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*Supplement of*

## **The root economics spectrum: divergence of absorptive root strategies with root diameter**

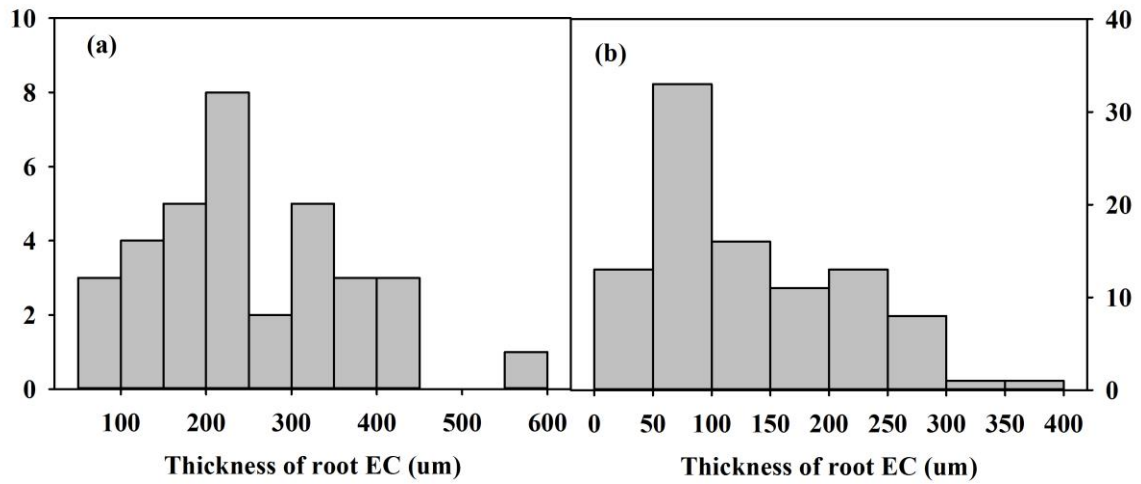
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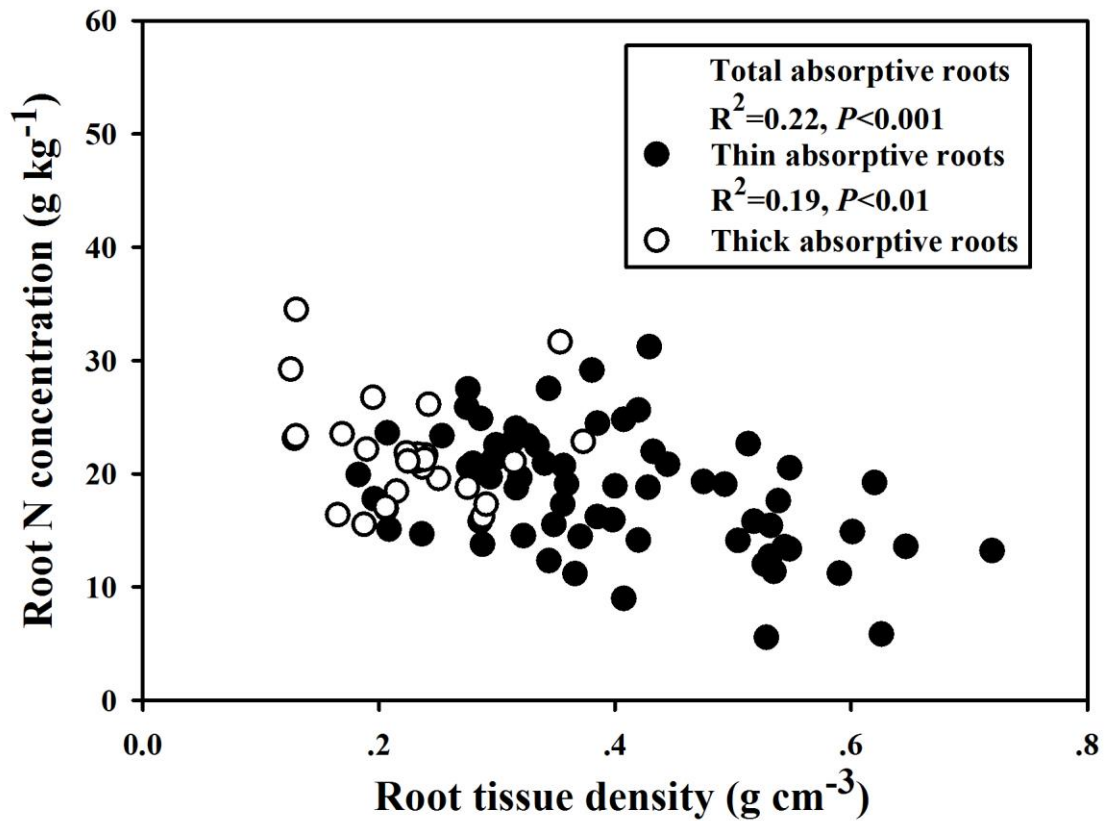
1 **Supporting information**

2 Figure S1. Frequency distribution of thickness of root EC for absorptive roots in the current (a)  
3 and our previous study (Kong et al. 2014) (b). Root EC was the tissue outside the stele  
4 including the epidermis plus cortex.



