New Phytologist Supporting Information

Article title: Leaf turgor loss point shapes local and regional distributions of evergreen but not deciduous tropical trees

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Table S1. Summary of observed mean turgor loss point (π_{tlp}), leaf mass area (LMA), wood density (WD), and leaf phenology. Standard deviation is given for all mean values.

Species	Family	π_{tlp} (MPa)		LMA (g m^{-2})		WD (g cm^{-3})		Leaf
		Mean	SD	Mean	SD	Mean	SD	phenology
Alseis blackiana Hemsl.	Rubiaceae	-1.59	0.03	31.7	1.7	0.483	0.020	DF
Anacardium excelsum (Bertero ex Kunth) Skeels	Anacardiaceae	-1.68	0.06	103.8	20.5	0.350	0.015	DB
Annona spraguei Saff.	Annonaceae	-2.12	0.02	47.3	9.6	0.391	0.106	DF
Apeiba membranacea Spruce ex Benth.	Malvaceae	-1.33	0.02	60.1	17.0	0.258	0.004	DF
Beilschmiedia pendula (Sw.) Hemsl.	Lauraceae	-1.41	0.10	72.5	10.3	0.466	0.021	E
Brosimum alicastrum Sw.	Moraceae	-1.82	0.11	52.6	8.2	0.479	0.012	DB
Calophyllum longifolium Willd.	Clusiaceae	-1.41	0.03	153.4	26.7	0.427	0.021	E
Cavanillesia platanifolia (Humb. & Bonpl.) Kunth	Bombacaceae	-1.73	0.05	73.6	2.9	0.318	0.064	DO
Cecropia insignis Liebm.	Urticaceae	-1.55	0.02	71.2	12.5	0.323	0.050	E
Cedrela odorata L.	Meliaceae	-1.74	0.04	39.6	6.4	0.336	0.074	DB
Ceiba pentandra (L.) Gaertn	Malvaceae	-1.73	0.07	107.1	40.0	0.387	0.087	DO
Cordia alliodora (Ruiz & Pav.) Oken	Boraginaceae	-1.40	0.03	110.4	19.1	0.516	0.051	DF
Dalbergia retusa Hemsl.	Leguminosae	-1.25	0.12	66.6	6.1	0.507	0.036	D
Dendropanax arboreus (L.) Decne. & Planch.	Araliaceae	-1.57	0.05	63.3	5.3	0.410	0.059	E
Dipteryx oleifera Benth.	Leguminosae	-1.91	0.12	62.4	10.8	0.631	0.015	DB
Faramea occidentalis (L.) A.Rich	Rubiaceae	-1.84	0.09	63.9	7.8	0.621	0.030	E
Ficus costaricana (Liebm.) Miq.	Moraceae	-1.52	0.03	104.5	35.1	0.335	0.119	E
Genipa americana L.	Rubiaceae	-1.99	0.06	79.4	3.8	0.622	0.035	DF
Guapira standleyana (Standl.) Little	Nyctaginaceae	-1.57	0.08	52.4	5.6	0.439	0.041	E
Gustavia superba (Kunth) O.Berg	Lecythidaceae	-1.95	0.08	76.6	28.2	0.319	0.073	E
Hirtella triandra Sw.	Chrysobalanaceae	-1.59	0.03	70.2	9.8	0.548	0.054	E
Hura crepitans L.	Euphorbiaceae	-2.28	0.03	34.3	4.7	0.347	0.063	DF
Hybanthus prunifolius (Humb. & Bonpl. ex Schult.) Schulze-Menz	Violaceae	-1.64	0.16	39.0	10.9	0.590	0.037	E
Inga pezizifera Benth.	Leguminosae	-1.57	0.02	39.6	3.5	0.274	0.042	E
*Jacaranda copaia (*Aubl.) D.Don	Bignoniaceae	-1.69	0.23	48.4	20.3	0.254	0.017	DB
Luehea seemannii Triana & Planch	Malvaceae	-2.05	0.20	90.4	12.2	0.408	0.079	DF
Miconia argentea (Sw.) DC.	Melastomataceae	-1.82	0.12	102.7	6.4	0.894	0.715	E
Nectandra lineata (Kunth) Rohwer	Lauraceae	-1.90	0.10	54.6	4.4	0.456	0.037	E
Ochroma pyramidale (Cav. ex Lam.) Urb.	Malvaceae	-1.63	0.09	79.2	10.8	0.224	0.012	D
Ocotea whitei Woodson	Lauraceae	-1.71	0.10	74.9	15.5	0.567	0.105	E
Oenocarpus mapora H.Karst	Arecaceae	-1.82	0.06	97.5	7.3	0.228	0.079	E
Piper cordulatum C. DC.	Piperaceae	-1.45	0.03	55.5	9.0	0.495	0.057	E
Piper reticulatum L.	Piperaceae	-1.53	0.04	57.5	10.5	0.471	0.092	E
Poulsenia armata (Miq.) Standl.	Moraceae	-1.43	0.05	66.9	5.2	0.319	0.009	E
Protium tenuifolium (Engl.) Engl.	Burseraceae	-1.73	0.18	84.1	20.1	0.448	0.039	E
Pseudobombax septenatum (Jacq.) Dugand	Malvaceae	-1.48	0.01	63.6	3.3	0.234	0.047	DO
Psychotria marginata Sw.	Rubiaceae	-1.50	0.14	55.3	0.5	0.591	0.018	E
Quararibea asterolepis Pittier	Malvaceae	-2.05	0.07	67.4	3.8	0.530	0.049	DB
Schizolobium parahyba (Vell.) S.F.Blake	Leguminosae	-1.74	0.03	47.7	1.3	0.427	0.031	E
Simarouba amara Aubl.	Simaroubaceae	-1.78	0.21	68.3	22.0	0.361	0.029	E
Spondias radlkoferi Donn.Sm.	Anacardiaceae	-1.65	0.04	45.6	10.6	0.305	0.073	DF
Sterculia apetala (Jacq.) H.Karst.	Malvaceae	-2.30	0.18	41.9	21.0	0.324	0.044	DF
Tabebuia rosea (Bertol.) Bertero ex A.DC.	Bignoniaceae	-1.95	0.07	86.9	6.4	0.531	0.022	DF
Tabernaemontana arborea Rose ex J.D.Sm.	Apocynaceae	-1.34	0.05	98.1	6.0	0.453	0.027	E
Tachigali versicolor Standl. & L.O.Williams	Leguminosae	-1.58	0.02	80.3	10.3	0.681	0.014	E
Terminalia amazonia (J.F.Gmel.) Exell	Combretaceae	-1.55	0.06	103.7	12.0	0.554	0.065	DB
Virola sebifera Aubl.	Myristicaceae	-1.58	0.14	78.6	14.3	0.444	0.064	E
Virola surinamensis (Rol. ex Rottb.) Warb.	Myristicaceae	-1.74	0.01	97.8	17.1	0.378	0.073	E
Vochysia ferruginea Mart.	Vochysiaceae	-1.65	0.04	94.7	10.7	0.442	0.054	E
Zanthoxylum setulosum P.Wilson	Rutaceae	-1.65	0.08	62.4	20.6	0.423	0.036	DF

