Supporting Information. Umaña, M.A., G. Arellano, N.G. Swenson, and J. Zambrano. 2020. Tree seedling trait optimization and growth in response to local-scale soil and light variability. Ecology. Instead of Umaña, M. A., it should be Umaña M. N.

Appendix S3: Results obtained with different bandwidth values for kernel density estimation.

Content:

Methods

To examine the effect of using different cut-offs when selecting the plots at the three resource-levels (low, common and high), we calculated the kernel distributions for each abiotic variable using 20 cut-offs points. First, we calculated the kernel distributions following the same procedure described in the main text, using bandwidths that were selected through the Botev method (Botev et al. 2010). Then, based on the density distribution of each abiotic variable, we selected the plots at the three levels: for the most common resource level we selected plots that were located between the 75 and 95 percentiles. For the low resource level, we selected plots that were located between the 5 and 25 percentiles. For the high resource level, we selected plots that were located between the 75 and 95 percentiles. Next, for each set of plots at each resource level, we calculated SES kurtosis selected at each percentile following the methods described in the main text.

References

Botev ZI, Grotowski JF, Kroese DP (2010) Kernel density estimation via diffusion. Ann Stat 38:2916–2957. https://doi.org/10.1214/10-AOS799

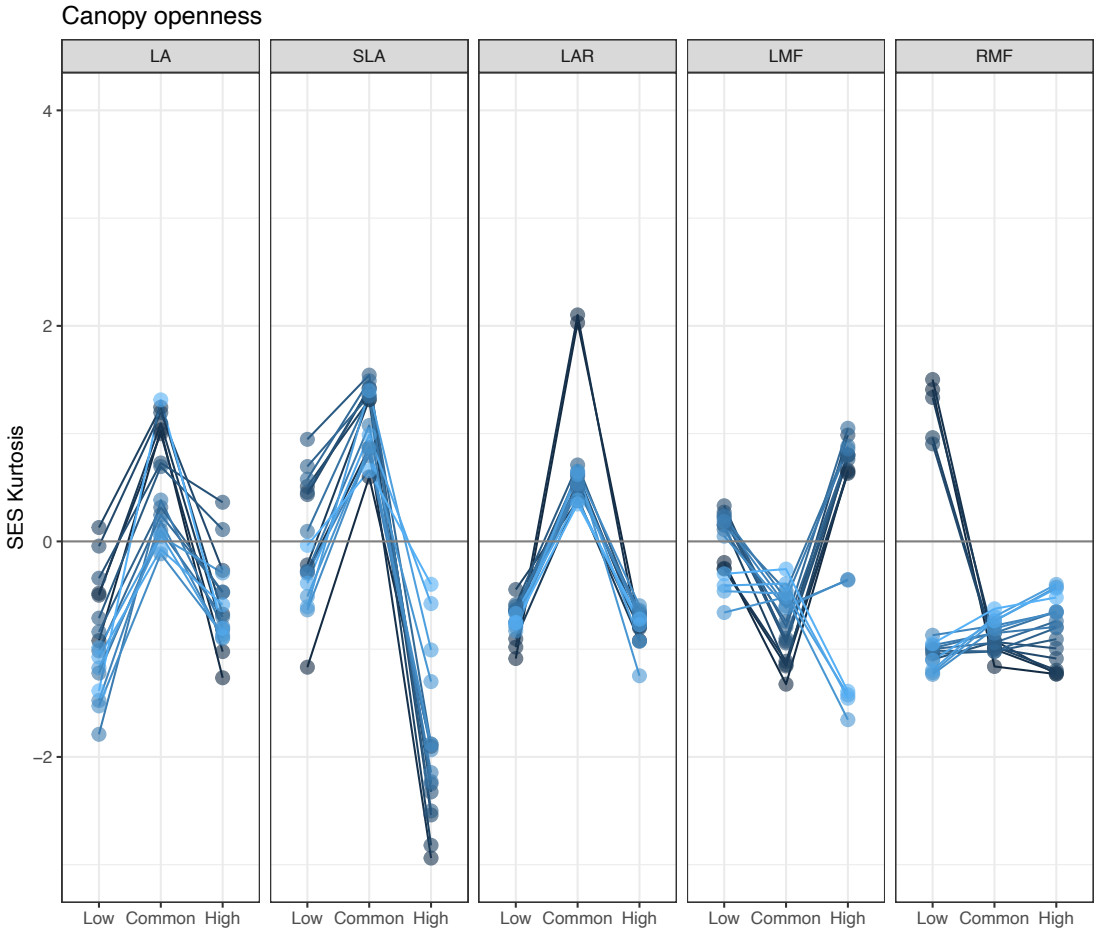

Figure S1. SES Kurtosis of trait values for three canopy openness levels (Low, Common, and High). Positive SES values above indicate kurtosis values higher than expected by chance. Negative SES values below indicate significantly lower than the expected kurtosis in a given community. Blue colors indicate different cut-off points for selecting plots in each resource level. Light blue indicates most extreme cut-offs. LA– leaf area, SLA– specific leaf area, LAR–leaf area ratio, LMF–Leaf mass fraction, RMF– root mass fraction.

