Long-term dynamics of liana seedlings suggest decelerating increases in liana relative abundance over time

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Supporting information:

Table S1. Coefficients [95 % confidence intervals] for growth form, habitat type and interaction effects on recruitment and mortality rates. Bold numbers indicate significant effects (confidence intervals do not cross zero).

Fixed effect	Estimate [95%CI]	
	Mortality	Recruitment
Intercept	**0.11[0.10,0.12]**	**0.11[0.111,0.12]**
Liana	**-0.014[-0.03,-0.003]**	0.003[-0.009,0.01]
Wet	0.0001[-0.02,0.02]	0.014[-0.001,0.03]
Liana:Wet	-0.0002[-0.02, 0.02]	-0.017[-0.04,0.004]

Table S2. Proportion of gap area across 22,000 5 x 5 m subplots distributed in the 50-ha forest dynamic plot at three height classes.

Year	Height class			
	0–1	1–2	2–5	5-10
2003	0.00	0.02	0.7	2.47
2004	0.01	0.08	0.5	2.46
2005	0.01	0.04	0.28	1.68
2006	0.00	0.01	0.08	1.15
2007	0.00	0.00	0.04	0.73
2008	0.00	0.01	0.08	0.51
2009	0.00	0	0.01	0.52
2010	0.00	0.05	0.25	1.52
2011	0.00	0	0.05	0.58
2012	0.02	0.08	0.28	1.14
Mean	0.003	0.03	0.23	1.27
STD	0.01	0.03	0.23	0.75
CV	1.79	1.00	1.00	0.59

Table S3. Coefficients for growth form, seed dispersal strategy and the interaction effects on change in log-transformed abundance between the first (2001) and the last (2017) censuses. We used seed dispersal types reported by Wright *et al.* (2016) and re-classified them into two categories: (1) zoochory, including seeds dispersed by bats, birds and non-volant mammals; (2) abiotic dispersal, including seeds dispersed by water, wind and explosive dehiscence. We then fit a linear model in which the dependent variable was the difference in log-transformed seedling abundance from 2001 to 2017 ($\ln(n_{2017})$- $\ln(n_{2001})$, where n refers to the number of seedlings in a given year) and the independent variables were growth form (either liana or tree), seed dispersal type (either zoochory or abiotic dispersal) and the interaction between growth form and seed dispersal type.

	Estimate	**Std. Error**	**t-value**	**P-value**
Intercept	-0.018	0.008	-2.182	0.030
Zoochory	-0.003	0.009	-0.339	0.735
Liana	0.011	0.011	1.001	0.318
Zoochory:Liana	-0.002	0.013	-0.122	0.903

