Bl	b	2	3	0	0	0	0	0
20. júlí 2011	29/6-20/7	0 M	H	a							
20. júlí 2011	29/6-20/7	0 M	H	b							
20. júlí 2011	29/6-20/7	21 M	L	a	18	35	0	8	0	0	0
20. júlí 2011	29/6-20/7	21 M	L	b	18	19	0	1	0	0	0
14.8.2011	19/7-14/8	26 B	Bl	a	0	19	0	0	0	1	0
14.8.2011	19/7-14/8	26 B	Bl	b	5	6	0	0	2	4	0
14.8.2011	19/7-14/8	26 B	H	b	9	0	0	0	7	1	0
14.8.2011	19/7-14/8	26 B	H	a	3	3	0	0	18	0	1
14.8.2011	19/7-14/8	26 B	L	a	19	26	0	36	0	1	0
14.8.2011	19/7-14/8	26 B	L	b	12	37	0	37	0	2	0
14.8.2011	20/7-14/8	25 D	Bl	a	2	8	0	0	1	0	0
14.8.2011	20/7-14/8	25 D	Bl	b	4	24	0	1	0	0	1
14.8.2011	20/7-14/8	25 D	H	a	5	1	0	0	4	0	0
14.8.2011	20/7-14/8	25 D	H	b	8	6	0	0	0	0	0
14.8.2011	20/7-14/8	25 D	L	b	16	77	0	81	0	0	0

14.8.2011	20/7-14/8	25	D	L	a	6	60	0	83	0	0	0
14.8.2011	19/7-14/8	26	Gs	Bl	a	9	20	0	0	0	0	1
14.8.2011	19/7-14/8	26	Gs	Bl	b	10	15	0	0	0	0	2
14.8.2011	19/7-14/8	26	Gs	H	a							
14.8.2011	19/7-14/8	26	Gs	H	b							
14.8.2011	19/7-14/8	26	Gs	L	a	17	26	0	0	1	3	1
14.8.2011	19/7-14/8	26	Gs	L	b	10	12	0	2	0	2	0
14.8.2011	22/7-14/8	23	Gb	Bl	a	7	15	0	0	0	0	0
14.8.2011	22/7-14/8	23	Gb	Bl	b	8	17	0	0	0	1	0
14.8.2011	22/7-14/8	23	Gb	H	b	7	0	0	0	0	0	0
14.8.2011	22/7-14/8	23	Gb	H	a	4	0	0	0	0	0	1
14.8.2011	22/7-14/8	23	Gb	L	b	2	28	0	118	0	0	0
14.8.2011	22/7-14/8	23	Gb	L	a	3	17	0	123	0	1	1
14.8.2011	20/7-14/8	25	M	Bl	a	2	6	0	0	0	0	0
14.8.2011	20/7-14/8	25	M	Bl	b	0	3	0	0	0	0	1
14.8.2011	20/7-14/8	25	M	H	a							
14.8.2011	20/7-14/8	25	M	H	b							
14.8.2011	20/7-14/8	25	M	L	a	13	81	1	9	0	1	0
14.8.2011	20/7-14/8	25	M	L	b	9	35	1	38	0	0	0

Supplement Table S2.. Catches in sweepnets: raw data. Legends-Site: B = Bolholt; D = Dímon; GS = Geitasandur; Gb = Gilsbakki; M = Markarfljótsaurar. Legends-Habitat: Bl = Barren land; H = Heathland; L = Lupin. Legends-Groups: Ar&Op = Aranea & Opiliones; Lepi = Lepidoptera; Dipt = Diptera

Date	Site	Habitat	Dipt	Ar&Op	Lepi
14.6.2011	B	L	6	8	0
29.6.2011	B	L	28	0	0
19.7.2011	B	L	78	5	0
1.6.2011	D	L	2	0	0
15.6.2011	D	L	11	0	1
29.6.2011	D	L	96	2	0
20.7.2011	D	L	146	7	1
14.6.2011	GS	L	4	1	1
29.6.2011	GS	L	22	1	0
19.7.2011	GS	L	47	3	0
14.6.2011	Gb	L	19	0	0
29.6.2011	Gb	L	53	3	0
19.7.2011	Gb	L	84	1	0

15.6.2011	M	L	9	1	1
29.6.2011	M	L	83	0	0
20.7.2011	M	L	148	3	0
14.6.2011	B	H	30	1	0
29.6.2011	B	H	0	0	0
19.7.2011	B	H	25	0	0
1.6.2011	D	H	2	0	0
15.6.2011	D	H	5	0	0
29.6.2011	D	H	9	0	0
20.7.2011	D	H	39	0	2
14.6.2011	GS	H	14	0	0
29.6.2011	GS	H	3	0	0
19.7.2011	GS	H	33	0	0
14.6.2011	Gb	H	10	0	0
29.6.2011	Gb	H	12	0	0
20.7.2011	Gb	H	14	0	1
15.6.2011	M	H	9	0	0
29.6.2011	M	H	59	0	0
20.7.2011	M	H	68	0	0
14.6.2011	B	Bl	2	0	0
29.6.2011	B	Bl	1	0	0
19.7.2011	B	Bl	7	0	0
1.6.2011	D	Bl	0	0	0
15.6.2011	D	Bl	1	0	0
29.6.2011	D	Bl	0	0	0
20.7.2011	D	Bl	6	0	0
29.6.2011	GS	Bl	0	0	0
19.7.2011	GS	Bl	0	0	0
14.6.2011	Gb	Bl	0	0	0
29.6.2011	Gb	Bl	2	0	0
20.7.2011	Gb	Bl	5	0	0
15.6.2011	M	Bl	0	0	0
29.6.2011	M	Bl	1	0	0
20.7.2011	M	Bl	3	0	0