*Leaf phenology: DB, brevideciduous; DO, obligately deciduous; DF, facultatively deciduous; D, deciduous not specified; E, evergreen

Figure S1. Correlation plot indicating the relationships between π_{tlp}. ,LMA and WD. Note: Pearson correlation coefficient is given.

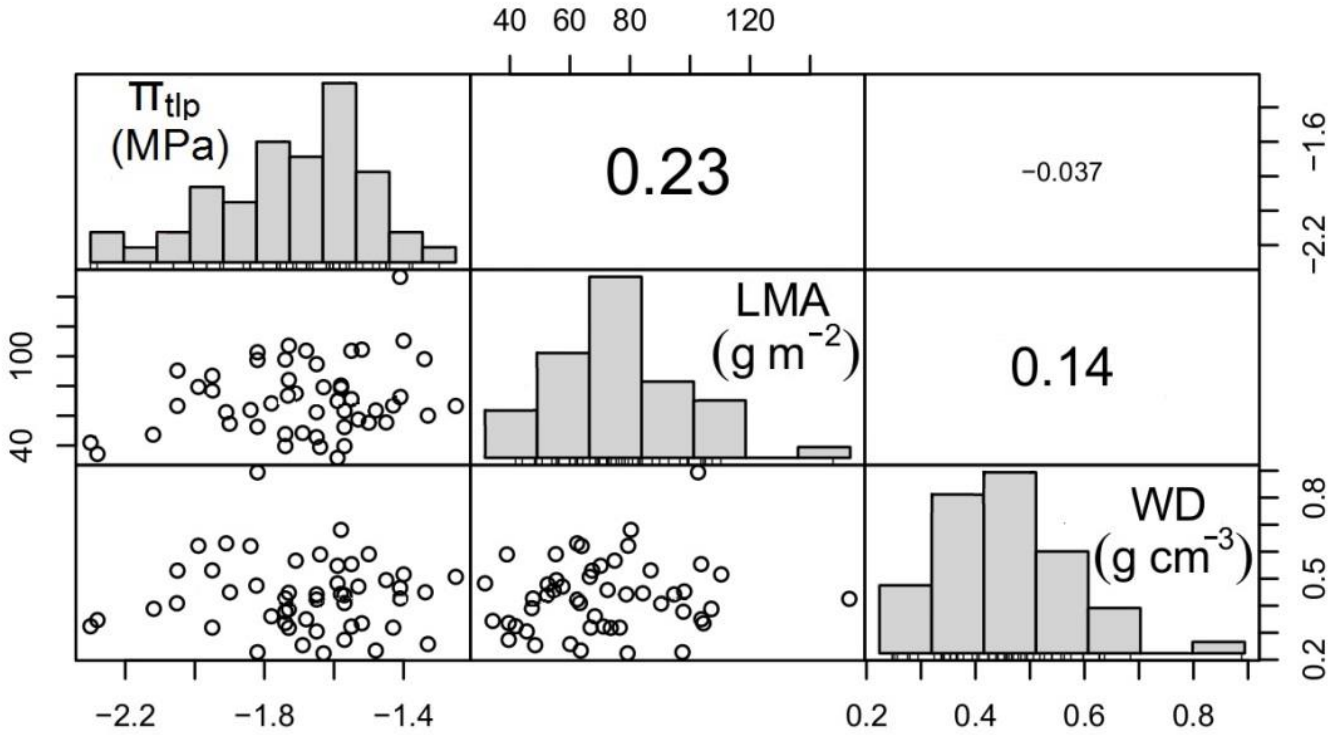


Figure S2. Habitat associations of (a) evergreen and (b) deciduous tree species by π_{tlp} within the Barro Colorado Island 50-ha ForestGEO plot. Shown are habitat associations by two π_{tlp} classes (median) for evergreen and deciduous species. Blue bars indicate significant positive associations and red bars indicate significant negative associations.

