

**Forest Supplementary Materials Table S1, Figure S1-S5.**

**Article title:** Functional traits plasticity but not their coordination differs in absorptive and transport fine roots in responding to soil depth

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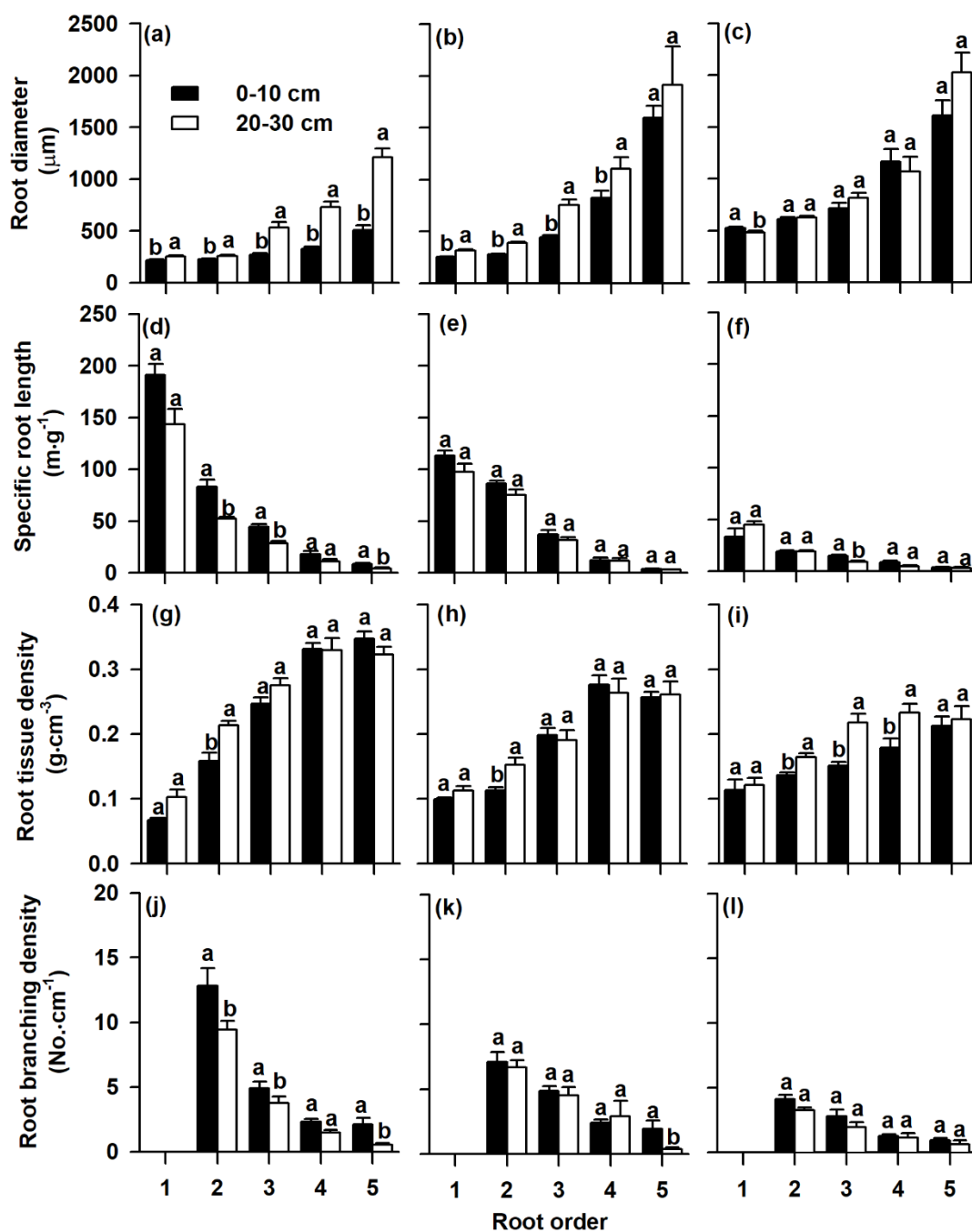
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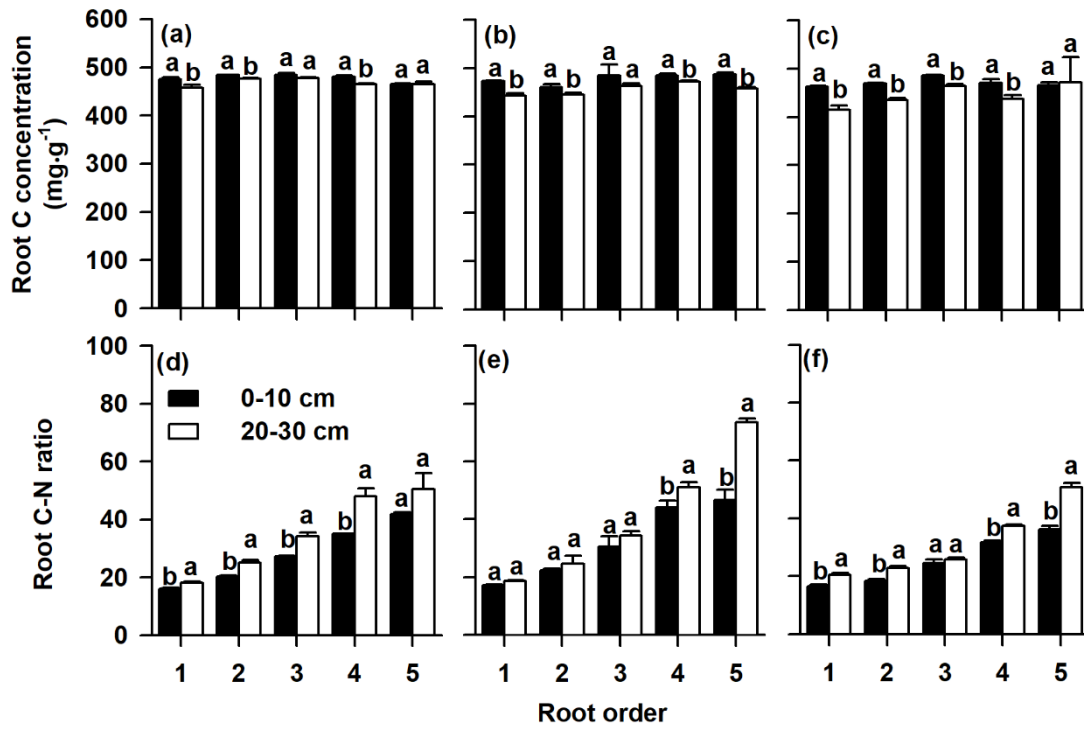
**Table S1.** The loadings scores of root functional traits of first two PCA axes.