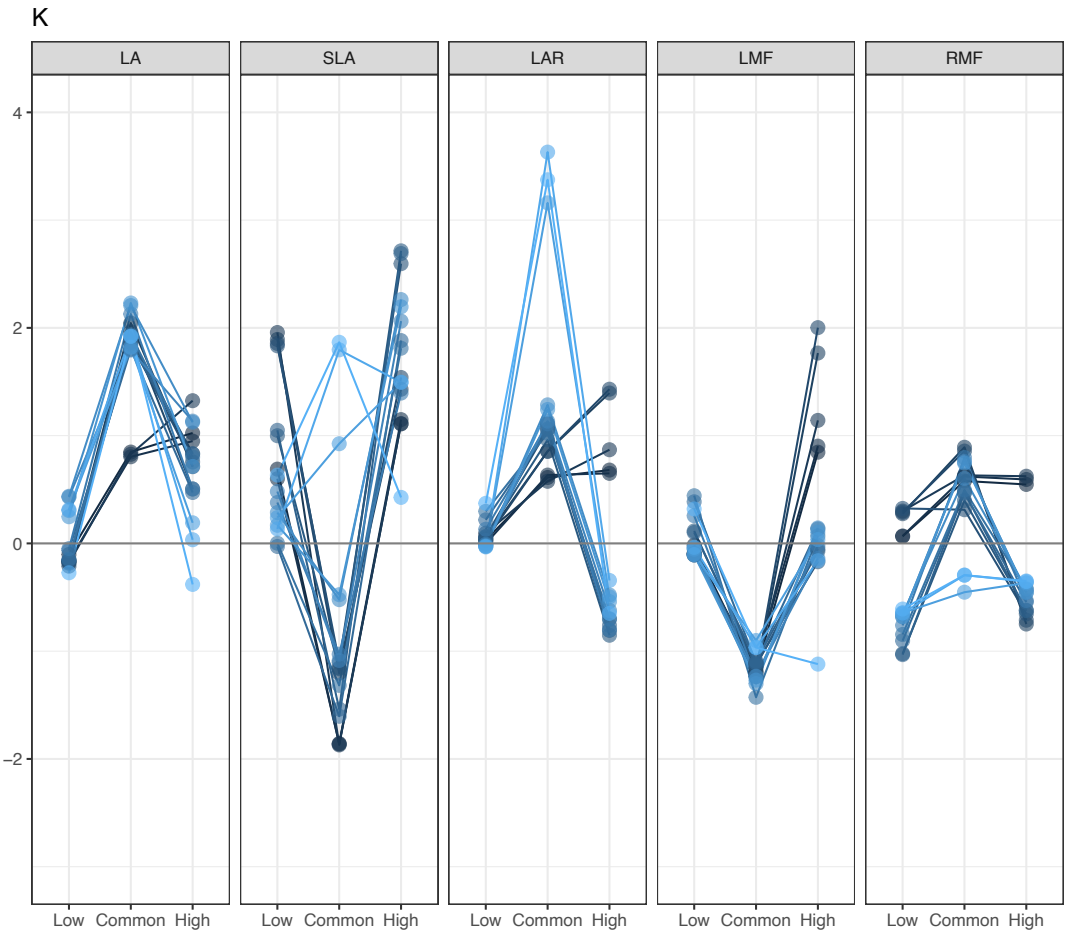

Figure S2. SES Kurtosis of trait values for three soil K levels (Low, Common, and High). Positive SES values above indicate kurtosis values higher than expected by chance. Negative SES values below indicate significantly lower than the expected kurtosis in a given community. Blue colors indicate different cut-off points for selecting plots in each resource level. Light blue indicates most extreme cut-offs. Acronyms for traits are the same as in Figure S1.