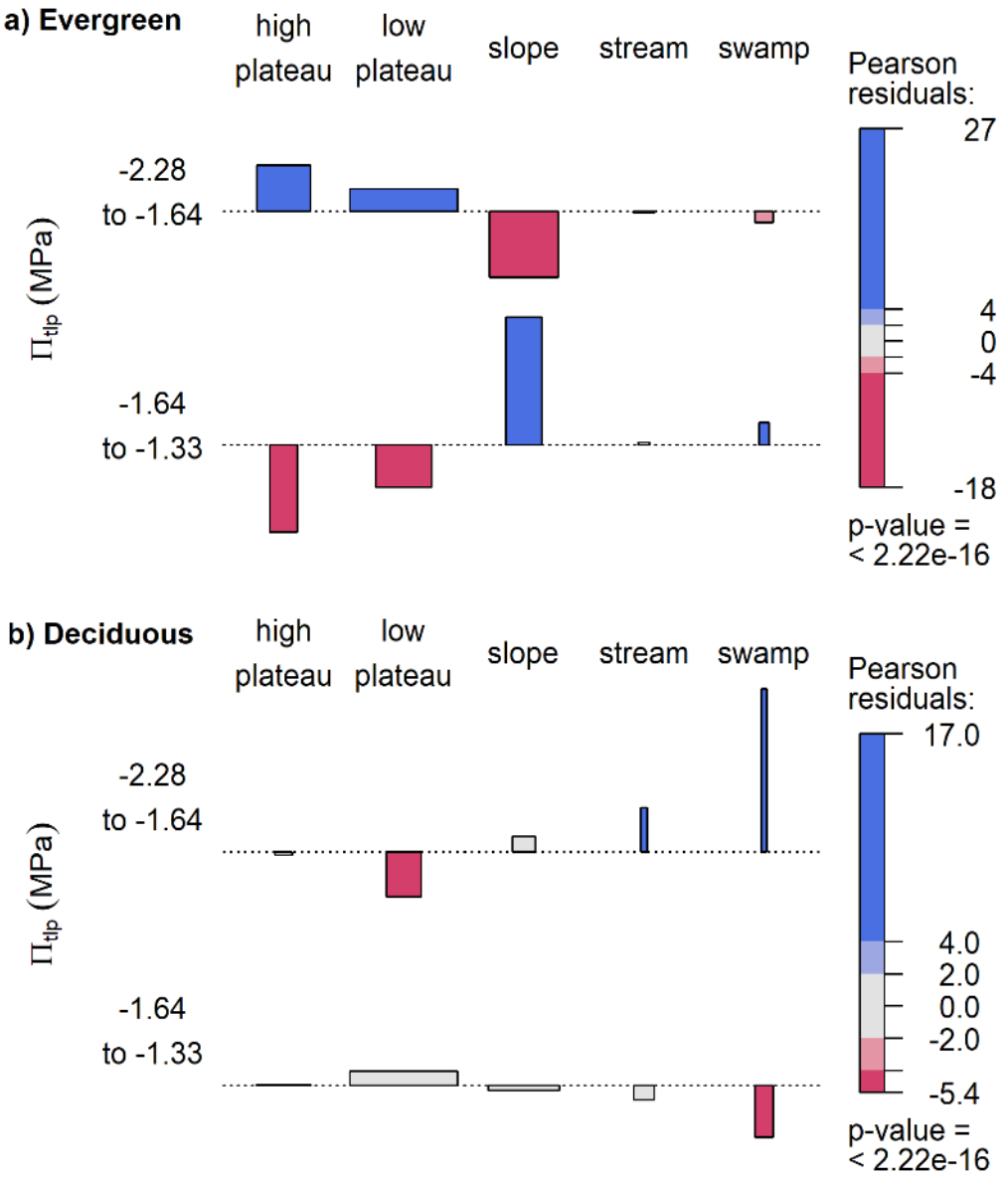


Figure S3. Linear relationship between the proportion of trees of each species growing in high plateau and π_{tlp}, highlighting significant Torus associations (Harms KE, Condit R, Hubbell SP, Foster RB. 2001. Habitat associations of trees and shrubs in a 50-ha neotropical forest plot. Journal of Ecology 89: 947-959.). The linear regression line is shown when the relationship is significant ($p<0.05$).