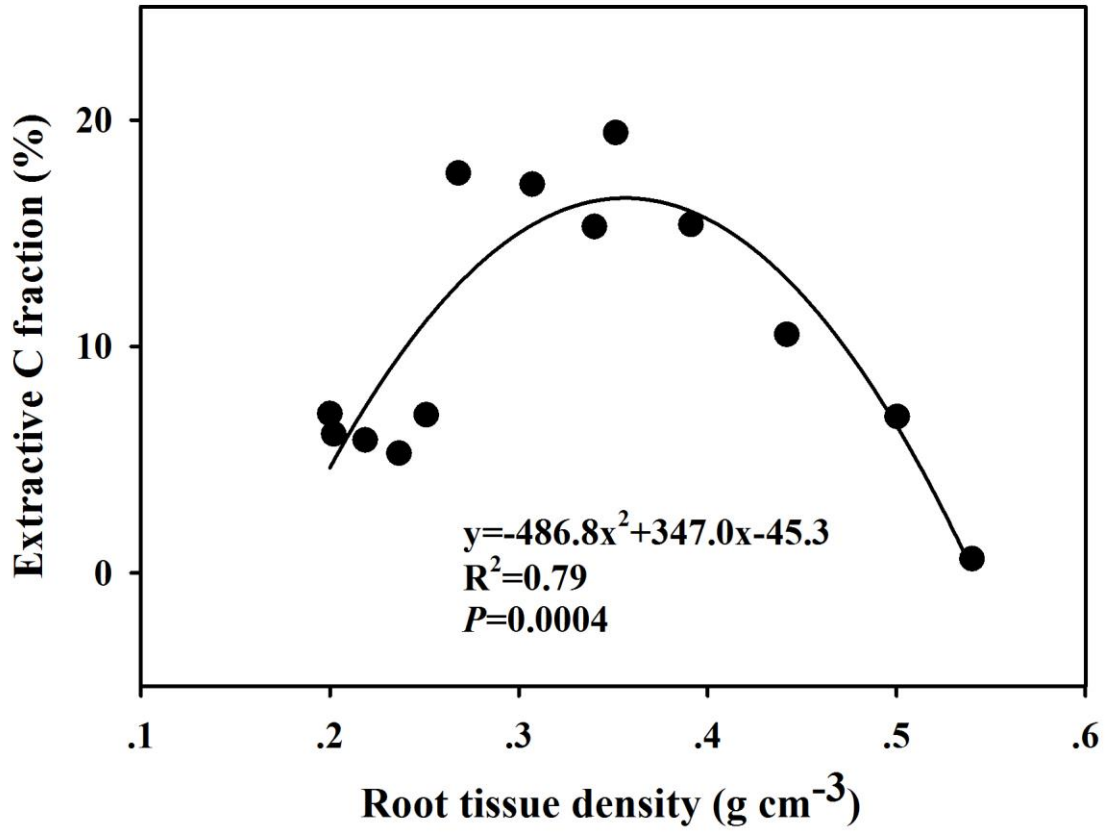
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18 Figure S2. Relationships between root tissue density and root N concentration over the total,  
19 thin (solid circles) and thick (open circles) absorptive roots. Data were from woody species in  
20 our previous study (Kong et al. 2014) and two singular values of root N concentration were  
21 excluded here.



