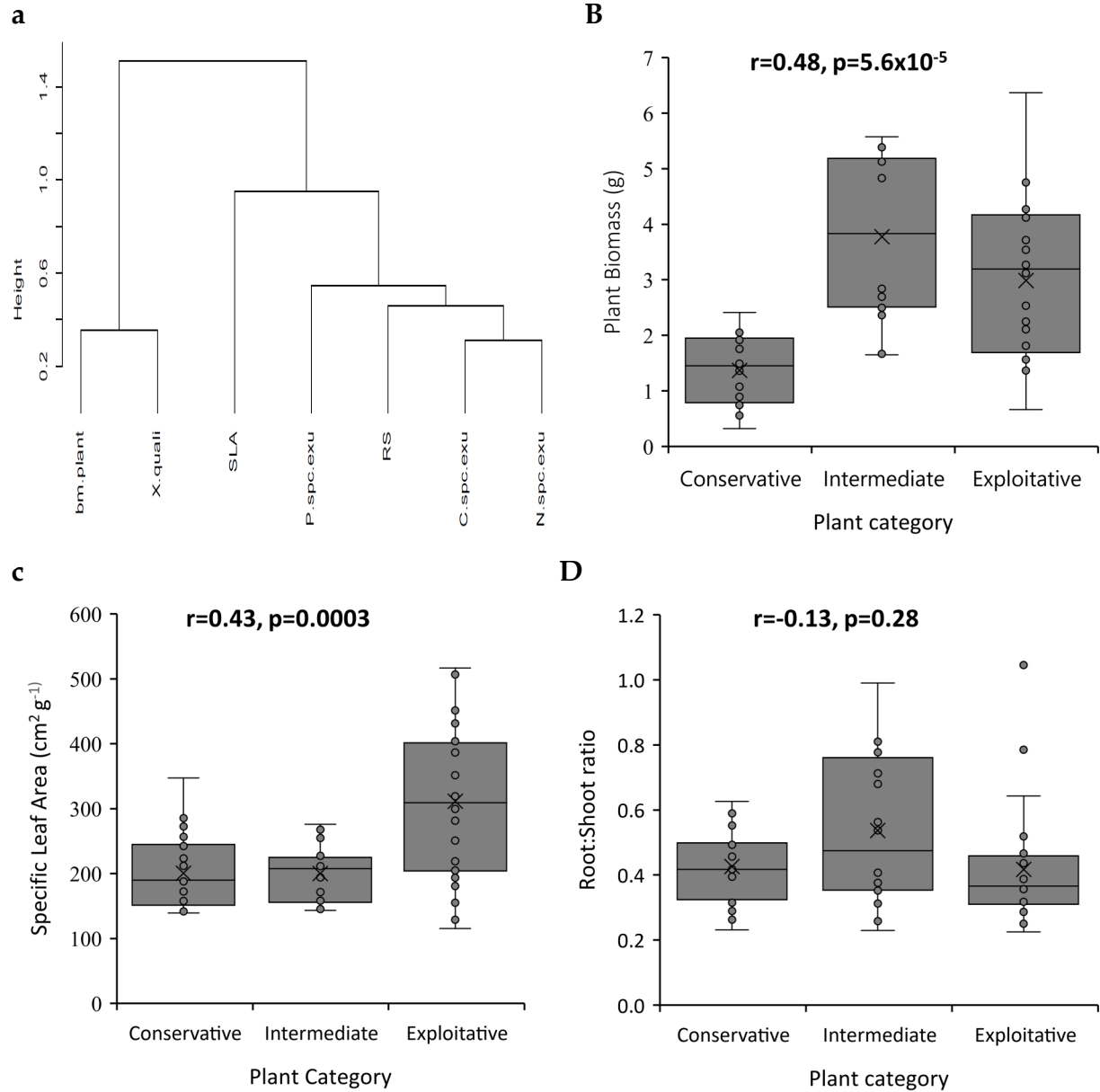


# Supplementary Materials:



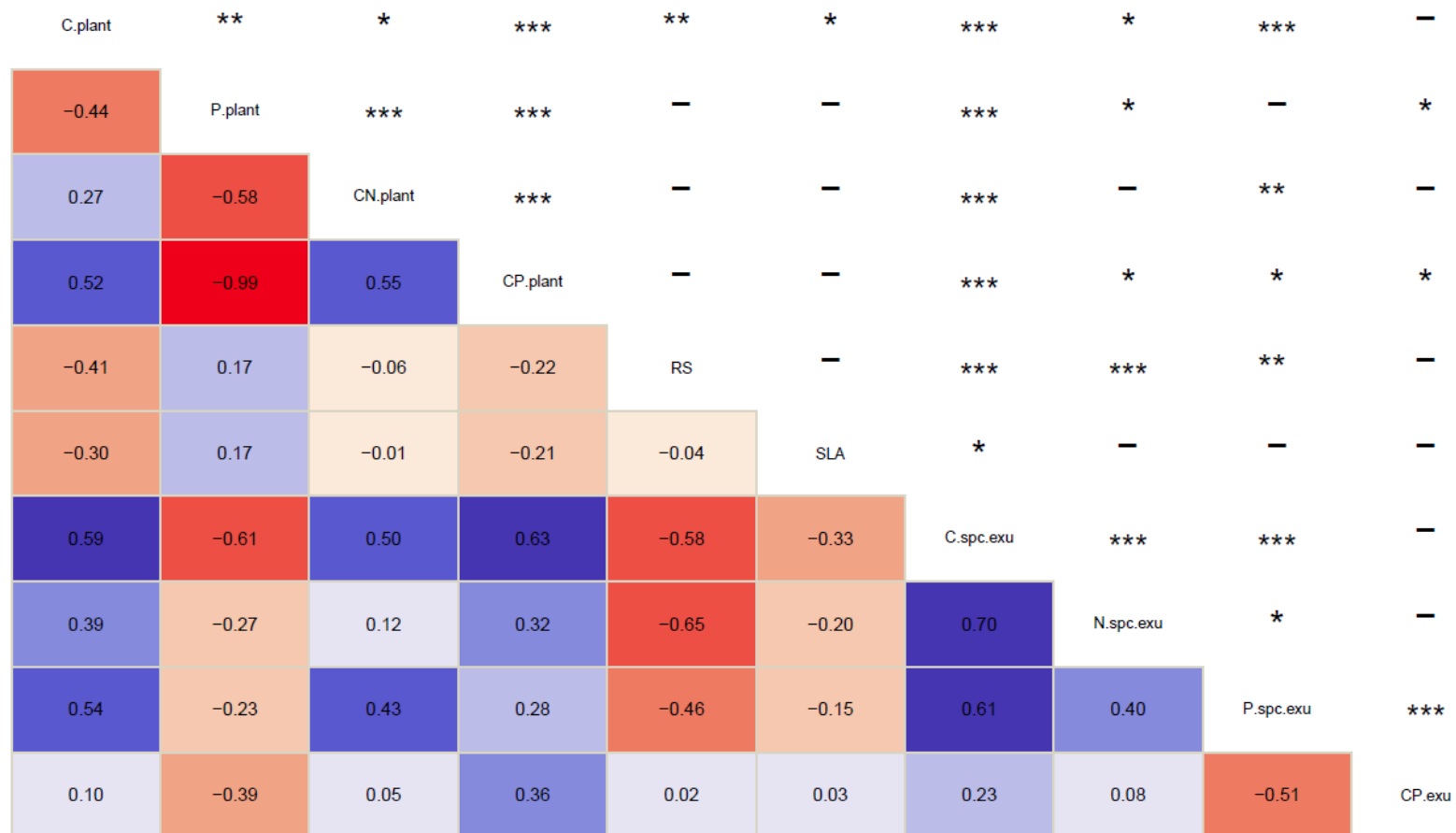
**Figure S1.** Dendrogram of correlations among plant category (X.quali) and biomass (bm.plant), SLA, RS and specific exudation of C, N and P (.spc.exu) (a). Spearman correlation analysis between plant category and biomass (b), SLA (c), and RS (d). Spearman correlation coefficient ( $r$ ) and  $p$ -value ( $p$ ) are expressed in each graph.

NH4.ss	***	—	***	—	—	***	—	—	***	***	*	*	*
0.60	NO3.ss	***	***	**	*	***	—	***	***	***	***	*	***
0.13	0.53	PO4.ss	***	***	—	***	*	***	**	*	***	—	—
-0.56	-0.94	-0.48	CmN.ss	***	**	***	*	***	***	***	***	**	***