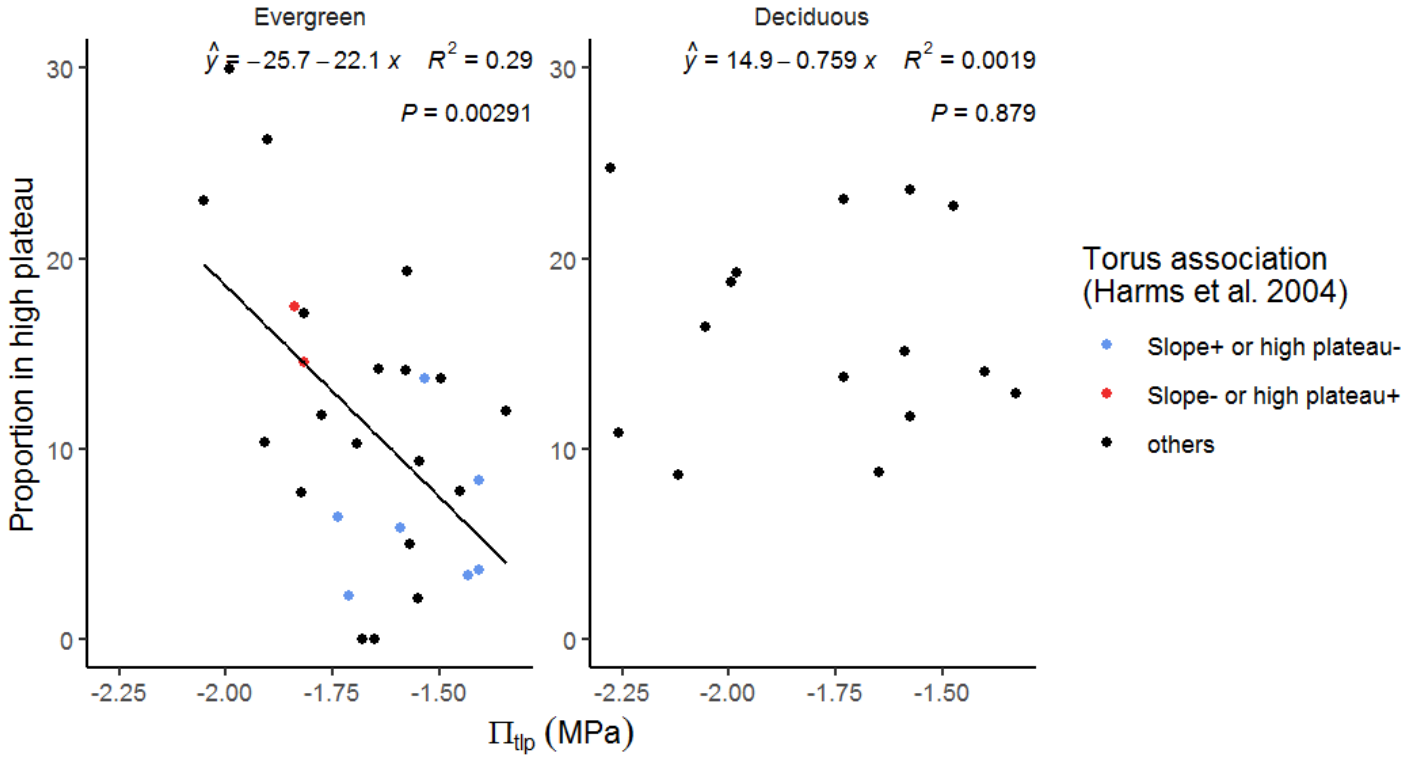


Figure S4. Map of the 50-ha ForestGEO plot on Barro Colorado Island showing the distribution of (a) WD within the evergreen trees, and (b) WD within the deciduous trees.

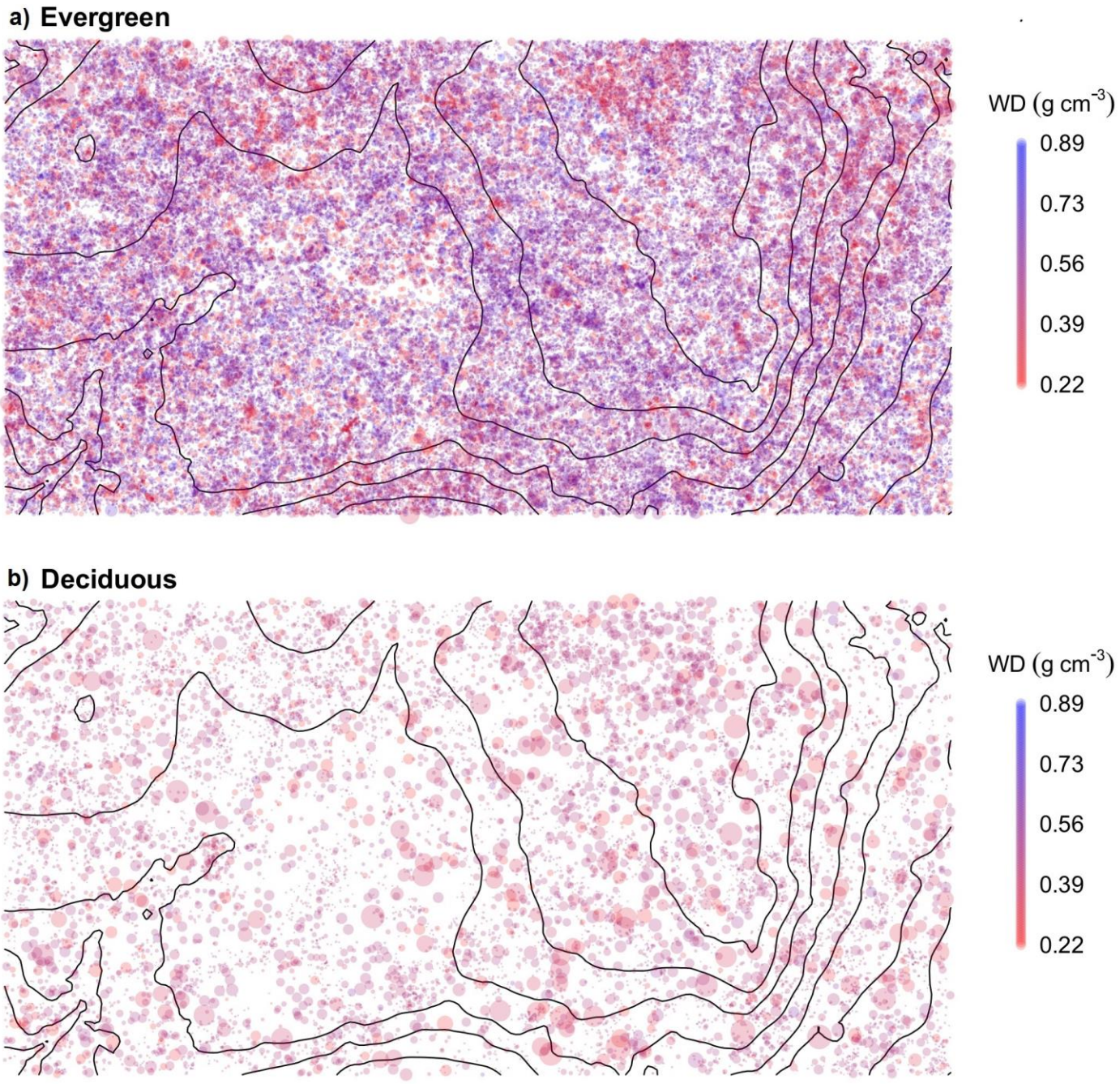
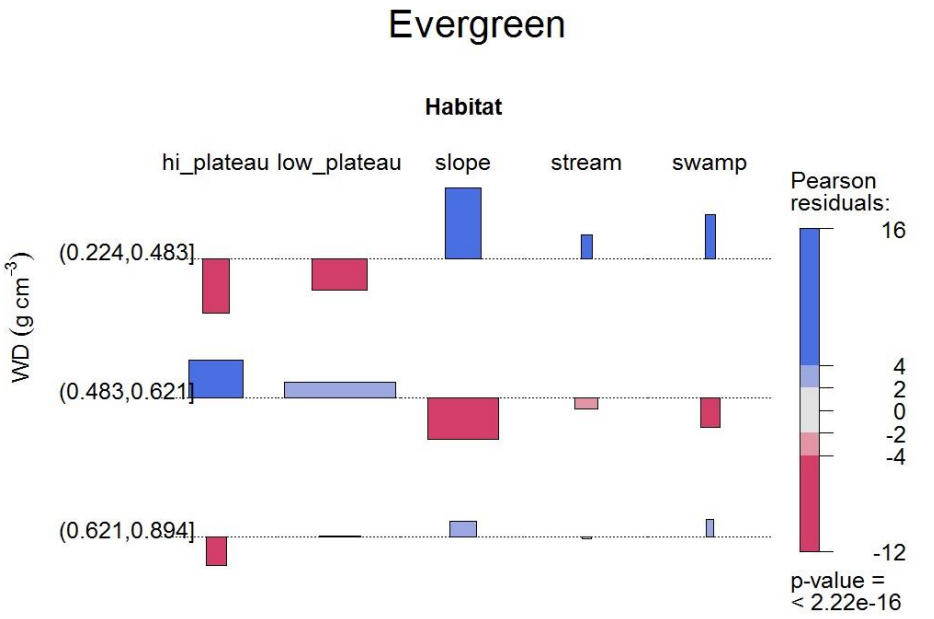


