

SUPPLEMENTARY DATA

TABLE S1. Synthetic canopy file used to model understorey light interception and carbon gain in YPLANT, derived by averaging information from hemispherical photos taken above individual plants throughout the stand. The file consists of an array describing canopy openness by azimuth classes (columns) and angular elevation (rows), followed by the time sequence of sunflecks (direct light) occurring beneath that particular canopy, on a particular day (the summer solstice in this case).

	INDIRECT SITE FACTOR								TOTALS
	N	NE	E	SE	S	SW	W	NW	
86-90	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00366
81-86	0.00040	0.00040	0.00040	0.00040	0.00040	0.00040	0.00040	0.00040	0.00323
77-81	0.00038	0.00038	0.00038	0.00038	0.00038	0.00038	0.00038	0.00038	0.00303
72-77	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00283
68-72	0.00038	0.00038	0.00038	0.00038	0.00038	0.00038	0.00038	0.00038	0.00303
63-68	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00279
59-63	0.00031	0.00031	0.00031	0.00031	0.00031	0.00031	0.00031	0.00031	0.00249
54-59	0.00031	0.00031	0.00031	0.00031	0.00031	0.00031	0.00031	0.00031	0.00245
50-54	0.00032	0.00032	0.00032	0.00032	0.00032	0.00032	0.00032	0.00032	0.00255
45-50	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00197
41-45	0.00026	0.00026	0.00026	0.00026	0.00026	0.00026	0.00026	0.00026	0.00204
36-41	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00184
32-36	0.00024	0.00024	0.00024	0.00024	0.00024	0.00024	0.00024	0.00024	0.00191
27-32	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.00174
23-27	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00161
18-23	0.00016	0.00016	0.00016	0.00016	0.00016	0.00016	0.00016	0.00016	0.00130
14-18	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00081
9-14	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00067
5-9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002
0-5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
TOTALS	0.00500	0.00500	0.00500	0.00500	0.00500	0.00500	0.00500	0.00500	0.04000

PHOTO #1, DIRECT SUNLIGHT FOR DAY 355

start	end
6.53	6.54
6.94	6.95
7.34	7.35
7.73	7.75
8.13	8.14
8.52	8.54
8.92	8.93
9.32	9.34
9.74	9.76
10.17	10.19
10.65	10.68
11.34	11.39
11.99	12.01
12.61	12.66
13.32	13.35
13.81	13.83
14.24	14.26
14.66	14.68
15.07	15.08
15.46	15.48
15.86	15.87
16.25	16.27
16.65	16.66
17.05	17.06
17.46	17.47

TABLE S2. Leaf respiration rates on an area basis ($\mu\text{mol m}^{-2} \text{s}^{-1}$) of sapling evergreens measured on three nights (2230–0130 hrs) and three days (1030–1330 hrs) in December 2008, in the understory of a second-growth stand in Parque Nacional Puyehue. Data show means and standard errors of measurements on five replicate individuals of each species during each period, plus measurement temperatures.

	Night 1	Day 1	Night 2	Day 2	Night 3	Day 3
<i>Aristotelia</i>	-0.48 ± 0.04	-0.40 ± 0.12	-0.31 ± 0.08	-0.37 ± 0.06	-0.25 ± 0.06	-0.21 ± 0.12
<i>Nothofagus</i>	-0.43 ± 0.04	-0.52 ± 0.06	-0.46 ± 0.06	-0.35 ± 0.04	-0.25 ± 0.03	-0.35 ± 0.06
<i>Eucryphia</i>	-0.43 ± 0.15	-0.40 ± 0.03	-0.28 ± 0.03	-0.21 ± 0.03	-0.20 ± 0.04	-0.25 ± 0.04
<i>Amomyrtus</i>	-0.44 ± 0.05	-0.44 ± 0.02	-0.27 ± 0.06	-0.26 ± 0.02	-0.24 ± 0.07	-0.18 ± 0.04
<i>Laureliopsis</i>	-0.53 ± 0.04	-0.53 ± 0.04	-0.22 ± 0.04	-0.22 ± 0.05	-0.21 ± 0.07	-0.31 ± 0.08
<i>Aextoxicon</i>	-0.30 ± 0.04	-0.24 ± 0.05	-0.20 ± 0.00	-0.17 ± 0.02	-0.14 ± 0.02	-0.22 ± 0.03
<i>Myrceugenia</i>	-0.45 ± 0.07	-0.32 ± 0.04	-0.21 ± 0.03	-0.26 ± 0.05	-0.24 ± 0.07	-0.36 ± 0.08
Temperature (°C)	18.1 ± 0.1	20.1 ± 0.1	11.2 ± 0.1	20.3 ± 0.2	16.5 ± 0.1	20.1 ± 0.1

TABLE S3. Statistics of regressions of biomass allocation, crown architecture and carbon gain parameters on (log) seedling height.

	<i>Aristotelia</i>		<i>Nothofagus</i>		<i>Eucryphia</i>		<i>Amomyrtus</i>		<i>Laureliopsis</i>		<i>Aextoxicon</i>		<i>Myrceugenia</i>	
	R^2	P	R^2	P	R^2	P	R^2	P	R^2	P	R^2	P	R^2	P
(log) Specific leaf area	0.347	0.005	0.206	0.02	0.681	<0.001	0.586	<0.001	0.25	0.021	0.483	<0.001	0.494	<0.001
Leaf mass fraction	0.683	<0.001	0.343	0.002	0.029	0.46	<0.001	0.943	0.232	0.027	0.495	<0.001	0.011	0.621
(log) Leaf area ratio (LAR)	0.712	<0.001	0.522	<0.001	0.691	<0.001	0.516	<0.001	0.001	0.869	0.035	0.378	0.28	0.008
Mean weighted angle	0.031	0.442	0.058	0.237	0.007	0.711	0.203	0.046	0.042	0.371	0.226	0.019	0.089	0.156
Self-shaded fraction	0.255	0.02	0.464	<0.001	0.416	0.002	0.118	0.139	0.677	<0.001	0.584	<0.001	0.328	0.003
Silhouette-to-area ratio	0.036	0.412	0.431	<0.001	0.403	0.002	0.054	0.323	0.538	<0.001	0.765	<0.001	0.417	0.001
(log) LAR_d	0.714	<0.001	0.555	<0.001	0.72	<0.001	0.609	<0.001	0.096	0.171	0.43	0.001	0.513	<0.001
Net C gain, sunny	0.173	0.06	0.622	<0.001	0.472	0.001	0.014	0.62	0.658	<0.001	0.831	<0.001	0.622	<0.001
Net C gain, overcast	0.136	0.1	0.585	<0.001	0.461	0.001	0.078	0.232	0.608	<0.001	0.78	<0.001	0.651	<0.001
Weighted net C gain	0.183	0.053	0.703	<0.001	0.512	<0.001	0.065	0.279	0.76	<0.001	0.861	<0.001	0.792	<0.001