0.03	-0.43	-0.67	0.63	CP.ss	*	***	***	***	***	**	***	—	—
-0.09	-0.34	-0.12	0.45	0.38	DNA.mic	***	*	**	*	*	*	*	*
-0.49	-0.81	-0.51	0.85	0.59	0.51	BM.plant	***	***	***	***	***	***	***
-0.09	0.19	0.30	-0.32	-0.53	-0.39	-0.59	N.plant	***	***	***	***	***	*
0.00	0.50	0.54	-0.57	-0.64	-0.45	-0.68	0.77	NP.plant	***	***	***	*	**
-0.47	-0.69	-0.46	0.74	0.54	0.40	0.93	-0.62	-0.63	C.exu	***	***	***	**
-0.51	-0.75	-0.38	0.78	0.45	0.35	0.86	-0.49	-0.61	0.88	P.exu	***	*	***
-0.34	-0.58	-0.48	0.64	0.55	0.33	0.87	-0.58	-0.62	0.92	0.84	oN.exu	—	*
-0.35	-0.37	-0.09	0.43	0.22	0.39	0.48	-0.48	-0.29	0.54	0.40	0.22	CN.exu	***
0.33	0.52	0.08	-0.55	-0.22	-0.33	-0.49	0.34	0.44	-0.44	-0.72	-0.31	-0.48	NP.exu