Figure S5. Habitat associations of evergreen and deciduous tree species by WD within the Barro Colorado Island 50-ha ForestGEO plot. Shown are habitat associations by WD class for evergreen and deciduous species. Blue bars indicate significant positive associations and red bars indicate significant negative associations.



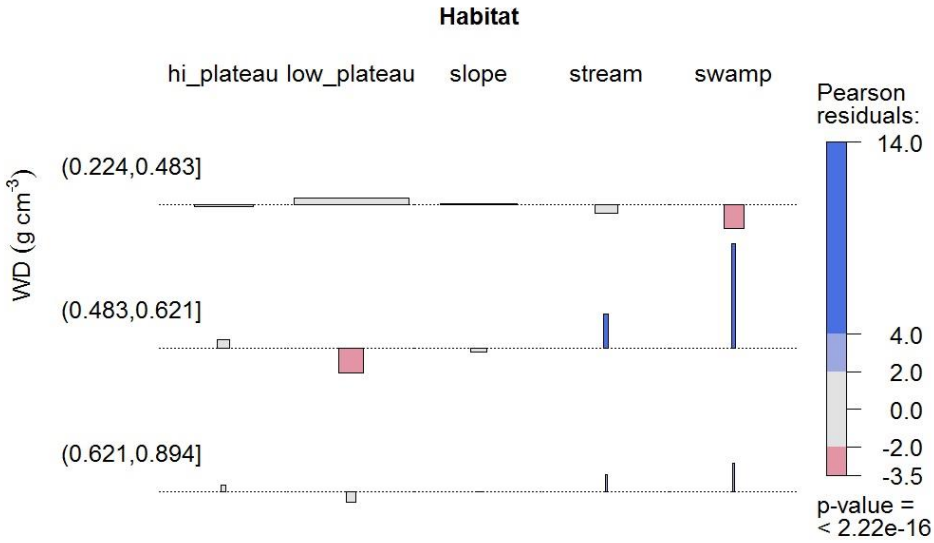


Figure S6. Linear relationship between the proportion of trees growing in high plateau and WD, highlighting significant Torus associations (Harms KE, Condit R, Hubbell SP, Foster RB. 2001. Habitat associations of trees and shrubs in a 50-ha neotropical forest plot. Journal of Ecology 89: 947-959.). The linear regression line is shown when the relationship is significant ($p<0.05$).

