Supplementary information

Table S1: the slopes and intercepts (with 95% confidence intervals) for the allometric relationship between distance from the tree top (*H*) and conduit diameter (*C)* and the relationship between the stem diameter (*D*) and conduit diameter (*C*). Data for *Nothofagus solandri* earlywood (E) and latewood (L) were sampled from low, mid and high altitudes, and data for *Pinus sylvestris*, and *Picea abies* were sampled from large and small islands. Each of the slope and intercept estimates are based on data pooled from 5 replicate trees, and *p* values state whether there were significant differences among those individual trees.

	Slope (95% C.I.)	***p*-value**	**Intercept (95% C.I.)**	***p*-value**
Log(*C*) vs Log(*D*)				
***N. solandri* (E)**				
Low	0.239 (0.211-0.270)	0.07	1.117 (1.08-1.15)	<0.0001
Mid	0.219 (0.195-0.246)	0.87	1.125 (1.09-1.16)	0.007
High	0.238 (0.210-0.270)	0.54	1.068 (1.02-1.11)	0.02
***N. solandri* (L)**				
Low	0.267 (0.224-0.317)	0.27	0.910 (0.854-0.965)	<0.0001
Mid	0.258 (0.226-0.295)	0.47	0.847 (0.790-0.904)	0.01
High	0.255 (0.225-0.290)	0.51	0.833 (0.785-0.881)	0.07
P. sylvestris				
Large	0.218 (0.194-0.245)	0.08	1.274 (1.257-1.291)	0.003
Small	0.247 (0.213-0.285)	0.45	1.234 (1.207-1.261)	0.96
P. abies				
Large	0.254 (0.224-0.287)	0.31	1.233 (1.212-1.255)	0.79
Small	0.257 (0.227-0.292)	0.91	1.241 (1.219-1.264)	0.25
Log(*C*) vs Log(*H*)				
***N. solandri* (E)**				
Low	0.22 (0.197-0.245)	0.002	1.443 (1.43-1.46)	<0.0001
Mid	0.229 (0.205-0.256)	0.62	1.408 (1.39-1.42)	0.05
Hight	0.268 (0.235-0.304)	0.50	1.422 (1.41-1.44)	0.04
***N. solandri* (L)**				
Low	0.246 (0.211-0.286)	0.40	1.216 (1.19-1.24)	<0.0001
Mid	0.269 (0.238-0.305)	0.24	1.194 (1.17-1.22)	0.42
High	0.286 (0.249-0.329)	0.21	1.219 (1.20-1.24)	0.003
P. sylvestris				
Large	0.150 (0.133-0.168)	0.71	1.115 (1.084-1.146)	0.11
Small	0.153 (0.133-0.176)	0.88	1.071 (1.035-1.107)	0.33
P. abies				
Large	0.147 (0.127-0.171)	0.48	1.092 (1.051-1.133)	0.19
Small	0.162 (0.144-0.183)	0.78	1.066 (1.028-1.103)	0.27

Table S2: Intercept and slope of allometric relationships between the conduit diameter (C) and stem diameter (D) for each tree sampled, estimated by SMA regression , with 95% confidence intervals in brackets.

***Nothofagus* earlywood**

Altitude	*Intercept*					*Slope*				
High	1.03	(	0.89	-	1.16	)	0.27	(	0.20	- 0.36)
	1.12	(	0.92	-	1.32	)	0.22	(	0.14	- 0.35)
	1.09	(	0.98	-	1.20	)	0.19	(	0.14	- 0.27)
	1.03	(	0.92	-	1.14	)	0.25	(	0.20	- 0.32)
	1.10	(	1.00	-	1.19	)	0.23	(	0.19	- 0.29)
Medium	1.13	(	0.93	-	1.33	)	0.22	(	0.14	- 0.33)
	1.08	(	0.95	-	1.21	)	0.22	(	0.17	- 0.28)
	1.10	(	1.04	-	1.17	)	0.23	(	0.19	- 0.26)
	1.16	(	1.09	-	1.22	)	0.20	(	0.17	- 0.24)
	1.04	(	0.90	-	1.19	)	0.23	(	0.17	- 0.32)
Low	1.11	(	1.02	-	1.19	)	0.19	(	0.16	- 0.23)
	0.96	(	0.80	-	1.13	)	0.26	(	0.20	- 0.34)
	1.16	(	1.07	-	1.24	)	0.20	(	0.16	- 0.24)
	1.06	(	0.93	-	1.18	)	0.26	(	0.21	- 0.32)
	1.15	(	1.06	-	1.23	)	0.23	(	0.20	- 0.27)