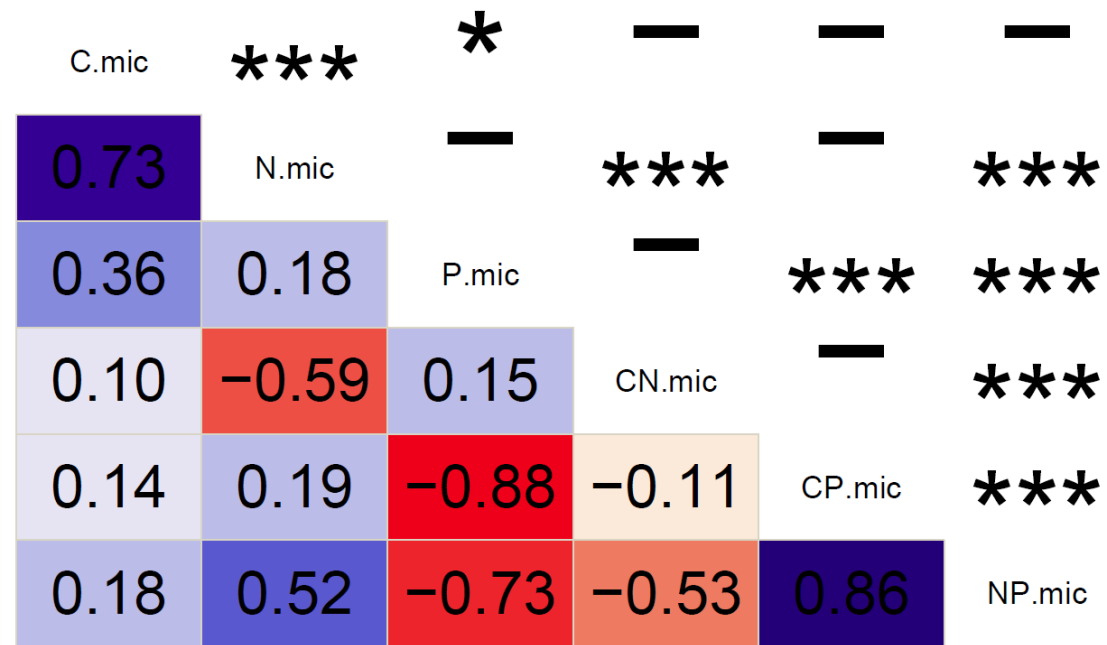
**Figure S2.** Pearson correlation matrix of variables included in the central group. Under the diagonal are written the correlation coefficients proportional to the colour of each cell. Over the diagonal the p values,  $p > 0.05$ ; —,  $0.05 < p < 0.001$  = \*,  $0.001 < p < 0.0001$  = \*\*,  $p < 0.0001$  = \*\*\*.

CN.soil	***	*	—	*	***	—	—	*	*	**	—	**
0.56	DOC	***	—	*	***	—	—	*	**	**	—	*
0.38	0.71	DON	***	**	***	—	*	*	—	*	—	*
0.04	-0.01	-0.69	DOC_DON	—	—	*	*	—	—	—	*	—
0.27	0.37	0.44	-0.22	NP.ss	*	—	*	*	—	—	—	**
0.48	0.75	0.48	0.06	0.27	Resp.mic	—	—	***	***	***	—	*
-0.18	-0.23	0.06	-0.32	0.19	-0.18	C.ez	***	—	***	**	*	—
0.14	0.09	0.32	-0.34	0.34	0.19	0.72	PO4asa	***	—	*	**	**
0.29	0.37	0.33	-0.05	0.30	0.48	0.10	0.54	AlaAPasa	***	***	**	*
-0.38	-0.44	-0.17	-0.24	-0.10	-0.48	0.59	0.05	-0.68	CN.ez	***	***	*
-0.42	-0.46	-0.33	-0.03	-0.14	-0.48	0.45	-0.29	-0.53	0.74	CP.ez	—	***
0.09	0.18	-0.08	0.30	-0.02	0.19	-0.40	-0.42	0.43	-0.67	-0.00	NP.ez	—
-0.44	-0.25	-0.27	0.09	-0.47	-0.31	-0.01	-0.41	-0.40	0.28	0.49	0.13	NO3.exu

**Figure S3.** Pearson correlation matrix of variables included in the upper group. Under the diagonal are written the correlation coefficients proportional to the colour of each cell. Over the diagonal the p values,  $p > 0.05$ ; —,  $0.05 < p < 0.001$  = \*,  $0.001 < p < 0.0001$  = \*\*,  $p < 0.0001$  = \*\*\*.