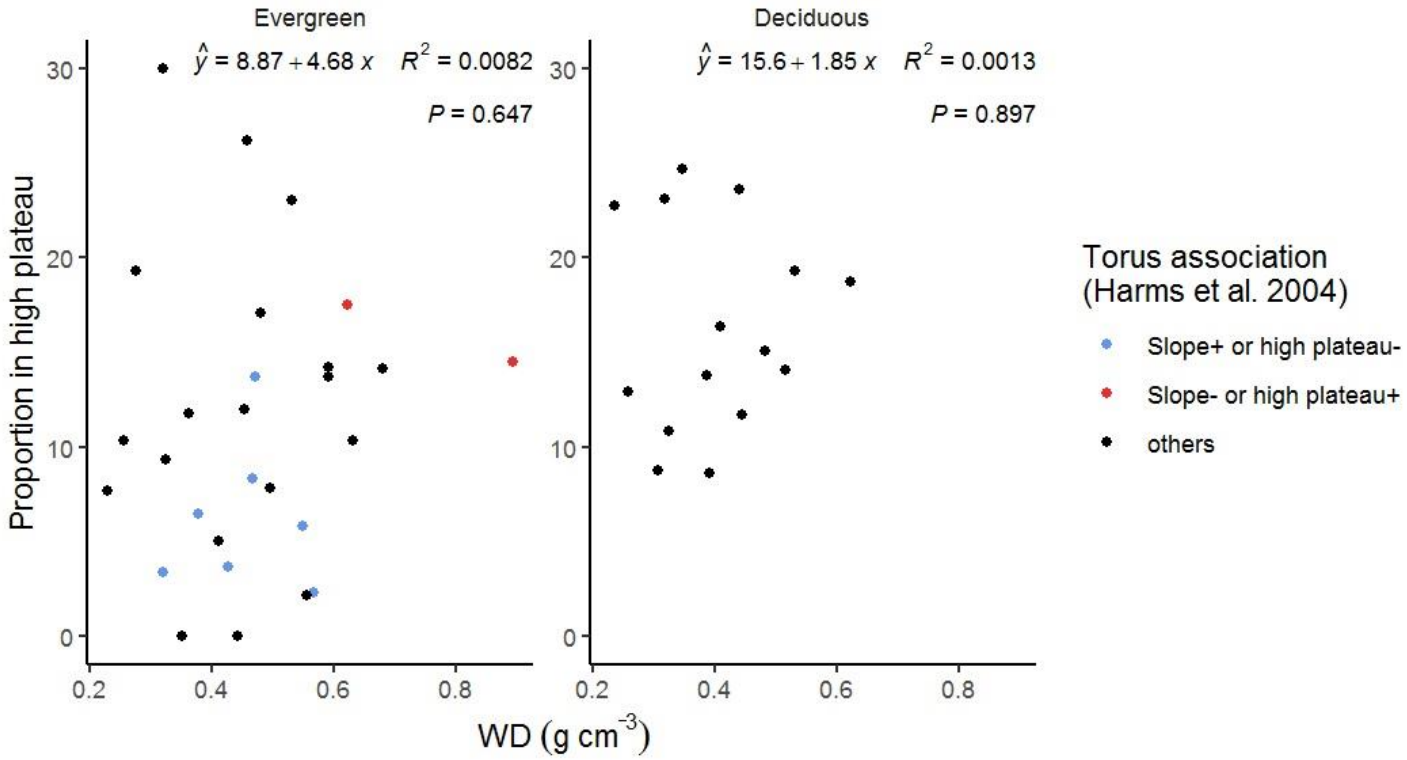


Figure S7. Map of the 50-ha ForestGEO plot on Barro Colorado Island showing the distribution of LMA (b) within the evergreen trees, and (c) within the deciduous trees.