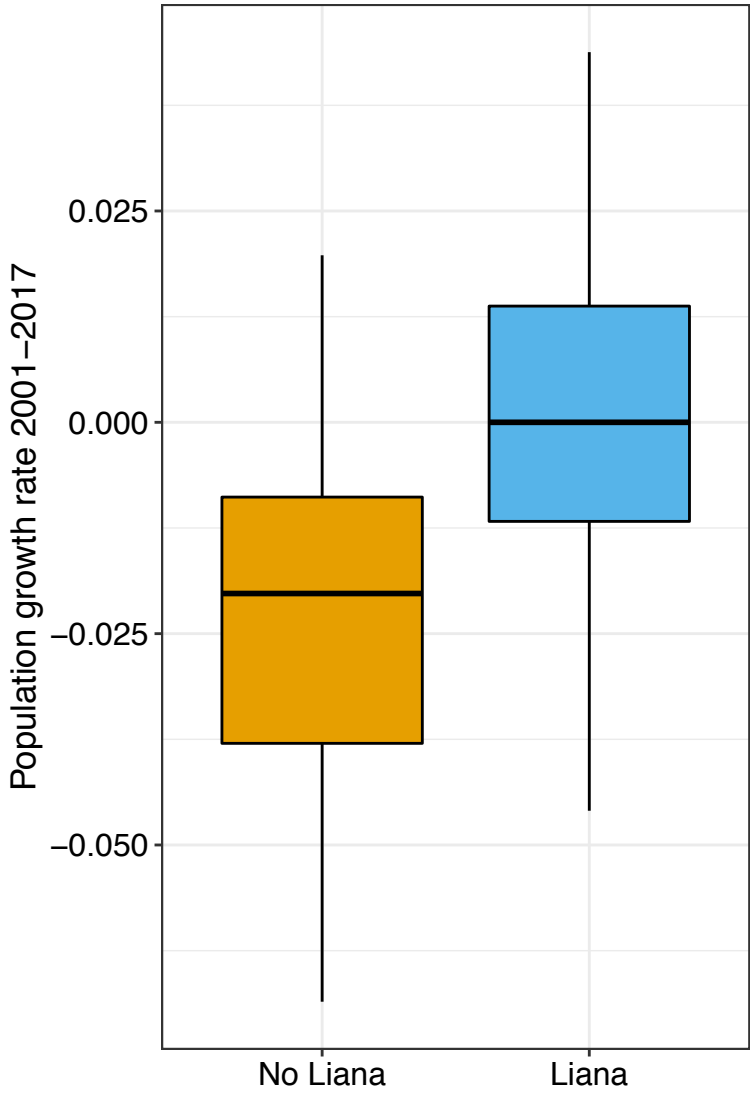

Figure S1. Change in population growth rate for liana (blue) and tree (yellow) seedlings in 1 ha quadrats within the BCI 50-ha forest dynamics plot between 2001 and 2017 (paired t-test, t = 7.7, $P < 0.001$).

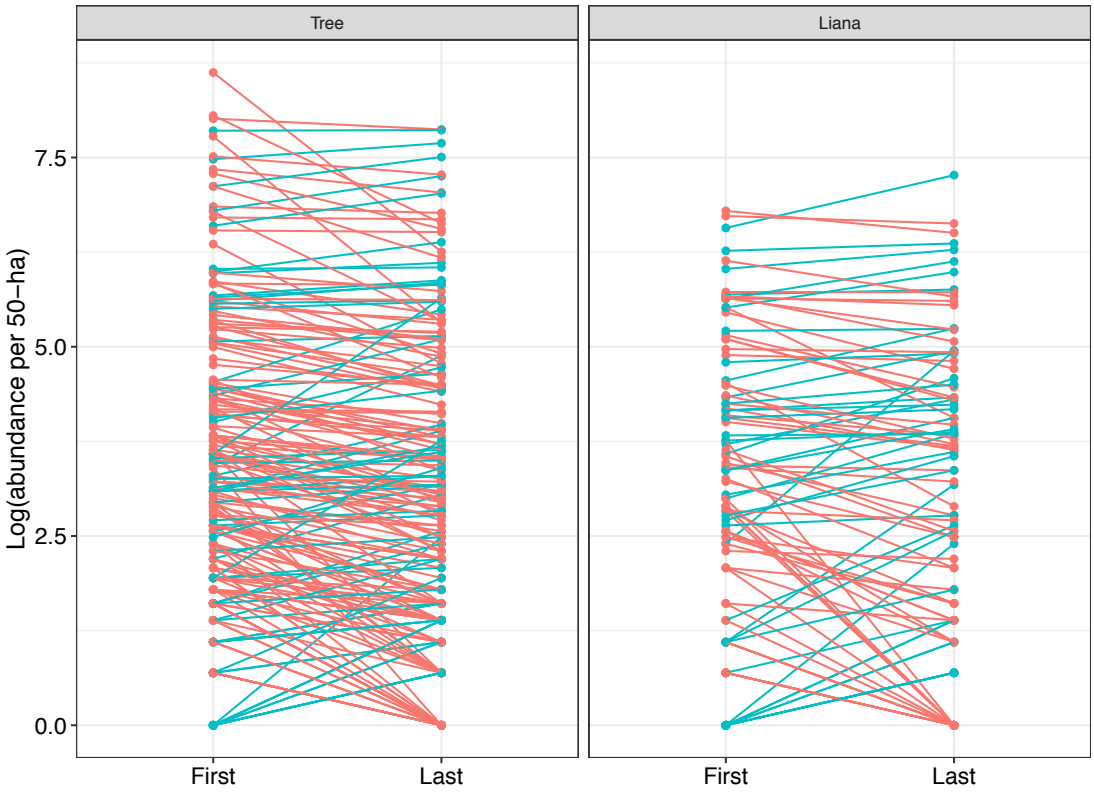

Figure S2. Change in log-transformed absolute abundance of species of seedling lianas and trees between the first (2001) and the last (2017) censuses. Red color shows species that decrease in abundance and blue color shows species that increase in abundance. The proportion of species that increased in seedling abundance was greater for lianas compared to trees (Chi-squared test, $X^2 = 3.92$, $P = 0.04$).