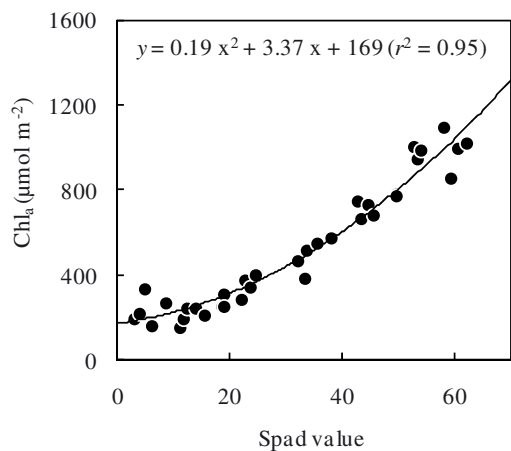


Online Material

APPENDIX

Appendix 1. Relationships between chlorophyll content (Chl_a , $\mu\text{mol}_{\text{Chl}} \text{m}^{-2}$) and SPAD values (SPAD-502, Minolta, Osaka, Japan). Chlorophyll content was measured on 2.3 cm^2 leaf discs after extracting in DMSO ($n = 35$).

Appendix 2. Mean values of leaf traits in the different stages of architectural development for *Tachigali melinonii* and *Dicorynia guianensis*. Values of adjusted means (\pm standard error) at a common DPF_{rel} of 26% are given for the different ASDs.

	<i>T. melinonii</i>			<i>D. guianensis</i>	
	ASD1	ASD2	ASD3	ASD1	ASD2
	<i>n</i> = 20	<i>n</i> = 16	<i>n</i> = 11	<i>n</i> = 10	<i>n</i> = 9
<i>H</i>	47.3 \pm 13	241 \pm 13	558 \pm 18	166 \pm 17	404 \pm 18
<i>D</i>	0.70 \pm 0.1	1.61 \pm 0.1	4.71 \pm 0.2	1.80 \pm 0.2	3.26 \pm 0.2
Structural traits					
<i>LMA</i>	56.4 \pm 1.8	66.6 \pm 1.8	75.3 \pm 2.5	55.6 \pm 2.4	60.3 \pm 2.5
thickness	145 \pm 5.5	143 \pm 5.7	149 \pm 7.7	197 \pm 7.3	210 \pm 7.7
density	0.40 \pm 0.01	0.46 \pm 0.01	0.50 \pm 0.02	0.28 \pm 0.02	0.28 \pm 0.02
<i>N_a</i>	1.22 \pm 0.06	1.79 \pm 0.06	2.29 \pm 0.08	1.27 \pm 0.08	1.49 \pm 0.08
<i>N_m</i>	22.4 \pm 0.9	27.9 \pm 0.9	32 \pm 1.2	24 \pm 1.2	25.2 \pm 1.2
<i>C_m</i>	480 \pm 2.2	498 \pm 2.3	504 \pm 3.1	499 \pm 2.9	502 \pm 3.1
Physiological traits					
<i>V_{cmax}^a</i>	24.4 \pm 1.1	34.3 \pm 1.1	41.1 \pm 1.5	20.3 \pm 1.5	25.1 \pm 1.5
<i>J_{max}^a</i>	39.5 \pm 2	55 \pm 2	63.3 \pm 2.8	30.2 \pm 2.6	39.5 \pm 2.8
<i>R_d^a</i>	1.56 \pm 0.1	1.82 \pm 0.1	2.12 \pm 0.2	0.50 \pm 0.2	0.30 \pm 0.2
<i>V_{cmax}^m</i>	436 \pm 20	525 \pm 21	561 \pm 28	387 \pm 26	434 \pm 28
<i>J_{max}^m</i>	699 \pm 33	824 \pm 34	862 \pm 47	576 \pm 44	678 \pm 46
<i>R_d^m</i>	26.3 \pm 2.2	27.7 \pm 2.4	30.3 \pm 3.1	7.77 \pm 3	4.06 \pm 3.1
<i>J_{max}/V_{cmax}</i>	1.64 \pm 0.04	1.58 \pm 0.04	1.53 \pm 0.06	1.48 \pm 0.05	1.56 \pm 0.06
<i>V_{cmax}/N</i>	0.28 \pm 0.02	0.27 \pm 0.02	0.25 \pm 0.02	0.23 \pm 0.02	0.24 \pm 0.02
<i>J_{max}/N</i>	0.45 \pm 0.02	0.43 \pm 0.02	0.38 \pm 0.03	0.34 \pm 0.03	0.38 \pm 0.03

