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Supplementary Material

Predawn leaf conductance depends on previous day irradiance but is not related to growth in aspen saplings grown under artificially manipulated air humidity

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Table S1. Mean values of air relative humidity (RH), air temperature (T_A) and air vapour pressure deficit (VPD) in three experimental treatments (high night-time and low daytime RH ('H_{night}L_{day}'), high night-time and daytime RH ('H_{night}H_{day}'), low night-time and high daytime RH ('L_{night}H_{day}')) across the entire study period.

RH treatment	Time of day	RH %	T_A °C	VPD (kPa)
'H _{night} L _{day} '	night	81.5	22.0	0.49
'H _{night} H _{day} '	night	79.7	22.0	0.53
'L _{night} H _{day} '	night	56.6	21.9	1.14
'H _{night} L _{day} '	day	57.4	22.0	1.12
'H _{night} H _{day} '	day	80.7	22.1	0.51
'L _{night} H _{day} '	day	80.9	22.0	0.50

Table S2. Linear mixed models of the effects of growth characteristics (diameter increment (ΔD), height increment (ΔH), standardised foliage biomass (B_{fs})), air humidity treatment (RH) and dark respiration (R) on night-time and predawn g_1 . Two separate models were fitted for each combination of time and growth characteristic variable: the first model (I) included humidity treatment factor and growth characteristic variable as independent terms, while the second model (II) additionally included night-time R (measured concurrently with g_1) as a covariate. ¹ dataset of the first gas exchange measurements; ² dataset of the second gas exchange measurements.

Time period	Model	Explanatory variables	Sum of square	Mean square	Deg. of freedom	F	P
¹ 22:00-24:00 h	I	ΔD	90764	90764	1	7.354	0.020
		RH treatment	12589	6294	2	0.510	0.614
	II	ΔD	98487	98487	1	14.619	0.003
		RH treatment	40034	20017	2	2.971	0.091
		R	217040	217040	1	32.217	< 0.001
¹ 2:00-4:00 h	I	ΔD	45876	45876	1	5.605	0.037
		RH treatment	31356	15678	2	1.915	0.193
	II	ΔD	8666	8666	1	2.967	0.112
		RH treatment	7534	3767	2	1.290	0.3121
		R	173356	173356	1	59.355	< 0.001
¹ 6:00-8:00 h	I	ΔD	47621	47621	1	1.227	0.275
		RH treatment	3251	1626	2	0.042	0.959
	II	ΔD	13347	13347	1	0.789	0.395
		RH treatment	43929	21964	2	1.299	0.314
		R	777981	777981	1	45.994	< 0.001
² 7:30-9:00 h	I	ΔD	10412	10412	1	0.841	0.376
		RH treatment	47232	23616	2	1.908	0.191
	II	ΔD	6198	6198	1	0.524	0.483
		RH treatment	60620	30310	2	2.562	0.122
		R	95017	95017	1	8.033	0.007

Table S2 (continued)

¹ 22:00-24:00 h	I	ΔH	30482	30482	1	2.470	0.144
		RH treatment	35819	17910	2	1.451	0.276
	II	ΔH	17701	17701	1	2.623	0.134
RH treatment		54237	27118	2	4.019	0.048	
R		184625	184625	1	27.364	< 0.001	
¹ 2:00-4:00 h	I	ΔH	106901	106901	1	13.337	< 0.001
		RH treatment	58376	29188	2	3.642	0.035
	II	ΔH	14006	14006	1	4.783	0.050
		RH treatment	22376	11188	2	3.821	0.054
		R	161990	161990	1	55.317	< 0.001
	¹ 6:00-8:00 h	I	ΔH	1908	1908	1	0.048
RH treatment			14896	7448	2	0.186	0.831
II		ΔH	1406	1406	1	0.084	0.778
		RH treatment	71776	35888	2	2.136	0.167
		R	788136	788136	1	46.899	< 0.001
² 7:30-9:00 h		I	ΔH	7041	7041	1	0.568
	RH treatment		78666	39333	2	3.175	0.078
	II	ΔH	1032	1032	1	0.087	0.774
		RH treatment	81617	40809	2	3.432	0.069
		R	92428	92428	1	7.774	0.008

Table S2 (continued)

¹ 22:00-24:00 h	I	<i>B</i> _{fs}	13020	13020	1	1.055	0.326
		RH treatment	24014	12007	2	0.973	0.408
	II	<i>B</i> _{fs}	9334	9334	1	1.383	0.264
RH treatment		43164	21582	2	3.198	0.079	
<i>R</i>		185892	185892	1	27.549	< 0.001	
¹ 2:00-4:00 h	I	<i>B</i> _{fs}	66720	66720	1	8.152	0.016
		RH treatment	39780	19890	2	2.430	0.134
	II	<i>B</i> _{fs}	3776	3776	1	1.290	0.278
		RH treatment	14611	7306	2	2.497	0.127
		<i>R</i>	162734	162734	1	55.613	< 0.001
	¹ 6:00-8:00	I	<i>B</i> _{fs}	142.7	142.7	1	0.003
RH treatment			15857	7928	2	0.198	0.823
II		<i>B</i> _{fs}	12	12	1	0.001	0.979
		RH treatment	70103	35051	2	2.086	0.172
		<i>R</i>	787054	787054	1	46.832	< 0.001
² 7:30-9:00		I	<i>B</i> _{fs}	4482	4482	1	0.361
	RH treatment		72834	36417	2	2.937	0.092
	II	<i>B</i> _{fs}	256	256	1	0.021	0.886
		RH treatment	82575	41288	2	3.432	0.071
		<i>R</i>	97975	97975	1	8.145	0.007