***Nothofagus* latewood**

Altitude	*Intercept*					*Slope*				
High	0.92	(	0.77	-	1.06	)	0.22	(	0.15	- 0.32)
	0.88	(	0.65	-	1.10	)	0.26	(	0.16	- 0.40)
	0.85	(	0.73	-	0.97	)	0.22	(	0.17	- 0.30)
	0.79	(	0.68	-	0.89	)	0.28	(	0.24	- 0.34)
	0.84	(	0.73	-	0.95	)	0.25	(	0.20	- 0.32)
Medium	0.76	(	0.54	-	0.97	)	0.30	(	0.22	- 0.41)
	0.91	(	0.73	-	1.08	)	0.21	(	0.14	- 0.30)
	0.86	(	0.74	-	0.97	)	0.27	(	0.22	- 0.34)
	0.81	(	0.67	-	0.96	)	0.29	(	0.22	- 0.37)
	0.85	(	0.66	-	1.03	)	0.23	(	0.16	- 0.34)
Low	0.90	(	0.76	-	1.05	)	0.19	(	0.14	- 0.26)
	0.82	(	0.68	-	0.97	)	0.23	(	0.18	- 0.29)
	0.87	(	0.69	-	1.05	)	0.25	(	0.18	- 0.34)
	0.90	(	0.79	-	1.02	)	0.26	(	0.21	- 0.32)
	0.88	(	0.69	-	1.07	)	0.30	(	0.22	- 0.39)

Picea

Island size	*Intercept*					*Slope*				
Large	1.30	(	1.26	-	1.34	)	0.25	(	0.21	- 0.30)
	1.25	(	1.21	-	1.30	)	0.21	(	0.16	- 0.27)
	1.23	(	1.14	-	1.33	)	0.25	(	0.16	- 0.41)
	1.28	(	1.24	-	1.32	)	0.17	(	0.13	- 0.23)
	1.27	(	1.25	-	1.30	)	0.22	(	0.18	- 0.25)
Small	1.20	(	1.14	-	1.25	)	0.32	(	0.24	- 0.43)
	1.25	(	1.13	-	1.36	)	0.22	(	0.12	- 0.40)
	1.25	(	1.18	-	1.31	)	0.26	(	0.19	- 0.36)
	1.26	(	1.17	-	1.34	)	0.22	(	0.14	- 0.35)
	1.25	(	1.19	-	1.31	)	0.29	(	0.21	- 0.41)

Pinus

Island size	*Intercept*					*Slope*				
Large	1.30	(	1.26	-	1.34	)	0.25	(	0.21	- 0.30)
	1.25	(	1.21	-	1.30	)	0.21	(	0.16	- 0.27)
	1.23	(	1.14	-	1.33	)	0.25	(	0.16	- 0.41)
	1.28	(	1.24	-	1.32	)	0.17	(	0.13	- 0.23)
	1.27	(	1.25	-	1.30	)	0.22	(	0.18	- 0.25)
Small	1.20	(	1.14	-	1.25	)	0.32	(	0.24	- 0.43)
	1.25	(	1.13	-	1.36	)	0.22	(	0.12	- 0.40)
	1.25	(	1.18	-	1.31	)	0.26	(	0.19	- 0.36)
	1.26	(	1.17	-	1.34	)	0.22	(	0.14	- 0.35)
	1.25	(	1.19	-	1.31	)	0.29	(	0.21	- 0.41)

Figure S1: Allometric relationships between the conduit diameter (C) and stem diameter (D), estimated each tree using SMA regression.

