Supplementary materials

(a)

GPP$_{max}$ = 4.1427 + 0.9055 * *Sphagnum* growth
r^2 = 0.78 ; p<0.05

GPP$_{max}$ (µ mol.m^{-2} s^{-1}) vs *Sphagnum* growth (cm)

(b)

GPP$_{max}$ = 2.172 + 0.0455 * Mc$_{leaves}$
r^2 = 0.98 ; p<0.01

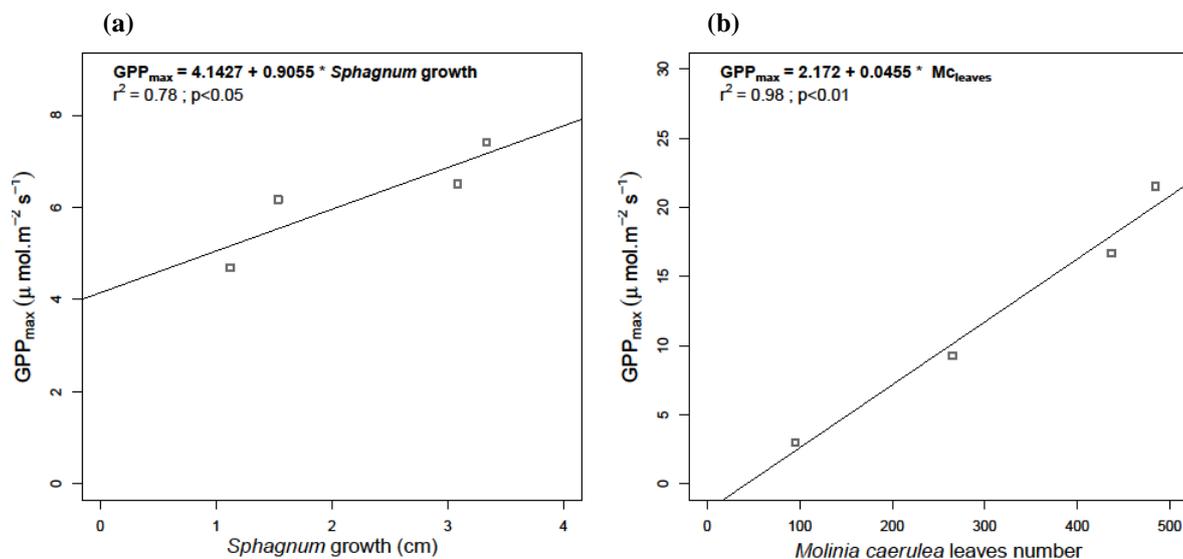GPP$_{max}$ (µ mol.m^{-2} s^{-1}) vs *Molinia caerulea* leaves number

Figure S1: Linear relationship between the Gross Primary Production maximum (GPPmax) calculated with the photosynthesis-irradiance curve and *Sphagnum* growth (a) and the number of *Molinia caerulea* leaves (b).

Table S1: Linear regression coefficient of determination (r^2) between Ecosystem Respiration (ER), Gross Primary Production (GPP) and methane emissions (CH$_4$) measurements with air (Ta) and soil temperature (Ts) at 5 and 20 cm depth, water table level (WTL), photosynthetic active radiation (PAR) and the number of *Molinia caerulea* leaves (N=52) . The number in bold is the highest determination coefficient for each variable in *Sphagnum* and *Sphagnum + Molinia* plots. Significance levels of correlation are expressed as [-/+]p < 0.05, [--/++]p < 0.01, [---/+++]p < 0.001. [-/+] represents a negative or positive relationship, respectively.

	Determination coefficient (r^2)					
	Sphagnum			*Sphagnum + Molinia*		
	ER	GPP	CH$_4$	ER	GPP	CH$_4$
Ta	**0.73**[+++]	**0.31**[---]	0	**0.51**[+++]	0.16[--]	0.09[+]
Ts at 5 cm	0.65[+++]	0.19[--]	0.25[+++]	0.39[+++]	0.15[-]	0.62[+++]
Ts at 20 cm	0.47[+++]	0.18[--]	0.18[++]	0.40[+++]	0.28[-]	**0.73**[+++]
WTL	0.55[---]	0.12[+]	**0.47**[---]	0.28[---]	0.11[+]	0.12[-]
PAR	0.48[+++]	0.28[---]	0.15[++]	0.28[+++]	0.06	0.31[+++]
Molinia caerulea leaves	NA	NA	NA	0.44[+++]	**0.80**[---]	0.08[+]

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