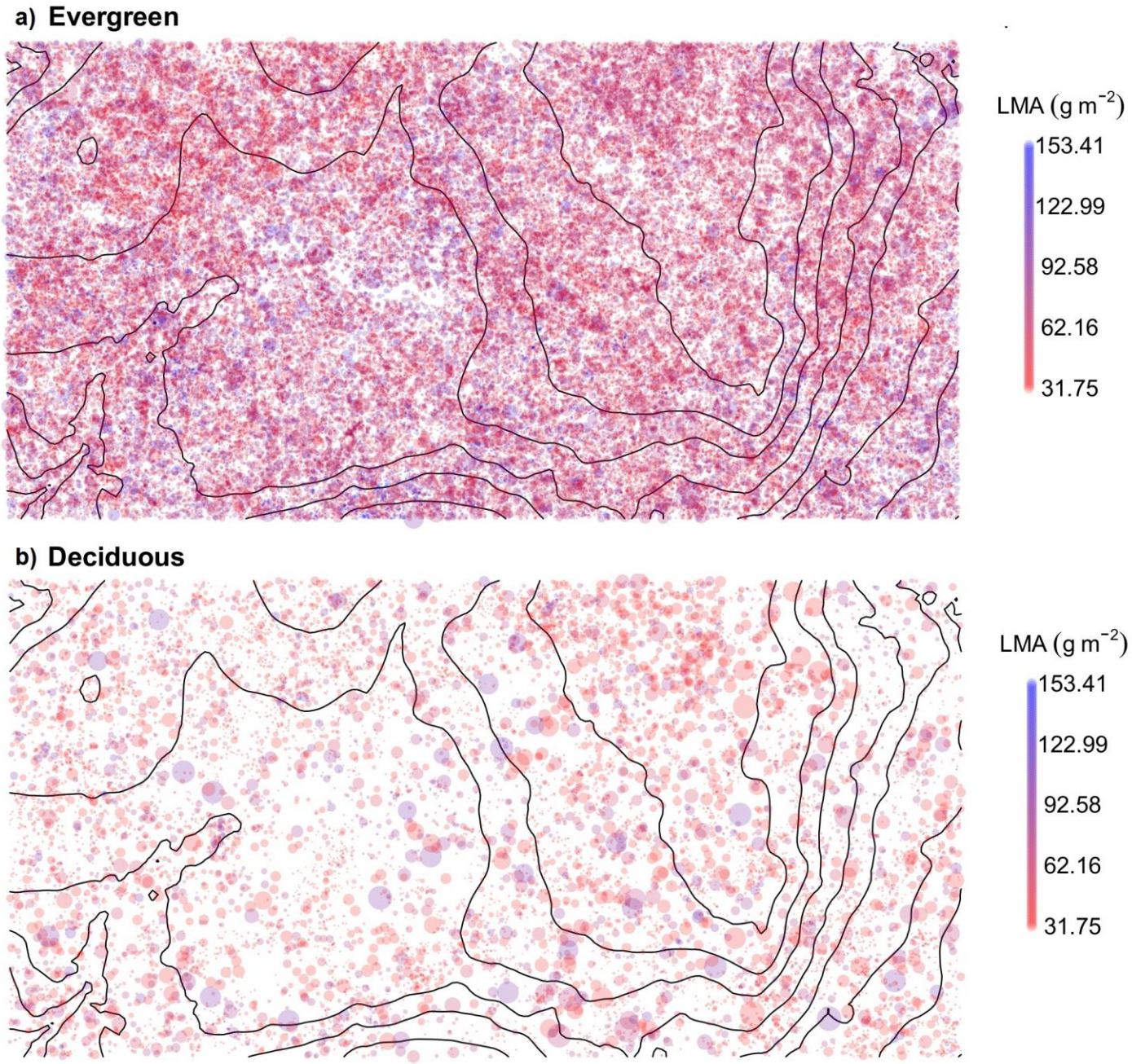


Figure S8. Habitat associations of evergreen and deciduous tree species by LMA within the Barro Colorado Island 50-ha ForestGEO plot. Shown are habitat associations by LMA class for evergreen and deciduous species. Blue bars indicate significant positive associations and red bars indicate significant negative associations.

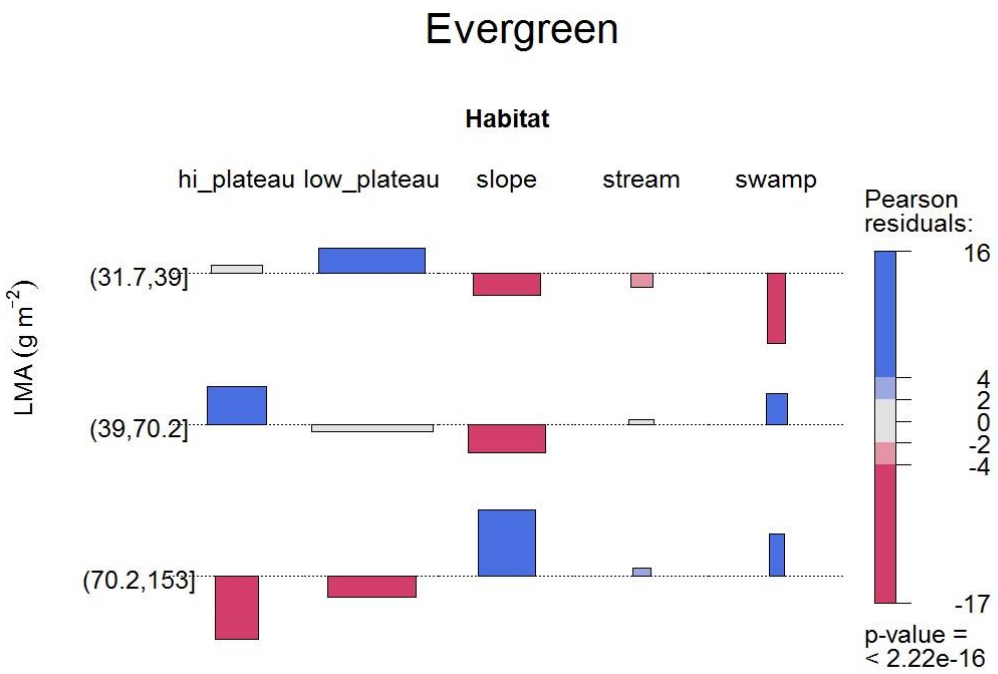


Figure S9. Linear relationship between the proportion of trees growing in high plateau and LMA, highlighting significant Torus associations (Harms KE, Condit R, Hubbell SP, Foster RB. 2001. Habitat associations of trees and shrubs in a 50-ha neotropical forest plot. Journal of Ecology 89: 947-959.). The linear regression line is shown when the relationship is significant ($p<0.05$).