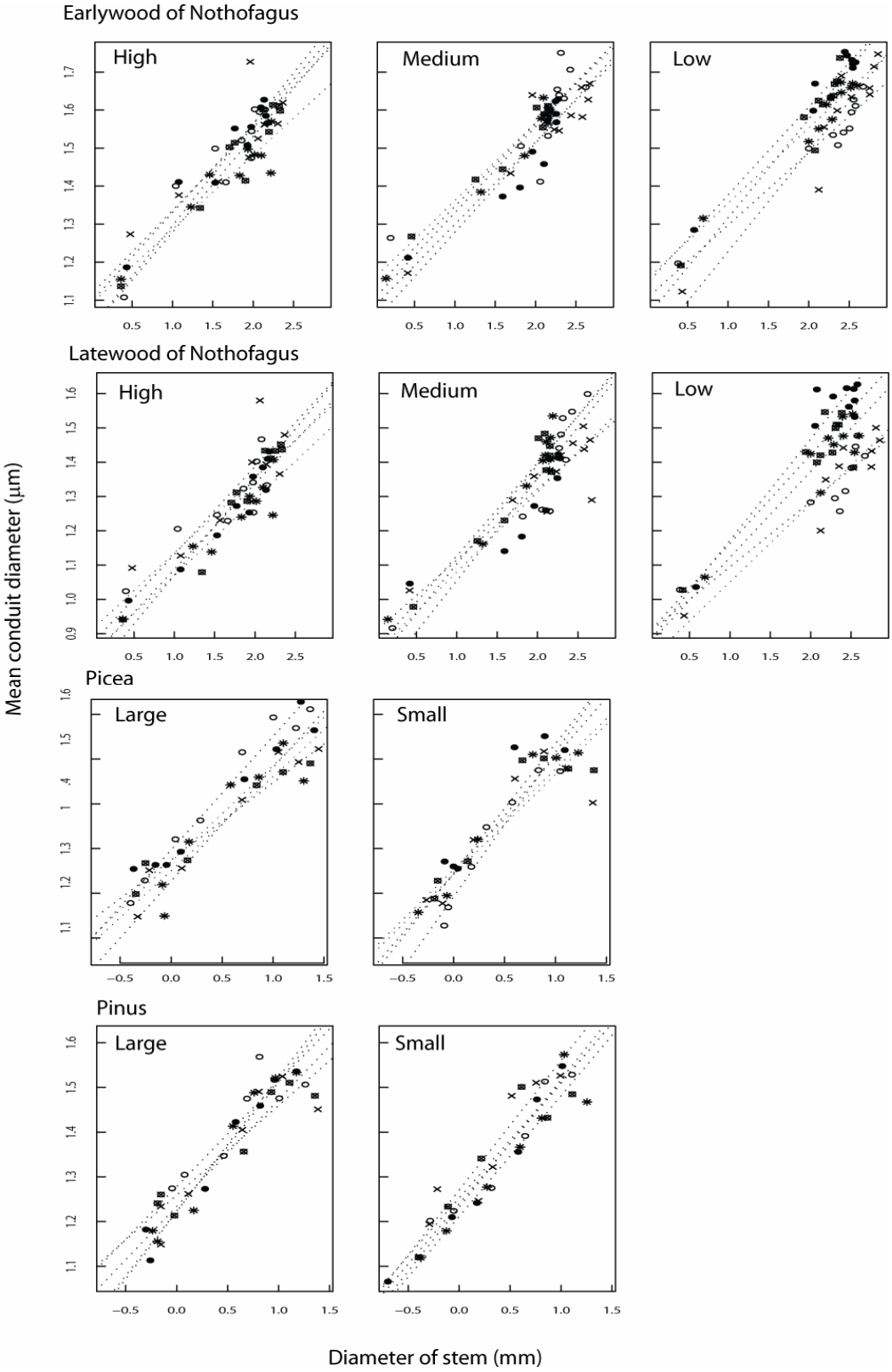

Table S3: Intercept and slope of allometric relationships between the conduit diameter (C) and distance from tree top (H) for each tree sampled, estimated by SMA regression , with 95% confidence intervals in brackets.