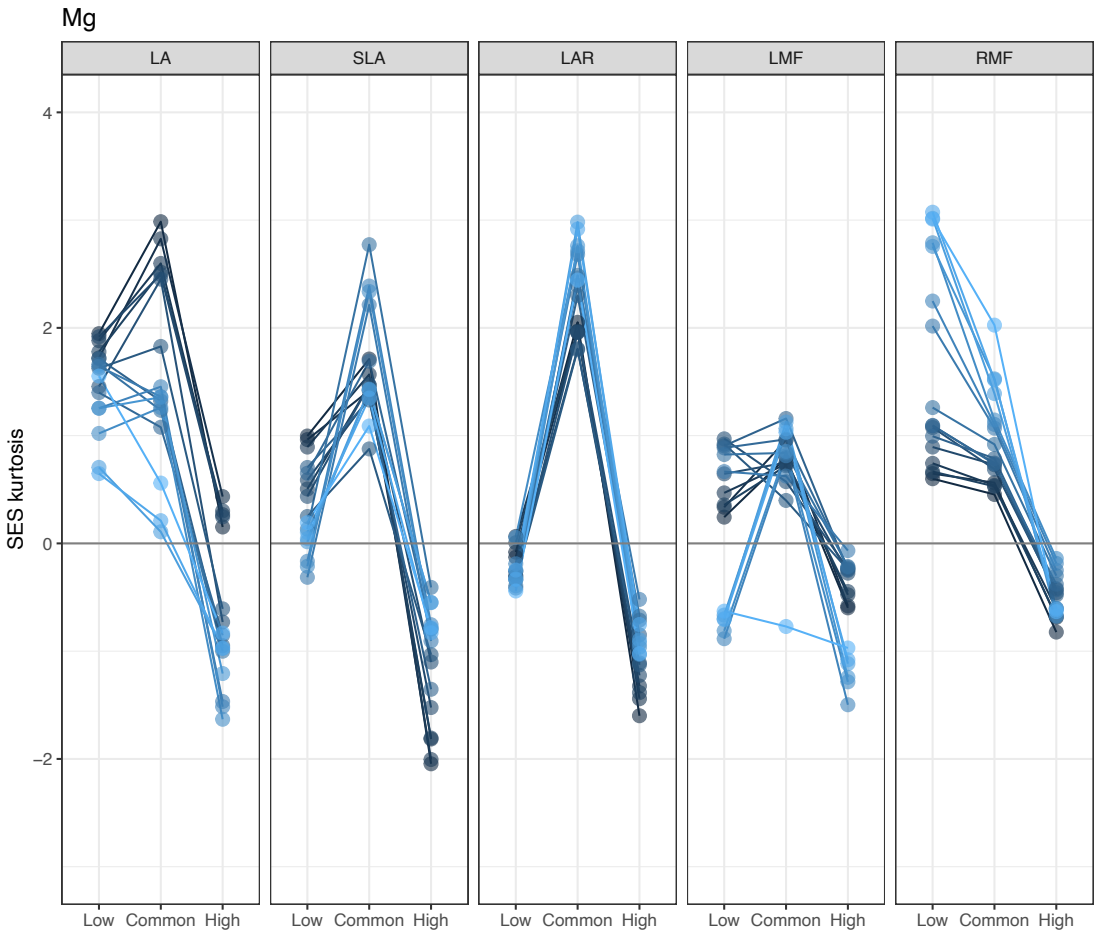

Figure S3. SES Kurtosis of trait values for three soil Mg levels (Low, Common, and High). Positive SES values above indicate kurtosis values higher than expected by chance. Negative SES values below indicate significantly lower than the expected kurtosis in a given community. Blue colors indicate different cut-off points for selecting plots in each resource level. Light blue indicates most extreme cut-offs. Acronyms for traits are the same as in Figure S1.