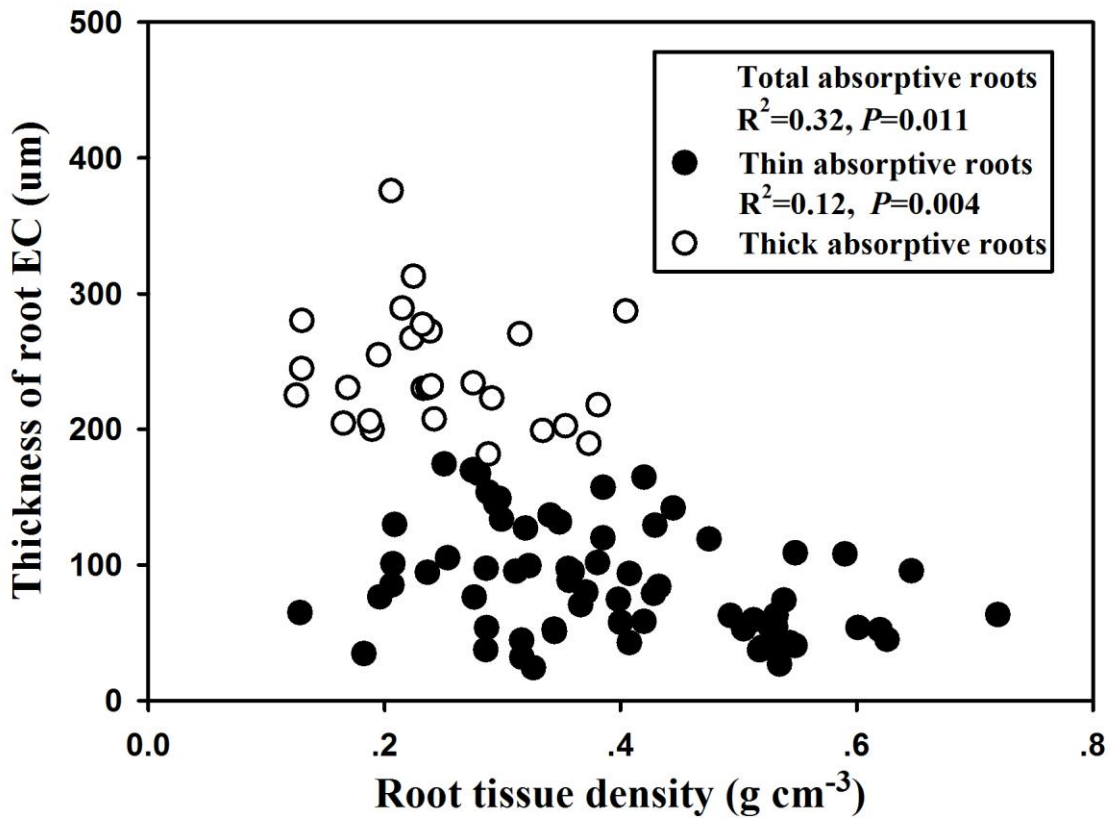
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30 Figure S3. Relationship between the extractive C fraction and root tissue density for the thin  
31 absorptive roots of our current study. The relationship was based on moving average method.



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41 Figure S4. Relationships between root tissue density and thickness of root EC over the total,  
42 thin (solid circles) and thick (open circles) absorptive roots. Data were from woody species in  
43 our previous study (Kong et al. 2014). Root EC was the tissue outside the stele including the  
44 epidermis plus cortex.



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52 Table S1. Summary of root morphology and anatomical traits. Data were presented with mean  
 53 and standard error in the parenthesis. Root EC was the tissue outside the stele including the  
 54 epidermis plus cortex.

species	Root order	Diameter ( $\mu\text{m}$ )	Root tissue density ( $\text{g cm}^{-3}$ )	Thickness of root EC ( $\mu\text{m}$ )
<i>D. dichotoma</i>	1	196.80(9.01)	0.60(0.05)	70.5(3.10)
	2	255.59(20.94)	0.47(0.06)	81.06(5.16)
	3	412.34(27.99)	0.50(0.08)	119.45(7.25)
	4	623.32(128.96)	0.50(0.04)	169.86(19.09)
<i>A. auriculiformis</i>	1	286.47(12.46)	0.22(0.02)	98.81(4.85)
	2	362.03(18.26)	0.27(0.03)	134.19(9.51)
	3	509.85(34.16)	0.34(0.06)	168.68(16.51)
	4	552.44(22.39)	0.33(0.03)	160.63(13.40)
	5	852.78(29.42)	0.35(0.03)	146.21(0)
<i>G. axillaris</i>	1	539.9(15.82)	0.36(0.02)	216.76(5.43)
	2	630.63(20.14)	0.37(0.02)	242.84(9.46)
	3	659.87(32.32)	0.43(0.03)	150.6(19.45)
	4	687.50(19.21)	0.60(0.04)	201.07(23.67)
	5	1289.20(75.31)	0.57(0.04)	161.12(22.05)
<i>C. lanceolata</i>	1	558.09(18.42)	0.21(0.02)	221.51(8.28)
	2	488.53(12.37)	0.25(0.02)	186.1(6.53)
	3	532.01(21.27)	0.24(0.02)	194.69(9.81)
	4	773.20(48.83)	0.31(0.03)	235.91(34.07)
	5	1071.33(42.59)	0.26(0.02)	236.28(18.40)
<i>P. baillonii</i>	1	574.50(14.78)	0.28(0.03)	232.07(6.18)
	2	745.19(31.45)	0.24(0.02)	301.8(11.55)
	3	866.27(40.11)	0.21(0.02)	337.76(15.79)
	4	1021.15(79.76)	0.26(0.04)	363.79(23.80)
	5	1672.37(236.49)	0.24(0.02)	550.6(34.15)
<i>E. chinense</i>	1	748.89(39.21)	0.28(0.02)	266.12(16.59)
	2	1133.34(57.74)	0.25(0.02)	405.84(26.84)
	3	1240.00(46.05)	0.27(0.02)	426(22.00)
	4	2065.00(107.3)	0.31(0.02)	341.5(25.01)
	5	2460.00(229.35)	0.29(0.02)	364(12.89)
<i>C. chinensis</i>	1	982.23(27.63)	0.20(0.03)	339.17(11.75)
	2	1133.75(89.98)	0.25(0.03)	275(16.47)
	3	1170.00(67.21)	0.49(0.02)	393.19(24.46)
	4	1815.72(179.61)	0.36(0.02)	347.15(73.75)
	5	2766.67(120.19)	0.33(0.03)	353.34(20.47)