Earlywood Nothofagus											
Altitude	*Intercept*						*Slope*				
High	1.41	(	1.37	,	1.45	)	0.28	(	0.22	,	0.36	)
High	1.46	(	1.39	,	1.53	)	0.25	(	0.16	,	0.41	)
High	1.38	(	1.34	,	1.42	)	0.22	(	0.16	,	0.30	)
High	1.43	(	1.39	,	1.47	)	0.30	(	0.23	,	0.39	)
High	1.44	(	1.40	,	1.47	)	0.25	(	0.20	,	0.31	)
Medium	1.44	(	1.37	,	1.51	)	0.24	(	0.17	,	0.34	)
Medium	1.41	(	1.35	,	1.46	)	0.23	(	0.18	,	0.30	)
Medium	1.39	(	1.34	,	1.43	)	0.24	(	0.18	,	0.30	)
Medium	1.43	(	1.40	,	1.47	)	0.19	(	0.15	,	0.24	)
Medium	1.38	(	1.34	,	1.42	)	0.22	(	0.17	,	0.29	)
Low	1.39	(	1.36	,	1.42	)	0.19	(	0.16	,	0.22	)
Low	1.37	(	1.33	,	1.42	)	0.28	(	0.24	,	0.33	)
Low	1.46	(	1.44	,	1.49	)	0.16	(	0.14	,	0.19	)
Low	1.41	(	1.36	,	1.46	)	0.22	(	0.17	,	0.27	)
Low	1.50	(	1.47	,	1.53	)	0.20	(	0.18	,	0.23	)
Latewood Nothofagus											
Altitude	*Intercept*						*Slope*				
High	1.23	(	1.18	,	1.28	)	0.23	(	0.16	,	0.33	)
High	1.27	(	1.20	,	1.35	)	0.30	(	0.19	,	0.47	)
High	1.18	(	1.13	,	1.22	)	0.25	(	0.18	,	0.34	)
High	1.24	(	1.21	,	1.28	)	0.34	(	0.28	,	0.41	)
High	1.20	(	1.16	,	1.24	)	0.27	(	0.21	,	0.34	)
Medium	1.18	(	1.11	,	1.26	)	0.33	(	0.25	,	0.43	)
Medium	1.22	(	1.14	,	1.29	)	0.22	(	0.15	,	0.32	)
Medium	1.19	(	1.14	,	1.25	)	0.28	(	0.22	,	0.36	)
Medium	1.21	(	1.14	,	1.27	)	0.27	(	0.19	,	0.38	)
Medium	1.18	(	1.13	,	1.24	)	0.22	(	0.16	,	0.31	)
Low	1.19	(	1.14	,	1.24	)	0.19	(	0.14	,	0.24	)
Low	1.18	(	1.13	,	1.22	)	0.24	(	0.20	,	0.29	)
Low	1.26	(	1.19	,	1.33	)	0.20	(	0.14	,	0.28	)
Low	1.25	(	1.20	,	1.31	)	0.21	(	0.17	,	0.27	)
Low	1.33	(	1.24	,	1.41	)	0.26	(	0.19	,	0.35	)
Picea											
Island size	*Intercept*						*Slope*				
Large	1.46	(	1.41	,	1.50	)	0.19	(	0.15	,	0.24	)
Large	1.40	(	1.36	,	1.44	)	0.15	(	0.11	,	0.20	)
Large	1.39	(	1.35	,	1.44	)	0.14	(	0.10	,	0.20	)
Large	1.41	(	1.36	,	1.45	)	0.13	(	0.09	,	0.19	)
Large	1.42	(	1.37	,	1.46	)	0.16	(	0.12	,	0.21	)
Small	1.38	(	1.35	,	1.41	)	0.17	(	0.13	,	0.21	)
Small	1.39	(	1.32	,	1.46	)	0.14	(	0.08	,	0.24	)
Small	1.43	(	1.38	,	1.49	)	0.18	(	0.13	,	0.25	)
Small	1.40	(	1.35	,	1.46	)	0.14	(	0.09	,	0.22	)
Small	1.43	(	1.34	,	1.52	)	0.16	(	0.09	,	0.28	)
Pinus											
Island size	*Intercept*						*Slope*				
Large	1.44	(	1.39	,	1.49	)	0.11	(	0.07	,	0.18	)
Large	1.38	(	1.31	,	1.45	)	0.15	(	0.09	,	0.24	)
Large	1.38	(	1.34	,	1.43	)	0.17	(	0.13	,	0.23	)
Large	1.38	(	1.32	,	1.45	)	0.13	(	0.08	,	0.22	)
Large	1.38	(	1.33	,	1.44	)	0.17	(	0.12	,	0.24	)
Small	1.41	(	1.35	,	1.47	)	0.16	(	0.10	,	0.23	)
Small	1.42	(	1.36	,	1.49	)	0.16	(	0.10	,	0.25	)
Small	1.37	(	1.32	,	1.43	)	0.17	(	0.12	,	0.23	)
Small	1.41	(	1.35	,	1.47	)	0.16	(	0.11	,	0.24	)
Small	1.38	(	1.33	,	1.43	)	0.19	(	0.15	,	0.26	)

Fig S2 Allometric relationships between the conduit diameter (C) and distance from top of tree, estimated for each tree using SMA regression.