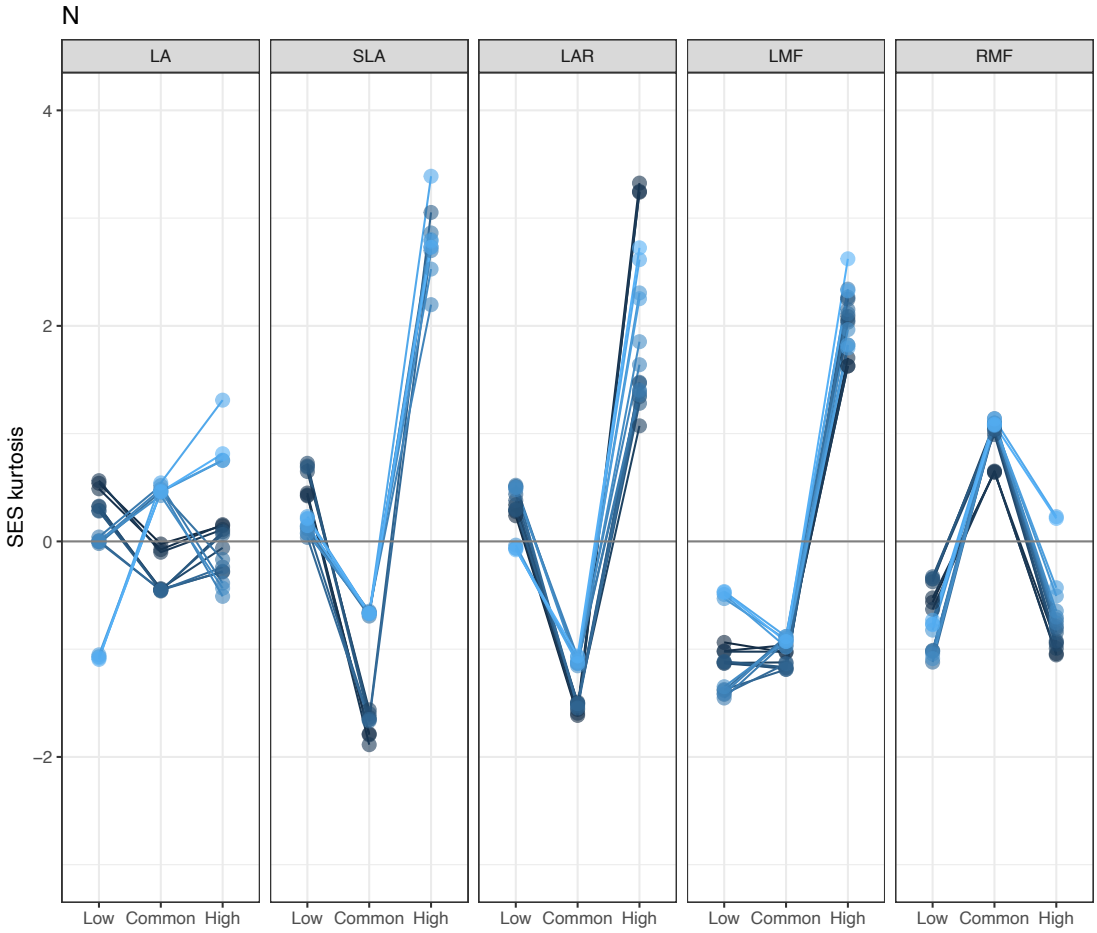

Figure S4. SES Kurtosis of trait values for three soil N levels (Low, Common, and High). Positive SES values above indicate kurtosis values higher than expected by chance. Negative SES values below indicate significantly lower than the expected kurtosis in a given community. Blue colors indicate different cut-off points for selecting plots in each resource level. Light blue indicates most extreme cut-offs. Acronyms for traits are the same as in Figure S1.