

Plant mediated methane efflux from a boreal peatland complex

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Supplementary information 1. a) Parameter estimates of the linear mixed-effect models describing the response of plant methane (CH₄) transport rate (mg g⁻¹ day⁻¹) to explanatory variables. Tot.lai18: leaf area in a sample greater than the threshold value of 18 cm⁻²; Prop.brown.la: proportion of brown leaf area in a sample (0-100 %). Species abbreviations are as follows: CareLim = *Carex limosa*, CareRos = *Carex rostrata*, ErioVag = *Eriophorum vaginatum*, RhynAlb = *Rhynchospora alba*, SchePal = *Scheuchzeria palustris*, TricCes = *Trichophorum cespitosum*. The intercept is *Carex lasiocarpa* at the fen site, against which the other species and the bog site are compared. b) Marginal ANOVA test of the linear mixed effects model testing whether the full model is significantly better than an alternative model with one of the explanatory variables excluded.

a)	Parameter	Estimate	STD Error	df	t-value	p-value
Fixed part	Intercept	3.862	0.759	487	5.091	0.0000
	Tot.lai18	-0.474	0.117	487	-4.064	0.0001
	I(Tot.lai18 ²)	0.016	0.005	487	3.302	0.0010
	Prop.brown.la	-1.039	0.300	487	-3.462	0.0006
	SpeciesCareLim	1.188	0.581	487	2.043	0.0416
	SpeciesCareRos	0.194	0.549	487	0.354	0.7234
	SpeciesErioVag	-0.278	0.486	487	-0.572	0.5673
	SpeciesRhynAlb	-0.318	0.578	487	-0.549	0.5830
	SpeciesSchePal	1.437	0.495	487	2.902	0.0039
	SpeciesTricCes	-1.100	0.563	487	-1.954	0.0513
	SiteBog	1.027	0.325	487	3.163	0.0017
Random part	Year	StDev	0.089			
	Day within Year	StDev	0.001			
	Residual error	StDev	2.264			

b)	Numerator DF	Denominator DF	F-value	p-value
Intercept	1	487	25.919	0.0000
Tot.lai18	1	487	16.515	0.0001
I(Tot.lai18 ²)	1	487	10.902	0.0010
Prop.brown.la	1	487	11.983	0.0006
Species	6	487	12.348	<0.001
Site	1	487	10.004	0.0017