	PC1	PC2
RD	0.257	0.215
SRL	-0.271	-0.125
RTD	0.247	-0.235
RBD	-0.086	<b>-0.552</b>
RRR	-0.252	0.112
RNC	-0.279	0.021
RCC	0.036	-0.433
CNR	0.279	-0.062
CT	-0.234	0.116
SD	<b>0.288</b>	0.042
SRR	0.267	-0.208
MECD	0.244	0.195
MACD	0.277	0.066
HWCD	0.261	0.145
NC	<b>0.285</b>	-0.046
Ks	0.258	0.074
PRB	-0.103	<b>0.494</b>

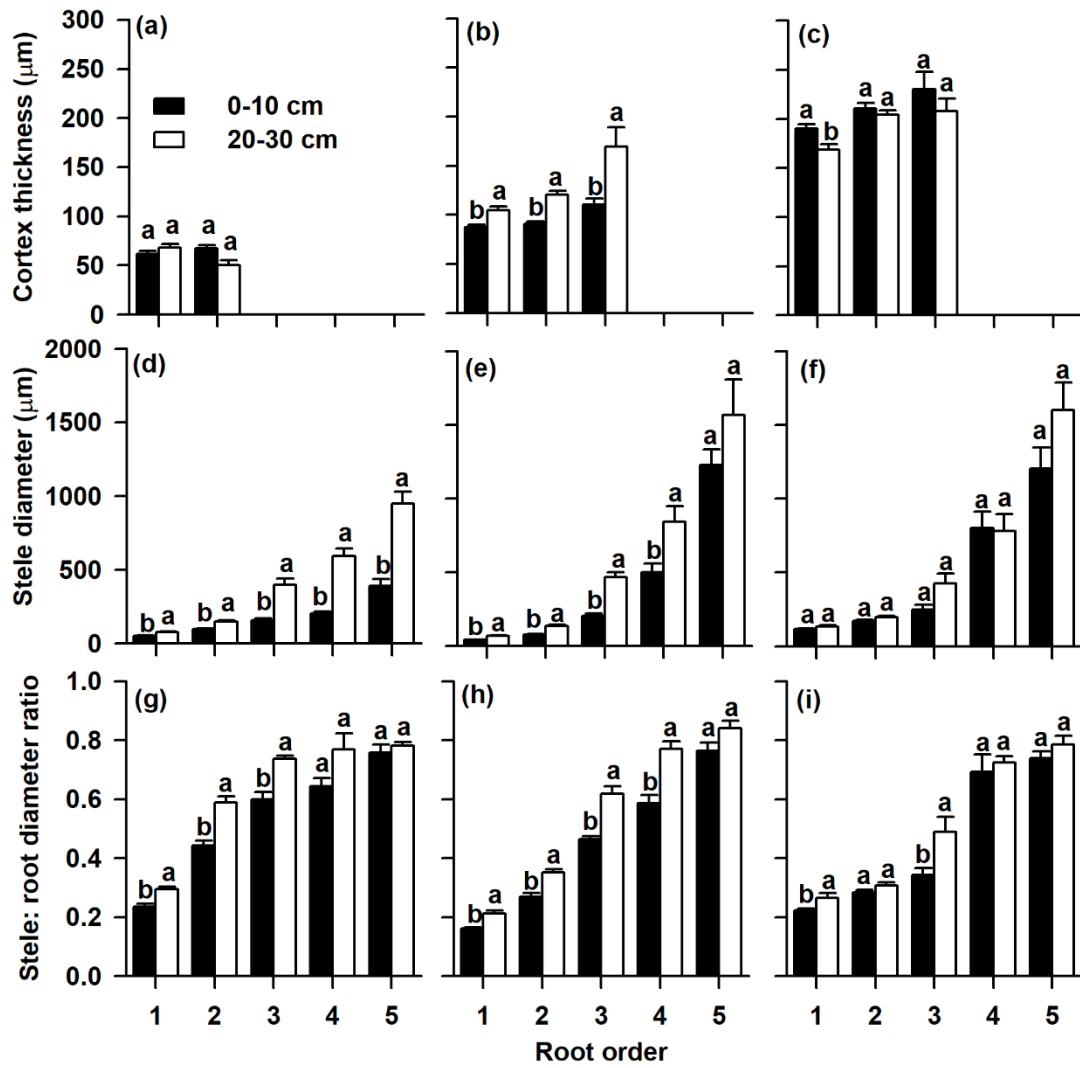
RD, root diameter; SRL, specific root length; RTD, root tissue density; RBD, root branching density; RRR, root respiration rate; RNC, root nitrogen concentration; RCC, root carbon concentration; CNR, carbon:nitrogen concentration ratio; CT, cortex thickness; SD, stele diameter; SRR, stele:root diameter ratio; MECD, mean conduit diameter; MACD, maximum conduit diameter; HWCD, hydraulic weighted conduit diameter; NC, number of conduit per stele; Ks, specific hydraulic conductivity; PRB, proportion of root biomass.



