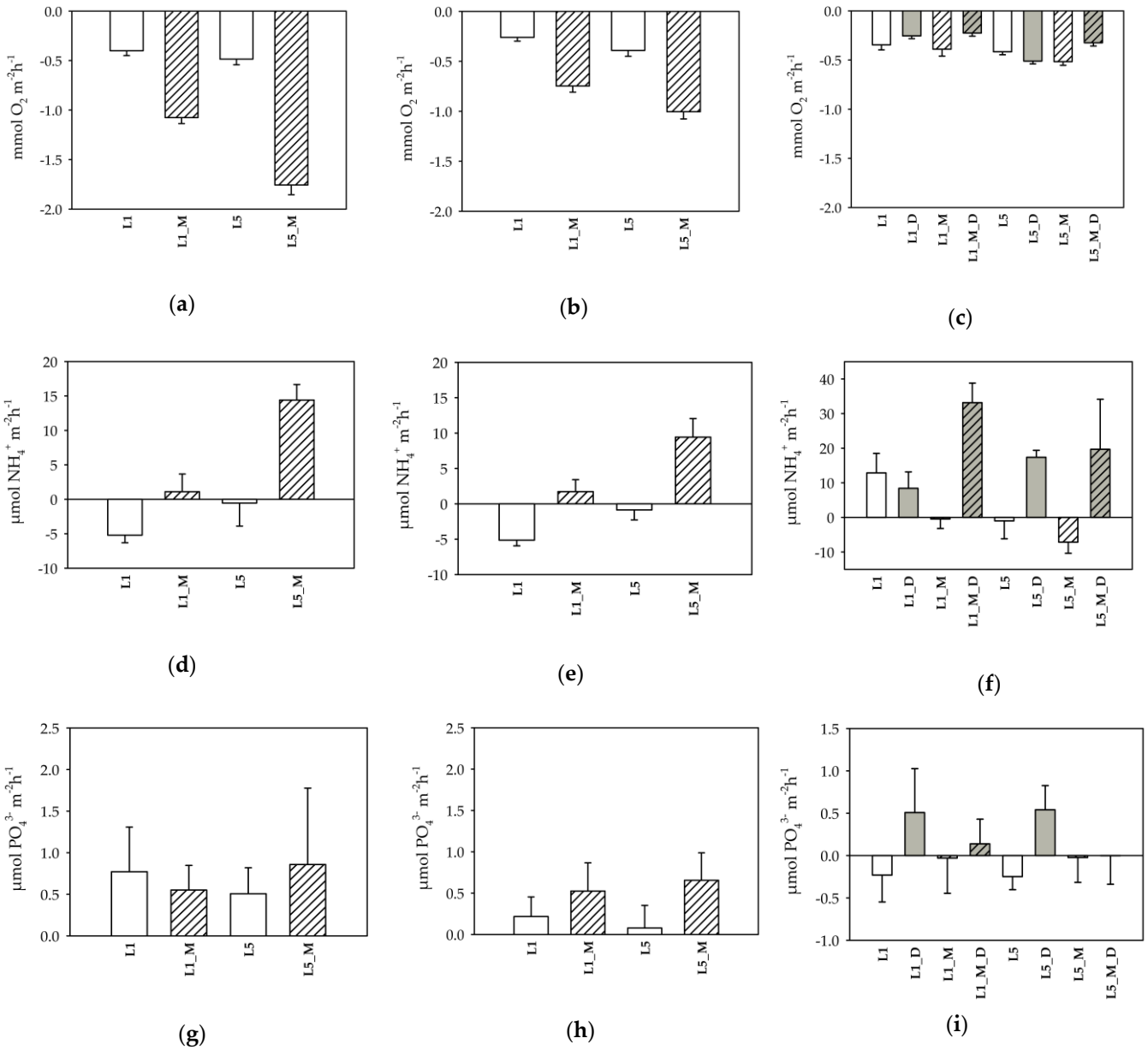

Figure S1. Dark net fluxes of O_2 (**a, b, c**), NH_4^+ (**d, e, f**), PO_4^{3-} (**g, h, i**) at day 10, 17 and 40, respectively. Mean fluxes and standard error (n = 10 at day 10 and day 17 and n=5 at day 40) of each condition are reported. All fluxes are expressed in µmol m^{-2} h^{-1} or mmol m^{-2} h^{-1}. White bars represent permanently submerged condition, grey bars represent dried conditions and hatched bars represent conditions with macrofauna.

Table S1. Summary of results of two-way ANOVA testing the effects of factors macrofauna and leaf size on benthic respiration (O_2) and nutrient fluxes (NH_4^+, PO_4^{3-}) measured on day 10. Significant values are printed in bold.

	Df	O_2		NH_4^+		PO_4^{3-}	
		p-value	**F value**	**p-value**	**F value**	**p-value**	**F value**
Macrofauna	1	**< 0.001**	**200**	**< 0.001**	**19**	0.8	0.09
Leaf size	1	**< 0.001**	**31**	**< 0.001**	**13.4**	0.9	0.03
Macrofauna : leaf size	1	**< 0.01**	**19**	0.08	3.1	0.5	0.5
Residuals	36						

Table S2. Summary of results of two-way ANOVA testing the effects of factors macrofauna and leaf size on benthic respiration (O_2) and nutrient fluxes (NH_4^+, PO_4^{3-}) measured on day 17. Significant values are printed in bold.

	Df	O_2		NH_4^+		PO_4^{3-}	
		p-value	**F value**	**p-value**	**F value**	**p-value**	**F value**
Macrofauna	1	**< 0.001**	**87.8**	**< 0.01**	**12**	0.1	2.2
Leaf size	1	**< 0.01**	**11**	**< 0.05**	**5**	0.98	0
Macrofauna : leaf size	1	0.3	1.2	0.2	2	0.6	0.2
Residuals	36						

Table S3. Summary of results of three-way ANOVA testing the effects of factors macrofauna, leaf size and drying on benthic respiration (O_2) and nutrient fluxes (NH_4^+, PO_4^{3-}) measured on day 40. Significant values are printed in bold.

	Df	O_2		NH_4^+		PO_4^{3-}	
		p-value	**F value**	**p-value**	**F value**	**p-value**	**F value**
Macrofauna	1	0.8	0.06	0.09	3.1	0.6	0.3
Leaf size	1	**<0.001**	**23.3**	0.07	3.7	0.9	0.02
Drying	1	**<0.01**	**10.2**	**<0.001**	**32.3**	0.08	3.2
Macrofauna : leaf size	1	0.3	1.3	0.97	0.001	0.9	0.02
Macrofauna : drying	1	**< 0.05**	**6.6**	**< 0.05**	**4.8**	0.2	1.9
Drying : leaf size	1	0.1	2.6	0.1	3	0.9	0.01
Macrofauna : drying : leaf size	1	**< 0.05**	**4.3**	0.4	0.7	0.8	0.04
Residuals	32						