



Supplement of

Contrasting strategies of nutrient demand and use between savanna and forest ecosystems in a neotropical transition zone

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Table S1. Soil nutrient concentration (mean \pm sd) for Cerrado (savanna) and Cerradão (transition forest) permanent plots in Nova Xavantina, Brazil. V (%) = base saturation level; SOM = soil organic matter; ECC = effective cation exchange capacity. Soil chemistry data were provided by ForestPlots database (Lopez-Gonzalez et al. 2011).

Soil layer (cm)	V (%)	pH (H ₂ O)	Clay	Silt (g kg ⁻¹)	Sand	SOM (g dm ⁻³)	P (mg dm ⁻³)	Fe	K	Ca	Mg (cmolc dm ⁻³)	Al	ECC	
Forest	0-10	13.3 \pm 14.3	5.2 \pm 0.2	172.4 \pm 14.2	80.0 \pm 11.2	747.6 \pm 13.1	19.7 \pm 2.9	4.6 \pm 0.4	189.0 \pm 25.9	0.13 \pm 0.02	0.09 \pm 0.03	1.10 \pm 1.7	1.30 \pm 0.23	8.7 \pm 1.50
	10-20	12.5 \pm 15.0	5.4 \pm 0.2	207.2 \pm 27.7	65.2 \pm 29.0	727.6 \pm 28.3	11.8 \pm 1.1	2.2 \pm 0.5	199.3 \pm 30.8	0.09 \pm 0.03	0.02 \pm 0.01	0.85 \pm 1.4	1.31 \pm 0.15	6.4 \pm 1.40
Savanna	0-10	7.7 \pm 1.7	5.5 \pm 0.1	132.8 \pm 11.6	89.6 \pm 14.2	777.6 \pm 14.2	16.6 \pm 1.1	3.8 \pm 0.4	150.5 \pm 22.9	0.14 \pm 0.04	0.09 \pm 0.03	0.24 \pm 0.06	1.03 \pm 0.12	6.2 \pm 0.36
	10-20	5.4 \pm 1.5	5.4 \pm 0.1	147.6 \pm 13.1	80.0 \pm 11.2	772.4 \pm 14.2	11.1 \pm 0.3	2.3 \pm 0.2	194.1 \pm 13.9	0.10 \pm 0.02	0.02 \pm 0.01	0.12 \pm 0.04	1.06 \pm 0.15	4.5 \pm 0.20

Figure S1. Macronutrients (N, P, K, Ca and Mg) concentration (%) for different plant organ (leaf, branch, outer bark, inner bark, soft wood, hard wood and fine roots) across the most representative species from Cerrado (savanna, left column) and Cerradão (transition forest, right column) vegetation. Species abbreviation refer to the first three letters of the genera followed by the first three letters of the specific epithet, as follow from left to right: cerradão species (*Chaetocarpus echinocarpus*, *Emmotum nitens*, *Hirtella glandulosa*, *Myrcia splendens*, *Tachigali vulgaris*, *Tapirira guianensis*, *Xylopia aromatica*); and savanna species (*Aspidosperma tomentosum*, *Byrsonima pachyphylla*, *Davilla elliptica*, *Eriotheca gracipiles*, *Qualea grandiflora*, *Qualea parviflora*, *Roupala montana*).