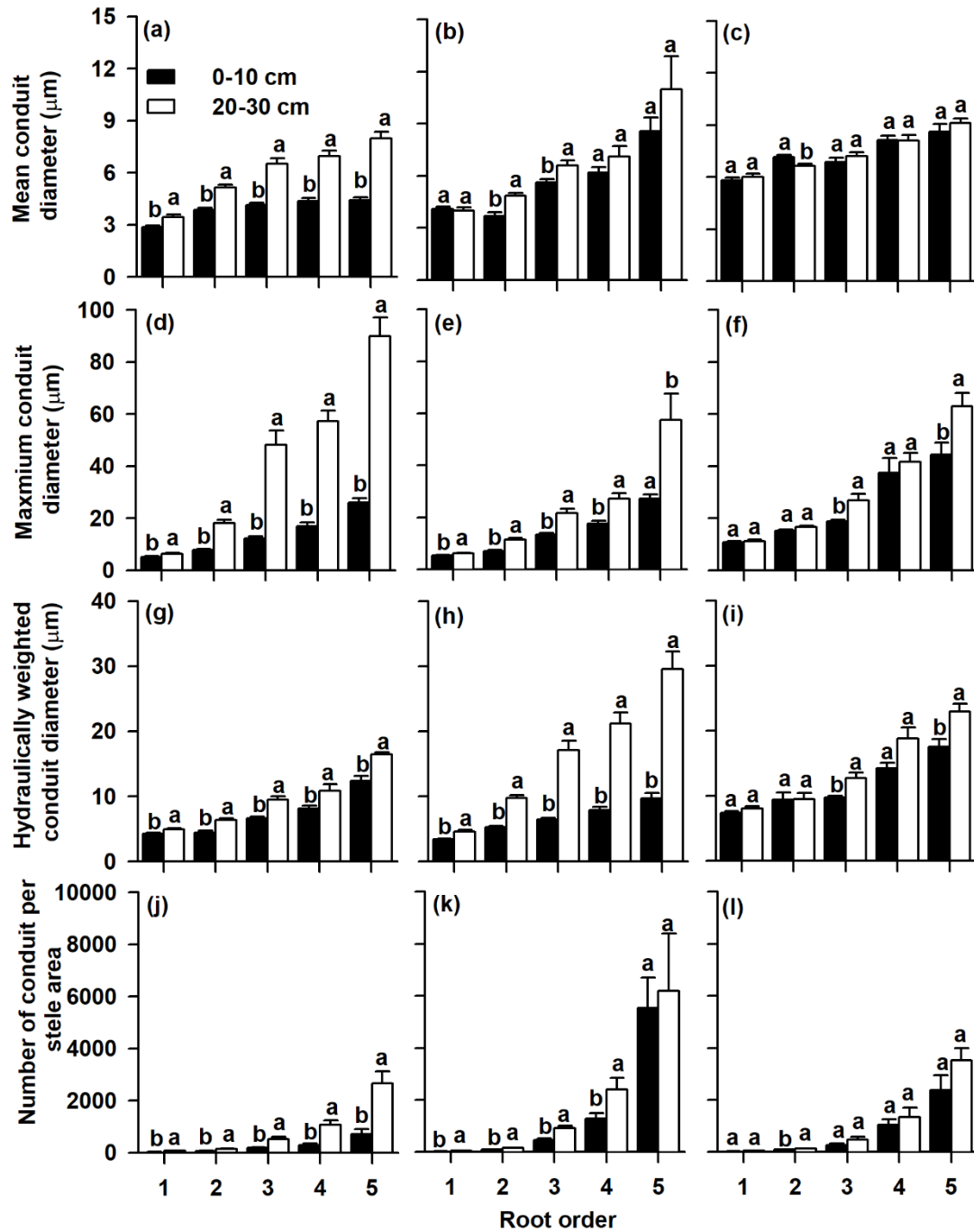
**Figure S1.** Mean diameter, specific root length, root tissue density and root branching density of the first five order roots at surface (0-10 cm) and subsurface (20-30 cm) soil layers in *J. mandshurica* (a, d, g, j), *F. mandshurica* (b, e, h, k) and *P. amurensis* (c, f, i, l). The error bars represent 1 standard error of mean (SEM). Different lower case letters within the clusters of bars indicate significant differences ( $P < 0.05$ ) in root traits between soil layers according to Fisher's LSD test.