Appendix 3. Result of a one-way Ancova with stage of architectural development ($ASD = 2$) as main factor and relative irradiance (DPF_{rel} , %) as covariables applied to *Tachigali melinonii* (Harms) Barneby. F -value, level of significance (P) and coefficient of determination (r^2) of the model are given. DPF_{rel} , LMA and J_{maxa} were log transformed prior to analysis.

Values of adjusted means (\pm standard error) were also given (covariate mean = 21%) for the three stages of Architectural development (ASD). C_m and thickness were analyzed with a separate slope model. V_{cmaxm} , J_{maxm} and R_{dm} were not linearly correlated with DPF_{rel} and thus they were analyzed with a one way ANOVA. Significant levels: ns, $P > 0.05$; * $P < 0.05$; ** $P < 0.01$ and *** $P < 0.001$.

	<i>ASD</i>	<i>DPF_{rel}</i> (%)	<i>DPF_{rel}</i> x <i>ASD</i>	Model	<i>ASD1</i>	<i>ASD2</i>
	<i>F</i>	<i>F</i>	<i>F</i>	<i>r</i> ²	<i>n</i> = 20	<i>n</i> = 16
<i>H</i>	219***	–	19.0***	0.93	45.4 \pm 11	260 \pm 12
<i>D</i>	69.5***	–	14.8***	0.82	0.65 \pm 0.1	1.66 \pm 0.1
<i>Structural traits</i>						
<i>LMA</i>	7.46**	104***	–	0.80	53.2 \pm 1.8	62.7 \pm 2.0
thickness	10.9**	–	6.19**	0.28	145 \pm 5.7	137 \pm 6.4
density	12***	68.7***	–	0.75	0.38 \pm 0.02	0.46 \pm 0.02
<i>N_m</i>	26.7***	–	34.2***	0.74	23.1 \pm 0.8	28.8 \pm 0.9
<i>N_a</i>	50.9***	9.37**	–	0.69	1.19 \pm 0.05	1.75 \pm 0.05
<i>C_m</i>	29.3***	18.2***	–	0.65	479 \pm 2.3	497 \pm 2.6
<i>Chl_a</i>	23.5***	46.8***	–	0.64	552 \pm 30	711 \pm 34
<i>Chl_m</i>	4.14*	145***	–	0.82	11.8 \pm 0.9	12.5 \pm 1.0
<i>Physiological traits</i>						
<i>V_{cmaxa}</i>	31.2***	70.3***	–	0.80	22.9 \pm 1.0	32.6 \pm 1.1
<i>J_{maxa}</i>	31.7***	166***	–	0.88	36.8 \pm 1.6	51.0 \pm 1.8
<i>R_{da}</i>	1.27ns	14.7***	–	0.37	1.39 \pm 0.2	1.74 \pm 0.2
<i>V_{cmaxm}</i>	10.3**	ns	–	0.23	430 \pm 23	526 \pm 18
<i>J_{maxm}</i>	6.58*	8.08**	–	0.37	686 \pm 29	811 \pm 33
<i>R_{dm}</i>	0.92ns	ns	–	0.03ns	23.8 \pm 2.7	27.8 \pm 3.0
<i>J_{max}/V_{cmax}</i>	1.41ns	6.15*	–	0.17ns	1.62 \pm 0.05	1.54 \pm 0.05
<i>V_{cmax}/N</i>	1.13ns	19.6***	–	0.37	0.27 \pm 0.02	0.26 \pm 0.02
<i>J_{max}/N</i>	3.39ns	53.1***	–	0.62	0.43 \pm 0.02	0.41 \pm 0.02
<i>Chl/N</i>	2.77ns	135***	–	0.82	6.77 \pm 0.3	5.83 \pm 0.3