**Figure S4.** Pearson correlation matrix of variables included in the lower group. Under the diagonal are written the correlation coefficients proportional to the colour of each cell. Over the diagonal the p values,  $p > 0.05$ ; —,  $0.05 < p < 0.001$  = \*,  $0.001 < p < 0.0001$  = \*\*,  $p < 0.0001$  = \*\*\*.



**Figure S5.** Pearson correlation matrix of variables included in the microbial biomass stoichiometry group. Under the diagonal are written the correlation coefficients proportional to the colour of each cell. Over the diagonal the p values,  $p > 0.05$ ; -,  $0.05 < p < 0.001$  = \*,  $0.001 < p < 0.0001$  = \*\*,  $p < 0.0001$  = \*\*\*.

NH4.ss	***	***	—	*	*	—	—	—	*	—	***	—	***	*	—
0.60	NO3.ss	***	—	—	*	—	—	*	*	—	***	—	—	***	*
0.68	0.51	NP.ss	*	—	*	—	—	*	*	—	*	*	—	*	*
0.09	-0.11	0.27	Resp.mic	—	*	—	—	—	***	—	**	***	—	—	—
-0.31	-0.13	-0.13	0.04	N.mic	***	—	***	—	—	—	*	*	—	—	—
0.28	0.36	0.35	0.27	-0.59	CN.mic	—	***	—	*	*	*	—	—	—	—
0.03	0.07	0.16	0.07	0.19	-0.11	CP.mic	***	—	—	*	—	—	—	—	*
-0.11	-0.13	-0.01	-0.05	0.52	-0.53	0.86	NP.mic	—	*	*	—	—	—	—	*
0.13	0.25	0.34	0.19	-0.04	0.16	0.11	0.02	PO4asa	***	**	—	—	—	—	—
0.33	0.34	0.30	0.48	-0.14	0.39	-0.14	-0.28	0.54	AlaAPasa	**	—	—	—	—	—
0.22	0.08	-0.02	0.19	-0.17	0.29	-0.28	-0.36	-0.42	0.43	NP.ez	—	—	—	—	—
-0.49	-0.81	-0.26	0.42	0.30	-0.29	-0.08	0.10	-0.17	-0.15	-0.01	BM.plant	***	—	*	—
-0.09	0.19	-0.29	-0.54	-0.31	0.13	-0.08	-0.16	-0.03	-0.15	-0.07	-0.59	N.plant	—	—	—
0.50	0.10	0.17	0.00	-0.14	-0.06	-0.16	-0.10	-0.06	0.11	0.22	-0.13	-0.00	SLA	—	—
0.28	0.48	0.32	-0.18	-0.04	0.21	0.02	-0.08	-0.00	0.03	0.12	-0.32	-0.02	-0.20	N.spc.exu	—
0.17	0.33	0.28	-0.07	0.15	-0.04	0.31	0.25	0.10	0.07	-0.01	-0.16	-0.04	0.03	0.08	CP.exu

**Figure S6.** Pearson correlation matrix of variables from different groups. Under the diagonal are written the correlation coefficients proportional to the colour of each cell. Over the diagonal the p values,  $p > 0.05$ —,  $0.05 < p < 0.001$ —\*,  $0.001 < p < 0.0001$ —\*\*,  $p < 0.0001$ —\*\*\*.

**Supplementary table ST1.** Strenght of the variables by groups in figure 1. *Strength means the numeber of linkns of each variable.*

1. Central		2. Upper		3. Lower		4. Microbial CNP	
Variable	Strength	Variable	Strength	Variable	Strength	Variable	Strength
N.plant	21	Resp.mic	20	CN.plant	19	N.mic	6
DNA.mic	20	DON	18	C.plant	16	NP.mic	6
C.exu	20	DOC	16	CP.plant	12	CN.mic	5
CmN.ss	19	NP.ss	15	N.spc.exu	12	CP.mic	4
BM.plant	18	NO3.exu	13	P.plant	11	C.mic	3
oN.exu	18	AlaAPasa	12	C.spc.exu	11	P.mic	3
P.exu	18	CN.soil	11	P.spc.exu	11		
CN.exu	17	CP.ez	9	CP.exu	7		
NP.exu	16	CN.ez	8	RS	6		
CP.ss	15	PO4asa	8	SLA	2		
NP.plant	15	C.ez	5				
NO3.ss	13	NP.ez	5				
NH4.ss	13	DOC_DON	4				
PO4.ss	8						