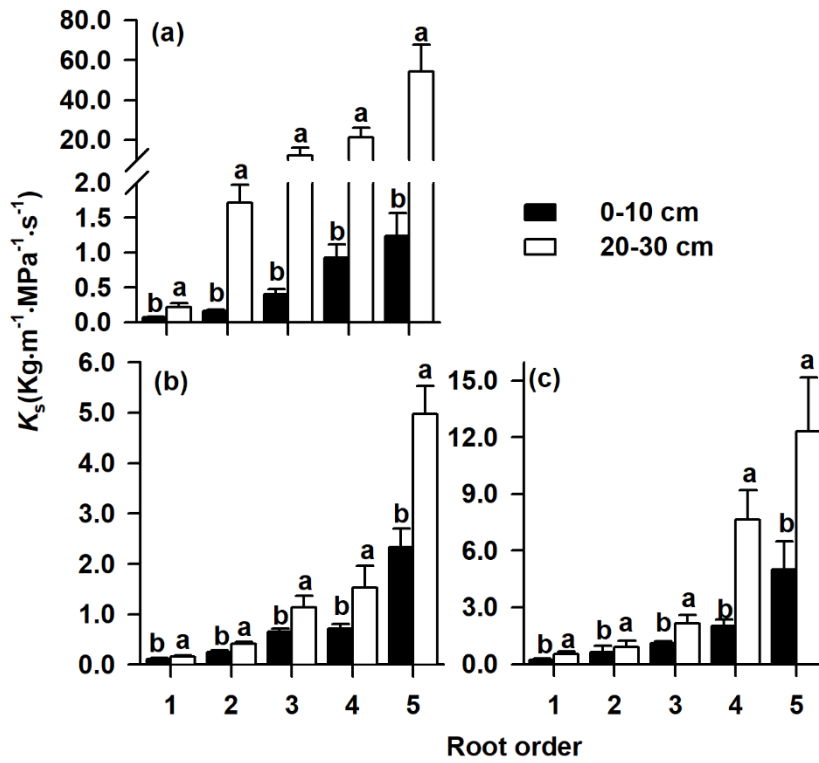
**Figure S2.** Root carbon concentration and the nitrogen and carbon concentration ratio in first five order roots at surface (0-10 cm) and subsurface (20-30 cm) soil layers in *J. mandshurica* (a, d), *F. mandshurica* (b, e) and *P. amurense* (c, f). The error bars represent 1 SEM. Different lower case letters within the clusters of bars indicate significant differences ( $P < 0.05$ ) in root traits between soil layers according to Fisher's LSD test.



**Figure S3.** Root cortex thickness, stele diameter and stele:root diameter ratio of the first five order roots at surface (0-10 cm) and subsurface (20-30 cm) soil layers in *J. mandshurica* (a, d, g), *F. mandshurica* (b, e, h) and *P. amurense* (c, f, i). The error bars represent 1 SEM. Different lower case letters within the clusters of bars indicate significant differences ( $P < 0.05$ ) in root traits between soil layers according to Fisher's LSD test.



**Figure S4.** Mean, maximum and hydraulic weight conduit diameter and number of conduit per stele area in the first five order roots at surface (0-10 cm) and subsurface (20-30 cm) soil layers *J. mandshurica* (a, d, g, j), *F. mandshurica* (b, e, h, k) and *P. amurense* (c, f, i, l). The error bars represent 1 SEM. Different lower case letters within the clusters of bars indicate significant differences ( $P < 0.05$ ) in root traits between soil layers according to Fisher's LSD test.



**Figure S5.** Theoretically hydraulic conductivity ( $K_s$ ) of the first five order roots at surface (0-10 cm) and subsurface (20-30 cm) soil layers in *J. mandshurica* (a), *F. mandshurica* (b) and *P. amurense* (c). The error bars represent 1 SEM. Different lower case letters within the clusters of bars indicate significant differences ( $P < 0.05$ ) in root traits between soil layers according to Fisher's LSD test.