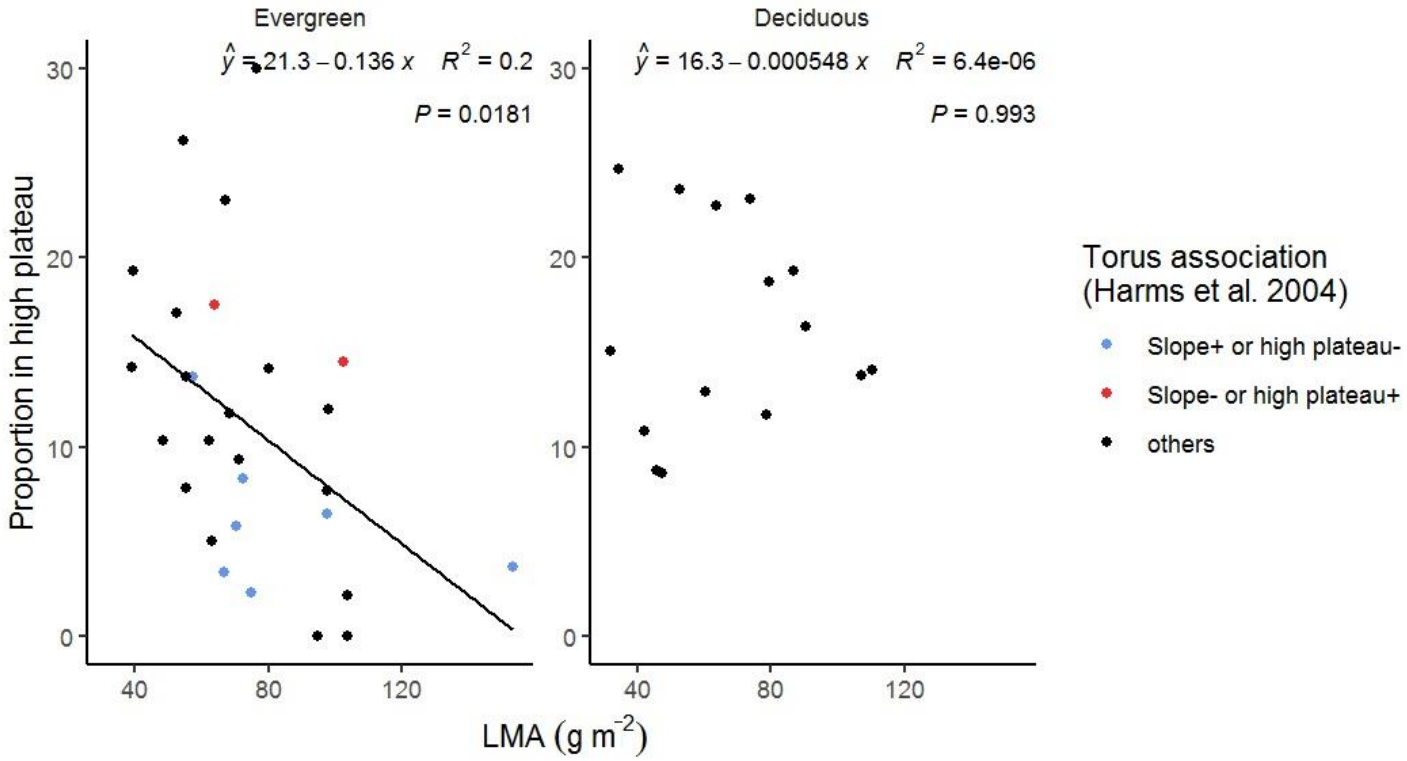


Figure S10. Moisture association index (MAI; Condit R, Engelbrecht BMJ, Pino D, Pérez R, Turner BL. 2013. Species distributions in response to individual soil nutrients and seasonal drought across a community of tropical trees. Proceedings of the National Academy of Sciences 110: 5064-5068.) as a function of wood density (WD). The linear regression line is shown when the relationship is significant ($p<0.05$).

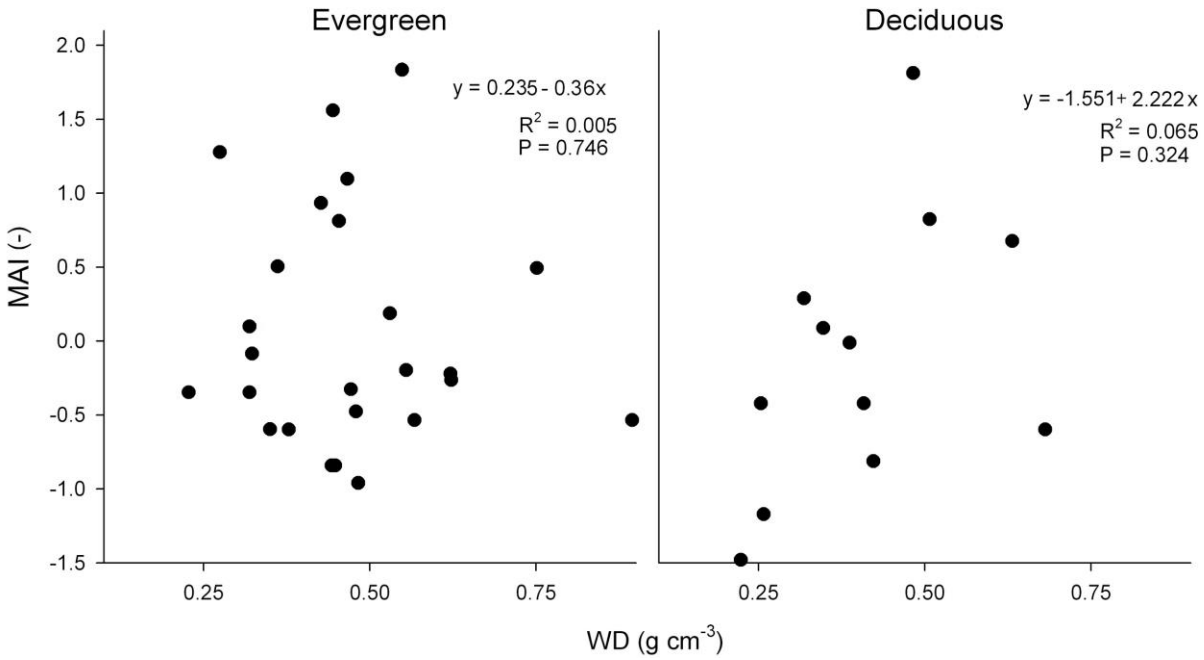


Figure S11. Moisture association index (MAI; Condit R, Engelbrecht BMJ, Pino D, Pérez R, Turner BL. 2013. Species distributions in response to individual soil nutrients and seasonal drought across a community of tropical trees. Proceedings of the National Academy of Sciences 110: 5064-5068.) as a function of leaf mass per area (LMA). The linear regression line is shown when the relationship is significant ($p<0.05$).