

Supplementary material

Appendix 1

Species list showing the mean frequency (in percentage) and mean abundance (in parenthesis; % cover) per stand of the 16 species included in the compositional analysis in 2006 and 2008 for both clear-cut stands (n = 8) and unlogged references (n = 4). Species data were collected from ten plots per stand and microtopographic shelter type (i.e. in total 30 plots per species and stand) for clear-cut stands and from 5 plots in the unlogged references (i.e. 15 plots per species and stand). Data are presented for each microtopographic shelter type separately.

	Year	Clear-cut stands (n = 8)			Unlogged references (n = 4)		
		Boulder	Stump	Forest floor	Boulder	Stump	Forest floor
Mosses							
<i>Brachythecium rutabulum</i>	2006	3.75 (0.037)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	2008	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	
<i>Hylocomium splendens</i>	2006	92 (38.5)	88 (35.5)	92 (40.5)	86 (43)	90 (37)	90 (45)
	2008	69 (18.2)	58 (11.1)	26 (2.1)	86 (42)	92 (44)	88 (39.5)
<i>Hylocomiastrum umbratum</i>	2006	7.5 (0.53)	0 (0)	3.5 (0.025)	4 (0.05)	2 (0.01)	4 (0.12)
	2008	3.5 (0.32)	0 (0)	3 (0.15)	4 (0.10)	0 (0)	4 (0.10)
<i>Ptilium crista-castrensis</i>	2006	62 (1.1)	29 (0.75)	47(6.7)	65 (0.85)	49 (0.85)	65 (1.1)
	2008	31 (0.26)	16 (0.52)	16 (0.5)	65 (1.2)	60 (0.85)	65 (1.2)
<i>Pleurozium schreberi</i>	2006	90 (22)	95 (31)	96 (28)	90 (34)	95 (26.5)	100 (30)
	2008	69 (7.5)	65 (8)	41 (4.4)	90 (36)	100 (30)	100 (34.5)
<i>Rhizomnium punctatum</i>	2006	3.75 (1.4)	0 (0)	0 (0)	1.25 (0.06)	0 (0)	1.25 (0.06)
	2008	0 (0)	0 (0)	0 (0)	1.25 (0.08)	0 (0)	1.25 (0.06)
<i>Rhodobryum roseum</i>	2006	1.25 (0.12)	2.5 (0.12)	2.5 (0.12)	0 (0)	0 (0)	1.25 (0.06)
	2008	0 (0)	2.5 (0.12)	0 (0)	0 (0)	0 (0)	1.25 (0.06)
<i>Rhytidiadelphus triquetrus</i>	2006	0 (0)	1.25 (0.06)	7.5 (0.12)	1.25 (0.5)	0 (0)	1.25 (0.06)
	2008	0 (0)	0 (0)	0 (0)	1.25 (0.5)	0 (0)	1.25 (0.5)
<i>Sciuro-hypnum oedipodium</i>	2006	8.8 (0.12)	6.25 (0.06)	6.25 (0.06)	10 (0.5)	12 (0.12)	6.25 (0.06)
	2008	1.25 (0.06)	1.25 (0.06)	0 (0)	12 (0.5)	12 (0.12)	6.25 (0.12)
<i>Sphagnum girgensohni</i>	2006	20 (7.25)	14 (3.75)	12 (3.25)	20 (2.2)	16 (1.2)	16 (1.8)
	2008	2.5 (0.12)	1.25 (0.06)	1.25 (0.06)	22 (2.4)	16 (1.8)	16(2.2)
Liverworts							
<i>Barbilophozia lycopodioides</i>	2006	36 (1.6)	12 (0.5)	32 (1.25)	32 (1.25)	14 (0.8)	16 (0.8)
	2008	22 (0.5)	3 (0.12)	2.5 (0.12)	32 (1)	14 (0.6)	12 (0.6)
<i>Lophozia obtusa</i>	2006	5 (0.12)	1.25 (0.06)	2.5 (0.12)	0 (0)	1.25 (0.06)	5 (0.6)
	2008	1.25 (0.06)	0 (0)	0 (0)	0 (0)	2.5 (0.06)	5 (0.8)
<i>Mylia taylori</i>	2006	1.25 (0.06)	0 (0)	1.25 (0.06)	0 (0)	0 (0)	0 (0)
	2008	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<i>Plagiochila asplenoides</i>	2006	2.5 (0.08)	1.25 (0.12)	1.25 (0.06)	0 (0)	0 (0)	1.25 (0.12)
	2008	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<i>Ptilidium ciliare</i>	2006	1.25 (0.06)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	2008	1.25 (0.06)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Appendix 2

The effect of microtopographic shelter type (forest floor, boulder and stump) on overall survival pattern and mortality from three different mortality causes (burial by slash, mechanical disturbance and microclimatic stress). Significance values from GLMs (Generalized Linear Models) are shown for both pooled models (all species included) and for each of the four species used in the transplant experiment separately. The first section of the table (under the subheading “Survival”) shows the average proportion of surviving transplants (%) for both the pooled data (all four species considered together) and for single species models. Below this part comes average mortality (%) (“Mortality by cause”) from the three different mortality causes which are based on the total number of transplants for all models except for mortality from microclimatic stress which instead shows the proportion of dead transplants among those not already killed by burial or mechanical damage. Total number of transplants was 960 for pooled models and 240 for individual species models. Degree of overdispersion is indicated with the estimated scale parameter, which was calculated as the ratio between residual deviance and degrees of freedom. Models that had an estimated scale parameter above 1.69 (i.e. a residual deviance of 23.685 or more and 14 DF) were considered overdispersed (see Method section) and instead analyzed with quasibinomial errors. These models are indicated with the symbol †. B=boulder, Ff=forest floor and St=stump.

Model	B	Ff	St	B vs Ff	B vs St	St vs Ff	Estimated scale
Survival in percent (%)							
Total (all species pooled) †	30	10	29	<0.001	0.86	<0.001	1.9
Hylocomiastrum	46	15	46	<0.001	1	<0.001	1.3
Rhytidiadelphus	40	20	48	0.052	0.32	<0.001	0.8
Lepidozia	15	2	9	0.021	0.4	0.05	1
Calypogeia	15	3	15	0.0121	0.012	1.0	3
Mortality by burial in percent of all transplants (%)							
Total (all species pooled) †	48	31	33	0.042	0.071	0.83	4.6
Hylocomiastrum	44	30	30	0.005	0.02	0.612	1.2
Rhytidiadelphus	44	30	29	0.06	0.04	0.853	1.6
Lepidozia	54	32	36	0.005	0.02	0.608	1.2
Calypogeia	50	33	36	0.014	0.05	0.608	1.2
Mortality by mechanical disturbance in percent of all transplants (%)							
Total (all species pooled) †	8	32	19	0.029	0.12	0.045	3.8
Hylocomiastrum	8	31	16	<0.001	0.09	0.021	0.9
Rhytidiadelphus	8	30	13	<0.001	0.28	0.006	1.1
Lepidozia	9	33	19	<0.001	0.07	0.041	1.6
Calypogeia †	8	34	20	<0.001	0.11	0.045	3.8
Mortality by microclimatic stress in percent of transplant not killed by the other two causes (%)							
Total (all species pooled)	32	66	39	<0.001	0.18	<0.001	1.2
Hylocomiastrum	54	9	14	<0.001	0.28	0.06	1.3
Rhytidiadelphus	7	48	7	<0.001	1	<0.001	1.3
Lepidozia	60	88	80	0.011	0.28	0.06	1.3
Calypogeia	58	89	74	0.009	0.29	0.06	1.3