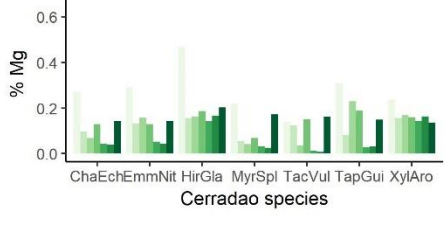
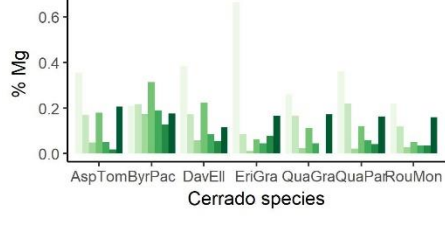
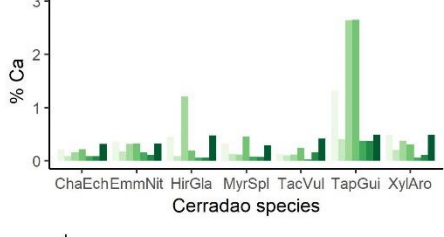
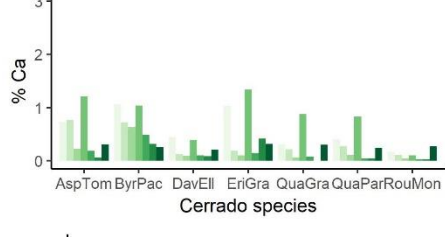
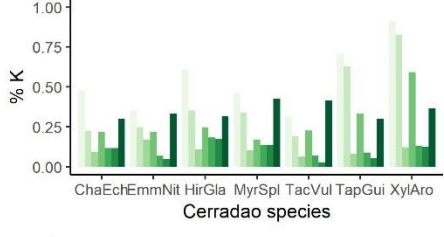
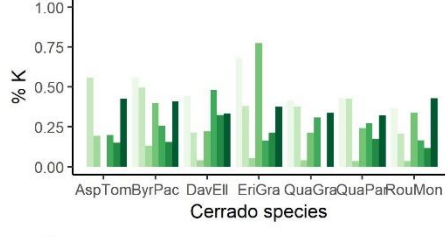
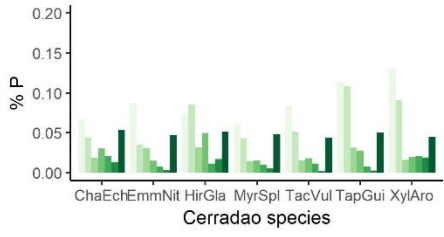
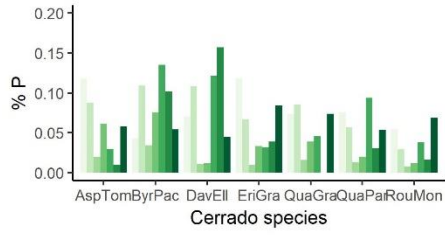
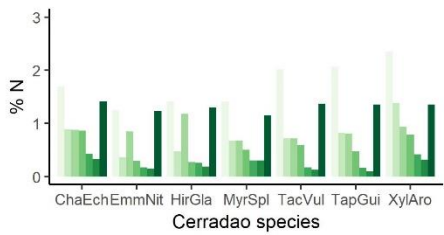
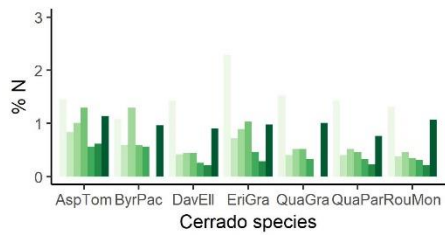


Table S2. P-values from z-test comparison between cerrado and cerradao NPP and nutrient demand for each biomass component: canopy demand met by resorption (canopy resorption), canopy demand met by new uptake (canopy), wood and fine roots. Significant differences in bold ($P < 0.05$)

Component	NPP	N	P	K	Ca	Mg
Canopy resorption	--	0.006	0.007	0.037	--	0.753
Canopy	< 0.001	< 0.001	< 0.001	0.005	0.264	0.008
Wood	0.111	0.057	< 0.001	0.001	0.623	0.769
Fine roots	0.954	0.507	0.005	0.061	0.243	0.076

Table S3. P-values from z-test comparison between cerrado and cerradao nutrient use efficiency demand base and nutrient use efficiency uptake base for each macronutrient. Significant differences in bold ($P < 0.05$)

Nutrient	NutUE _{demand}	NutUE _{uptake}
N	0.012	0.077
P	0.107	<0.001
K	0.717	0.011
Ca	0.647	0.647
Mg	0.976	0.977

References

Lopez-Gonzalez G, Lewis SL, Burkitt M, Phillips OL (2011) ForestPlots. net: a web application and research tool to manage and analyse tropical forest plot data. *J Veg Sci* 22:610–613. <https://doi.org/10.1111/j.1654-1103.2011.01312.x>